BUSINESS COPING STRATEGY, ENTREPRENEURIAL ORIENTATION, IMPROVISATIONAL COMPETENCE, AND CRISIS READINESS OF THE MALAYSIAN MEDIUM-SIZED MANUFACTURING ENTERPRISES IN RECESSIONARY TIMES

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ABSTRACT

The main issue of this thesis was the hampered performance of the manufacturing small-and-medium-sized enterprises (SMEs) in Malaysia during economic recessions. The bona fide respondents of the study were the medium-sized manufacturing enterprises (MMEs). Crisis readiness (CR) was proposed as the surrogate measure for firm performance. While CR was examined in relationships to business coping strategy (BCS) and entrepreneurial orientation (EO), this study also assessed the mediating effect of improvisational competence (IC) on the BCS-CR relationship. Altogether, a three-pronged-objective research framework was theoretically underpinned by resource-based view. Simple random sampling technique was used to select the targeted respondents. Of the 295 usable responses, a random near-split-half of 145 and 150 were used for exploratory and confirmatory factor analysis respectively. Statistically significant positive relationships were found in two direct relationships: BCS-CR and EO-CR, while IC was found to mediate the BCS-CR relationship. Significant positive relationships were also evident between all dimensions of EO and CR, except risk-taking. While CR was a new performance surrogate, its examination with BCS, EO, and IC contributed nascent theoretical insights. Other theoretical gaps included the development and validation of the BCS and bricolage scales, psychometric revisions of the CR and IC scales, and the incorporation of a vignette into the measurement to provide standardization as to the recessionary context understudied. Practically, the findings provided the manufacturing entrepreneurs some guidance on the appropriate response strategy and decision making which would better-position them in recessionary situations. Likewise, the understandings may also assist the policy makers to develop or to adjust policies to better-fabricate assistance channelled to MMEs. Towards the end, methodological limitations and potential avenues for future research were also identified.

Keywords: Crisis readiness (CR), Business coping strategy (BCS), Entrepreneurial orientation (EO), Improvisational competence (IC), Medium-sized manufacturing enterprises (MMEs)

ABSTRAK

Isu utama tesis ini ialah prestasi terhalang yang dialami oleh perusahaan perkilangan saiz-kecil-dan-sederhana (SMEs) di Malaysia semasa kemelesetan ekonomi. Responden *bona fide* kajian ini ialah perusahaan perkilangan saiz-sederhana (MMEs). Kesediaan krisis (CR) telah dicadangkan sebagai pengukur tumpang untuk prestasi perniagaan. Selain mengukur hubungan antara CR dengan strategi penyesuaian perniagaan (BCS) dan orientasi keusahawanan (EO), kajian ini turut mengkaji kesan pengantaraan kecekapan improvisi (IC) ke atas hubungan BCR-CR. Keseluruhannya, tiga objektif kerangka kajian disokong secara teorinya oleh perspektif berasaskan sumber. Teknik persampelan rawak mudah digunakan untuk memilih responden. Daripada 295 respon boleh guna, pengasingan rawak menghasilkan dua set data berjumlah 145 dan 150 masing-masing untuk tujuan analisis faktor eksploratori dan analisis faktor pengesahan. Dapatan kajian menunjukkan wujudnya hubungan positif yang signifikan untuk dua hubungan langsung iaitu BCS-CR dan EO-CR, manakala IC didapati mengantara hubungan antara BCS dan CR. Hubungan signifikan positif juga terbukti wujud antara semua dimensi EO dan CR, kecuali pengambilan risiko. Memandangkan CR adalah pengukur prestasi tumpang yang baru, penelitian hubungannya dengan BCS, EO, dan IC telah menyumbang kepada pandangan teoritikal baru. Jurang-jurang teoretikal lain yang turut diterokai termasuklah pembangunan dan pengesahan skala ukuran BCS, pengubahsuaian psikometrik skala CR dan IC, serta penerapan vignet ke dalam instrumen pengukuran untuk menyediakan satu konteks standard kemelesetan ekonomi seperti mana yang dimaksudkan dalam kajian ini. Secara praktikalnya, dapatan kajian ini memberi panduan kepada pengusaha-pengusaha perkilangan tentang strategi respon balas dan pemutusan yang sesuai untuk memantapkan posisi mereka dalam masa kemelesatan. Kefahaman ini juga membantu penggubal polisi untuk membangun atau mengubah-suai polisi bagi memperkukuhkan bantuan yang disalurkan kepada MMEs. Menuju penghujung tesis, limitasi metodologi dan hala tuju masa depan kajian juga telah dikenalpasti.

Kata-kata kunci: Kesediaan krisis (CR), Strategi penyesuaian (BCS), Orientasi keusahawanan (EO), Kecekapan improvisi (IC), Perusahaan perkilangan saiz-sederhana (MMEs)

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LIST OF ABBREVIATIONS

AVE	Average Variance Extracted
BCS	Business Coping Strategy
Bri	Bricolage Tactics
CB-SEM	Covariance-based Structural Equation Modeling
CC	Cost-cutting Tactics
CR	Crisis Readiness
DV	Dependent Variable
DOSM	Department of Statistics Malaysia
EFA	Exploratory Factor Analysis
EO	Entrepreneurial Orientation
EPU	Economic Planning Unit
FB	Financial Bootstrapping Tactics
FMM	Federation of Malaysian Manufacturing
GDP	Gross Domestic Product
IC	Improvisational Competence
IV	Independent Variable
KMO	Kaiser-Meyer-Olkin
Max.	Maximum score value
MEIF	Malaysia Economy In Figures
MIER	Malaysia Institute of Economic Research
Min.	Minimum Score Value
MM	Measurement Model
MME	Medium-sized Manufacturing Enterprises
MPC	Malaysia Productivity Corporation
MSA	Measure of Sampling Adequacy
NSDC	National SME Development Council
PLS	Partial Least Square
PLS-SEM	Partial Least Square Structural Equation Modeling
RBV	Resource-based View
RDT	Resource-dependence Theory
RG	Revenue-generation Tactics
SEM	Structural Equation Modeling
SMEs	Small-and-Medium-Sized Enterprises
SPSS	Statistical Package for Social Science
VAF	Variance Accounted For
VIF	Variance Inflation Factor
VRIN	Valuable, Rare, Inimitable, and Non-substitutable
f^2	*f*-squared (Denotes Effect Size of Predictive Power)
P_{ab}	*P*-value Associated with the Indirect Path *a*b*
Q^2	*Q*-squared (Denotes Predictive Relevance)
q^2	*q*-squared (Denotes Effect Size of Predictive Relevance)
R^2	*R*-squared (Denotes Coefficient of Determinant for Predictive Power)
r	Correlation Coefficient
SE_{ab}	Bootstrap Standard Error associated with the Indirect Path *a*b*

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

In Malaysia, small-and-medium-sized enterprises (SMEs) and the manufacturing sector are two key economic elements that are intertwined deep-rooted. The strong connection between both lies in the fact that 95.4% of the manufacturing firms in Malaysia are made up of SMEs (Department of Statistics Malaysia [DOSM], 2012, Economic Census, 2011). The significance of SMEs in the manufacturing sector is in growing term. Since 2005, the SMEs' manufacturing growth has surpassed the overall sector's growth (National SME Development Council [NSDC], 2010); and their share to the overall value-added of the manufacturing sector has increased from 29.3% in 2005 to 30.4% in 2009 (NSDC, 2010), and later 33.9% in 2014 (DOSM, 2014).

Together or independently, both record a strong history of economic importance. On the one hand, the most recent Economic Census 2011 shows that SMEs account for approximately 97.3% of the total business establishments in Malaysia in 2010 (NSDC, 2012, SME Annual Report 2011/2012). Their economic contributions are vivid in their shares of 32.7% to the national gross domestic product (GDP), 19.4 % to the total export, and 57.4% to the employment in 2012, covering important sectors in the nation (DOSM, 2012; Asian Development Bank, 2014). SMEs' growing importance is evident in their GDP contribution which increases from 29.4% in 2005 to 33.1% in 2013 (NSDC, 2014), and then 35.9% in 2014 (DOSM,

2014). The value-added growth of SMEs has outperformed that of the overall national GDP since 2004 (NSDC, 2010).

On the other hand, the manufacturing sector has been a long-standing significant contributor to the nation's economy. It has recorded the largest contribution to the nation's GDP growth until 2006, and has since continued to boost the nation's development, being the second largest economic contributor to the national GDP to date (Malaysia Productivity Corporation [MPC], 2014). The recent Economic Planning Unit's (EPU) Malaysia Economy In Figures (MEIF) report indicates that the sector has charted about RM 186.7 billion worth of productions in 2012, contributing an equivalent share of 24.8% to the national GDP (EPU, 2013). Its labor-intensive production provides employments to 3.63 million peoples in the country, a number which constitutes about 29% of the total employment. The sector's share to the total export was 67% in 2012.

However, while the above importance holds true, Malaysia has witnessed the worst losses in the manufacturing sector during the noted string of recessionary periods in the past two decades. As statistically illustrated in Figure 1.1, the recessionary impact on the manufacturing sector was so profound that the sector's growth fluctuated in tandem with the swing of the nation's economic growth (GDP) during each of the recessionary periods of 1997, 2001, and 2008.

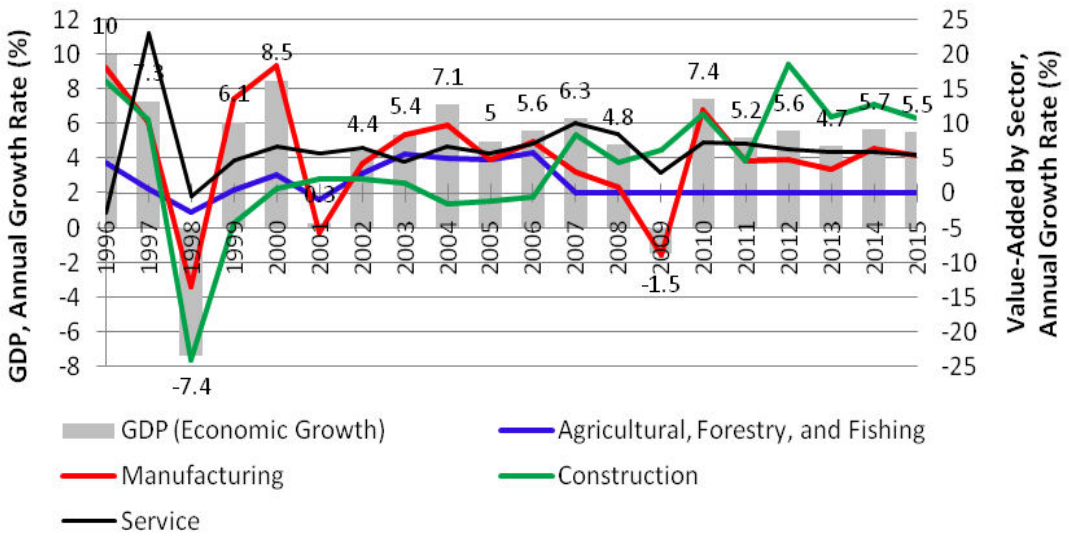

Figure 1.1. Annual growth rate of GDP and value-added growth of key sectors

Source: The chart was plotted by the researcher using data obtained from several Economic Reports (2001/2002, 2003/2004, 2005/2006, and 2014/2015), Ministry of Finance.

Referring to Figure 1.1, note that while other sectors were also affected, their sensitivities however were not like that of the consistent trend as the manufacturing sector portrayed. Clear sharp-plummeted growth decline consistently happened to the manufacturing sector during each of these recessionary periods. The declines of the manufacturing's value-added growth as shown in Figure 1.1 charted magnitudes as low as -13.4%, -5.8%, and -9.0% for the recessionary periods of 1998, 2001, and 2008/2009 respectively (Ministry of Finance Malaysia, 2002, 2004, 2015).

Specifically, the severed conditions of the manufacturing sector during these recessionary periods were also reflected in the vivid falls of several other important manufacturing performance indicators. As depicted in Figure 1.2, the growth of the manufacturing value-added to both GDP and total export slipped deeply during the 1998, 2001, and 2008/2009 recessionary periods. Consequently, the percentage of the manufacturing contribution to the nation's GDP dropped during each cycle. For

instance, the 2008 Great Recession had dragged the manufacturing export production down to an adverse rate of -10.9% in 2009 (EPU, 2013). Likewise, the percentage share of the manufacturing contribution to the GDP fell from 27.2% in 2007 to 26.1% and 24.2% in 2008 and 2009 respectively.

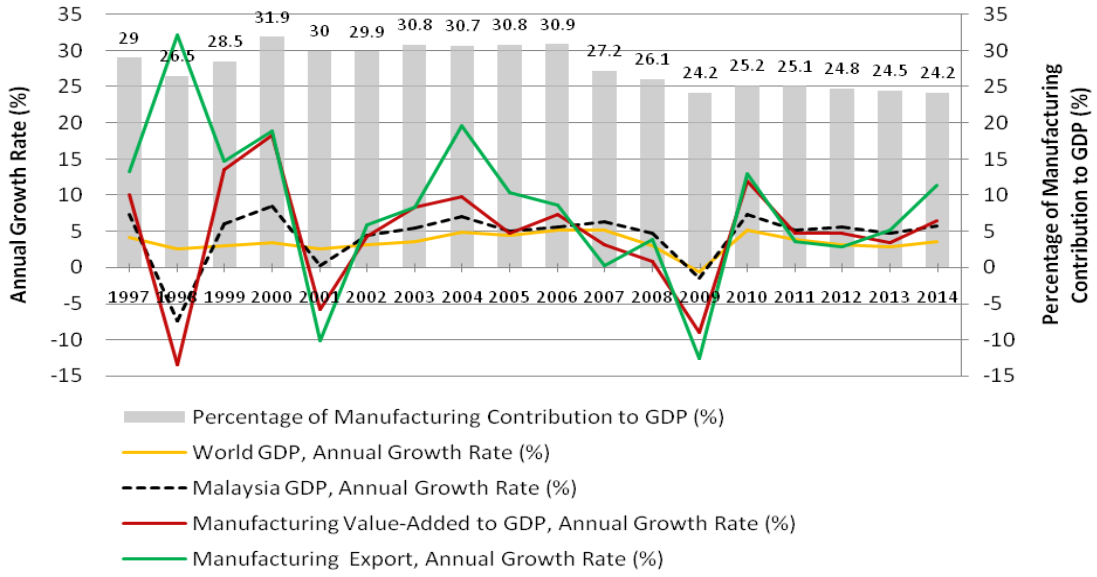

Figure 1.2. GDP, value-added and contribution of manufacturing to GDP and export

Source: The chart was plotted by the researcher using data obtained from several MEIF reports, EPU.

Further, the manufacturing sector had also recorded the worst retrenchment during the recessionary periods (Ministry of Human Resources, 2012). As shown in Table 1.1, the manufacturing sector constituted more than half (53.8%) of the 83, 865 retrenched workers in Malaysia in the aftermath of the 1997 Asian Financial Crisis. This manufacturing retrenchment number alone was four times greater than the total number of retrenchment (19, 000) back in 1997. Likewise, about 77.2% out of the total 24, 059 workers retrenched during the 2008 Great Recession were the manufacturing workers. Indeed, the manufacturing retrenchment number in 2008 was a drastic increase of 86.3% from the previous 2007. Closure of companies, sales

of companies, high production cost, and reduction in demand were amongst the important reasons forcing firms into retrenchment (Ministry of Human Resource, as cited in EPU, 2001, 2008).

Table 1.1

Retrenchment in Malaysia during the Periods of 1998, 2001, and 2008/2009

Sectors	**1998**	**2001**	**2007**	**2008**	**2009**	**2010**	**2011**
Agricultural forestry, and fishing	5 108	n.a	255	398	278	866	38
Mining and quarrying	877	n.a	61	89	78	30	7
Manufacturing	45 151	28 816	9 970	18 578	17 850	3 854	2 102
Construction	9334	n.a	291	199	503	262	121
Electricity gas, and water supply	1	n.a	5	77	156	0	6
Whole sale and retail trade, repair of motor vehicles, motorcycle, personal, and household goods, hotel, and restaurant	10 434	n.a	1929	2078	1429	662	300
Transport, storage, and communication	2007	n.a	322	773	643	208	47
Financial Intermediation, real estate	6596	n.a	761	1008	1923	934	245
Other services	4357	n.a	441	859	2204	269	369
Total	83 865	38 116	14 035	24 059	25 064	7 085	3 235

Source: Compiled by the researcher from data obtained from Ministry of Human Resource (2012)

Notes. n.a denotes specific data not available

The numerical portrayal of the viewpoint that the Malaysian manufacturing sector being the worst severed during the recessionary times also concurred with the observations of several local past studies which explored and assessed the Malaysian condition in the aftermath of the 1997 Asian Financial Crisis, the 2001 Recession, and the 2008 Great Recession (Furuoka, Lim, Jikunan, & Lo, 2012; Goh & Lim, 2010; NSDC, 2010; Uddin & Ahsan, 2014).

Yet, while all these disruptions afflicted the manufacturing sector of Malaysia, a more pathetic situation that came along was that of the struggles of the SMEs in this very sector. Unlike their larger counterparts who had the sufficient resource base to

maneuver and to cope accordingly in the swift periods, SMEs however became vulnerable. As featured in Figure 1.3, note that the SMEs manufacturing growth had experienced drastic declines just as steeply as the entire manufacturing sector's growth did during the past recessionary periods.

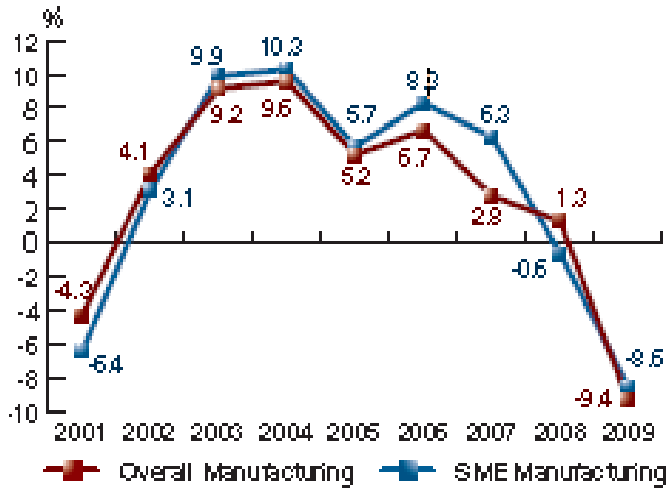

Figure 1.3. Overall manufacturing versus SME manufacturing annual growth rate (%)
Source: SME Annual Report 2009/2010

As depicted in Figure 1.3, the SMEs manufacturing growth dropped to - 6.4 % and -8.5 % for the respective recessionary periods of 2001 and 2009, just as the entire sector's growth declined to -4.3 % and -9.4% respectively. The intensity of their vulnerability to such recessionary events was also observable in the drop of the entire SMEs growth in tandem with the nation's GDP during the recessionary times, as depicted in Figure 1.4.

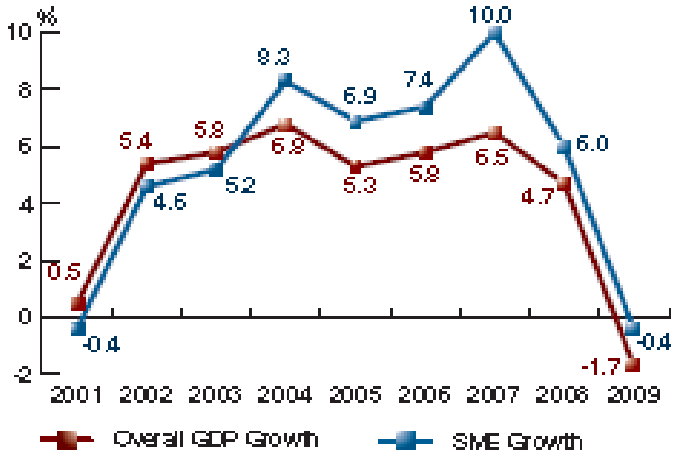

Figure 1.4. SME value added and overall GDP annual growth 2001-2009 (%)

Source: SME Annual Report 2009/2010

The severed condition was also confirmed by the survey series conducted by the related official authorities in Malaysia. For example, during the very period of the 2008/2009 Recession (November/December 2008), an immediate joint-survey carried out by SME Corporation Malaysia (back then, SMIDEC) and the Federation of Malaysian Manufacturers (FMM) revealed that nearly 80% of the manufacturing firms were forced into lowering production cost; about 50% of them were compelled to seek way out through new markets for their products (New Straits Times, March 1, 2009).

Likewise, in another survey conducted by SME Corporation Malaysia during the April/ May 2009 period, as high as 77% respondents (SMEs) had reportedly claimed being affected by the contraction of demand, and the SMEs in the manufacturing sector were found comparatively more severed (NSDC, 2010). Amongst them, nearly 22% (21.6%) reported as severely affected right in the nearest first quarter of 2009 during the 2008 Global Recession (Business Times, June 4, 2009; NSDC,

2010). Similarly, another follow-up survey carried out in April/May 2010 showed that about 62% of the respondents had indicated still being affected by the recession.

During the recessionary periods, remarkable signs of SMEs performance deterioration were evident in various direct and indirect manifestations such as, decreases of productivity and production volume, drops of new order, decreased sales, increased raw material cost, rising overhead cost, postponed or abandoned business plan or growth plan, and the labour issue (Chin, 2006; NSDC, 2010, 2011). Consequently, business operations and performance were meant to be sustained at higher cost with decreased revenue.

Specifically due to the tightening of credit, the struggle with insufficient working capital and cash flow problem were reportedly self-evident during the recessionary periods (Chin, 2006; Zainal Abidin & Rasiah, 2009; NSDC, 2010, 2011). Chin (2006), one of the local studies examining Malaysia's recessionary issue precisely put it that, "SMEs were saddled with escalating operating costs and cash flow problems" (p. 20). Deficient working capital could easily prompt stagnant operation and firm closures in such resource-scarce firms.

Essentially, the financial vulnerability of SMEs was largely due to several notorious existing resource disadvantages, which continued to worsen the situation during the recessionary periods. Amongst these disadvantages were those of the facts that, (i) SMEs had weaker financial reserve status and lower capitalization, (ii) they were heavily reliant on credit, and (iii) they faced difficulties to convince financial institutions in impaired business environment. All these disadvantages had crucial implications on SMEs during the recessionary periods, because more than three quarters (75.6%) of the SMEs in Malaysia sought external financing for the

purpose of funding working capital (DOSM, 2012, Economic Census 2011). Approximately 43.6% of them also relied on financing to buttress main business activities such as purchase and lease of equipment, renting, machinery, vehicles, tools, and etcetera (DOSM, 2012, Economic Census 2011).

According to Asia SME Finance Monitor, the level of Malaysia's SMEs access to bank lending still resides under the category of relatively low accessibility (versus high accessibility), where the provision of SME credit is less than 20% of the total loan provision (Asian Development Bank, 2014). During the recessionary periods, though banks and financial institutions asserted that they did not hold back or cut lending to SMEs or smaller firms, they however set more stringent conditions for lending. The requirement for equity and collaterals were taxing for SMEs. Indeed, this is one amongst the common reasons reported for rejections of lending to SMEs to date (NSDC, 2014).

Above all, one particularly crucial point to realize is that, Malaysia has no ability to prevent any recessionary event from impacting the manufacturing SMEs. The reason for this lies in that of the vulnerability of our manufacturing sector. Malaysia is a highly export-oriented nation; the manufacturing products constitute the largest proportion of the exports (EPU, 2005-2013). For instance, at the time of the 2001 Recession and the 2008 Great Recession, the percentage of the manufacturing production to the total export was as high as 85.4% and 70% respectively (EPU, 2007, 2013). Being such an export-dependent open economy, Malaysia's economy is closely integrated within the global market (Malaysia Institute of Economic Research [MIER], 2014).

In fact, Malaysia is the third most open economy in Asia, after Hong Kong and Singapore (International Chamber of Commerce Open Market Index 2011, as cited in PricewaterhouseCoopers [PwC], 2012, p. 11). However, being only a small trading nation, Malaysia is only a price-taker of the world market, and is unable to make any influence (MIER, 2014). Therefore, recessionary situations which breed from the economic and financial changes in the global market could quickly affect Malaysia's economy, and directly hit the manufacturing sector through demand deterioration of external trade (NSDC, 2010).

While the recessionary phenomenon has been a recurring reality (Okposin & Cheng, 2001), it is also evident that each recovery takes time (Thompson, 2010). For instance, the manufacturing sector in Malaysia did not recover to the pre-crisis production level until 2000, 2003, and 2010 for the respective recessionary periods of 1997, 2001, and 2008 (EPU, 2005-2013). In fact, during the time of finalizing the thesis write-up now, another imminent recession could have been unfolding in the pipe line. Up to 2015, the global economy had been reportedly unstable (MIER, 2015). Uncertainty and volatility in the global financial market were also reported (MIER, 2015). Until August 2015, the Malaysian economy was also still struggling with the continued Ringgit depreciation (MIER, 2015). Further, the lingering recessionary effect, the continued low growth, and the high degree of unemployment in industrialized nations globally, suggest the possibility of another relapse.

To this end, considering altogether the conditions for the very context of Malaysia, that: (i) recessionary disruption recurs over time, (ii) the Malaysian manufacturing sector is highly sensitive to recessionary disruptions due to its export-dependent economy, (iii) 95.4% (896,444) of the manufacturing firms are SMEs,

which are known for their weak resource base, (iv) the recovery of each recessionary shock takes years, and (v) the fact that Malaysia will remain as an open economy, and it is unlikely that we could prevent any future recession from affecting the manufacturing sector again, therefore pragmatic attention need to be given to our SMEs in the manufacturing sector, so that these financially weaker firms would afford to keep operating and performing during recessionary times.

Although small in relative size, SMEs amount up to 896,444 firms in the manufacturing sector (DOSM, 2012), a number with which closures would bring deleterious effect. Therefore, the issue of SMEs performance in the manufacturing sector within the context of recessionary period deserves a serious investigation in the local context of Malaysia.

1.2 The Statement of Research Problem

The previous section has put forth the statistical discussions highlighting how profoundly recessionary disruptions had deceived the Malaysian manufacturing SMEs performance during the past decades. Because manufacturing sector and SMEs, either taken alone or together, are significant economic contributors to the nation's prosperity, the consistent recurrence of recessions has made it persuasive that further examination should be carried out to specifically address the manufacturing SMEs' performance in the particular context of recessionary disruptions.

While the recessionary context was central to this study of performance, the discussions in the earlier section show us that recessionary events are fundamentally distinct from the common or small-scaled incremental changes which take place

during the normal business days. The changes due to recessionary events are considered as immense as they are found to disrupt a firm's industry and the entire economy of the nation. Recessionary events mask firms' immediate operating environment with uncertainty; they affect firms in ways and magnitudes unprecedented to firms.

As such kind of change is far threatening than those of the incremental changes in the normal business time, the current study therefore reckoned the importance of embedding such nature of the recessionary backdrop into the understanding of firm performance. Hence, being incremental at best, this study while re-enforcing that "performance during recessionary period is a crucial dependent variable worthy of investigation in its own right" (Srinivasan, Lilien, & Rangaswamy, 2005, p. 122), aimed at building the recessionary essence into the very understanding of firm performance.

As far as firm performance in recessionary times was concerned, first and foremost, the current research heightened the desirability for a suitable performance measure. Recessionary events are considered as rare events (Christianson, Farkas, Sutcliffe, & Weick, 2009), and that they render different impact, and create different levels of ambiguity and uncertainty in the aftermath (Harrald, 2009). Being rare events, they are unique, unprecedented, and even uncategorizable (Roux-Dufort, 2007). Further, they are also fast-paced, and are usually coming with sensitive time constraints (Kovoor-Misra & Nathan, 2000).

Being rare and unprecedented, recessionary events allow firms limited opportunities to learn about the environment, and consequently limit ways in which firm performance within such ordeal can be tapped explicitly. Particularly, it is

difficult to quantify and compare across firm performance in such backdrop, as the uncertainty of recessionary time lays different levels of impact on firms. The current study is in the view that it is desirable that a firm performance measurement must render measurable and comparable across firms in an empirical study.

Having asserted the view point above, this study contended that the financial or accounting-based performance measures used in past studies might not appropriately capture firm performance in light of the recessionary tension. The lack of rigor was viewed in that the financial and accounting-based measures are short-term performance indicators which merely capture parts of the past and the current activities (Masa'deh, Tayeh, Al-Jarrah, & Tarhini, 2015; Meyer, 2002; Parker, 2000), and that they do not assimilate the futurity aspect of firm performance (Masa'deh et al., 2015), which is an important element for firms during disruptive periods (Carmeli & Schaubroeck, 2009).

Other scholars had also warned that the absolute score of financial performance could be hugely influenced by industry-related factors, and thus comparing across firms by such objective measure could be misleading (Naidoo, 2010). Likewise, the accounting-based performance measure such as return on investment (ROI) had also been cautioned as being "sensitive to changes in times and strategy" (Chowdhury & Lang, 1996, p.177). ROI could suffer from bias caused by accounting manipulation largely due to minimization of tax (Otley & Fakiolas, 2000; Chowdhury & Lang, 1996), as well as the differences in the accounting procedures used (Chowdhury & Lang, 1996).

In addressing this void of performance surrogate, the current study took on the view that "organizational effectiveness is similar to an unwrapped terrain where the

responsibility lies with the investigator to chart it" (Cameron & Whetten, 1983a, p.19-20). As disruptions are largely associated with consequences (Hallgren & Wilson, 2008), the current study contended that the ability of firms to sustain performance during recessionary time was arguably a capability rather than a result. Further, as rarity and unexpectedness require firms' ability to address change at any moment of performing, the current study further contended that it was necessary that this ability should be able to span beyond the current situation into the future in due effectiveness. Therefore, crisis readiness (CR) had been proposed as the appropriate performance measure.

Despite still charting a rare account in organizational studies, readiness was found examined as an outcome variable in previous research that examined organizations operating in trying environment like those of the military institution (Harrison, 2014; Plavina, 2008; Voith, 2001), organizations which constantly need to address the issues of unexpectedness like those in the tourism (Rousaki & Alcott, 2007), and health care-related arena (Carmeli & Schaubroeck, 2008; Dinkin, 2007). Particularly, readiness had been used as a proxy to measure military output which reflected the ability of military forces to perform missions assigned (Harrison, 2014; Voith, 2001). Having been examined as an outcome variable for studies involved in unexpected situations, CR was, to certain extent, reckoned to be able to render measurable and comparable as an organizational outcome measure in the recessionary context.

Further, as far as the issue of firm performance deterioration was concerned, prior research had pointed out that how severe "the effect" a recessionary disruption cast upon a firm was "partly due to firm's responses" (Kitching, Smallbone, & Xheneti,

2009, p.14), hence the critical role of corrective strategies. Likewise, Sharma and Mahajan's (1980) model of failure process also attributed the success and failure of a firm in times of performance deterioration to corrective actions. In fact, the important role firm strategies play in driving superior firm performance had received both theoretical and empirical supports.

The theoretical understanding of strategy-performance association is ingrained in the exemplary scholarly works of strategist such as Porter (1980, 1985), Miles (1988), and Hofer (1980). While their theorizations of strategies are different in the level of specificity and focus, they fundamentally agree that the adoption of appropriate strategies would lead to the attainment of superior or desired performance. For instance, Porter's generic competitive strategy capitalizes on generating competitive advantage through cost leadership, differentiation, and focus strategy. Firms which adopt one of these strategies are expected to nurture competitive advantage which leads to superior performance (Porter, 1980, 1985).

Empirically, the positive influence of firm strategies on performance has also received broad evidence to date (Acquaah & Agyapong, 2015; Arasa & Gathinji, 2014; Bavarsad, Rahimi, & Seyfi, 2014; Hansen, Nybakk, & Panwar, 2015; Kinyura, 2014; Lechner & Gudmundsson, 2014; Teeratansirikool, Siengthai, Badir, & Charoenngam, 2013). For instance, the study of Arasa and Gathinji (2014) examined the association between competitive strategies and performance of firms in the highly competitive environment of mobile telecommunication industry in Kenya. Using the theoretical perspective of Porter as the main reasoning towards achieving and sustaining competitive advantage, the study found that competitive strategies such as cost leadership, differentiation, market-focus, and strategic

alliances asserted significant positive influence on the performance of firm in competitive environment. Particularly, the study found that firms implemented product differentiation and cost-leadership strategies relatively more extensive in the competitive environment.

As far as the association between corrective strategy and firm performance was concerned, the current study reckoned two important gaps. Firstly, while the above line of studies certainly corroborated the empirical knowledge of firm performance, they were however examined in the non-recessionary context. The literature study found only scant empirical works which specifically examined the association between strategy and performance in the recessionary context (Erfani & Kheiry, 2013). An even scantier account was found for SMEs or smaller firms (Kitching, Smallbone, Xheneti, & Kasperova, 2011; Naidoo, 2010). Further, although the literature study had indeed revealed the existence of numerous discussions made on corrective strategies in the specific context of recessionary times, many amongst them were however observably still largely exploratory.

For instance, some of these studies were descriptive, and the assessments were aimed at determining which among the strategies were relatively favored (Zainul Abidin, Adros, & Hassan, 2014; Price, Rae, & Cini, 2013; Skorvagova & Pasztorova, 2014; Tansey, Meng, & Cleland, 2013; Tansey, Spillane, & Meng, 2014). Likewise, some others plainly discussed and suggested on certain strategies which were perceived to be useful during recession, but were yet to have further empirical examination done as to the impact of the suggested strategies on firm performance (Akyuz & Ercilasun, 2014; Demaki, 2012; Maheta, 2015; Polat & Nergis, 2011). Though the recession's impact on firm's well-being and performance

has been an ongoing issue, such trend of research trajectory mentioned above has indeed remained rather much unchanged as it was a decade ago (Chou & Chen, 2004; Egan & Tosangan, 2009; Kambil, 2008; Latham, 2009; Mattsson, 2009; Pearce II & Michael, 2006; Pheng & Hua, 2001).

Secondly, the inversatility of the strategy content. As the recessionary context (versus normal business environment) was central to the performance issue of the current research, the researcher deemed it critical that any effective corrective strategy should be versatile with the recessionary changes taking place in the business operating environment. Particularly, because fast-changing environment can destroy the value of the existing competencies (Tushman & Anderson, 1986), firm strategies need to be altered in a way that matches the new level of competency required to live up to the environment. Therefore, a corrective strategy during such ordeal should be closely knitted with the recessionary change accordingly.

However, the literature study revealed that while corrective strategies had indeed been heightened with the issue of firm performance in recessionary backdrop, little was notable that these studies had incorporated the recessionary context into the adoption of their corrective strategies in the sense that corrective strategies were conceptualized in congruence to the recessionary context. Specifically, although the literature study found that the struggles of working capital and cash flow problem had been the embodying caveat specific to performance deterioration of SMEs during recessionary disruptions, little systematic empirical work was evident that corrective strategies had been conceptualized on this basis. This perhaps is the reason why strategy-performance association in the recessionary context, as an empirical research interest, remains largely fractional over the years.

In fact, alarms calling for more prudent studies on corrective strategies that resonant with firm performance during recessionary time are well noted in the literature. For instance, the lack of literature rigor in the corrective strategies-performance association particular for the recessionary context was reflected in the long-unattended lacunae heightened by Pearce II and Michael (2006), that "…little in the ways of diagnosis, prescription, or prophylaxis has been systematically identified to guide managerial action" (p. 202) during the many periods of disruptions. This gap also appeared remarkable in other research of similar interest, which revealed that most SMEs remained moot as to how precisely the adaptation or reaction should be during such periods (Deans, Kansal, & Mehltretter, 2009). These observations were also accompanied by other more direct call which highlighted the need to "revisit" (p. 64) previous coping strategies (Shohet & Jenner, 2008). It was exhumed that measures taken by substantial numbers of firms in the past recessionary disruptions not only had worsened the situation, but had indeed left firms in inferior position for recovery when the economic situation improved (Shohet & Jenner, 2008).

Likewise, the call to heed the salience of strategy content and hence the importance to conceptualize corrective strategy in line with the specific recessionary condition was also empirically recognizable (Morrow, Sirmon, Hitt, & Holcomb, 2007; Sharma & Mahajan, 1980; Walsh, 2005). For instance, Sharma and Mahajan's (1980) model of failure process while attributed success and failure of a firm in times of performance deterioration to corrective actions, they stressed that performance change needed to be addressed in lights of the true problem. Likewise, Walsh (2005) had heightened that change needed to be strategized in line

with the context of key success factors involved in creating competitive advantage. Further, Morrow et al. (2007) contended that there were hierarchical values among strategies in accordance to the context surrounding the firm. Morrow et al. asserted that adopting corrective strategies that were absent from the right value might render no effect to the performance of firms facing declined performance; it could even lead firms into value destruction and further performance declines. Hence, careful calibration of the strategy content is particularly salient, such that the strategy adopted taps the unique setting of recessionary disruption.

Given the discussion above, the corrective strategy-performance relationship was examined with complementary attention devoted to reconceptualize the corrective strategy, such that understandings of both the association and the strategy content were versatile with the changes in the recessionary environment. Specific for the reconceptualization purpose, the financial theoretical tenet of positive cash flow (Davidson & Dean, 1992) provided the baseline to deduce the resultant four dimensions of business coping strategy (BCS) in the current study. They were namely revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB), and bricolage tactics (Bri).

While RG and CC aimed at increasing firm's revenue and reducing costs directly, FB and Bri worked to conserve positive cash of firm by means of containing the need for expenses. Specifically, cost containment was a new conception introduced in this study. The researchability of FB and Bri for the resource-scarce recessionary environment had indeed received recent endorsement as both concepts were found being postulatedly yoked as "potentially key dynamic capabilities" which would enable entrepreneurs to enhance the value of resources at their disposal by extending

and integrating them (Jones, MacPherson, & Jayawarna, 2014, p.155, as cited in Smith & Blundel, 2014). Further, the dynamic capability theory provided verification as to the theoretical possibility of dimension combination encompassing RG, CC, FB, and Bri (Teece & Pisano, 1994; Teece, Pisano, & Shuen, 1997).

With reference to dynamic capability theory, the four distinct yet correlated dimensions collectively made BCS a dynamic capability. Although each dimension reflected different corrective action, they nevertheless served the similar purpose altogether, that was, to facilitate immediate positive cash flow of firms. As viewed in the RBV perspective, these tactics are internally-initiated actions which are largely tacit, and that they allow firms to better leverage valuable, rare, inimitable, and non-substitutable (VRIN) competitive advantage (Barney, 1991). Further, Porter (1996) asserts that it is more difficult for competitors or rivals to match an array of interlocked activities. Therefore, the multifaceted and the internally-initiated nature of BCS are not only hopeful to gain competitive advantage, but also the sustainability of that advantage. Just as Bitar (2004) contended, "in turbulent environments, strategies are exercised options linked to specific dynamic capabilities" (p. 2). To this end, the conceptualization of BCS and CR, as well as the BCS-CR relationship were theoretical and empirically established.

However, for a smooth undertaking of BCS to take place in the uncertain and fast-changing recessionary context, it is believed that firms should act in such a timely manner that allows their BCS to tap the fast changing and short-life window of opportunities. The importance of handling speed in recessionary context could be understood from Chaos Theory. The theory accentuates the importance of immediacy in response action during disorder situations, as disorder situations are

believed to be potential of fluctuating small changes in the initial stage into unexpected large changes or impact (Stacey, 1993).

Despite the anecdotal evidence showing threats of fast-paced recessionary environment to firms, to the knowledge of the researcher, there was little that suggested about the existence of empirical research which had directly examined the theoretical possibility of a speed-enhancing mechanism in the relationship between corrective strategy and performance specific for recessionary context. This gap which featured empirical and theoretical implications, provided the current research the opportunity to postulate and examine the speed-enhancing competence such as one induced from improvisation, as the desirable mechanism which mediated the relationship between BCS and CR.

Improvisation is defined as the convergence of the planning and the implementation stage (Moorman & Miner, 1998b). It denotes "the deliberate and substantive fusion of the design and execution of a novel production" (Miner, Bassoff, & Moorman, 2001, p.314). The simultaneous or near-simultaneous conception and implementation of action is hopeful to harness spontaneity and flexibility which help firms to achieve critical timeliness. Though the mediating potentials of improvisational competence (IC) has not been empirically examined earlier, its theoretical possibility can be reasonably assumed in the positive correlations found in separate past studies which examined organizational behavior- or strategy-speed relationship (Calantone, Garcia, & Droge, 2003; Sisodiya & Johnson, 2014), and speed-organizational outcome relationship (Atuahene-Gima & Murray, 2004; Baum & Wally, 2003; Bourgeois & Eisenhardt, 1988; Cankurtaran,

Langerak, & Griffin, 2013; Chen, Reily, & Lynn, 2005; Eisenhardt, 1989; Judge & Miller, 1991).

As a recent instance for the strategy-speed relationship, the study of Sisodiya and Johnson (2014) found a significant positive relationship between resource augmentation and product development speed. The researcher proposed a theoretical model to examine resource flexibility and resource augmentation as to their role as mechanisms to enhance firm's capability to respond to opportunities and challenges in the new product development process. In their study, project speed and cost were the measures used to gauge the new product outcomes, while resource augmentation was defined as the process of enhancing a resource base through assembling additional resources and building on the existing ones. Resource augmentation allowed managers to monitor and check the available stocks, and increase the resource base prior to time it was needed.

As to the latter partial relationship of speed-organizational outcome, Chen, Reilly, and Lynn (2005) found speed-to-market positively correlated with new product success in a market characterized by uncertainty. In fact, Chen et al.'s study also found a significant moderating effect of market uncertainty on the relationship between speed-to-market and new product success. This implied that speed-to-market had indeed become more salient to new product success when the market uncertainty was high.

Other scholars in the same vein included Eisenhardt (1989), and Judge and Miller (1991) who demonstrated decision speed positively related to firm performance especially in high-velocity environment. Baum and Wally (2003) found rapid decision-making predicted the subsequent growth and profitability of firms.

Specifically, fast decision making was concluded to mediate the relationships between environmental dynamism, munificence, centralization, and formalization with firm performance. Likewise, Atuahene-Gima and Murray (2004) found implementation speed positively moderated the relationship between strategy-related variable and firm performance.

In addition, the positive association between improvisation and organizational outcome variables was also evident in past studies (Arshad, 2013; Abu Bakar, Mahmood, & Nik Ismail, 2015; Vera & Crossan, 2005). For instance, Abu Bakar et al. (2015) studied the association between strategic improvisation and firm performance among the SMEs in Malaysia. The analysis which was done on 140 responses gathered through online surveys showed that strategic improvisation was positively and significantly related to the SME performance. In another instance, the study of Arshad (2013) revealed a positive significant association between organizational improvisation and firm performance among the technonology-based firms in Malaysia. Indeed, the relationship was found stronger when the competitive turbulence was stronger.

Above all, the current research also reckoned that, the smallness and the weaker financial status of SMEs, intensified by the uncertainty faced during recessionary times would earnestly require firms to act entrepreneurially in order to fully capitalize on the opportunities against fiercer competition. Notably, an uncertain environment carries not only risk and threats, but also opportunities (Dada, 2010; Misrai, 2010; Morris, Kuratko, & Covin, 2008; Nathan, 2000; Skorvagova & Pasztorova, 2014). However, the inclination of firms to position themselves to act upon such opportunities were heavily dependent on their decision making style.

While decision making is particularly crucial in time of uncertainty (Eisenhardt, 1989; Ho, Oh, Pech, Durden, & Slade, 2010), entrepreneurial orientation (EO) which embeds decision-making styles and practices (Lumpkin & Dess, 1996) was believed to have substantial influence on firm performance during the duress periods.

In support of the above view, the current study found that not only EO was appealing for entrepreneurial firms at the very heart of entrepreneurial activities, EO was also believed to be a distinguished resource-based predictor for recessionary context. As to the former, past studies over the years had shown a dominant trend of positive performance impact when firms positioned their resource entrepreneurially upon actions that were risk-taking, innovative, proactive, competitive-agrressive, and futurity-oriented (Alarape, 2013; Arief, Thoyib, Sudiro, & Rohman, 2013; Belgacem, 2015; Gupta & Batra, 2015; Jalali, Jaafar, Talebi, & Ab Halim, 2014; Otache & Mahmood, 2015; Rtanam, 2015; Simon, Stachel, & Covin, 2011; Su, Xie, & Wang, 2015).

As to latter which gives rise to recessionary context, past studies had also revealed the greater positive performance effect of EO on firms in business environment challenged by greater volatility, hostility, dynamism, complexity, turbulence, competitive intensity, and less environmental munificence (Caruana, Ewing, & Ramaseshan, 2002; Chaston & Sadler-Smith, 2012; Covin & Covin, 1990; Dimitratos, Lioukas, & Carter, 2004; Kaya & Seyrek, 2005; Kraus, Rigtering, Hughes, & Hosman, 2012; Wiklund & Shepherd, 2005; Tsai & Yang, 2014; Zahra, 1993b; Zahra & Covin, 1995). For instance, the study of Kraus et al. (2012) found stronger positive relationships between EO dimensions and performance among the

SMEs in Netherlands when firms operated under conditions of higher market turbulence. Similarly, Tsai and Yang (2014) who examined 452 Taiwanese manufacturing firms, found more intense positive relationship between innovativeness and firm performance in times of higher market and technological turbulence.

Besides the above, EO had also been concerned in previous studies of entrepreneurial firms performance that pivoted around issues of significant environmental change like transitional economies (Li, Zhao, Tan, & Liu, 2008), economic reform (Tan, 2005), or in settings that involved highly volatile environment like internationalization (Jantunen, Nummela, Puumalainen, & Saarenketo, 2008; Liu, Li, & Xue, 2010). Also explicit in previous studies was the importance of EO as an essential internal resource of firm and organizational dynamic capability (Bhuian, Menguc, & Bell, 2005; Ferreira & Avezedo, 2007; Hunt, 1995; Hunt & Morgan, 1996, 1997; Peteraf, 1993; Runyan, Droge, & Swinney, 2008). Given the complexity inherent in recessionary environment, a multifaceted EO was therefore expected to contribute to firm performance in recessionary disruption. Hence, the EO-CR relationship was established.

Towards this end, examining BCS, EO, and IC was hopeful to give rise to firm performance within the recessionary context. These predictors were meant to echo within the theoretical circumscription of resource-based view (RBV), which emphasized the internal resources of firms (Barney, 1991). In this study, BCS, EO, and IC were firm resources in the forms of capability and process. The rationale of using RBV as the theoretical underpinning was consistent with the theoretical reasoning of pecking order theory, which asserts that firms tend to finance their

needs in a hierarchical fashion, and that they will resort to internal resources before finally seeking out (Myers, 1984; Paul, Whittam, & Wyper, 2007; Van Auken, 2005). Further, considering the simultaneous time and resource constraints faced by SMEs in recessionary periods, RBV-based variables were believed to better-tailor to the sensitive response time during recessionary disruptions, given that internal resources (versus external resources) of firm render controllable. This advantage allows firms the flexibility to re-organize or reconfigure firm resources, such that firms could react swiftly. As this research was retrospective in nature, Vignettes was used to provide standardization to respondents as to the recessionary context meant in the current study (Bushe & Gilbertson, 2007).

1.3 Research Questions

Building on the premises put forth in the above, this study aimed at answering the following three main research questions. These research questions were stated in direct entrenchment of the bona fide respondent chosen for this study, that was, the Malaysian medium-sized manufacturing enterprises. These questions are:

i) During recessionary disruptions, does business coping strategy (BCS) have any significant influence on the performance (CR) of the Malaysian medium-sized manufacturing enterprises?

ii) During recessionary disruptions, does entrepreneurial orientation (EO) (which comprises risk-taking, innovativeness, proactiveness, competitive-aggressiveness, and futurity) have significant influence on the performance (CR) of the Malaysian medium-sized manufacturing enterprises?

iii) During recessionary disruptions, does improvisational competence (IC) of firms mediate the relationship between BCS and performance (CR) of the Malaysian medium-sized manufacturing enterprises?

1.4 Research Objectives

To correspond to the research questions endorsed above, this study sought to achieve the following research objectives.

i) To examine the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.

ii) To examine the relationship between EO and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.

iii) To determine the mediating effect of IC on the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.

1.5 Scope of the Study

To accomplish the research objective stipulated above, questionnaires were delivered to the intended respondents through self-administered drop-off surveys. The unit of analysis of this study was the medium-sized manufacturing firms in Malaysia, identified from the Federation of Malaysian Manufacturers (FMM) directory. Each survey was responded by the manager of each firm. They were qualified as key informants as their prominent role enabled them to comment on organization-wide phenomena and the implicit processes underlying the internal

resource and capabilities of the firm. Data collection was carried out continually from June 2012 until July 2013, covering all states in Malaysia.

1.6 Significance of the Study

This study regarded the examination of manufacturing SMEs performance in times of recessionary disruptions as critical, firstly, considering the cyclical nature of recessionary events (Okposin & Cheng, 2001), and the fact that the Malaysian manufacturing sector and SMEs had been consistently hard hit. Considering the weaker financial and resource situation inherent in SMEs due to their smallness, should the manufacturing SMEs be left defenseless each time such recessionary disruption recur, these fragile firms may run into considerable risk of discontinued business operation. As SMEs make up a significant 95.4% of the total manufacturing firms, their fall not only would significantly change the development of the sector, it would also affect the nation's economy in the long run.

Secondly, the recovery process of recession takes years (Thompson, 2010); it is also accomplished at the expense of other national development and sustainable growth effort. For instance, during the 2008 Great Recession, stimulus packages as sizable as an equivalent 10% of the GDP had been reallocated to address the deteriorated condition in Malaysia (CIMB Research House, as cited from Goh & Lim, 2010, p.28). Particular for SMEs, the Malaysian government had provided "Skim Jaminan Usahawan Kecil" to fund working capital of SMEs with shareholder equity of less than RM3 million, to deal with the contraction in export markets. The government had also established a Working Capital Guarantee Scheme totaling RM5 billion to provide working capital to companies with shareholder equity below

RM20 million. Further, due to stagnation in lending, government deliberately involved in credit guarantee schemes to encourage bank institutions' lending behavior during the duress time by helping strengthen banks' balance sheets, and enabled them to grant additional credit to SMEs (OECD Center for Entrepreneurship, SME & Local Development, 2009). All these urgent rescues took shape on the expense of the planned development effort.

In spite of the adverse consequence of recession and its recurrence, still, little is known about their impact on entrepreneurial decision making and firm's corrective strategies to cope, which directly affect firm performance. Therefore, the findings of this study, to a reasonable extent, is hopeful to provide understandings to the manufacturing firms on how they could practically strategize and orient their firms entrepreneurially in order to keep their firms continue performing against the resources challenges.

1.7 Definitions of Key Terms

To recapitulate, the current research is embarked on examining the influence of BCS, EO, and IC on firm performance of manufacturing SME during recessionary disruptions. To ease the understanding of the study, definitions of key terms used are provided in the following.

1.7.1 Recessionary Disruptions

In this study, the general term "recessionary disruptions" was used to connote recessionary events in such scales of the 1997 Asian Financial Crisis, the 2001 Recession, and the 2008 Great Recession, which were overtly experienced by

Malaysia**.** Recessionary disruptions in the current study were recognized for their potential of hampering business operating environment and distorting normal business operation in ways that aroused financial resource struggle (cash flow struggle). According to Oxford Advanced Learner's Dictionary (Wehmeier, McIntosh, Turnbull, & Ashby, 2005), the word "disrupt" means "to make it difficult for something to continue in the normal way" (p. 423). Hence, disruption is the state of being difficult for something to continue in the normal way. In the current study "disruption" was also used interchangeably with the terms "period" and "time", as such abnormal event was indeed a period or points in time.

1.7.2 Firm Performance

Firm performance was defined as the effectiveness of firm in term of the extent to which a firm is prepared to cope with immediate and future crisis situation (Carmeli & Schaubroeck, 2008). Firm performance was surrogated by crisis readiness (CR).

1.7.3 Business Coping Strategy

BCS was defined as the firm-level corrective strategy which eases immediate cash flow struggles by means of preserving a positive cash flow status of firms in short term, through increasing cash inflow and reducing cash outflow. In particular, increasing cash inflow involved generating revenue through various marketing-related tactics that boost demand. Reducing cash outflow was done by incorporating cost-cutting tactics related to operating efficiency and cost containment tactics (bricolage and financial bootstrapping tactics).

1.7.4 Entrepreneurial Orientation

Entrepreneurial orientation (EO) referred to the firm's strategic orientation capturing the specific entrepreneurial aspects of decision making styles, methods, and practices (Lumpkin & Dess, 1996), which were reflected through five dimensions, namely risk-taking, innovativeness, proactiveness, competitive-aggressiveness, and futurity.

1.7.5 Improvisational Competence

Improvisational Competence (IC) was defined as the ability of a firm to converge the planning stage (design/composition) and the implementation stage (execution) of business planning process (Moorman & Miner, 1998b). The contemporaneous quality of IC (flexibility and spontaneity) gives rise to temporal attainment of speed.

1.7.6 Medium-Sized Manufacturing Enterprises

Medium-sized manufacturing enterprises (MME) were defined as all manufacturing firms in Malaysia, which have 51 to 150 full-time employees (NSDC, 2005, as cited in NSDC Bank Negara Malaysia).

1.8 Organization of the Thesis

This section introduces and briefly explains the gist of each chapter. Descriptions of all the essential research activities making up this thesis are organized into five separate chapters.

First and foremost, Chapter One introduces and reviews the issue which conjures up the research topic under investigation, following which the statement of research

problem is crystallized. This chapter also includes sections on research questions, research objectives, scope of the study, significance of the study, and definition of key terms.

Strictly following Chapter One is Chapter Two, which reviews relevant anecdotal and empirical evidence to provide understandings for the recessionary phenomenon understudied. Particularly, this chapter outlines as to how and why severe financial resource scarcity (working capital and cash flow struggle) takes place among the Malaysian SMEs during recessionary periods. Also resides in Chapter Two is the review of the relevant literature for the variables of interest understudied. Hypotheses are postulated at the end of the discussion. Verification of research framework with relevant theories is also presented at the end of the chapter.

Next, Chapter Three discusses all the methodologies and analysis techniques applied in the current research. Therefore, the chapter resides discussions of research paradigm, research design, population and sample, sampling techniques, data collection tool and method, validity, and reliability.The measurement and development of scales are also discussed herein. In particular, the result of the pilot test is also presented here.

Chapter Four reports the results for the data analyzed using the techniques justified in Chapter Three. This includes results pertinent to the sample profile, data cleaning, outlier detection, multivariate assumptions assessment, exploratory factor analysis (EFA), measurement models, and the structural model.

Chapter Five is the final chapter which resides discussion of findings, implications, and conclusion. This chapter summarizes and discusses the findings of the study. While it also highlights the the theoretical and practical contributions of

the study, limitations of the study are discussed. Finally, the chapter suggests potential future research work flowing from this study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

As discussed in Chapter One, recessionary periods had led firm performance to deteriorate. To provide understandings for the recessionary context understudied, firstly, this chapter reviews relevant anecdotal and empirical evidence to lay out the scenario of recessionary disruptions (Section 2.2). Specifically, Section 2.2.2 illustrates how financial resource scarcity (working capital and cash flow struggle) has become the critical caveat for firm to perform in recessionary periods. As recessions affect all economies and nations, this study benefits from discussing evidence of both local and abroad, to provide a fuller view of the recessionary scenario and its impact.

Strictly follows, this chapter presents a review of literature for all the variables of interest in the current study: crisis readiness (CR), business coping strategy (BCS), entrepreneurial orientation (EO), and improvisational competence (IC). By scrutinizing the current state of knowledge relevant to these domains, this chapter seeks to address literature rigorousness to support the parsimony of the research framework. To ease reading and understanding, the discussion is organized such that the conceptual definition of each variable of interest is first presented, and hence firm performance (CR), BCS, EO, and IC as reviewed in Section 2.3 through 2.6. Later, Section 2.7 resides the empirical discussions which lead to hypotheses development for the three main associations hypothesized: BCS-CR relationship,

EO-CR relationship, and the potential mediation effect of IC on BCS-CR relationship. Finally, this chapter ends with the schematic presentation of the research framework, and the discussion of relevant theories (Section 2.8).

2.2 The Scenario of Recessionary Events

The scenario of the recessionary impact is discussed in two main points. Firstly, the characteristics of the recessionary environment and the resultant events that arise in the aftermath; and secondly, how did the financial resource scarcity happen during the duress.

2.2.1 Recessionary Disruptions and Financial Resource Scarcity

Past researches have often examined recessionary disruptions from three perspectives, namely the causes of recession, the consequences, and the prediction of such event (Mazurek & Mielcova, 2013). However, to understand the scenario of recessionary disruption in a more practical way, the current study took on Elwood's (2009) contention to focus on the impact of the recession in order to cast useful discussion. Elwood's (2009) work was one of the empirical efforts that examined disasters in conjunction with building organizational resilience. The researcher highlighted the need for more attention on defining the impact of catastrophic and unpredicted extreme events. The rationale for such line of thoughts is that, regardless of whether the prediction of an extreme event is accurate or not, it is the better understanding of the impact that matters.

Recession is defined as two or more consecutive quarters of falling gross national product (Pearce II & Michael, 2006). It is "a state in which demand for a product is

less than its former level" (Kotler, 1973), thus representing a time period within contraction phase in business cycle (Pearce II & Michael, 2006). Such recessionary condition is identifiable in past studies as coined in similar terms such as economic crisis, economic downturn, financial crisis, economic recession, and etcetera (Egan & Tosanguan, 2009; Koksal & Ozgul, 2007; Maheta, 2015; Mattsson, 2009; Raghavan, 2009).

Malaysia has passed through several recessionary periods since independence.The nearest exemplary recessionary experience of Malaysia could be traced back to those of the 2008 Global Recession, the 2001 Recession, and the 1997 Asian Financial Crisis. While each of these events was initiated or triggered by distinct factors, they nevertheless confluenced in the recessionary impact brought onto business firms and the nation's economy. For instance, the 1997 Asian Financial Crisis was started in Thailand in May 1997 due to the financial collapse of the Thai baht following the government's decision to float the baht. The crisis later spread swiftly to other East and Southeast Asian countries, including Malaysia. The impact of this 1997 crisis was so immense that it raised anxiety of a global-wide economic meltdown. During the course of the event, the Malaysian Ringgit severely depreciated; the stock and the currency market nearly collapsed (Goh & Lim, 2010).

In another instance, the recession during the period of 2001 to 2003 was caused by the impaitred manufacturing growth in Malaysia following the constraction in the global demand for manufactured goods. For the 2008 Global Recession, the recessionary effect was conjured up by several factors such as the rising prices of oil and interest rates globally, the worsening of U.S current account deficit, the weakness of the U.S. dollar, and a slowdown in the high-tech market. The

recessionary effect was transmitted to Malaysia mainly through financial and trade channels (Goh & Lim, 2010).

In general, recessionary disruptions affect both household and industrial firms significantly. These recessionary periods laid impact on the majority of the economic sectors in Malaysia in that the entire economy was slowed down (Chin, 2006; Furuoka et al., 2012; Goh & Lim, 2010; Uddin & Ahsan, 2014). Noticeable impacts included retrenchments across economic sectors due to the sharp reduction of production activity and bankruptcies of firms, unemployment, retarded unemployment growth, high inflation, and contraction of national economic growth (Furuoka et al., 2012; Uddin & Ahsan, 2014). As the industrial business firms were challenged by less available credit and increased competitive rivalry, they cut back expenses to conserve cash, especially for deferrable investments. Firms also involved in price cutting and other desperate moves to produce sales.

On the other hand, the households suffered particularly from unemployment or job losses which impaired their purchasing power, and consequently led to their less willingness to spend. Practically, household customers reduced their personal expenses as they became more price-sensitive and deliberate in their purchases in acclimatizing to their deteriorated power to spend (Goh & Lim, 2010; Pearce II & Michael, 2006).

One common thread that transpired through the past literature and anecdotal evidence was the phenomenon of cash flow struggle (Charan, 2009; D'addario, 2009; Economist Intelligence Unit, 2009; Engle, 2009; Gale, 2009; Gray, 2009; IOMA, 2009; Kang, Heshmati, & Choi, 2005; Ma & Lin, 2010; Smallridge, 2009; Spackman, 2009). Cash flow had been associated to paraphrases like credit (Ma &

Lin, 2010; Smallridge, 2009), liquidity (Engle, 2009), or working capital (Engle, 2009; Kang, Heshmati, & Choi, 2005; UEAPME Study Unit, 2009). Nevertheless, all these terms confluence on epitomizing a cash status of firm that is needed to operate a business.

Based on the global recessionary experience, approximately 60% of failed businesses during the 2008 recession reportedly claimed that all or most of their failures were attributed to cash flow problem (Peavler, 2011). Similarly, another survey reported that approximately 60% businesses claimed facing difficulty to access funds for their business activities (Fenton-Jones, 2010). In Malaysia, working capital and cash flow struggle had also been the heightened problem identified (Chin, 2006; Zainal Abidin & Rasiah, 2009; NSDC, 2010).

While managing cash flow had been coined as becoming significantly critical amid economic crisis (D'Addario, 2009; Engle, 2009), many other discussions on sustaining firm performance during crisis and economic adversity presented anecdotal evidence to heighten the particular importance of cash flow viability during recessionary disruptions (Brune-Jensen, 2009; Charan, 2009; Engle, 2009; Fitzgerald, 2009; Gale, 2009; Smallridge, 2009). In this concern, cash flow had been pin-pointed as the key feature for surviving trying times of recession (Brune-Jensen, 2009); in fact cash had been hailed as the "king" during such duress period (Charan, 2009, p.35; Engle, 2009; Gale, 2009). Likewise, the lack of credit had been claimed as quickly becoming more of an insolvency issue (Smallridge, 2009). Further, while other scholars studying recessionary disruptions had attached heightened label to poor cash flow as an issue of survival during crisis (Ma & Lin, 2010), the

importance of protecting cash flow during crisis had been highlighted (D'Addario, 2009).

In fact, in a more precise lens, sustaining positive cash flow had been utterly mentioned in some anecdotal evidence (Balasubramanyam, 2009; Charan, 2009; Engle, 2009). The significance of cash flow was also well-reflected in other anecdotal evidence that heightened efficient cash management during recessions (D'Addario, 2009; Engle, 2009). For instance, in highlighting the criticality of understanding and knowing effective cash flow or working capital management during economic downturn, Engle (2009) alerted that, expenses must be controlled at a level that would allow firms to generate positive cash from operation. Engle (2009), accentuating cash flow as the utmost crucial matter during downturn, claimed that it was even wiser to spare profitability to generate cash during downtuwn. In the same vein, Charan (2009) asserted the importance of conserving cash in ways that ensured "cash going out does not outpace cash coming in" (p. 35). Further, cash had been crowned as one crucial indicator to managers whose goal was to stay in business (Jarvis, Curran, Kitching, & Geoffrey, 2000).

Positive cash flow is defined as a normal situation where the cash inflows during a period are higher than the cash outflows during the same period (Davidson & Dean, 1992). However, it is crucial to note that positive cash flow does not necessarily mean profit; it is more to an outcome due to careful management of cash inflows and expenditure (BusinessDictionary.com, 2011).

2.2.2 How Did Cash flow Problem Happen

"Cash is the life-blood of a business" (Kourdi, 2007, p.129). It is especially true for smaller organizations. In fact, cash flow forecast has been claimed the most fundamental of all financial statements, particularly for SMEs (Kourdi, 2007). Cash and profit are the twin financial pillars on which a business survives (Kourdi, 2007).

Anecdotal evidence had revealed several reasons as to why and how cash flow became so much entangled during recessionary disruptions. Amongst others, delayed payment from customers was one of the hardest challenges (D'Addario, 2009; Engle, 2009; IOMA, 2009; Smallridge, 2009). An industry expert, Engle (2009), pointed out that, in time of cash-tight period, customers would without hesitation, use or manipulate their suppliers to buttress their cash need, if they believed that they could. This situation was resulted from the reduced customers' buying power (Pearce II & Michael, 2006), which consequently led customers to be more price-sensitive during recessionary times (Chou & Chen, 2004; Kotler & Caslione, 2009; Grewal & Tansuhaj, 2001; Pearce II & Michael, 2006).

Besides the change in the customers' behaviour, the cash flow woe was also attributed to the hampered access to bank or financial institution following the change in the lending behavior (Audretsch, Horst, Kwaak, & Thurik, 2009; UEAPME Study Unit, 2009; Ma & Lin, 2010; Vandenberg, 2009). During recessionary times, banks adopted very different lending criteria and perceived lending risk differently in accordance to the changes in interest rates and the cost of capital between periods of economic decline and expansion (Audretsch et al., 2009; UEAPME Study Unit, 2009; Levenson & Willard, 2000). Specifically, the difficulty of financial availability was largely due to banks' less inclination to lend against

insufficient and aging collateral (Engle, 2009). Predominantly, they were of less comfortable with credit-risk customers (Engle, 2009; UEAPME Study Unit, 2009; D'Addario, 2009; Fitzgerald, 2009; IOMA, 2009).

This condition was a huge challenge to SMEs as they had always been regarded as high-risk and low-profit venture (Telisman-Kosuta & Inandic, 2004). Loans were offered with intense credit scrutiny which required more challenging requirements like more collateral, more information to assess the risk of SME clients (UEAPME Study Unit, 2009), and higher interest rate (Engle, 2009; UEAPME Study Unit, 2009; Telisman-Kosuta & Inandic, 2004). Some banks had even sought for fully collateralized transaction (OECD Centre for Entrepreneurship, SME, & Local Development, 2007), which directly placed a big hurdle for smaller firms given their limited collateral.

However, such change of lending behavior among banks was comprehensible as banks must also strategize to preserve and strengthen their capital base (Audretsch et al., 2009), as well as improving the quality of their loan portfolio (Telisman-Kosuta & Inandic, 2004). From the perspective of the banks, such change of lending behavior during recessionary times was the surviving approach bank must take to withstand the pressure and survive. It was well evident that banks and financial institutions had also been affected considerably during the many sessions of recessionary disruptions (Cardarelli, Elekdag, & Lall, 2009; Smallridge, 2009; Yap, Reyes, & Cuenca, 2009). According to Smalldridge (2009), in some countries where banking systems were well internationalized, local banks might suffer from drastic reductions in trade lines due to reduced cross-border exposures as a response to their own capital reduction. As such, they were on the fringe of keeping their firms

continue operating, and were therefore forced into a situation of tight control for outflow of cash or payment.

In the context of the Malaysian SMEs, such change of lending behavior had serious implication. For instance, the study by Mohd Aris (DOSM, 2006) found the lack of collateral as the most significant problem faced by all sectors of SMEs in Malaysia. In fact, the lack of collateral together with insufficient documents required for loan application, the absence of financial track record and viability record of business, and the considerably long loan processing time, accounted for more than 80% of the listed difficulties faced by the Malaysian SMEs (Mohd Aris, DOSM, 2006).

2.3 Firm Performance in Recessionary Context

In the general term, firm performance regards the well-doing or fitness of a firm in social science research. It is the metrics used to quantify the efficiency and effectiveness of organizational action (Tangen, 2003, 2004). The importance of firm performance is self-evident in the attention it draws across the abundant academic research domains. Particularly, performance is also a crucial ultimate dependent variable in studies of entrepreneurship (Covin & Slevin, 1991; Wiklund & Shepherd, 2005).

However, operationalizing firm-level performance as a measurable construct has been a difficult challenge. This is largely because firm performance may refer the different aspects of organizational efficiency and effectiveness of firms (Dess & Robinson, 1984, Venkatraman & Ramanujam, 1986). While there is little hope of reaching any agreement on the basic definition for firm performance, a variety of

performance measures continue to abound in academic research. The phenomenon is such desperately coined that "the treatment for performance in research settings is perhaps one of the thorniest issues confronting the academic researcher" (Venkatraman & Ramanujam, 1986, p. 801). Others have also heightened the short of guidance for performance measurement specifically in the entrepreneurship research field, given the definition mist of firm performance present in the extant literature (Haber & Reichel, 2005).

In the current study, crisis readiness (CR) was proposed as the appropriate surrogate measure for firm performance which captured a firm's ability to perform in the recessionary context. This proposition was also built on the view that an effectiveness measure would be more appropriate to capture performance in an environment characterized as rare, uncertain, and fast-moving.

First and foremost, particular to the recessionary context, the current research built on several empirical viewpoints to call for the need to put in place a suitable performance measure. Firstly, the virtuous need to use a suitable surrogate to measure firm performance in the current study could be traced back to several scholarly claims. In claiming that virtually every social phenomenon could be measured, Neuman and Kreuger (2003) highlighted the fact that while some constructs could be measured directly and produce precise numerical values, others that do not would require the use of a surrogate or proxy to gauge a variable indirectly. Likewise, another scholar contended that different fields of study would and should use different measures of performance because of the differences in their research questions and objectives (Hofer, 1983). Still, others were in the opinion that

not all performance can be directly and diametrically quantified in monetary value (Ghalayini, Noble, & Crowe, 1997).

Secondly, the current study took note of Ray, Barney, and Muhanna's (2004) argument that effectiveness should be the more viable alternative class of dependent variable when a resource-based logic was to apply. Ray et al. cautioned that, in the case where RBV was the underlying theory or when resource concern was the key issue, the choice of dependent variable would request careful distinctive consideration. In their article discussing about "Choosing the dependent variable in empirical tests of the resource-based view", Ray et al. put forth an insightful review regarding the choice of dependent variable in the case where the underlying conjecture of a research framework was RBV.

In proposing the new performance surrogate measure, the current study discussed the limitation of the existing performance measures, and the potentials of crises readiness (CR) as an effectiveness performance measure in recessionary context. To ease reading, both discussions are presented in separate subsections that follow.

2.3.1 Limitations of Past Performance Measures for Recessionary Context

Past studies had conventionally linked firm strategies to firm performance measured by various financial and accounting-based performance measures. While the use of financial and accounting-based performance measures such as return on equity, return on assets, return on sales, market share, sales growth, profit margin, profitability, and growth of the firm had been important measures in the extant studies (e.g., Birjandi, Jahromi, Darabi, & Birjandi, 2014; Chi, 2015; Gupta & Batra, 2015; Hansen, Nybakk, & Panwar, 2015; Matsuno, Mentzer, & Ozsomer, 2002;

Palalic & Busatlic ,2015; Wales, Wiklund, & McKelvie, 2015; Wiklund, 1999; Zahra & Covin, 1995), the current research was concerned that these measures might reflect little insights into capturing the tension element inherent in performing during recessionary times. The base line for the argument was that financial measures are largely short-term performance indicators; they only afford to capture parts of the past and the current activities (Masa'deh et al., 2015; Meyer, 2002; Parker, 2000), and that they do not assimilate the futurity aspect of firm performance, which is an important element pertinent to firm performance during business disruptive periods (Carmeli & Schaobroeck, 2009).

Other observations pointing to the financial and accounting-based performance measures' shortcoming for recessionary context were also echoed in several existing scholarly works which examined firm performance in recessions (Ma & Lin, 2010; Naidoo, 2010). For instance, Naidoo (2010) pointed out that industry-related factors could influence on the absolute score of financial performance. The research further argued that even if objective financial data was collected during the disruptive period, comparing across firms by the objective data was misleading.

Still other scholars had warned the use of such accounting-based performance measure as return on investment (ROI) to suffer from bias largely caused by accounting manipulation due to minimization of tax and differences in the accounting procedures (Otley & Fakiolas, 2000; Chowdhury & Lang, 1996). ROI was also cautioned to be "sensitive to changes in times and strategy" (Chowdhury & Lang, 1996, p.177). There were also others who had claimed accounting measures to be potentially misleading due to their "inadequate handling of intangibles" and

the "improper valuation of sources of competitive advantage" (Bharadwaj, Varadarajan, & Fahy, 1993, p.87).

In yet another instance, other researchers had also raised concern about the appropriateness of performance surrogate variables used for studies which specifically examined SMEs performance (Ma & Lin, 2010). While arguing that there was little to suggest about the commonality among them, the researchers heightened the criticism regarding the use of financial ratios for SMEs as to the unavailability and unreliability of SMEs financial data

The current study further argued that recessionary events are considered as rare events (Christianson et al., 2009) that render different impacts, and create different levels of ambiguity and uncertainty in the aftermath (Harrald, 2009). Being rare events, they are unique, unprecedented, and even uncategorizable (Roux-Dufort, 2007). As uncertain and unexpected they are, they are also fast-paced, and are usually come with sensitive time constraints (Kovoor-Misra & Nathan, 2000). Being such-natured, recessionary events allow firms limited opportunities to learn about the environment, and consequently limit ways in which firm performance within such ordeal can be tapped explicitly. Particularly, it is difficult to quantify and compare across firm performance in such backdrop, as the resultant uncertainty lays different levels of impact on firms. Essentially, all these concerns post an uphill challenge for the desire of a performance measurement that render measurable and comparable across firms.

Further, as disruptive events are largely associated with consequences (Hallgren & Wilson, 2008), the current study contended that the ability of firms to sustain performance during recessionary time was arguably a capability rather than a result.

As rarity and unexpectedness require firms' ability to address change at any moment of performing, the current study contended that it was necessary that this ability should be able to span beyond the current situation into the future in due effectiveness.

In addressing these voids, the current study took on the view that "organizational effectiveness is similar to an unwrapped terrain where the responsibility lies with the investigator to chart it" (Cameron & Whetten, 1983a, p.19-20). The potentials of CR as a performance surrogate for recessionary times are further discussed in the following section.

2.3.2 Potentials of Crisis Readiness as a Performance Surrogate in Recessionary Context

As far as the literature study informed, the current study put forth five key points of view which supported crisis readiness (CR) as a viable performance surrogate and a dependent variable of effectiveness for recessionary context. The five discussion points are of the view that, firstly, CR captures the current and future perspective of the ability to perform. Secondly, CR is a resilience-centered effectiveness variable that is able to address tension elements in the recessionary setting. Thirdly, CR renders measureable and comparable, given the diverse impact of recessionary disruption on firms. Fourthly, CR has been examined as an organizational-level outcome variable in past studies. Fifthly, CR is a subjective measure which allows broader capture.

To ease reading, the discussions are organized in separate subsections (from A through E). The discussions indeed show that readiness is not a totally new concept,

but a rather less-studied yet potential new-fangled perspective that may offer somewhat a close proxy to evaluate firm performance (effectiveness) under events or phenomena of uncertainty.

A) Crisis Readiness Captures the Current and Future Perspective of the Ability to Perform

Crisis readiness is deemed a viable effectiveness measure as it reflects the ability of firm to perform, which captures the present and future perspective. In the study of Carmeli and Schaubroeck (2008), organizational crisis preparedness was examined with the issue of learning from failure. The finding demonstrated that high levels of crisis preparedness were evident among high-performing firms.

In their study, crisis preparedness was defined as the extent to which an organization was prepared to cope with immediate and future crisis situation. Building on the literature of crisis management, Carmeli and Schaubroeck (2008) argued that crisis readiness should incorporate the sense of readiness in handling matters in immediacy as well as futurity. Therefore, the crisis preparedness measure used in their study encapsulated two components, that were, present crisis preparedness and prospective crisis preparedness. While present crisis preparedness was referred to the ability of a firm to manage an immediate crisis, prospective crisis preparedness was defined as the ability to cope with a crisis in the distant future.

The rationale of capturing the span of the event from the present to the unexpected future was indeed in line with Field Theory's total comprehensive view of an event in understanding resultant behavior (Lewin, 1975).

B) Crisis Readiness is A Resilience-centered Effectiveness Variable which Addresses Tension Elements

Past studies had demonstrated supports that CR indeed exhibited resilience towards uncertain change. CR, as an effectiveness measure which tailored to resilience, could be traced back to past discussions and works which focused on organizational reactive responses in surviving environmental jolts such as crises, recessions, downturns, disease pandemics, and both human-induced and natural disasters. Resilience was recognized as a crucial ingredient underlying organizations' capability in handling critical, fast-paced changes (Cimellaro, Reinhorn, & Bruneau, 2010; Freeman, Hirschhorn, & Maltz, 2004; Kendra & Wachtendorf, 2003; Hamel & Valikangas, 2003; Mallak, 1998; Somers, 2009; Weick, 1993).

The notion of resilience is indeed inherent within the measure of readiness in term of timeliness and the ability to keep performing. This very essence is notable in the definitions of resilience itself. For instance, understood as ability in handling dynamism, resilience was defined as the capacity to maintain desirable functions and outcomes in the midst of strain (Bunderson & Sutcliffe, 2002). Resilience was also referred to the maintenance of positive adjustment under challenging conditions (Weick, Sutcliffe, & Obstfeld, 1999). It was coined as a dynamic capacity of organizational adaptability to complex situation (Lengnick-Hall & Beck, 2005; Wildavsky, 1988). Resilience was also defined as containing or managing those unexpected events that had already taken place (Burke, Wilson, & Salas, 2005).

Others defined it as the capacity to cope with unanticipated dangers after they had become manifest (Wildavsky, 1988). Resilience was also defined as the ability to survive and cope with a disaster with minimum impact and damage (Berke &

Campanella, 2006). Still, others defined resilience as the ability to absorb strain or change with minimum disruption (Horne & Orr, 1988). It was also defined as the ability to bounce back from a distinctive, discontinuous event that created vulnerability (Wildavsky, 1988). Resilience was also defined as being "mindful about errors that have already occurred, and to correct them before they worsen and cause more serious harm" (Weick & Sutcliffe, 2001, p. 68).

All the above definitions are suggestive of CR being a resilience-scented effectiveness measure for recessionary context, in that of its ability to perform productively to significant changes that disrupt in unexpected patterns.

C) CR Renders Measureable and Comparable Across

CR demonstrates distinguished explanatory power in term of rendering measurable and comparable, as far as the ambiguous and diverse impacts of recessionary disruptions are concerned. Reiterating the point that recessionary disruptions are largely rare events that do not render much opportunity to learn about the phenomenon (Christianson et al., 2009), and that little chance exists to learn about and assess the performance of firms during these irreversible events. The desperation for measurability lies in the reality that it is conceivably not doable and not practical to deliberately initiate or to create disorders in the business operating environment in order to assess the performance of firms in trying periods of recession.

Searching and understanding in the light of the like mindset above, emerged from the litetarure study was the use of readiness as outcome surrogate in studies that focused on organizations operating in trying environment, which natures of tasks

were largely characterized by risk of high uncertainty, like those of the military institution (Harrison, 2014; Plavina, 2008; Voith, 2001), where performance could hardly be measured explicitly. Reminiscent to the thought above, it is as well not practical to initiate a war in order evaluate the performance of military forces. In view of rendering measurable, readiness was found being used as a proxy measure for output to reflect the ability of military forces to perform missions assigned (Harrison, 2014; Voith, 2001).

In the military setting, operational readiness was defined as the state of preparedness of a unit to perform missions, and it was coined to closely connote operational effectiveness (Harrison, 2014; Voith, 2001). In the military field, readiness denoted capability and time dimension to counter perceived threat (Voith, 2001). It was also defined as the ability to be committed to combat within a short period of time (Nicholson, as cited in Voith, 2001). Indicative of these viewpoints was that, readiness indicated not the explicit quality such as quantity necessitated to beat a threat-in-question or the outcome-oriented concern of whether a combating unit will win; rather, it indicated how proficiently a threat was combated (Ibid, as cited in Voith, 2001). In light of these understandings, the stance which supported CR as an outcome surrogate that rendered measurable in recessionary times, was to certain extent grounded.

In addition to render measurable, the current study also found readiness as being able to render comparable. The concern on rendering comparable was crucial to pay heed to the fact that recessionary disruptions do not affect all firms in the same manner, and with the same momentum. Particularly, small firm's experiences of recession were diverse; while some firms suffered declining sales, others attained

higher return on sales (Kitching, Smallbone, & Xheneti, 2009). This variability in the effect of recessionary disruption on firm's organizational outcome complicated the choice of a performance measure which rendered comparable across. Besides, different firms might adopt different measures and definitions to regard performance.

Concerning the view above, the current study found the potentials of readiness to offer a close-to-standardized basis to render comparable in measuring the likely outcome across a broad, diverse communities, which could not possibly be measured using financial performance, as different organizations or communities might adopt different measures and definitions of performance. This viewpoint was inherently suggestive in studies which used readiness to investigate and anticipate the unknown (likely) future outcome of a given behavior, for instance, the acceptance of a newly implemented change, idea, or program which involved a dynamic large-scale society or community. Some of the notable examples included the use of readiness to gauge the likely acceptance of a society or an economy to adopt e-commerce, e-government, and paperless labeling in pharmacist industry (Ho, Chen, Nian, & Johnson, 2014; Mutula & van Brakel, 2006).

Given the discussion above, therefore, readiness was of reasonably strong postulation to be a viable outcome variable that rendered measurable and comparable to gauge firm outcome in circumstances of uncertainty such as recessionary times.

D) CR Has Been Examined as an Organizational-level Outcome Variable

Crisis readiness, though charted a very rare account in organizational studies, had been empirically studied as an organizational-level outcome variable (Rousaki & Alcott, 2007; Sheaffer & Mano-Negrin, 2003). Take an instance, Sheaffer and Mano-Negrin (2003) examined crisis readiness as a dependent variable with such predictor variables as human resource management orientation, structural orientation, strategic orientation, and engineering orientation.

The study was based upon the response of Israeli firms struggling in crisis, and was aimed at examining the extent to which firms were crisis-prepared (or crisis-prone). In the study, crisis readiness (preparedness) was defined "as a state of corporate readiness to foresee and effectively address internal or exogenous adversary circumstances with the potential to inflict a multidimensional crisis, by consciously recognizing and proactively preparing for its inevitable occurrence" (Sheaffer & Mano-Negrin, 2003, p. 575). Crisis preparedness, which was how prepared or how prone a firm was to crisis, was measured based on the existence of crisis management practices and policies.

In another instance, crisis readiness was examined as a dependent variable in the study of Rousaki and Alcott (2007), which was set upon the hotel industry setting in UK. The researchers aimed at assessing the driving factors that played crucial role in improving a hotel's crisis management plan, with which the findings in turn suggested on increasing hotel's readiness for crisis. This study followed the line of thoughts that readiness denoted "as much a state of mind within people and organization as it was a planned and tangible process of resource acquisition and resource deployment" (Rousaki & Alcott, 2007, p. 28). In particular, Rousaki and

Alcott (2007) broadly defined crisis readiness as "the readiness to cope with the uncertainty caused by a crisis" (p.28). To capture crisis readiness as a dependent variable, the researchers adapted the crisis readiness scale of Reilly (1987), which incorporated three main dimensions, namely the perceived internal functionality, media management capability, and the perceived likelihood of crisis.

E) CR Benefits from Broader Capture Being a Subjective Measure

Beside the above, the current study also deemed that such subjective measure as CR was more suitable for the recessionary disruption context, because judgmental assessment gives way to take into account the lagged effect (Jaworki & Kohli, 1993). In this view, it was also notable that while the objective financial measures change over time, perception (subjective measure) does not.

In fact, particularly concerning the context of recessionary disruption where a firm's objective was largely to survive or stay in business, it had also been coined by previous study that subjective measure and non-financial measure were more essential than quantitative measure (Jarvis, Curran, Kitching, & Geoffrey, 2000). Contention of the similar notion was also observed in Gonzalez-Benito and Gonzalez-Benito's (2005) work, in which subjective measures were claimed to render more flexibility to capture complex dimensions of performance than the objective ones.

In addition to the above, it was the intention of this study to note that, the use of subjective performance measure should not be perceived as inferior or of less capturing. Empirical evidence replete in the extant studies had attested the usefulness of subjective measures as being on par with objective measures. This line

of studies confluenced on the high correlation found between objective and subjective measures (Aragon-Correa et al., 2008; Dess & Robinson, 1984; Morgan, Kaleka & Katsikeas, 2004; Murphy & Callaway, 2004; Murphy, Trailer, & Hill, 1996; Shoham, 1998; Styles, 1998; Venkatraman & Ramanujam, 1986). The high correlation permits researchers, to certain extent, some confidence that the two measures render compatible, and that using subjective measure in this study was justifiable. Specifically, the recessionary context of this study did not give way to an optimum capture using objective measures.

However, it is also important to note the debatable point that, having both subjective and objective measures demonstrating high correlation does not mean that they provide exactly the same information about the underlying construct. Rather, they share a sufficient amount of variance that enables these different measures to provide a similar picture of the underlying construct (Shepherd & Wiklund, 2009).

2.4 Business Coping Strategy

As the current study called for the need to reconceptualize business coping strategy (BCS) in accordance to the unique criteria inherent in the recessionary environment, this section first presents the review of literature of past studies which examined corrective strategies in recessionary context. In doing this, this section attempts to heighten the void needs to be bridged. Next, the conceptualization of BCS is discussed.

2.4.1 Bridging the Void: Past Studies of Corrective Strategies in Recessionary Context

Strategy is a crucial determining factor of firm performance, though defining it is notoriously challenging. The prominent strategy scholar, Mintzberg (1973; Mintzberg & McHugh, 1985), defines strategy as a patterned stream of decisions and activities, which focus on a set of resource allocations that are employed in an attempt to reach a position consistent with a firm's environment. Laitinen (2002) defines it as the ability to produce results in a dimension determined *a priori*, related to a target. Beaver (2007) who focuses on smaller firms's strategy defines strategy as actions firms undertake to pursue business objectives.

In a narrower context of smaller firms and deteriorated trading condition, strategy is coined as a "purpose properly applied to the resources and operating context of the firm to achieve sustainable competitive advantage" (Beaver, 2007, p.16). Beaver asserts that since strategy drives performance, hence an effective one should lead to superior performance. As crucial as realizing this point, it is as well important to note that a firm's objectives differ in accord to different environments and challenges they face, and hence different strategies for different environments.

For the specific context of the current study, the conceptualization of strategy herein involved considering and accomplishing the pivotal essence above in the view of the Complexity Theory, that "strategy is the art of maintaining the organization at the edge of chaos" (Cunha & Cunha, 2006a, p. 847). As divergent as the challenges faced by firms in normal business environment versus the disruptive one, the current study argued that firm strategies used to achieve desired

performance in the recessionary disruptions context ought to differ as well. Essentially, firm strategies to counter recessionary period should be conceptualized in accord to the specific criteria unique to the recessionary context of interest.

In this concern, the literature study found that there were indeed existing empirical works which examined corrective strategies in regards to firm performance under recessionary backdrop. This line of past studies was recognizably replete in previous literature under the panoply of terminologically adjacent terms or expressions.

Among these were terms such as (a) reorientation and responses during crisis (Tan & See, 2004), (b) strategic response in crisis or recession (Latham, 2009; Pheng & Hua, 2001), (c) business adaptation strategies in increasingly competitive environment (Cheungsuvadee, 2006), (d) response strategies during economic crisis (Sadi & Henderson, 2000), (e) marketing strategies during recession or economic crisis (Koksal & Ozgul, 2007; Shama, 1993), (f) recession-resistant marketing strategies (Pearce II & Michael, 1997), (g) business tactics for confronting economic recession (Pearce II & Robinson, 2002), (h) market orientation and resource adjustment during economic recession (Mattsson, 2009), (i) corporate response to crisis, (j) fire-fighting strategies during crisis (Smart & Vertinsky, 1984), (k) corporate strategies in recession (Mooney, 1991), (l) recovery strategies during the course of organizational decline (Pearce & Robbin, 1994), (m) revenue management or revenue generation during recession (Caudillo-Fuentes & Li, 2009; Moeller & Rawlinson, 2009), (n) recession playbook (Kambil, 2008), (o) turnaround strategies (Bruton, Ahlstrom, & Wan, 2003; Chathoth, Tse, & Olsen, 2006), (p) coping strategies during economic downturn or recession (Egan & Tosanguan, 2009;

Raghavan, 2009), (q) recession survival strategies (BPRI, 2008; New Zealand Trade & Enterprise, 2009), (r) retrenchment strategies during economic downturn (DeDee & Vorhies, 1998), (s) adaptation to environmental jolts (Meyer, 1982), (t) retrenchment in times of economic adversity (Ravichandran, 2009), and (u) strategies to prevent recession from causing business failure (Pearce II & Michael, 2006).

Among the bulk of works above, the current research however found that these studies while insightful, did not conceptualize their corrective strategies in line with the characteristics unique to the recessionary setting. This claim was grounded on the observation that many among these previous works had not laid out the recessionary phenomenon under investigation in order to understand the caveat or the true problem that must be dealt with to sustain firm performance in such disruptive periods.

The current study believed that it was the absence of this understanding that had left these studies largely fractional over the years, and that not much among these studies had built on each others. This perhaps was also the reason as to why many amongst these past studies had remained exploratory, in the sense that the corrective strategies studies (in recessionary times) had not extended empirically sufficient into more meaningful examination, such as those assessing their association with firms outcome variables (Demaki, 2012; Skorvagova & Pasztorova, 2014; Tansey, Spillane, & Meng, 2014).

Given the above, the current study called for the need to tap the contextual specificity of recession when conceptualizing business coping strategy (BCS). The importance and the need of tallying and conditioning firm strategies to the specific

criteria of recessionary environment in the current study were consistent with several viewpoints drawn from past scholars. For instance, Sharma and Mahajan (1980) stressed the importance of addressing performance change in lights of the true problem. Particularly, their model of failure process, as illustrated in Figure 2.1, attributed success and failure of a firm in times of performance deterioration to corrective actions. Essentially, the model heightened that the true problem behind a business failure lies in the corrective actions taken after the occurrence of a problem.

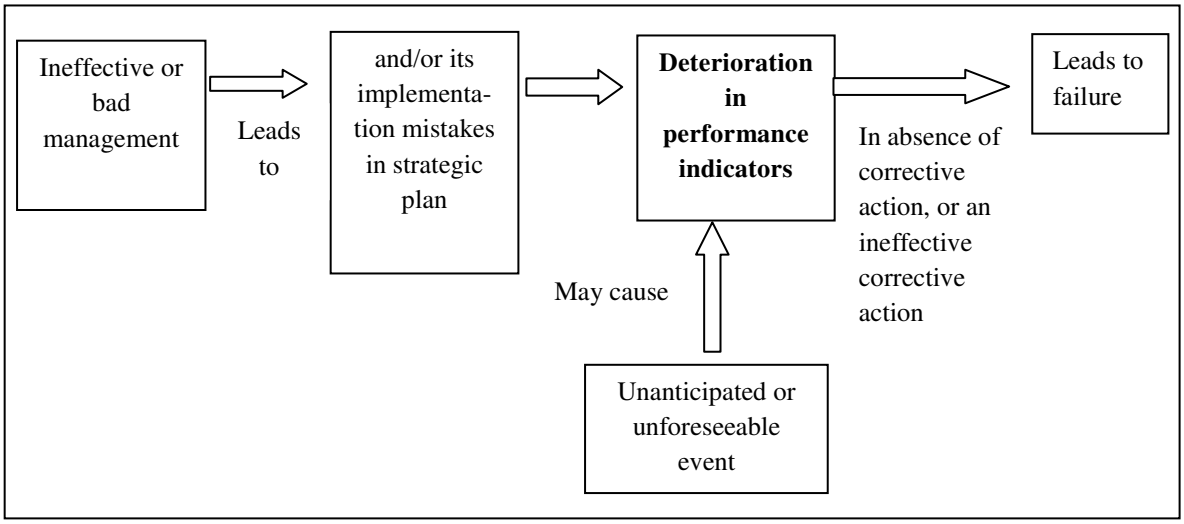

Figure 2.1. Sharma and Mahajan's (1980) model of failure process

Similarly, other scholarly viewpoints included the one by Walsh (2005), which asserted that change needed to be strategized in line with the context of key success factors involved in creating competitive advantage. Further, Morrow et al. (2007) contended that there were hierarchical values among strategies in accordance to the context surrounding the firm.

Therefore, careful calibration of the strategy content was particularly salient, such that the strategies adopted tally to the unique setting of recessionary disruption. Above all, as fast-changing environments could destroy the value of existing competencies (Tushman & Anderson, 1986), strategies needed to be altered in ways that matched the new level of competency needed.

Indeed, the need to reconceptualize corrective strategies particular to the recessionary context was also consistent with the long-unattended lacunae heightened by Pearce II and Michael's (2006), that "…little in the ways of diagnosis, prescription, or prophylaxis has been systematically identified to guide managerial action" (p. 202) during the many periods of disruptions. This gap also appeared remarkable in other similar researchers' work which revealed the reality that most SMEs remaining moot as to how, precisely, the adaptation or reaction should be during such periods (Deans, Kansal, & Mehltretter, 2009). These remarks were also accompanied by more direct call to highlighting the need to "revisit" (p. 64) previous coping strategies (Shohet & Jenner, 2008). It was exhumed that measures taken by substantial numbers of firms in the past recessionary disruptions not only have worsened the situation but have indeed left firms in inferior position for recovery when the economic situation improved (Shohet & Jenner, 2008).

Further, it was also contended that the conceptualization of corrective strategy should also carefully consider the unique characteristics of smaller firms. The current study was in the view that, though there were in existence some established models of reference taping adaptation or corrective response like Hofer's (1980) turnaround strategy and Porter's competitive strategies, it is debatable still that to apply these models or theories directly into the very specific context of SMEs

performance during recessionary disruption required careful consideration. Not least because recessionary disruption itself is a unique context, the distinguished characteristics of SME is a crucially an unavoidable concern for any study embarking on entrepreneurship.

Such concern had been raised in past studies. For instance, Bamiatzi and Kirchmaier (2009) had highlighted that "unfortunately very few scholars had dealt with how small firms can deal with different environmental condition, especially declining ones" (p.7). Bamiatzi and Kirchmaier's (2009) study was also one among those which used Porter's generic strategies to investigate firm-level strategies among outperforming SMEs during the course of declining market and industry. One of the key premises their issue was built upon was the heightened point that, although Porter's generic strategies gained agreement to a large extent in scholarly works, not all these strategies are amenable in every context.

In the like reason, the current study also refuted the use of Hofer's (1980) turnaround strategy for coping among smaller firms during recessionary period. The turnaround model of Hofer (1980) had been referred to by past studies as strategies which offered hints of actions in accordance to different situation during financially distressed time (Egan & Tosanguan, 2009; Latham, 2009). Though, being a widely adopted framework of reference for many earlier studies that discussed about performance deterioration and economic downturns (Egan & Tosanguan, 2009), it was however arguable that this heavily financial-characterized framework might not offer significant values for smaller firms' coping in a practical sense during time-scarced duress time. Hofer's framework offers only an objective illustration as to which response strategy amongst cost-cutting, revenue generation, asset reduction,

and combination effort strategies is deemed appropriate in a particular condition of performance decline, as denoted by the proximity to a firm's breakeven point (measured in terms of revenue, cost, profit or loss). These strictly financial clues do not render more direct suggestions as to what to do for each of the strategy identified.

For instance, cost-cutting strategy is deemed the preferable coping mechanism for firms which income has deteriorated into the range of about +10 % profits to -10% loss from the firm's break-even point. Though remark is put forth to focus on efficient operations which involve cutting variable costs (such as staff layoffs, rents, and inputs to the firm's products or services), a clearly stated choice of direct actions is not offered. Similarly, revenue-generation strategy is coined the preferable coping mechanism if a firm's income has declined into the range of about -50% to -70 % (loss) from the break-even point. Hofer's (1980) turnaround framework is as attached in Figure 2.2.

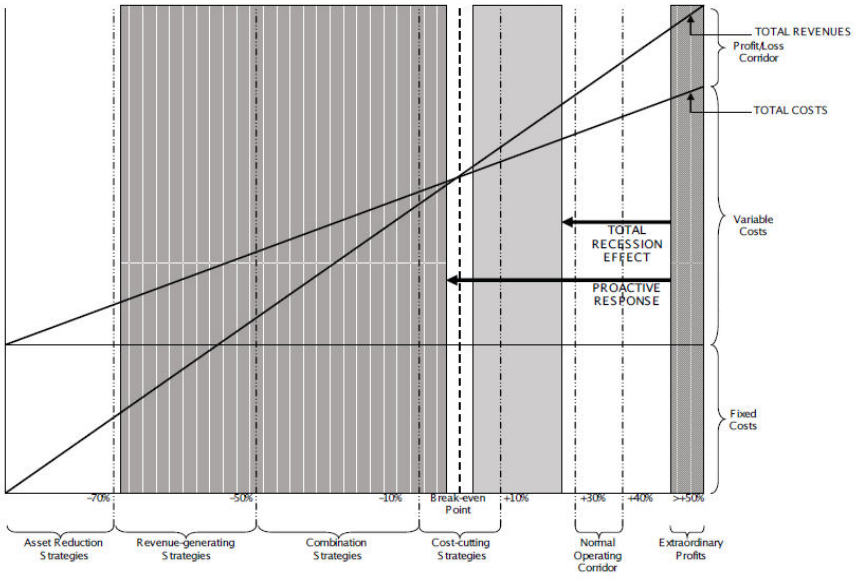

Figure 2.2. Hofer's framework, total recession effect, and proactive response

Given the above discussion, therefore, the current study extended the previous works by re-conceptualizing BCS based on the very criteria of recessionary environment. Taking any one strategy to attest upon recessionary disruption without careful justification for the choice of strategy could lead to erroneous impact.

2.4.2 Conceptualizing Business Coping Strategy (BCS)

Business coping strategy (BCS) was a reconceptualized strategy construct in the current study. Note that corrective strategies discussed with recessionary environment in past studies were coined in many nuanced terms. In this study, the term business coping strategy (BCS) was used. The term was adopted after the term "coping strategy" in past studies, given its versatile meaning for the current study's context (Egan & Tosanguan, 2009, p. 17; Raghavan, 2009, p. 67).

The first and foremost step to develop and reach a well-formulated definition is by having the phenomenon of interest conceptually laid out before the description of how a construct relates to the phenomenon is made (DeVellis, 2003). The anecdotal and empirical evidence presented in Chapter One and Section 2.2 had heightened cash flow struggle as the caveat for performance deterioration during recessionary disruptions (Engle, 2009; Smallridge, 2009; Runyan, 2006), and that positive cash flow had been the crucially-sought after concern (Balasubramanyam, 2009; Charan, 2009; Engle, 2009). Building on these premises, the current study drew a preliminary conceptual circumscription that the corrective strategy to cope with recessionary disruptions should pertain to preserving a positive cash flow. Specifically, the definition of BCS that was able to offer remedy to smaller firms experiencing recessionary disruption should render usefulness in ways that

safeguarded positive cash flow in a considerably fast-paced manner, alongside with the consideration of the unique characteristics of smaller (non-large) firms, their readily weak financial status, and the difficulties to borrow from banks and financial institutions.

In the simplest definition, positive cash flow means that a firm is in a liquid position when cash inflow outpaces the outflow (Davidson & Dean, 1992). As such, cash inflow and cash outflow formed two important constituents underlying positive cash flow which laid foundation to guide the definition of BCS in the current study. The current study followed the simplest rule of thumb for the precise definition of cash-inflow and cash-outflow, which were, cash-inflow meant revenue and cash outflow meant all expenses associated with operating a business (Davidson & Dean, 1992). Building on this definition, the behavior of maintaining positive cash flow simply meant increasing or generating revenue and reducing expenses.

Such bilateralism between the two constituents had also been pin-pointed out in some of the anecdotal evidence found in discussions focusing on recessions (Charan, 2009; Engle, 2009). For instance, Engle (2009) claimed that expenses must be controlled at a level that would permit a firm to produce positive cash from their operations. In concurrence, Charan (2009) asserted that "conserving cash and ensuring that the cash going out does not out-pace cash coming in" (p. 35) was crucial during recessions. A similar reflection was also witnessed in the arguments of empirical credence which recognized the mismatch of sales (forecasted) and spending (projected) as a key factor that triggered business failure during recessions (Pearce II & Michael, 2006).

In addition, considering the sensitive window of time during recessionary disruption (Kovoor-Misra & Nathan, 2000), the attainment of positive cash flow was meant to be in a timely manner or one which was meant to be short-term. Therefore, collectively, the definition of BCS for the context of recessionary disruption should encapsulate the core of positive cash flow and the notion of sensitive window of time. The aptness of being immediate was consistent with Charan's (2009) contention that "the best decision reflects the need to survive in the short term while coming out better in the long time" (p. 35). Such short-term focus was also found supported by previous efficiency-related literature that discussed about recessionary disruption (Zammuto, 1985). In fact, it had also been revealed that, approaches recognized by the long standing organizational literature as workable for long term, was found to top the list of the ten worst things to commit in recession (Nussbaum, 2008). Given the above alluded, the essence of "immediate" was attached to the definition of BCS during recessionary disruption to denote that coping strategy for recessionary disruption was strictly meant to be short term-oriented actions, and not the strategic long term-oriented ones.

Particular to the in-flow constituent, revenue generation was the main focus. The notion and the potentials of revenue generation were indeed widely embedded in the literature and previous studies that revealed positive relationship between marketing-oriented variables (marketing approaches, tactic, orientation, capabilities, strategies, market performance) and firm-level performance (Azizi, Ansari Movahed, & Haghighi Khah, 2009; Grewal & Tansuhaj, 2001; Griffith, Yalcinkaya, & Calantone, 2010; Jaakkola, Moller, Parvinen, Evanschitzky, & Muhlbacher, 2010; Morgan,

Vorhies, & Mason, 2009; Slater, Hult, & Olson, 2010; Vorhies, Morgan, & Autry, 2009).

Interesting concerning the cost-related constituent, cost cutting had been coined as being able to render faster effect given the ease of execution compared to other strategies like revenue-generation (Kitching, Blackburn, Smallbone, & Dixon, 2009; Pheng & Hua, 2001). This line of thoughts was also supported by Hofer (1980), that the most suitable strategy to overcome short-term cash flow problem was cost-cutting strategies. Such notion was also found resonant with the contention of such other scholar as Ravichandran (2009) who argued that, for firms which objective reality resided in a status of immediate trouble, strategizing by means of short-term cost cutting was more appropriate.

In general, the very notion of cost cutting as a firm-level strategy was observable in the extant literature and empirical works related to retrenchment (DeDee & Vorhies, 1998; Morrow, Johnson, & Busenitz, 2004), downsizing (Wayhan & Werner, 2000), turnaround (Bruton, Ahlstrom, & Wan, 2003; Chathoth, Tse & Olson, 2006; Hofer, 1980; Pearce II, & Robbins, 1993), and efficiency-related strategies (Chowdhury & Lang, 1996). Further, the potentials and feasibility of cost cutting specifically for recessionary disruption context was also discussed in scholarly discussions and texts (Kourdi, 2007; Ravichandran, 2009).

Above all, the notion and the importance to strategize by means of cost was consistent with the long-standing management myth of Porter (1985), which asserted that competing with low costs was one of the most widely adopted strategies by firms. In fact, in particular to the disruptive context, the relevance of cost-cutting as a remedial to cash flow struggle was also implicit in the past literature which

associated various cost-cutting tactics (such as retrenchment, turnaround, downsizing, efficiency-oriented strategies) to cash-trapped firms or firms facing financially-distressed circumstances, or firms that operated in severely low munificence environment like crisis and recession (Kitching, Smallbone, & Xheneti, 2009; Pheng & Hua, 2001).

However, based the literature study, the current study proposed that the cost-reduction notion should not only be confined to simply cutting cost, it should take up a broader lens to include the containment of expenses which was to aim at avoiding, at least for temporary period, the need to spend more, to pay or to let cash leaked out. The feasibility of this line of contention, as well as the essence of the term "containment" put forth here, could be traced back to anecdotal evidence heightening the notion of "conserving cash" (Charan, 2009; Fitzgerald, 2009).

Such term as "cost containment" though had not been asserted nor the notion had been empirically verified in previous studies related to business-level coping strategy, the current study observed that the essentials of such notion of expenses containment was however found embedded in works pertinent to financial bootstrapping (Carter & Van Auken, 2005; Ebben, 2009; Ebben & Johnson, 2006; Lahm Jr. & Little, 2005; Lam, 2010; Van Auken, 2004; Willoughby, 2008; Winborg, 2009; Winborg & Landstrom, 2000), and bricolage (Baker, Miner, & Eesley, 2003; Steffens & Senyard, 2009). Both lines of studies had been previously studied in research related to resource-scarcity issue and smaller firms financing.

For example, when the current research specifically directed the literature search along the pertinence of improving cash flow and cash flow constraint, the notion of financial bootstrapping transpired either explicitly (Bhide, 1992; Carter & Van

Auken, 2005; Ebben, 2009; Gray, 2007; Harrison, Mason, & Girling, 2004; Lahm 2005; Van Auken, 2004, 2005), or implicitly (Haynes, Walker, Rowe, & Hong, 1999; Muske et al., 2009; Yilmazer & Schrank, 2006). The similar outcome was observable when the literature search was made along the line of resource or capital acquisition of small firms (Van Auken & Carter, 1989; Winborg, 2009; Winborg & Landstrom, 2000), entrepreneurial finance (Brush, Carter, Gatewood, Greene, & Hart, 2006; Lam, 2010; Willoughby, 2008), financing small firm (Van Auken, 2001), and small firms financing behavior (Johnsen & McMahon, 2005).

Similarly, using keywords of the like such as resource acquisition, resource development, resource scarcity, and resource constraint, bricolage strategy appeared to the view (e.g., Aagard, 2009; Baker et al., 2003; Baker & Nelson, 2005; Garud & Karnoe, 2003; Johannisson & Olaison, 2007). Also appearing along the literature search was the examination of bricolage strategy in resource-constraint entrepreneurship context, such as entrepreneurial founding process and start-up (Baker et al., 2003; Steffens & Senyard, 2009).

In general, financial bootstrapping is defined as the method that secures the use of resources at a relatively low or no cost (Willoughby, 2008), by adopting creative techniques (Bhide, 1992; Freear, Sohl, & Wetzel, 1995) that acquire resources from methods other than the traditional financing method (Carter & Van Auken, 2005), which is, funding business operation without resorting to debt (borrowing money), or raising equity financing (Freear et al., 1995; Van Auken, 2005). Winborg (2009) defines financial bootstrapping as “methods that eliminate and / or minimize outflow of financial means” (p. 72). Therefore, in line with sustaining positive cash flow status of firm within the recessionary context in the current research, the central

tenet of financial bootstrapping was to contain expenses and the need to pay while raising finance internally (Ebben & Johnson, 2006; Van Auken, 2005; Winborg & Landstrom, 2000).

On the other hand, bricolage is defined as "making do by applying combinations of the resources at hand to new problems and opportunities" (p. 333) while weathering through resource scarcity (Baker & Nelson, 2005). Other scholar such as Lanzara (1999) defines bricolage as constructive activity that transforms and reshapes what are already in use, or creatively reshuffles components to address new purposes. It is also defined as developing something which is recognizable from whatever available at hand (Weick, 1999a). The unique capabilities captured within these definitions were suggestive of bricolage's potentials as resource salvage to promote positive cash flow in resource-scarced times. Further, such potentials was essentially feasible as past studies showed that constrained firms typically evaluated their existing resources in numerous ways, and that the value attached to a resource was not only in its standalone offering, but also in the value when bundled with other resources (Senyard, Davidsson, & Steffens, 2010a).

Therefore, in the context of recessionary disruption as defined in the current study, bricolage seemingly manifested a viable resourcing alternative, as uncertainty and disorder events often had a critical window of time that disallowed the waiting for optimal resource to be deployed, and hence the need to handle the issue at hand with whatsoever currently available resources. In addition, it was important to note that revenues generated from new offerings derived from "recombined resources" (p. 273) was potential to contribute positively to firm's profits as the costs of acquiring new resources could be avoided (Morrow et al., 2007).

Further from the above discussion, the current study reckoned that financial bootstrapping and bricolage were indeed conceivably better alternatives to improve cash flow status compared to the sole cost cutting. Unlike cost cutting-oriented tactics which work to preserve positive cash status by cutting operating costs which directly influence the operation of firm (Chowdhury & Lang, 1996), financial bootstrapping and bricolage are resource-related internal adjustments potential of achieving the same goal without needing to affect this cost in the direct sense. From the perspective of resource-based view of firm, these internal adjustments which are largely tacit allow firms to better-leverage valuable, rare, inimitable, and non-substitutabe (VRIN) competitive advantage (Barney,1991). In light of this sense-making, the current study postulated that cost reduction by means of cost containment through financial bootstrapping and bricolage was in fact a sharp-witted parallel to complement cost-cutting notion in the pursuant of cost reduction, in favor of positive cash flow status.

In the view above, while cutting operating cost was aimed at keeping firms operating with the lowest cost possible, the containment of expenses and cost was aimed at preventing or reducing the need to expense at best. In fact, such notion of adjustments are feasible for SMEs because smaller firms are more flexible and are unlikely to be encumbered by formal routines as in larger firms when strategizing responses (Ebben & Johnson, 2005). Further, the concern of timeliness is clearly embedded in both financial bootstrapping and bricolage.

Indeed, recent researchers had postulatedly yoked the two concepts (financial bootstrapping and bricolage) as “potentially key dynamic capabilities” which would enable entrepreneurs to enhance the value of resources at their disposal by extending

and integrating them (Jones, MacPherson, & Jayawarna, 2014, p.155, as cited in Smith & Blundel, 2014).

To this end, recapping Davidson and Dean's (1992) definition of positive cash flow, BCS in the current study was conceivably a multi-dimensional construct, premising on two constituents (cash inflow and cash outflow), where increasing cash inflow was done through revenue-generation tactics, and reducing cash outflow was done by means of cost-cutting and cost containment tactics (financial bootstrapping and bricolage).

Closely defined, the construct of BCS in the current research had four dimensions namely revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB), and bricolage tactics (Bri). The relevance of such multi-dimensional construct was consistent with the notion that "the effort to maintain a positive cash flow and keep operating expenses in check need to be multifaceted and unrelenting" (Davidson & Dean, 1992, p. 18). The multi-dimensional BCS was also consistent with previous research which showed that high-perfomer firms during recession approached strategy from a broader perspective (Kambil, 2008).

From the perspective of dynamic capability theory (Teece & Pisano, 1994; Teece et al., 1997), these four distinct yet collectively resonant (correlated) dimensions made BCS a dynamic capability. Although each dimension reflected different corrective actions, they nevertheless served the similar purpose, that was, to facilitate immediate positive cash flow of firms. To note, dynamic capability might feed well the recessionary context, because dynamic capability would be able to address the resource scarcity concern given its ability to change the underlying resource base (Eisenhardt & Martin, 2000).

Further, the multifaceted and internally-initiated nature of business coping strategy not only would help firms to gain competitive advantage, but also the sustainability of that advantage. This notion was agreeable with Porter's (1996) view that it was more difficult for competitors or rivals to match an array of interlocked activities. It also went consistent with the RBV perspective, as internally-initiated action are largely tacit, and thus allowing firms to better leverage valuable, rare, inimitable and non-substitutable (VRIN) competitive advantage (Barney, 1991).

Building on the discussions above, the defining tenet of business coping strategy (BCS) in this study was the firm-level corrective strategy which eased immediate cash flow struggle by means of preserving a positive cash flow status of firms in short term through increasing cash inflow and reducing cash outflow. Precisely, increasing cash inflow involved generating revenue through various marketing-related tactics that boost demand. Reducing cash outflow was done by incorporating cost-cutting tactics related to operating efficiency and cost containment tactics (bricolage and financial bootstrapping tactics).

Depicted in Figure 2.3 is the schematic illustration of the above discussions which lead to the ultimate conceptual definition of BCS for the current study.

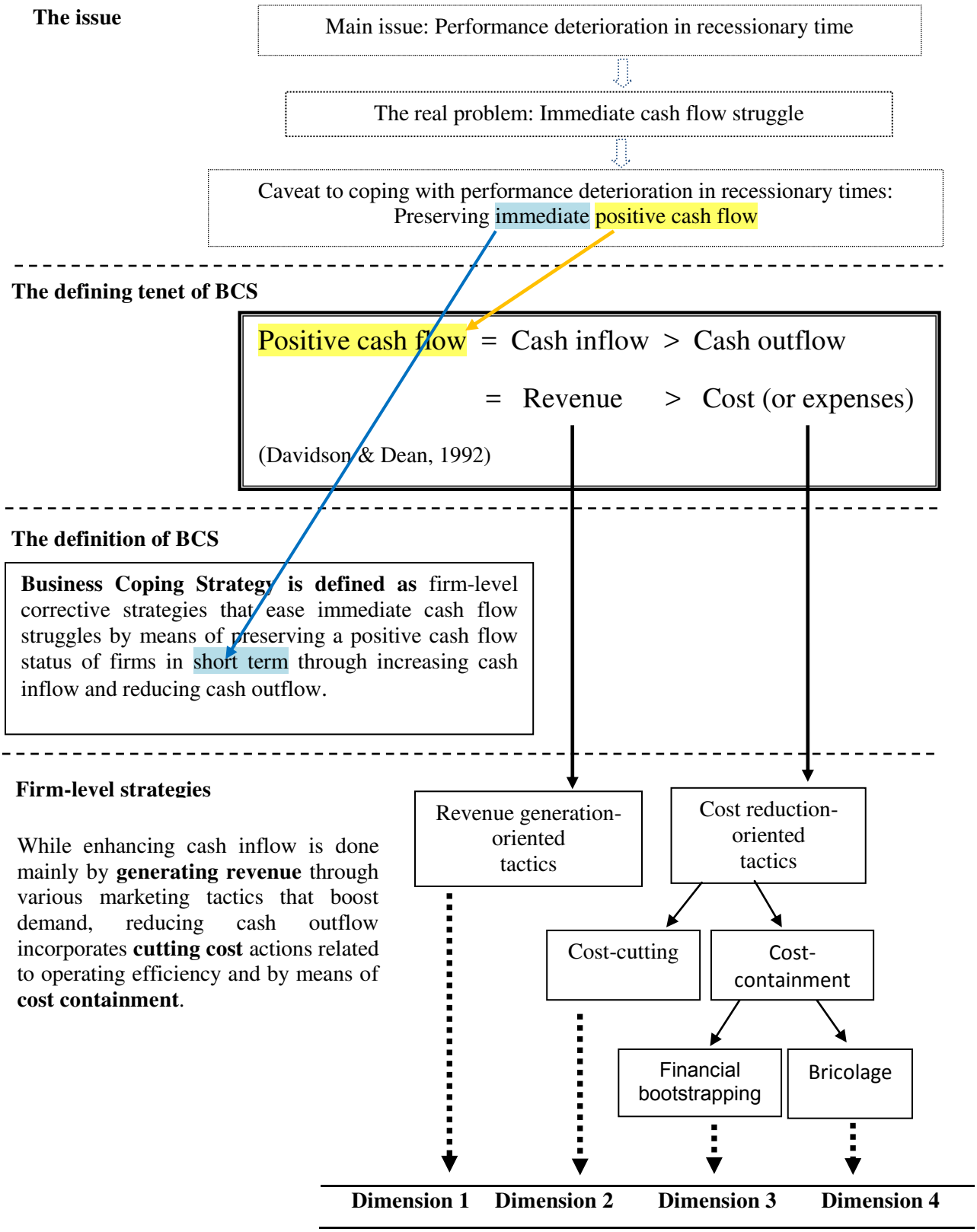

Figure 2.3. Schematic illustration of conceptualizing business coping strategy

Having identified the subordinate dimensions for the BCS construct, the empirically-testable inclusion criteria for selecting items for each of these dimension were discussed (Johnson, Rosen, Chang, Djurdjev, & Taing, 2012). Given the length of explanation, the discussion for each dimension was presented in separate sections, from subsection 2.4.2.1 through subsection 2.4.2.4

2.4.2.1 Revenue-Generation Tactics (Dimension 1 of BCS)

Based on the literature study, the current study reckoned that revenue-generation tactics during recessionary disruption should be marketing-oriented. This was because revenue generation of firms was largely associated with the dealing with the demand side of the market, or in another word, tapping the customer base. Tapping this component had especially important implication because the inherent unpredictability of recessionary disruptions hampered the existing market demand and thus challenging both industrial and consumer customers to become disloyal as they altered their purchase pattern to adjust to their deteriorated buying power (Pearce II & Michael, 2006). Customers became more price-sensitive during such period (Grewal & Tansuhaj, 2001; New Zealand Trade & Enterprise, 2009; Pearce II & Michael, 2006). Given the demand uncertainty in the market, therefore it was sensible to argue that firms that were able to maneuver their corrective actions towards addressing the change of market demand and customer's behaviors would posit themselves in better position to generate revenue during disruptive periods.

In an anecdote, while noting revenue generation as a potential response to the 2008 prolonged recession, Moeller and Rawlinson (2009) had pinpointed marketing as crucial concern to weather through recession. The researchers claimed that

marketers who managed to craft appropriate empathetic marketing message and improve marketing return on investment (ROI) would attract new customers and build market share in the future. Reflecting the importance of marketing during recession, the researchers warned that while swift cost-cutting was one very common corporate response during recession, such action in marketing however would jeopardize firm's future revenue, market share and customer relationship, which were claimed three important assets that must be safeguarded upon if firms were to survive the recession and better-posit themselves for recovering. In essence, firm experiencing recession must be tactful to realign firm's marketing attempts to major changes in customer psyches, behaviors, and buying patterns. Crucial attention must also be attached to changing marketing mix and responding to changes in the distribution channels and "geographic market" (Moeller & Rawlinson, 2009, p. 1).

In fact, Pelham (1999) who studied performance of manufacturing SMEs noted that market-oriented firms attained greater performance as they were able to quickly address and respond to the negative customer feedbacks, competitor activities, and customer changes. By being market-focused, firms were more accustomed to monitoring customer's need and thus were better able to adjust accordingly to tap into the new demand pattern (Slater & Narver, 1995). Such delineation was also consistent with previous studies that accentuated customers as the most significant focus in highly demanding uncertain environment (Caudillo-Fuentes & Li, 2009). For example, Caudillo-Fuentes and Li (2009) contended that stimulating demand by focusing on customer segments was a potential means to attain the level of desired income during the periods of adverse market. Given the importance of tapping the

market component, market-focused or marketing-oriented activities were therefore deemed potential during the deviant situation of external disruption.

In addition to the above, past researches had also demonstrated positive association between firm performance and marketing-related variables such as marketing capabilities (Azizi et al., 2009; Griffith et al., 2010; Morgan et al., 2009; Vorhies et al., 2009), market orientation (Lings & Greeley, 2009; Grewal & Tansuhaj, 2001), market performance (Jaakkola et al., 2010; Vorhies et al, 2009), marketing strategy creativity (Slater et al., 2010), marketing strategy (Azizi et al., 2009), and sales strategy (Panagopoulos & Avlonitis, 2010).

For instance, based on the research setting of Japan and U.S., Griffith et al. (2010) who examined the relationship between intangible capital and firm performance across institutional environments revealed that marketing capabilities positively and significantly influenced firm's performance. In fact, the extent of the importance was found supported in the full mediation effect of marketing capabilities on the relationship between intangible capital and firm performance. In their study, marketing capabilities was defined as the ability of firm to perform marketing ability, and it included the ability to perform selling, the ability to do product development or research, and considerable ability in area of distribution (Griffith et al., 2010).

Other studies had also showed that marketing capabilities had direct positive effect on both financial performance (ROA) and perceived firm performance (Morgan et al., 2009). Further, while market performance was found positively related to financial performance (Jaakkola et al., 2010), market effectiveness was found positively related to cash flow performance (Vorhies et al., 2009). Still in

another instance, Slater et al. (2010) demonstrated that marketing strategy creativity had a significant positive relationship with firm performance.

Further, such researcher as Roberts (2003) offered credence that, firms which increased their marketing expenses during recessionary time were not significantly less profitable. In fact, revenue-generation strategy that pivoted around marketing-oriented actions may fit especially well the specific context for smaller firms. This was due to the fact that smaller firms were compelled to be more sensitive with the environmental changes given that they did not have the luxury of resource and buffer to accommodate poor strategic choices (Cooper, Gimeno-Gascon, & Woo, 1994). In so doing, they drove themselves closer to the market and its customers which in turn tuned them to the contemporary changes and needs of the market (Dean, Brown, & Bamford, 1998; Peters, 1992).

Further, the relevance of market-oriented strategies to generate new revenue was also based upon the competitive advantage of flexibility SMEs posses (Andren, Magnusson, & Sjolander, 2003; Bhide, 1994; Carr, Topping, Woodard, & Burcham, 2004; Chen & Hambrick, 1995; Dean, Brown, & Bamford, 1998; Ebben & Johnson, 2005; Julien, 1993; Peters, 1992; Yu, 2001), which allowed them the luxury to create a niche in the market by altering their product mix to satisfy customer needs (Gadenne, 1998).

Though revenue-generation tactics by means of various marketing tactics involved costs, and that it seemed running counter to the importance of preserving positive cash flow during the course of recessionary disruption (Balasubramanyam, 2009; Charan, 2009; Engle, 2009), it was however argued that spending them in exchange for productive outcome worthed risking, as per heightened by Davidson

and Dean (1992) that, “how much more profitable it would be if you could put that capital to work in a way that enhances the business rather than simply keeping them alive” (p. 135).

While the above premises were postulated, it was however noted that the nature of marketing of smaller firms could be of a distinctive one (Blankson, Motwani, & Levenburg, 2006; Latham, 2009; Stokes, Wilson, & Mador, 2010), and that whether those marketing strategies primarily used to study their larger counterparts rendered amenable required confirmative examination. For instance, it was demonstrated that while smaller, start-up firms increased their investment for R & D of new product development, sales and other marketing moves such as direct sales efforts, alliances, and channel efforts during recession, larger firms were found to reduce such investment (Latham, 2009).

Likewise, it was also crucial to note that while marketing-related strategies had appeared abundant in previous research, some of them involved end-user or household customers, while some others involved intermediate or industrial customers. Strategies that were meant for the current study were ones that concerned the smaller-firm (non-large firm) context and intermediate customers. Similarly, the notion of marketing for revenue generation in the recessionary context might not be similar to those of the normal business times. For marketing during normal business time, resource adjustments could be more directed towards a long term notion which might possibly involve both internal and external resource. Short term consideration might not be as crucial. However, the one required by this current study was one that would consider resource adjustment for the short term effect, and that it might limit marketing to the affordable level of internal resource.

Cautioning upon the above, marketing-related revenue generation tactics were discussed in congruence to the recessionary context, the nature of manufacturing sector, as well as the smaller (non-large) firm perspective. The literature study had indeed found that marketing revenue generation tactics had been heightened in line with the specific concerns mentioned above. The empirical and anecdotal evidence confluenced in several themes as discussed below.

A. Promotion, advertising, and improving marketing activities

One such tactic to generate revenue during trying time is by investing in promotion (Hollis, 2008; Moeller & Rawlinson, 2009). According to Hollis (2008), the Chief Global Analyst, improving marketing activity or investment to promote product was important during duress time like recession. Hollis (2008) put forth that "a recession … can impose a discipline on marketing that is actually beneficial to brands in a variety of circumstances" (p. 1). He argued that boosting marketing investment during a recession when most others were cutting back on spending, might lend firms to the opportunities of substantially gaining an edge to improve the standing of their product in the market. The working principle was that when the share of voice got improved, it was likely that the share of market would follow.

Such anecdoctal evidence was also substantiated by other empirical credence (Koksal & Ozgul, 2007). For instance, Koksal and Ozgul (2007) concluded that promotional strategy must present in tandem with other strategies if firms were to withstand an economic crisis successfully. During recessionary period where customers' purchasing interests and trend changed due to the decline of purchasing power (Pearce II & Micahael, 2006), the current study argued that asserting a

continued flow of communication between firms and the customer was crucial so as to prevent firms from completely losing track of their customers. In this view, promotion activities coud be viewed as one useful alternative to keep bridging the communication between firms and their customers, which in turn safeguarded revenue inflow. This line of thought was consistent with Koksal and Ozgul's (2007) claim that promotion activities could be used to regain lost purchasing interest due to discouraging income reduction amongst customers (end customer). The researchers further explained that since customers exhibited higher tendency to alter their preferences for a brand or product in duress time such as crises, firms' promotional activities would not only retain the existing customers, but they were also potential to broaden the customer base by attracting the "floating customers" (Koksal & Ozgul, 2007, p. 339). Indeed, promotion, together with price, were claimed the most immediate lever to generate revenue in short term during recession (Moeller & Rawlinson, 2009).

Besides, advertising was also one among the most striking element in the promotion activities during duress time (Ang, 2001a, b; Koksal & Ozgul, 2007; Mooney, 1991; New Zealand Trade & Enterprise, 2009). In favor of grasping the most out of the advertising activities, firm might consider to diversify their advertising effort by changing the advertising styles (Ang, 2001a, b). Ang (2001a, b) asserted that promotional mix such as media advertising and public relations were also crucial to boost customer base in times of financial crisis. In fact, it had been put forth that aggressive marketing campaigns could indeed be more effective during disruptive times like recession, because competitors who felt pressured might attempt to forestall losses by reducing their advertising.

To look into some empirical instances, Ang (2001a, b) reported a noted increase in the promotional budget generally, and advertising budget specifically amongst the Singaporean firms during the duress period of the 1997 Asian Financial Crisis. Similarly, Kambil's (2008) study demonstrated that intensified advertising expenses to support product sales had been one of the important moves that facilitated Colgate-Palmolive Company to consistently increase their global revenue and profit amidst the 1991 Recession. Likewise, another case study-based research by New Zealand Trade and Enterprise (2009) revealed that almost all the firms examined maintaind or increased promotion and advertising efforts, in both forms of expenses as well as research and development (R & D) activities. This study by New Zealand Trade and Enterprise was one of those that mainly examined tactics and strategies firms adopted to survive and prosper during recessionary periods. The case-subject firms were assessed with regards to the multiple periods of downturns experienced by the firms. Among these firms were some that dealt with end-customers and some that dealt with intermediate customers. The case subjects in the study, to certain extent, reassured that increasing targeted advertising drove firms to gain market share in very competitive environment.

In another example of success by means of advertising, Procter and Gamble Company was reported to have always increased their advertising expenses whenever they faced economy turbulence. The firm had reported to have doubled their advertising budget every two years during the Great Depression. The firm adopted powerful marketing tactic like intensifying advertising through media (radio) by tailoring products to the targeted purchasing demographic. As the firm claimed, "when times are tough, we build share" (New Zealand Trade & Enterprise,

2009, p.9). In fact, it was asserted that firms that increased their marketing and advertising budget during a recession gained market share three times as fast during the recovery compared to those that cut (Profit Impact Marketing Strategies, as cited in New Zealand Trade & Enterprise, 2009).

Similarly, Coca-Cola Company which had successfully instilled the pleasant yet inexpensive feel among their consumers with their iconic advertisement motto " I'd like to buy the world a coke" (p. 17) had managed to maintain and enhance their markets share during the Great Depression (New Zealand Trade & Enterprise, 2009). In the same vein, the Royal Dutch Shell Company which advertised by such brilliant manipulative taglines as "keep your tyres pumped at the correct pressure and you can gain extra miles for the same tank of fuel" (p. 23), had managed to enhance brand loyalty amongst its existing consumers who had since become cost-conscious (New Zealand Trade & Enterprise, 2009). In this sense, customer loyalty was built by demonstrating that firms understood the concern of the cost-conscious customers (New Zealand Trade & Enterprise, 2009). Such notion was also resonant with Moeller and Rawlinson's (2009) recession-specific note which highlighted that to maintain and enhance firm revenue generation, firm should reflect to customers how their products attended to customers' recession-driven need and concern. Firms need to tailor to the worrisome cash-strapped customer. Moeller and Rawlinson's (2009) survey finding revealed about the apparent less-buying behavior among customers, and that if they bought, they looked for brand or products that empathized with their plights and remained relevant in changed circumstance.

Beside the above, in term of R & D for marketing (promotion, advertising), Xerox with one of its popular mottos "innovate or die" (p. 26), had carried out careful

investment in R & D despite recession. It helped the firm to gear their product development and better position their core brands (New Zealand Trade & Enterprise, 2009). In the same vein, Johnson & Johnson Company increased the advertising and R & D spending during recession mainly focusing on the core, most profitable products. In addition, the study had revealed that some of most successful products were indeed released during the recessionary periods

Though almost acceptable as effective tactic to raise revenue of firms, there were also studies which demonstrated the reduction of investment in advertising during recessionary period (Latham, 2009).

B) Trade promotion, trade show, using business network for promotion

Marketing effort related to promotion also included trade promotion or trade show (Latham, 2009), as per taken into examination in previous studies. In the recent study by Latham (2009), the findings however showed that firms reduced marketing spending on trade show during recession. The researcher however argued that such action might be attributed to firm's action to retract investments in indirect marketing endeavors to give ways to funding direct and more measurable effort such as sales which directly interfaced with customers.

Of particular relevance to trade promotion in the unique context of smaller firms is the use of network, as small firms are invariably tactful to leverage networking in favor of filling their apparent resource gap. This was also consistent with the finding that SME marketing was largely based upon networks and relationships with markets and customers (Bamiatzi & Kirchmaier, 2009; Gilmore et al., 2006). Further, the special importance of network in promotional efforts of smaller or

entrepreneurial firm context concurred with one such book discussion on model of entrepreneurial marketing, which asserted that smaller, entrepreneurial firms "attract and retain their customers through more interactive" tactics, especially in spreading news on promotion through "word-of-mouth recommendations" rather than mass marketing (Stokes et al., 2010, p. 266).

Crucial to note was the fact that this very process was underpinned, not by formalized marketing research, but the informal information-gathering that was done through networking (Stokes et al., 2010). Indeed, the researchers had noted the emphasis of previous studies that word-of-mouth recommendation from customers, suppliers, and other referral groups was the utmost prominent source to get new customers in small or entrepreneurial firms (Stokes et al., 2010). In this essence, past studies also demonstrated that over 90% of the owner-managers of small businesses used word-of-mouth communication as the most important way to transmit marketing messages (Stokes, Fitchew, & Blackburn, 1997, as cited in Stokes et al., 2010). Stokes et al. (2010) in their book discussion exemplified an earlier research by Blackburn and Stokes (2003) that, almost 67% among firms identified as high growth claimed word-of-mouth recommendation to be the most effective way of attracting customers. This concept of word-of-mouth recommendation promotional tool was resonant with what the entrepreneurial marketing called the "viral marketing" (Stokes et al., 2010, p.267). In fact, viral marketing was coined as a relatively new marketing term which explained "how marketing messages can be passed on by individuals in a way that can create exponential growth" (Stokes e al., 2010, p. 272).

Empirical finding of similar notion was also found in Bamiatzi and Kirchmaier's (2009) case study, which demonstrated that majority of the outperforming SMEs preferred indirect marketing activities, and that the use of personal relationship (network) and word-of-mouth were the most common tactics used for marketing. Most of these SMEs studied reportedly used either sales team or internet to maintain close relationships with customers and kept them informed of the new products and services. In fact, the study found internet a very powerful marketing tool among SMEs, overshadowing the conventional ones. Therefore, it was postulatable that trade promotion could also take the form of mouth-to-mouth promotion. This was especially applicable to smaller firms context.

C. Increasing marketing budget to assist marketing activities

Marketing-related activities though had been claimed as incurring cost and might well go at odds with the cost cutting intention, it was nevertheless alleged that external disruption such as recession impinged less effect on firms investing in intangibles such as training, advertisements, and research and development (R & D) activities (Kitching , Blackburn, Smallbone, & Dixon, 2009). This conjecture also appeared suggestive across extant studies that concurred on the likely positive effect of increasing R & D budget to assist marketing activities during duress times like recession (Kitching et al., 2009, Koksal & Ozgul, 2007; Morbey & Dugal, 1992; Pearce II & Michael, 1997, 2006; Roberts, 2003; Srinivasan et al., 2005), or the behavior of increasing promotion budget (Mattsson, 2009). In fact, it had been put forth that aggressive marketing campaigns could indeed be more effective during

disruptive times like recession, because competitors who felt pressured might attempt to forestall losses by reducing their advertising.

D. Distribution channel

Several previous studies had also presented credence to suggest the significance of guarding upon firm's distribution channel to either improve revenue during recessionary disruptions (Moeller & Rawlinson, 2009), or to be an essential marketing-driven tactics in common business days to drive firm performance (Griffith et al., 2010).

For instance, according to Griffith et al. (2010), besides the ability to carry out selling and product development (or research), being able to do well in the task of distribution was another important marketing capability. In addition, previous studies also suggested that increasing the number of distribution channels could help to facilitate the achievement of market penetration (Koksal & Ozgul, 2007).

However, it was further argued that the approach chosen to perform distribution was an important factor that decided the usefulness of distribution. For instance, performing distribution through discounters was found having no effect on firm performance (Koksal & Ozgul, 2007). Tailoring to the recessionary context of this current study, there was anecdotal evidence which put forth that customers abandoned high-priced sellers for their aggressive discounters during recession (Moeller & Rawlinson, 2009).

The empirical findings that highlighted distribution channel also bore consistence with some anecdotal evidence that cautioned upon the crucial need to respond to changes in firm's distribution channels and leverage full advantage from it in the

recessionary-specific context (Moeller & Rawlinson, 2009). The work of Moeller and Rawlinson (2009) for instance, raised awareness that paying heed to distribution channel was crucial to safeguard three most important aspects to be taken care of during recessionary period, viz., revenue, market share, and customer relationship.

Particular to smaller firms, the importance of leveraging channel to raise benefits from sales and marketing effort was also evident in other studies that showed increased investment of it during recessionary period (Latham, 2009).

E. Discounting strategies

Discounting strategies and pricing (Caudillo-Fuentes & Li, 2009) were another two imperative techniques prevalent in the literature of revenue generation used in concert with promotional efforts. In fact, the two were closely-related.

Pumping up revenue during financially-distressed circumstances by adopting reduced price and discounting techniques were feasible. This was consistent with the contention that consumption decision of customers might shift from one of the quality-based to one of price-based (Caudillo-Fuentes & Li, 2009; Kotler & Caslione, 2009).

The discounting strategies which involve offerings of discount by firms to customers could be accomplished through different discounting tactics such as quantity discounts (Koksal & Ozgul, 2007), discount rate or discount coupon (Harris Interactive Survey, 2008). It was also conceivable that more careful use of discounting strategy could be recognized in the offering of discounts to the most valuable, the most loyal, and the most satisfied customers (Hollis, 2008). This notion could be traced back to such industry expert's suggestion that performing selective

marketing treat by emphasizing only the most valuable, loyal and satisfied customer could be beneficial for firms (Hollis, 2008).

Contention of the similar notion was also found in empirical study which particularly focused on such external disruption as the 2009 Recession (Ravichandran, 2009). For instance, Ravichandran's (2009) study suggested a list of conditions firms must consider in deciding strategies (cost-cutting or growth investment) for recessions. The reseacher urged firm to focus on their best customers. In this essence, firms were to focus on strategies that essentially meet what the most profitable customers need. Such move was premised on the potentials of bottom-line-boosting customers for greater return.

F. Pricing strategies

Previous study showed that firms engaged in reducing price as a way to attract customers (Poulter, 2009). In fact, the recession-related study by Kambil (2008) put forth that one way to grow margin during recession was to emphasize on how soundly firms managed to tailor their sales and marketing activities to pricing policies across customers.

There have been different views about pricing strategy, and there is no certain good or bad about the strategy. For instance, in the review by Chou and Chen (2004) who examined pricing strategies of the Taiwanese retailing firms in recession, it was claimed that gotten involved in pricing issue was inevitable particularly for smaller firms. The researchers argued that during a recessionary period, while there was a bright prospect for resource-abundant firms to practice predatory pricing strategy to

safeguard market position, resource-scarce firm was but to join price destruction war.

On the other end of the spectrum, such study as the one by Koksal and Ozgul (2007) which examined marketing strategies and firm performance specifically in the economic crisis setting, revealed that there was no significant difference in firm performance amongst firms which adopted different pricing policies during the course of economic crisis.

Noteworthy, however, strategizing by price-promoting (pricing) to retain or attract customer is similar but not identical to marketing by discounting tactic. It was claimed that though price-cutting marketing tactic was potential to trigger demand in times of recessions as it attracted customer who had since become more price-sensitive during this course of events (Chou & Chen, 2004; Kotler & Caslione, 2009; Pearce II & Michael, 2006), there were also scholars who had posed warning about the potential risk of pricing tactics should it not be handled carefully (Caudillo-Fuentes & Li, 2009; Hollis, 2008).

For instance, Caudillo-Fuentes and Li (2009) alerted that firm should handle with care when strategizing by means of discounting and pricing in recessionary period. Marking this point unto a short term perspective, the researchers cautioned on the possible circumstance where the demand attained due to decreased price (pricing strategy) might not suffice to offset the revenue lost due to discounting strategy. In fact, such actions were also claimed to have some bearings on the long run prospect of firms, as reduced price and discounting might affect customer expectations about the firms and in corollary impair firm's ability to change pricing policy in the future.

Similarly, Hollis (2008) highlighted that such price-cutting promotion might risk harming a price premium in the long run, as customers were pampered to expect lower prices and would buy only on deal. The researcher contended that a product with compelling advantage over the competition would eventually get their customers who had switch to cheaper product back when the tight time was over. Conversely, once a price premium is lost, it tends not to be regained (Hollis, 2008).

However, since revenue generation during recessionary disruption in the current study was meant to be rapid to serve the short-term cash flow need, this pricing tactic might still be applicable.

G. Emphasizing on quality product

Having put forth the foregoing discussion on pricing strategy, in adjusting firm's activities to cope with the changes in the market during financially duress period, firms should be aware that product quality decisions should be taken care of with the pricing decision borne in mind (Ang, Leong, & Kotler, 2000; Koksal & Ozgul, 2007). This contention was consistent with the conception that customers invariably took price as the cue to judge brand equity (Teas & Argawal, 2000; Yoo, Donthu, & Lee, 2000), and hence the reduced price might well be perceived as reduced product quality (Chou & Chen, 2004). Therefore, awareness must present that using pricing as a promotional technique in great excess might risk damaging the prestige of the product of brand (Chapman & Wahlers, 1999).

Pertinent to this, Hollis's (2008) review provided one such vivid exemplary scenario relating the how pricing, discounting, and quality decision affected a firm during trying times of recession. In his review, during the 2001-2002 recession,

Kimberly-Clark coped by reducing diapers in each package of Huggies with the aim of improving the margins. Procter & Gamble, their significant competitor, however, maintained their pack but added the word “compare” to the label. Procter & Gamble did this in tandem with increased discount coupons and store displays for pampers. This quality-related marketing knack had effectively ruined the pricing power of Huggies.

The importance of product quality particularly during duress time had also received empirical credence from previous studies which demonstrated positive effects on firm performance given the act of offering product of higher quality while holding constant price, or offering product of same quality with a lower price (Koksal & Ozgul, 2007). Vice-versa, reduction in price and quality tend to affect performance negatively (Koksal & Ozgul, 2007).

In a similar but different perspective, the inductive multiple-case study of Bamiatzi and Kirchmaier (2009) revealed that all the outperforming firms examined in their study emphasized greatly on maintaining low production cost and leveling their total price at a competitive point. Despite the desirability for low cost among the majority of them, it was noteworthy that they would not put their product quality at the compromise of lower prices.

In addition, improving quality had indeed been asserted as being able to lead to reduced post-production inspections, which in turn rendered major impacts on product cost (Cooper & Kaplan, 1988).

H. Improving new product capabilities and aesthetic features

Previous studies had offered evidence that smaller firms increased their investments of R & D for new product development during recessionary periods (Latham, 2009). The support to leverage benefit from R & D activities was closely related to other findings that emphasized on new capabilities of products or new products (DeDee & Vorhies, 1998; Roberts, 2003). In fact, these studies supported that firm's emphasis on new capabilities of products or new products during business duress period paid off (DeDee & Vorhies, 1998; Kambil, 2008; Roberts, 2003).

For instance, previous studies had witnessed the attainment of higher return on common equity amongst SMEs that gave rise to the feasibility of tactics pertinent to upgrading product capabilities while weathering through an economic downturn (DeDee & Vorhies, 1998). In particular, DeDee and Vorhies's (1998) study revealed that major spending on R & D, the emphasis on high quality product, and new product development were amongst the key factors that boosted firm profitability during the course of recessionary period.

Similarly, Roberts (2003) heightened that introduction of new products during the course of recession would help to boost profitability and growth for firm recovery. The positive effect of increasing introduction of product, specifically in time of crisis, had also received support from other scholarly works (Kambil, 2008; Koksal & Ozgul, 2007). The preliminary research by Kambil (2008), which was based on recessionary setting, found that high-performing firms were amongst those that did not stop to introduce new products and adjust their product to give way for lower-priced alternatives which appealed to the more value-conscious customers and made improvement in customer experience.

Such contention was also consistent with previous studies which claimed that, under declining or competitive environment, firms adopting innovative strategies achieved more favorably than those of retrenchment or conventional strategies such as cost-minimizing and downsizing (DeDee & Vorhies, 1998; Geroski & Gregg, 1997). In fact, it was claimed that innovative strategies not only secured firms during the course of declining periods, it also enabled firm to swiftly recover after the downturn.

In another instance, noting the importance of having a specific focus tailoring to marketing strategies during economic crisis, Koksal and Ozgul's (2007) study examined the relationship between marketing strategies and firm performance during economic crisis. Particularly, their study aimed at identifying marketing strategies that might give rise to successful firm performance amidst the turbulent operating environment. The researchers provided credence that firms which focused on R & D activities on product development to capture niche market performed most successful during recession. Koksal and Ozgul's (2007) findings revealed that an increase in R & D budget was significantly associated with sales and net profit. The study further suggested that firm should focus their R & D activities on product development that were capable to capture the niche markets. R & D efforts should also be directed to technologies and production techniques which were cost-saving. Similarly, firms that had made proportionately more expenses on R & D were found to have performed more significantly than others (Morbey & Dugal, 1992).

In reflection to new product capabilities, aesthetic feature of products also appeared suggestive (Pheng & Hua, 2001). In fact, the notion of introducing new product capabilities and aesthetic features was consistent with the revenue-

generation strategy of Hofer Turnaround Model (1980) which suggested emphasizing on existing products and the variations of existing products that could be introduced quickly.

Further, it had been asserted that during recessionary period, innovation or R & D should always be viewed as an investment rather than a cost (Ravichandran, 2009). In fact, it appealed suggestive that a business firm which responded to duress period by investing in innovations conveyed a very positive hint to customers that their needs were still taken care of. There was also anecdotal evidence noting that firms which continued to invest in innovation during such time period were those that emerged ahead of competitions.

I. After-sales service

After sales service was one of those elements pertinent to promotion in marketing mix that had been attested as amongst the most important factors, alongside with promotion budget, advertising budget, use of radio and media, quantity discounts, public relation activities, and rational motives (Koksal & Ozgul, 2007).

Specifically considering the nature of manufacturing firms which sell in sizable quantity, the quality of the after-sales-service could be one of the interesting conditions customers look at, because bad after-sale service might draw firms into spending on the unnecessary processes like handling the defeat product.

The notion of emphasizing on service was also noted in other studies focusing on recession (Latham, 2009). In fact, it was demonstrated that both smaller and large firms that experienced reduced revenues paid great emphasize on customer service during recession (Latham, 2009). Such recession-focused researcher as Latham

(2009) argued that emphasizing customer service, particularly to the existing customers was crucial in that losing them due to poor service would further worsen the negative effect of recession. In fact, firms could induce higher revenue (margin on sales) at a lower level cost of sales from the existing customers, because costs associated with customer acquisition were already spent (Latham, 2009). Therefore successful effort to leverage relationship with this segment of customer base would help firms sustain through the uncertain environment.

In another instance, the crisis-specific study by Pheng and Hua (2001) which examined construction firms' responses to the Asian Financial Crisis in 1998, had attached heightened attention to reliable after-sales service and aesthetic features, amongst other marketing tactics that were crucial to help safeguarding firms during the duress period. The emphasis on attaching close attention to after-sale-service was also found incorporated as one of the important elements in customer orientation studied in challenging environment such as international market (Liu, Li, & Xue, 2010).

In similar reflection, Ravichandran (2009) heightened that such tactics as targeted communication and superior customer service were crucial and they were not meant to be targeted for cost reduction. The interesting idea by Brege et al. (2008, as cited in Mattsson, 2009) that postponed investments and drops in customer-related operations could somewhat be compensated by service contracts, was somewhat a reflection of the importance of after-sale service.

J. Market niche, diversification, multiple market, and target new market

As one of the studies that supported revenue-generation being more suitable for smaller firms, the study by Latham (2009) which compared strategic response of smaller, start-up versus established firm in times of the 2001-2003 recession argued that as smaller firms were of less privileged in building economics of scale and experience to benefit from cost-cutting, the only available alternative to generate revenue for them was to work towards protected market niche. This action was also embedded in the very notion of Porter's (1980) focus strategy which aimed at outperforming rivalry or competing firms by means of focusing on a narrowly defined market segment.

In the same vein, such scholars as Bamiatzi and Kirchmaier (2009) who investigated strategies SMEs adopted in declining markets revealed that an opportunistic focus on high-value-added segment of market could better shield SMEs, and in fact pushing the "stuck-in-the-middle" to thrive. In fact, it had indeed been asserted that smaller firms with simple structure were likely to benefit from a niche strategy (Miller & Toulouse, 1986).

On the other hand, arguing the fact that attempts to delay purchases during a recession by households and business customers gave rise to the cyclicality of only certain industries, Pearce II and Michael (2006) contended that positioning firm in multiple markets and geographies might be a valuable strategy to prevent economic recessions from causing business failure. Such notion was also found in other anecdotes such as the one by Moeller and Rawlinson (2009), in which leveraging advantage from "geographic market" (p. 1) was highlighted as one important concern marketers must be mindful of in weathering recession. In this essence,

postponing expansion plan to favor for refocusing on established market was recommended (Moeller & Rawlinson, 2009).

In addition, the notion of leveraging product or service diversification to accommodate shifting market was also in line with Ravichandran's (2009) suggestion to attach importance to market research in favor of understanding and serving market at multiple levels. The central tenet of such tactic was to make available a product line which was able to offer a broader range of products with different price points, in that it would support the need of customers who would want to shift down on the product chain temporarily during the disruptive time. In fact, this tactic allowed customer to shift to the desired cost level without compelling supplier firms to cut price across the board. Support of similar notion was also found prevalent in other recession-specific studies which had reported positive remarks for such comparables as modifying target market and increasing efforts related to segmentation (Pearce II & Robinson, 2002).

Beside the above, partly discussing on creating revenue opportunities in face of decreased demand, Caudillo-Fuentes & Li (2009) asserted that it was useful to target new markets during hard economic times. The researcher pointed out that firms should take enough time to research on potential new customer segment in order to implement revenue management strategies effectively. It would pay off in the long run to take the time to understand the new segment demand in order to design appropriate fare structures, and to create appropriate marketing campaigns (Caudillo-Fuentes & Li, 2009).

K. Lowering price in price-sensitive market

Past studies also suggested the notion of lowering price in price-sensitive market as a feasible tactic (Chou & Chen, 2002). The notion of such tactic was supported by such recent study of Kitching, Blackburn, Smallbone, and Dixon (2009), which put forth that in price-sensitive market, firms must consider whether price-reduction or price maintenance was more likely to generate higher revenue.

L. Withdrawing from unprofitable market segments

In the study by Pheng and Hua (2001), withdrawing from unprofitable market segments and focusing upon specific market-product segments were two important marketing-related strategies heightened under the shrinking-selectively tactic. Such tactic was also reflected in such other recession-specific study of Kotler and Caslione (2009), which brought to the fore four possible moves in the marketing area during recessionary time. They were: dropping losing-customer segments, dropping losing customers within a segment, dropping losing geographical locations and dropping losing product.

All the tactics solicited in the above discussions are summarized and compiled in Table 2.1.

Table 2.1

Summary of Revenue Generation-Related Tactics deemed Amenable for Recessionary Context, Featuring Smaller Manufacturing Firms

No	Items pulled from the diverse literature	Themes
1	My firm enhances advertising to attract more revenue.	Promotion and advertising
2	My firm changes advertising style to attract demand (customers).	
3	My firm increases sales activity.	
4	My firm improves marketing activities to promote our product or brand.	
5	My firm increases trade promotion	
6	My firm makes use of business networks for promotion activities.	
7	My firm increases R & D budget to assist marketing activities.	
8	My firm increases distribution channel.	Distribution channel
9	My firm does distribution through discounters.	
10	My firm offers discount to our product.	Discounting
11	My firm increases discount rate	
12	My firm increases discount coupon.	
13	My firm selectively offers discount to the most valuable customers.	
14	My firm selectively offers discount to the most loyal customers.	
15	My firm selectively offers discounts to the most satisfied customers.	
16	My firm uses price-based competition to attract demand (customers).	Pricing
17	My firm reduces price.	
18	My firm gives attention to after-sales service.	After-sales service
19	My firm improves the quality of our after-sales service.	
20	My firm ensures high quality of product.	Improving product quality
21	My firm offers higher quality product at the same price.	
22	My firm introduces new product capabilities.	
23	My firm improves aesthetic features of product.	
24	My firm targets focuses on high value-added segment of market .	Market related adjustment
25	My firm seeks opportunities for market diversification.	
26	My firm lowers price in price-sensitive market.	
27	My firm targets on new market niches.	
28	My firm withdraws from unprofitable market segments.	

2.4.2.2 Cost-Cutting Tactics (Dimension 2 of BCS)

Specifically related to cost-cutting in recessionary period, anecdotal evidence were suggestive that firm should indeed "reduce expenses as much as possible without affecting how the business operate" (PT Resource, 2009, p.12). Hence, the type of cost that was appropriate for reduction purpose in recessionary times should be those that could largely improve the operational efficiency of business undertakings. This would mean the operating cost. Simply, avoiding business closure or failure during such duress time was largely attributed to keeping firms continue operating.

Particular for the SMEs in Malaysia, raw materials and labor costs are two main components of the operational cost which strongly affect SMEs' business operations. It was reported that almost half of the operational cost was attributed to expenses related to purchases of goods, materials, and services. Labor cost and training expenses constituted roughly 17% of this cost (NSDC, 2014). Therefore, careful handling of operating cost during recessionary time was crucial for the local context of the Malaysian SMEs.

The essence of maneuvering operating cost in favor of efficiency or continued operation was indeed embedded in the efficiency-related strategies literature (Chowdhury & Lang, 1996; Zammuto & Cameron, 1985). In fact, the significance of strategizing by means of efficiency in the context of recessionary disruption was consistent with the claim by such prominent efficiency-oriented strategy scholars as Zammuto and Cameron (1985), who coined efficiency-related strategies as potential approach to make way for sufficient financial resource to keep firms afloat in the short term while long-term solutions were endeavored.

By a closer definition, operating cost of a firm is a firm's expenses associated with managing the business on day-to-day basis, and it incurs in the production of goods and services (Farlex Financial Dictionary, 2009). In practical term, operating cost comprises fixed costs and variable costs. While fixed costs are costs that remain the same over time regardless the level of production, variable costs vary accordingly to the amount of production. In particular, overhead cost is one key fixed cost in all businesses. Employee wage or salary, allocation for research and development purpose (R & D), advertising cost, cost of raw materials (Farlex Financial Dictionary, 2009), and maintenance cost are some of the typical variable costs of a firm. Particular to manufacturing firms, transportation cost could be an important cost element that rendered implication for the cost adjustment.

Past studies that constituted the notion of cost cutting were found in myriad of literature mixture which were observable either in the cost-oriented measures embedded within studies that associated cost-cutting notion with firm performance, or in scholarly discussions in which debates were premised on strategies pursued by business firms in duress times (Kambil, 2008; Pheng & Hua, 2001; Ravichandran, 2009). Therefore, on extracting the relevant tactics of operating cost-cutting across these extant empirical works, the review of literature in this section was patterned to resemble one that pulled together the relevant tactics amidst all in accord to the themes recognizably appeared to view. Again, the literature study was done with specific considerations for the smaller (non-large), manufacturing firms in recessionary context.

The most general term relating cost to firms' actions in pursuit of operating efficiency was embedded in works pivoting around cost orientation (Grawe, Chen,

& Daugherty, 2009). Cost orientation was defined as the pursuit of efficiency throughout the entire parts of a firm's value chain (Olson et al., 2005). Essentially, cost-oriented firms attached a considerable high level of importance to in-depth, comprehensive knowledge pertinent to the costs of providing products and services to the market. Lowering average and marginal costs were common benefits to this kind of orientation (Dickson, 1992). Empirical evidence of the positive influence of cost orientation on firm performance, was in some profound ways, reflected how feasibly cost elements could be a potential route for maneuvers in times of need.

Particularly, economies of scale and scope were two important elements embodying cost orientation in manufacturing businesses. The essence of economies of scale was that it enabled firms to produce greater volumes and enjoy lower costs per unit. In doing this, firms spread fixed costs over more units, and thus would be able to negotiate more advantageous terms with their suppliers (Porter, 2008). On the hand, the economies of scope arose when business firms shared certain centralized operations or functions (e.g., finance, marketing, R & D), or when businesses developed inter-connections at other points along the business process (e.g., cross-selling one product alongside another, using the outputs of one business as the inputs of another) (The Economist, 2008). Some among the advantages of economies of scope include the possible attainment of flexibility in product design and product mix, as well as rapid responses to changes in market demand, product design and mix, output production rates and equipment scheduling. Properly exercised economies of scope could provide a way that encourages more efficient product diversification (Goldhar & Jelinek, 1983).

The potentials of cost maneuvers in recessionary struggles were also noted in that a cost-oriented culture would focus on cutting down non-value-added services, spotting for cost-saving sourcing alternative, and developing alternative product or service delivery methods, which would necessitate lower cost. In this essence, firms were able to offer attractive pricing and additional features for potential customers, and thus a competitive advantage to compete for new businesses. This view was in line with such scholar as Kourdi (2007), that firms which engaged in active control over their cost orientation exhibited greater competitiveness, flexibility, and strength (Kourdi, 2007). Further, from the resource-based view perspective, it was notable that since the focus of cost orientation was primarily internal (Grawe et al., 2009), it would potentially render competitive advantage to firms.

Tailoring to the issue of cash struggle and the heightened need to increase financial efficiency for firms facing recession, Kambil (2008) coined lowering the cost of working capital when feasible as one of those important moves for increasing financial efficiency alongside with improving financial operation, reducing the cost of debt service by retiring debt or lowering refinancing cost, and improving order-to-cash cycles by better receivable management. Termed in the accounting milieu, working capital is a measure of liquidity that shows whether or not a firm has the assets on hand to meet its obligations in the short-term (Epstein & Myers, 2009). Particularly related to reducing or making adjustment to working capital in favor of increasing liquidity, feasible tactics were observable in the extant scholarly works which heightened such tactics as reducing working hours (Chen, 1985; Chu & Siu, 2001; Kitching, Blackburn, Smallbone, & Dixon, 2009), reducing employment or laying off (British Chamber of Commerce, [BCC] 2009a; Chu & Siu, 2001; Geroski

& Gregg, 1997; Kitching, Blackburn, Smallbone, & Dixon, 2009), cutting man-power or reducing labor (Pearce II & Robinson, 2002), cutting wage (BCC, 2009b; Chu & Siu, 2001; Pheng & Hua, 2001), instituting wage freeze or salary freeze (BCC, 2009b; Kitching, Smallbone, & Xheneti, 2009; Mooney, 1991; Pheng & Hua, 2001; Salamon, Geller, & Spence, 2009), and reducing overhead cost (Kitching, Smallbone, & Xheneti, 2009; Pheng & Hua, 2001). Besides the above, such crucial cost of manufacturing firms as transportation cost (OECD, 2001) was also conceivably relevant within the cutting boundary.

One instance of crisis-specific work which was in congruence with the tactics mentioned above was the one by Pheng and Hua (2001), an exploratory study aimed at discovering the strategies measures adopted by the Singaporean construction firms in coping with the Asian Financial Crisis that hit in July 1997. The researchers put forth a classification of six broad categories of strategies, which were deemed crucial to be considered in understanding how firms behaved in disruptive time such as economic downturn. This classification included restructuring, selective shrinking, marketing, cost-cutting, long-run strategies, and other measures. In particular, reducing working hours, wages, overheads, and employment were amongst the cost-cutting tactics highlighted. On justifying cost cutting as a crucial survival tactic for firms in a downturn, the study attributed it to its potentials of soothing cash flow crisis, and the fact that cost cutting habitually does not prompt responses from competitors. In the same vein, other recession-specific discussions such as the one by Salamon et al. (2009) heightened such tactics as tightening belt, cutting administrative cost, establishing collaborative relationship, and postponing

new hires as ways to cut cost. It was a study focusing on the coping strategies of non-profit organization during the 2008/2009 recession.

Further, as manufacturing firms largely constituted processes, cost-cutting efforts particular to manufacturing firms in recessionary times might well involve cost reduction in the area of expenditure for R & D activities for manufacturing process. Pivoting the literature reading along this lines of thoughts, cost-cutting actions were recognizable in the array of actions such as the cutting-down of innovation activities, reduction in expenses and worker training (Kitching, Blackburn, Smallbone, & Dixon, 2009), and selective investment in product innovation (Caudillo-Fuentes & Li, 2009; Raisch & Birkinshaw, 2008). In particular, selecting appropriate investments in favor of reducing cost burden during disruptive time was of particular importance and required vigilance, because market selection pressure peaked in recessionary environment (Kitching, Blackburn, Smallbone, & Dixon, 2009). Other manufacturing-specific relevant tactics adjacent to the recognized above included the postponing of new product development or putting-on-hold major new projects (Kotler & Caslione, 2009; Mattsson, 2009).

However, considering the crucial fact that innovation is a key source of sustainable competitive advantage particular for manufacturing firms (Lee & Hsieh, 2010; Marques & Ferreira, 2009; Van Auken, Madrid-Guijarro, & Garcia-Perez-de-Lema, 2008), and considering also the evidence that innovation (particularly process innovation) positively affects the survival of manufacturing firms (Cefis & Marsili, 2006), the current study contended that the reduction made in this area might not be as large as to jeopardize the firm's operation. Such line of contemplation was supported by Caudillo-Fuentes and Li (2009), whose study highlighted the act of

temporarily holding and freezing investment and projects among firms, while holding caution upon those operationally essential or strategic. Similar note was also found in anecdotes which alarmed firms to cutting only projects which were least promising (Goffin, 2009).

In addition to the above, one cost-cutting action which was deemed closely related to innovations in manufacturing firms was such tactic as streamlining activities (Cooper & Kaplan, 1988; Farrell, 2004; King, 1997). Such tactic was in favor of greater efficiency during recessionary periods (King, 1997). According to Cooper and Kaplan (1988), streamlining manufacturing process and the rationalizing of factory layout which led to reduced setup time and lower material-handling costs could render major impacts on production costs. Similar-relevant others included such tactics as reducing steps in the production cycle, which in turn led to shorter manufacturing cycle time (New Zealand Trade & Enterprise, 2009).

In another instance that coined the past experience of the recession which took place in the central and eastern Europe, it was revealed that downsizing which was made possible by means of streamlining activities, reducing workload, and eliminating hierarchical layers served a great extent to assist the Japanese and American firms to lower overhead costs, accelerate response time, wipe out bottlenecks, and boost productivity during that duress period (King, 1997). In fact, streamlining of manufacturing process and reduction of production steps could indeed be rather thoughtful and feasible tactics for smaller (non-large) firms, given their heightened capability and role as essential drivers for innovation (Yeung & Chew, 2001).

Besides, while reduction in the capital investment became necessary and manifest in favor of reducing cost and conserving capital (Kotler & Caslione, 2009), it also appeared suggestive that cost cutting particular for manufacturing firms would also include such tactics as reducing investment in factory equipments (Kitching, Blackburn, Smallbone, & Dixon, 2009) or postponing purchases for manufacturing use. In addition, and in fact in corollary to the act of cost reduction in the factory equipments and purchases, cutting down capacity of production (Mattsson, 2009), or resorting to reducing product range or the number of product lines were also observable tactics related to cost cutting (Kitching, Smallbone, & Xheneti, 2009).

Further, in particular to manufacturing firms which reside in a sector largely involving production methods, switching to production methods that saved cost was also a notably workable cost-cutting tactic (Koksal & Ozgul, 2007). For instance, previous studies demonstrated that firms that focused on technology and production methods that saved cost had been reportedly claimed to perform most successful during recession (Koksal & Ozgul, 2007).

The extant works pertinent to recessionary periods had also suggested the usefulness of other cost-related approaches such as outsourcing (Charan, 2009). For instance, in his discussion on confronting the reality of the unprecedented 2008 Recession, Charan (2009) put forth that firms could outsource activities which were not of crucial importance to the business. The working principle behind such approach was that, firms could give rise to their flexibility by making or turning fixed costs into the variable ones (Charan, 2009). In fact, switching between in-sourcing and out-sourcing had become a tenable practice in accommodating change (Mattsson, 2009). Therefore, firms which depended heavily on contractors might

need to bring some of those outsourced activities in-house, and vice-versa. However, the latter might not be of much appropriateness to the smaller (non-large) firms as they do not really outsource given the size of the business.

Further, anecdotal evidence also pointed to inventory level managment as an opportunity to raise cash during a downturn (Engle, 2009; Moeller & Rawlinson, 2009). It was asserted that such practice had been a regular course of business routine amongst lean firms (Engle, 2009; McGladrey, April 2008, The Controller's Report); in fact it was claimed one of the most attractive sources for improved cash-balance during hard time (Engle, 2009). In this tactic, aged and excessed inventory were sold, even at a discount (Engle, 2009), or even at the expense of profitability (Engle, 2009). In fact, the act of sacrificing profitability for cash to weather downturn in the short term was considered as wise (Engle, 2009). This tactic had also appeared in crisis-specific study in which it had been heightened as one of the crucial cost-cutting alternatives crisis-burdened firms might resort to (Pheng & Hua, 2001). In a practical term, inventory control works by minimizing the level of unproductive stock held, and thus lowering the interest charged and costs involved in warehousing and materials management (Pheng & Hua, 2001). Similarly, Connor (2011) while pointing out that one way to survive recession was to manage inventory, he asserted that inventory costed money, and that inventory which stayed in the warehouse had opportunity cost which was claimed to potentially bankrupt a firm.

Past studies had also attested the feasibility of the above approach particularly for SMEs in recession (Altman, 2009). It was asserted that small-and-medium-sized businesses were at an advantageous edge as they were able to adapt faster. Being

more nimble, they were able to watch stock positions closely to avoid over- or under-stocking and having to turn customers away (Altman, 2009). Also, termed as right-sizing inventory strategy, previous surveys also contended that inventory reduction tactic drove manufacturing firms leaner because strategizing by lean manufacturing led firm to eliminate all possible forms of waste to avoid excessive inventory, motions, and time (McGladrey, April 2008, The Controller's Report).

Likewise, some other studies had coined such notion as managing reduced "shelf-space" in stores or plant floor (Moeller & Rawlinson, 2009). Specifically, lean firms were found involved in mastering processes, identifying waste, solving the core causes of problem, and improving processes with available resource (McGladrey, April 2008, The Controller's Report). Such moves are indeed highly amenable to smaller firms which are renowned for their limited resource. Other inventory management strategies also include just-in-time supplier delivery, pull system with kanban signal, vendor-managed or vendor-owned inventories, quick equipment change-overs, one-piece flow technique, parts supermarkets, production leveling, and computerized inventory tracking (McGladrey, April 2008, The Controller's Report).

Although cost-cutting behavior appeared appealing for firms in recessionary disruptions (recession, economic downtown), scholars had proffered cautionary note on the inherent complexity and risk of cost-cutting strategy (Michael & Robbins, 1998), and warned about being especially careful when resorting to cost cutting as to not leaving firms in meager situations when it came to the recovery stage (Kithing, Blackburn, Smallbone, & Dixon, 2009). In this concern, Michael and Robbins (1998) pointed out that firms opting to retrench by reducing costs and assets must be

careful that they reduced only those deemed replaceable, those resources which had little asset specificity. Factors with a high specificity should be retained and be involved in moderate investment. Similarly, Pearce II and Michael (2006) asserted that "cutback should be targeted for asset which can be replaced with little cost of deploying, adapting or training into firm's production system" (p.205). Alarm was raised in that cutting the wrong factors could leave a firm ill-positioned in the next upturn (Michael & Robbins, 1998). Likewise, Kambil (2008) asserted that indiscriminately cutting cost through lay-off had been recognized among low-performer firms, which landed them in difficulty to support future growth after a recession.

Again, such similar concern was also observed paving some earnest points in the discussion of Ravichandran (2009), which suggested the crucial conditions firms (facing economic adversity) must consider when resorting to cost cutting and growth investment. The discussion concurred with the contention of the above mentioned scholars that not all cost-cutting tactics were amenable to all firms and in all cases. In his argument, the scholar highlighted DeDee and Vorhies's (1998) point, asserting that a full-scale downsizing might not render optimum benefit to small-and-medium-sized firms, and that they might only reap benefit from certain portions of the cost-cutting strategy. Further, it was also noted that cutting cost by downsizing might not render as immediate effect as it was seemed (Ravichandran, 2009). In addition, it had also been alarmed that firms might indeed become more vulnerable in their act of cutting cost, when such actions lead to "the dilution of customer base".

From the above literature study, put forth in Table 2.2 is the compiled listing of possible cost-cutting tactics which are deemed amenable to the notion of cost cutting during recessionary disruption, for smaller manufacturing firms.

Table 2.2

Summary of Cost-cutting Tactics Deemed Amenable for Recessionary Context, Featuring Smaller Manufacturing Firms

No	Tactics pulled from literature	Supporting references
1	Items embedded in cost orientation	Grawe, Chen, & Daugherty (2009), Goldhar & Jelinek (1983), Porter (2008), The Economist (2008)
2	Reduce working capital when possible	British Chamber of Commerce (2009a,b), Chen (1985), Chu & Siu (2001), Epstein & Myers (2009), Geroski & Gregg (1997), Kambil (2008), Kitching, Blackburn, Smallbone & Dixon (2009), Kitching, Smallbone & Xheneti (2009), Mooney (1991), OECD (2001), Pearce II & Robinson, (2002), Pheng & Hua (2001), Salamon, Geller, & Spence (2009)
3	Reduce working hours	
4	Reduce employment / cutting man-power Cut wage	
5	Institute wage freeze	
6	Reduce overhead cost	
7	Cut transportation cost	
8	Reduce expenditure for R&D activities for manufacturing process	Caudillo-Fuentes & Li (2009), Kitching, Blackburn, Smallbone, & Dixon (2009), Kotler & Caslione (2009), Mattsson (2009), Raisch & Birkinshaw (2008)
9	Cut innovation activities	
10	Do selective investment in product innovation	
11	Reduce expenses on worker's training	
12	Streamlines production activities	Cooper & Kaplan (1988), Farrell (2004), King (1997), New Zealand Trade & Enterprise (2009)
13	Reduce steps in production cycle	
14	Reduce investment in factory and equipment	Kitching , Blackburn, Smallbone, & Dixon (2009), Kotler & Caslione (2009), Mattsson (2009)
15	Postpone purchasing for manufacturing use	
16	Cut down capacity of production	
17	Reduce product range/ the number of product lines	
18	Switch to production methods that save cost	Koksal & Ozgul (2007)
19	Outsource to cut cost	Charan (2009), Mattsson (2009),
20	Stock / inventory control	Altman (2009),Engle (2009), McGladrey, The Controller's Report (2008), Moeller & Rawlinson (2009), Pheng & Hua (2001)

2.4.2.3 Financial Bootstrapping Tactics (Dimension 3 of BCS)

Amongst the past studies, while the term financial bootstrapping was the most commonly found term used in the literature of small firms financing issue, it was also recognized with several other terminologically identical words like bootstrap finance (Bhide, 1992; Van Auken, 2005; Willoughby, 2008), bootstrap financing (Freear et al., 1995, Van Auken & Neeley, 1996), bootstrapping strategies (Willoughby, 2008), and bridge financing (Pasadilla, 2010, p.28).

In the simplest way, bootstrapping in the context of business start-up, was defined as the use of creative techniques to fund business (Bhide, 1992). Carter and Van Auken (2005) defined bootstrapping financing as the use of resources other than the traditional financing methods to fund operation. Winborg and Landstrom (2000) asserted that financial bootstrapping was a helpful method to fuel financing gap when firms were unable to attain traditional financing sources or capital. Other researcher such as Van Auken (2005) defined it as a method of acquiring the use of resources without resorting to debt or equity financing. The researcher further claimed that micro and small enterprises would exhaust the possibilities of self-financing before going for external financing sources (Van Auken, 2005).

Still, others such as Freear et al. (1995) defined bootstrap financing as "highly creative ways of acquiring the use of resources without borrowing money or raising equity financing from traditional sources" (p.102). Willoughby (2008) defined financial bootstrapping as methods that secured the use of resources at a relatively low or no cost. Representing an alternative to the traditional financing methods such as borrowing from banks or financial institutions, financial bootstrapping was also called alternate resource explanation (Johnsen & McMahon, 2005).

Practically, techniques embedded in financial bootstrapping were largely internal adjustments aimed at improving cash inflow status by prompting corrective tactics that adrressed such important elements as receivables, payables, owner-related adjustment, and business equipment sharing. The core of financial bootstrapping could be understood in several leading empirical works (Winborg & Landstrom, 2000, Van Auken, 2005; Ebben & Johnson, 2006), which provided crucial insights and reference to many other empirical works that emerged thereafter.

For instance, Winborg and Landstrom (2000) identified 32 commonly adopted bootstrapping methods prevalent amongst small firms, and had them empirically tested in a sample of 262 small Swedish firms. This initial testing resulted in a set of 25 more narrowly decomposed yet more relevant techniques which were clustered in six categories, that were, (i) owner-provided financing and resources, (ii) accounts receivable management methods, (iii) sharing or borrowing of resources from other firms, (iv) delaying payments, (v) minimization of resources invested in stock through formal routines, and (vi) use of government subsidies.

Another one of the most prolific leading researchers who provided vast empirical credence to financial bootstrapping strategies was Van Auken (Carter & Van Auken, 2005; Van Auken, 2001, 2004, 2005; Van Auken & Carter, 1989; Van Auken & Neely, 1996, 1999, 2000). Having defined bootstrap financing as a method of acquiring resources without resorting to debt or equity financing, Van Auken (2005) identified 28 possible sources of bootstrap financing which were categorized into five dimensions, namely delaying payments, minimizing accounts receivable, minimizing investment, private-owner financing, and sharing resources.

In a later work by Ebben and Johnson (2006), financial bootstrapping constituted four main methods, which were (i) customer-related methods, (ii) delaying payments, (iii) owner-related financing and resources, and (iv) joint-utilization of resources with other firms. Ebben and Johnson's (2006) financial bootstrapping categorization was developed based on Winborg and Landstrom's (2000) works.

In general, these three prominent works shared, to a large extent, similarities in term of the categorization. Noted across these studies was the common notion that financial bootstrapping incorporated internal adjustments pertinent to customers, suppliers, owners, and sharing of equipments. However, it was also to note that while some financial bootstrapping methods must be planned for, some arose from the normal operations of a business (Harrison et al., 2004). For example, delaying payment and withholding owner's salary were methods which were embedded in the normal part of business activities which did not necessarily be highly creative (Carter & Van Auken, 2005). However, methods such as sharing employees and equipments were comparatively highly creative methods which necessitated purposeful planning.

Generally, customer-related bootstrapping techniques were aimed at improving cash flow by prompting customers who were also denoted as debtors in the accounting term. This technique was also synonymous to receivables in the accounting term (Epstein & Myers, 2009; Spiceland, Sepe, & Nelson, 2011; Williams, Haka, Bettner, & Carcello, 2008). Customer-related bootstrapping techniques included options such as negotiating with customer for advance payments, speeding up invoicing and using interest on overdue payments, choosing

customers who are able to pay timely or quickly, and ceasing business with late payers (Ebben & Johnson, 2006; Van Auken, 2005 Winborg & Landstrom, 2000).

Delaying-payment-related bootstrapping technique involved adjustments endeavored to affect cash flow status of firms by means of influencing suppliers which in turn gave new breath to payables and hence prevented cash outflow. By and large, it involved the action of delaying payments to a later date. In the accounting term, this adjustment was connoted as dealing with creditors (suppliers) in favor of improved deals of account payables (Epstein & Myers, 2009; Spiceland et al., 2011; Williams et al., 2008). Adjustment options that resided under this technique were such as negotiating payment conditions (longer payment terms) with suppliers, deliberately delaying payments, leasing equipment instead of purchasing, using bartering for goods and services, and buying used equipment instead of the new one (Ebben & Johnson, 2006; Van Auken, 2005; Winborg & Landstrom, 2000).

Owner-related bootstrapping method captured the actions of adjusting within the owner-related resources such as money supplied from the owner's savings, personal loans taken by the owner, or loans from the owner's family and friends (Ebben & Johnson, 2006; Van Auken, 2005; Winborg & Landstrom, 2000,). With regards to this, techniques residing under owner-related bootstrapping method included withholding the owner's salary, leveraging owner's credit cards, and obtaining loans from family or friends to give rise to cash status (Ebben & Johnson, 2006; Winborg & Landstrom, 2000). In fact, owner-related bootstrapping was especially a suitable approach to raise finance for SMEs as most SMEs were family firms. The method of acquiring financial resource from the family was very similar to the very notion of financial intermingling which denoted the back-and-forth movement of financial

resources between family and business (Haynes et al., 1999; Muske et al., 2009; Yilmazer & Schrank, 2006). Such movement of financial resource was also attested in previous studies (Haynes et al., 1999; Muske et al., 2009). One such distinctive technique under owner-related bootstrapping method was the leveraging of credit cards by owners or founders. Researchers such as Cole, Lahm, Little, and Seipel (2005) had observed the extensive use of credit-card-financing in actuality. Such method had also been found in empirical discussion that heightened the usefulness of bootstrapping by means of leveraging credit cards for start-up firms which always lack resource (Lahm, 2005).

Building upon several reviews of anecdotal evidence, Lahm (2005) had put forth a critical review vividly pointing to the greater convenience and speed of leveraging credit cards compared to applying for loan from banks or financial institutions. It was claimed that bootstrapping by leveraging credit cards was faster and easier compared to the "chilly reception" from bankers (Rosenfeld, 1999, p. 1, as cited form Lahm, 2005). In fact, evidence from the past instances had also demonstrated that the amount of capital attained by business founders through leveraging multiple credit cards was comparatively larger than ones available from loans (Deceglie, 1998; McCune 1999; as cited in Lahm, 2009). Further, credit cards was not only easy to come by, the high credit limit was another beneficial point for cash-trapped firms (Scully, 2002, p.1; as cited in Lahm, 2005).

Last but not least, joint-utilization bootstrapping technique worked on the notion of sharing equipment, assets, or other firm resources pertinent to keep a business operating. This technique involved such adjustment actions as borrowing equipment from other businesses, sharing business space, employees, and equipments with

other firms (Van Auken, 2005; Winborg & Landstrom, 2000, Ebben & Johnson, 2006). It also involved leveraging coordinated purchases or procurement with other firms to benefit from the economies of scale (Ebben & Johnson, 2006).

Having needed to adjust amongst other firms for borrowing, sharing and procurement, it was noted that the extent of workability inherent in this particular adjustment was largely dependent on the networking capability of a firm. For the case of SMEs as it was in the current study, the practicability of joint-utilization bootstrapping was appealing because networking activities was one importantly dominant approach smaller firms adopted to overcome their resource constraints (Carson, Cromie, McGowan, & Hill, 1995; Kaplan, 2009). The importance of networking for smaller firms was also widely recognized (De Carolis, Litzky, & Eddlestone, 2009; Watson, 2007; Zhao & Aram, 1995).

In view of the above, financial bootstrapping was in fact conceivable as a better alternative to improve cash flow compared to cost cutting. Unlike cost-cutting strategies which worked to maintain positive cash status by cutting operating costs that might directly influence the activities or operations of firms (Lang & Chowdhury, 1997), financial bootstrapping worked to sustain positive cash flow status by means of containing expenses or the need to pay while raising finance internally (Ebben & Johnson, 2006; Van Auken, 2005; Winborg & Landstrom, 2000). Further, from the perspective of resource-based view of firm, internal adjustments which are largely tacit allow firms to better-leverage valuable, rare, inimitable, and non-substitutabe (VRIN) competitive advantage (Barney,1991).

In addition to the above discussion, the relevance of financial bootstrapping for the context of recesionary disruption in the current study had received both

theoretical and anecdotal supports, which converged on the potentials of financial bootstrapping in addressing cash flow struggle in immediate manner.

Firstly, the theoretical support. Regardless of how bootstrapping was defined, its main thrust was to leverage advantage from the internal sources before resorting to the external sources. In particular, bootstrap capital could complement or reduce the dependence on traditional sources of capital. Such notion of financial bootstrapping concured with the finance-related theoretical tenet such as Pecking Order Theory by Myers (1984), which heightened firms' desirability for internal financing methods over the external financing methods like debt and equity.

The relevance of using financial bootstrapping to raise fund through internal adjustment was also substantiated by Resource Dependence Theory (Pfeffer & Salancik, 1978). The assumption of Resource Dependence Theory is that, acquiring resources from external sources is inevitable for a firm because firms do not own all the resources they need. This view was especially relevant for the context of smaller firms where resource constraint was apparent (Beaver, 2007; Berry et al., 2006; Byers & Slack, 2001; Tang, Wang, & Zhang, 2007; Yao, 2003). Resource Dependence Theory implies that a firm being posited in circumstances such that it has limited leverage over the necessary resource, it would react in a way that reduces its dependence on others for that particular resource. In this essence, a firm strives to survive by limiting dependence relationships (with external resource) in which it has little leverage (Pfeffer & Salancik, 1978).

Secondly, the anecdotal evidences. As crucial as realizing that suppliers and customers were two of the most dominant constituents in a firm's operating environment which had immediate influence on firms (Griffin, 1987; as cited in

Hashim, 2005; Lowe & Marrriot, 2006), it was found that most anecdotal evidence reflected ways in which firm internal adjustments were made pertinent to them. This notion was reflected in the "balancing act" put forth by Shapiro (2005, p.96). The industrial expert heightened the need to balance between accounts payable, accounts receivable, monthly over head, and cash in the bank (Shapiro, 2005). Other industrial practitioners and experts such as D'Addario (2009) and Engle (2009) had also highlighted the importance of managing and maneuvering cash flow woes through accounts receivable.

For instance, Engle (2009) urged that receivables should receive the highest level of attention, and that firm should continuously monitor the financial conditions of their customers. Serious attention should be directed to late invoices, and aggressive credit negotiation with suppliers and customers (Engle, 2009). Likewise, D' Addario (2009) asserted that as bank lines became harder to obtain, ensuring that receivables were paid in a timely manner took on heightened urgency. In this regards, it was asserted that firms must be watchful on minimizing the number of overdue invoice (D'Addario, 2009), keeping debt as low as possible (PT Resource, 2009), and assuring customers' credit worthiness (D'Addario, 2009; Shapiro, 2005).

Closely related to credit worthiness was the matter of upfront payment by customer. With regards to this concern, Shapiro (2005) alerted that unless firms were paid in full immediately upon the delivery of their product or service, firms were risking themselves into loaning their customers. The researcher warned businesses over "slow-pay or no-pay customer" (p. 96) that it was better to know beforehand so that they could decline the job or include special payment terms in the

deal. According to this industrial expert, immediately issuing a follow-up invoice indicating the new amount owed could be done upon due payment (Shapiro, 2005).

Further, anecdotal discussions had also cautioned on effective cash management through speeding up billing and collection processes to catalyze cash move into a firm's account (Plewa & Friedlob, 1995). In this vein, resorting to interest on overdue payment was pin-pointed as feasible since there was such provision in business in the deals between the business and their customers. In certain businesses, deals had been set in that interest would be charged on outstanding balances not paid when due (Shapiro, 2005).

Delaying payments was another one of the most mentioned approaches in anecdotal evidence by industry experts (IOMA, 2009). Some of the corrective actions heightened included stretching payment terms based on comparable data, reducing the number of check runs, and negotiating with vendors as to be more patient during the duress period (IOMA, 2009).

It was notable that the above anecdotal evidence mentioned were largely firms' internal adjustments dealing with the customers and the suppliers, two of the critical constituents in the operating environment of smaller firms (Griffin, 1987; as cited in Hashim, 2005; Lowe & Marrriot, 2006). The current study further contended that since recessionary disruptions bred from the macro environment which embraced the micro one, it required a firm to carefully address changes in the micro environment or what alternatively termed as the task environment (Griffin, 1987) or firm operating environment, which included competitors, customers, suppliers, and regulator. It was notably interesting that financial bootstrapping worked by making viable adjustments to these environmental constituents.

In fact, the relevance of financial bootstrapping particularly for recessionary disruptive context had also been directly pinpointed in several empirical studies (Carpenter & Petersen, 2002; Cassar, 2004; Chaganti, DeCarolis, & Deeds, 1995; Ebben, 2009; Van Auken & Neeley, 1996). It was claimed that in circumstances where obtaining external financing were difficult (Van Auken & Neeley, 1996; Chaganti et al., 1995) and more expensive than internal financing (Cassar, 2004; Carpenter & Petersen, 2002), financial bootstrapping might appear necessary and desirable for small firms.

Further, financial bootstrapping was also found studied in research that focused on start-up firms (Bhides, 1992, Gray, 2007; Lahm, 2005; Lahm & Little, 2005; Van Auken & Neeley, 1996; Winborg, 2009), new venture creation (Lam, 2010), and smaller firms (Carter & Van Auken, 2005; Ebben, 2009; Ebben & Johnson, 2006; Van Auken, 2004; Van Auken & Neely, 1996; Winborg & Landstrom, 2000). Financial bootstrapping was also prevalent amongst empirical studies that focused on firms of apparent high risk such as technology-based firms (Van Auken, 2004, 2005; Willoughby, 2008). Besides incurring greater risk, technology-based firms had comparatively longer lead time, and that sufficient amount of continual capital was crucial to keep firms operating as their business activities largely involved the funding of R & D activities, productions, and marketing pursuits from time-to-time. In fact, financial bootstrapping had not only been recognized as being used in high-tech firms, they had indeed been hailed as the dominant strategies of financing for high-tech SMEs (Willoughby, 2008). The study of Carter and Van Auken (2005) demonstrated that bootstrapping involving delays of payment was preferred by firms in situations where risk level appeared to be highest.

Further, past research had also demonstrated that heavy reliance upon financial bootstrapping did not affect business performance negatively. In other words, there was no major disadvantage in strategizing by financial bootstrapping. All the discussions above imply that the idea of financial bootstrapping is not genuinely something new. Having demonstrated the potentials of financial footstrapping to ease cash flow and address firms of resource-scarce (Bhides, 1992, Carter & Van Auken, 2005; Gray, 2007; Lahm, 2005; Lam, 2010; Lahm & Little, 2005; Van Auken, 2004; Van Auken & Neely, 1996), and firms facing uncertainty (Van Auken, 2004; Harrison et al., 2004; Willoughby, 2008), however there persisted still a dearth in empirical effort associating and examining financial bootstrapping with outcome variables in recessionary context.

Further, many among the studies of financial bootstrapping were still mainly exploratory (Ebben & Johnson, 2006; Winborg & Landstrom, 2000). Majority of these studies were found focusing on efforts such as identifying uses of financial bootstrapping (Winborg & Landstrom, 2000), establishing judgment on how bootstrapping uses differed across the types of firms and industries (Van Auken, 2005), discovering how financial bootstrapping techniques differed across firm's life cycle (Ebben & Johnson, 2006), examining how bootstrapping techniques differed by firm size and regional market condition or geographical factor (Harrison et al., 2004), exploring the motives of use (Winborg, 2009), and assessing how motivation for financial bootstrapping amongst small business was related to their perception of risk and opportunities (Carter & Van Auken, 2005).

Given the above discussion, the dearth on empirical evidence as to whether firms could strategize by means of financial bootstrapping to sustain performance in recessionary context was also an empirical gap to discover in the current study.

2.4.2.4 Bricolage Tactics (Dimension 4 of BCS)

The term 'bricolage' was rooted from a French word bricoleur. There was no direct equivalent English word for this term. The most adjacent expression was "handyman or jack-of-all-trades" (Aagard, 2009, p.82). This term was developed by Levi-Strauss (1967). The *bricoleur* is an individual who constructs out of whatever is available, that is, what is comprised in his or her surroundings, to work out a problem or an answer to a question. A *bricoleur* is constrained to using only tools that are at hand, which are molded and adapted to correspond to the situation in-question (Levi-Strauss, 1966).

The earliest definitional term coined bricolage as to imply the creation of something new-fangled by actors taking up the process of recombining and transforming existing resources (Garud, Kumaraswamy, & Nayyar, 1998; Baker & Nelson, 2005). This same essence was also reflected in the part of Levi-Strauss's (1967) definition by such terms as "tools", skill "repertoires", and elements of myths as resources at hand.

Bricolage had been applied in a wide array of scholarly fields, and was verily defined. Despite the variety of definitions offered in different fields, bricolage generally constituted the essence of reconfiguration of existing resource for a new purpose. In the cross-cultural cognitive psychology field, bricolage was defined as taking place when "someone work with his hand and use devious means compared

to those of the craftman" (Levi-Strauss, 1966, p.16-17, as cited in Berry & Irvine, 1986). The earliest attempts that examined bricolage in the organizational context could be traced back to those studies examining bricolage in areas such as organizational learning (Moorman & Miner, 1998b), organizational theory (Weick, 1999), organizational design (Weick, 1993a), and organizational structure (Weick, 1993b).

Particular to the organizational learning perspective, bricolage was defined as "making do with the materials at hand" (Levi-Strauss, 1967, p. 17, as cited in Moorman & Miner, 1998a). Thayer (1988) defined bricolage as "mak[ing] things work by indigeniously using whatever is at hand, being unconcern about the 'proper' tools and resource" (p. 239). Lanzara (1999) defined bricolage as constructive activity that transformed and reshaped what were already in use, or creatively reshuffled components to address new purposes. In the perspective of organizational theory, Weick (1999a) defined bricolage as developing something which was recognizable from whatever available at hand.

In organizational design, bricolage was defined as "a process of sensemaking that makes do with whatever materials are at hand … to use whatever resources and repertoire one has to perform whatever task one faces" (Weick, 1993a, p. 352). Similar essence was also observed in Weick's (1993a) definition which coined bricolage as happening when one established order from whatever available insights or materials at hand to form novel combinations. The later works such as the one by Baker and Nelson (2005) proffered a three-pronged integrative definition of bricolage based upon an extensive literature review. The researchers defined

bricolage as “making do by applying combinations of the resources at hand to new problems and opportunities” (Baker & Nelson, 2005, p. 333).

The incident encountered by Apollo 13 was perhaps one of the most cited examples of bricolage (Cunha, Cunha, & Kamoche, 1999). When an explosion threatened the survival of the three astronauts onboard in space, the unplanned solution applied was found not according to any kind of contingency plans but to bricolage: materials available on the spaceship (e.g., plastic bags, duct tape, etc.). These were pieced together creatively, leading to an unorthodox but effective solution to the problem caused by the explosion (Rerup, 2001).

Though bricolage has been treated, in a large number of studies, as an elemental constituent of organizational improvisation, which captures the meaning of substantial and temporal convergence, they are not identical. While bricolage carries the meaning of the ability to use whatever resources and repertoire one has to perform whatever task one faces (Lanzara, 1999; Weick 1993a), improvisation is the convergence of planning and execution (Moorman & Miner, 1998b) in favor of acting in an extemporaneous and spontaneous way to changing needs and conditions. Note that, bricolage could take place in non-improvisational contexts (Miner et al., 2001).

To provide understanding as to how bricolage could be a useful value-creation tactic for resource-scarce SMEs operating within a recessionary setting, two separate subsections follow to heighten: (i) The resourcefulness of bricolage for recessionary context, and (ii) Network as a critical resource for bricolage.

A. The resourcefulness of bricolage for recessionary context

The resourcefulness of bricolage for recessionary context was conceivably established given that uncertainty and disorder events often had critical window of time that disallowed the waiting for optimal resource to be deployed, and thus the need to handle the issue at hand with whatsoever currently available resources (Cunha, Cunha, & Kamoche, 1999; Weick, 1993a). With recessionary setting in mind, the literature study had revealed bricolage as a largely resource-based conception consistent with the resource-based view (RBV) perspective (Baker & Nelson, 2005; Senyard, Davidsson, & Steffens, 2010a; Steffens & Senyard, 2009). The idea of bundled idiosyncratic heterogenous resources for competitive advantage was embedded in the very tenet of resource-based view theory (Barney, 1991).

As far as resource and time scarcity in recessionary context was concerned, the literature study had unearthed evidence postulating the resourcefulness of bricolage in resource-constraint firms and environment (Baker, Miner, & Eesley, 2003; Senyard, Baker, & Davidsson, 2011; Senyard, Baker, Steffens, & Davidsson, 2014; Steffens & Senyard, 2009). Take an instance in the entrepreneurship field, bricolage was found examined in research of entrepreneurial start-ups (Senyard et al., 2011; Steffens & Senyard, 2009), and the founding process of entrepreneurial firms (Baker et al., 2003), the very type of firms that invariably faced resource-constraint situations or environment.

For example, Steffens and Senyard (2009) investigated the association between bricolage and start-ups' resource position. The researchers examined bricolage as an approach to a start-up's resource development. Bricolage was defined as "a process of resource use and development characterized by using resources at hand,

recombining resources and making do" (Steffens & Senyard, 2009, p. 1). Based on a sample of 1329 entrepreneurial start-ups, the findings revealed that start-up firms which engaged in more intense bricolage behaviour tend to gain more advantageous resource positions. Specifically, the study demonstrated that start-ups engaging in higher level of bricolage indeed shielded themselves better from the imitation of competitors. It was found that the most crucial areas of resource advantage of these firms tend be more difficult for competitors to imitate. These firms were also found to better-able overcome key areas of disadvantage in easier and faster manners. In fact, the work of Steffens and Senyard contributed a big step further in the measurement of bricolage as a new measure of bricolage was constructed.

In another instance, Baker et al. (2003) examined bricolage in the context of entrepreneurial founding process. Based upon a sample of 68 knowledge-intensive entrepreneurial firms, the researchers observed that the founding teams had indeed largely drawn upon their existing resources. They, instead, exhibited ostensibly little interest and attention to seek for resource or to engage in any planning for outside resources. These findings squared with other study such as the one by Baker and Nelson (2005), which demonstrated that by the virtue of making do with whatever was at hand, bricolage helped resource-constrained firms to manage through and construct distinctive services. The researchers also put forth an interesting discussion of cases relating the iterative approach of tinkering exercised through informal discussions with the existing customers to mold bricolage outcomes.

Further, bricolage was found to be positively associated with firm performance. For instance, Senyard, Baker, and Davidsson (2009) examined entrepreneurial bricolage using a sample comprising 625 nascent firms (pre-operational) and 561

young firms which had operated less than four years in Australia. Paying heed to the nascency of firms, the researchers measured firm performance using speed of making progress, which was calculated through the number of gestation activities completed. The study revealed a significant positive relationship between entrepreneurial bricolage and firm performance in the emerging stage of firm creation. The researchers further contended that new firms being resource-constrained in certain profound ways, were very likely to reflect how resourceful conduct such as bricolage would play crucial roles in determining entrepreneurial outcomes.

In another more recent example, the study of Senyard et al. (2011) had investigated the impact of bricolage on innovation outcome of resource-constrained firms. While processes of recombination were a primary driver of innovation, the study attested the argument that bricolage could perhaps provide a path way to innovation for new firms (start-up and young firms), which were usually resource-constrained. The motivation behind examining bricolage lay on the fact that new firms were found able to innovate sometimes, while they were seldom able to invest in innovation process which were normally costly. Based on the responses of 658 firms collected from a large-scaled longitudinal survey, the researchers found evidence that the variations in the bricolage behaviors among the nascent and young firm were indeed able to explain innovation under resource constraints. The study confirmed that under conditions of resource constraint, new firms which engaged in more bricolage achieved higher level of innovation compared to those of the lower engagement level.

Beside the direct empirical credence above, the feasibility bricolage had also received attestation in some empirical works related to firm-level strategies, which though implicit, reflected the potential merit bricolage had on firm outcome and the feasibility for bricolage to materialize in the context of recessionary disruptions (Hitt, Ireland, & Tuggle, 2006; Morrow et al., 2007). Viewed from the disruptive environment perspective, such understanding was built upon the stance that firms experiencing decline exhibited greater tendency to alter their strategies in ways that recombine their resource portfolio and capabilities (Ketchen & Palmer, 1999; Morrow et al., 2007).

For instance, Morrow et al. (2007) adopted the resource-based value (RBV) perspective to examine firm strategies for organizational recovery when firms were faced with declining performance. The crux of the argument was that, revenues generated from new offerings derived from "recombined resources" (p. 273) was potential to contribute positively to firm's profits as cost of acquiring new resources was avoided (Morrow et al., 2007). In this essence, the study made a rather thought-provoking review heightening the very notion of value (in the sense of being valuable and difficult-to-imitate) in three firm-level strategies, that were, recombining existing resource, acquiring new resources, and gaining access to new resource. Taking investors' expectations to surrogate organizational recovery, the finding which was based on 178 manufacturing firms revealed that valuable and difficult-to-imitate strategies cast a positive effect on organizational recovery for firms that opted to recombine their existing stock of resources. The study depicted that adopting strategies that made use of the existing resources in new ways had been found contributing the most to firm recovery.

Besides the above empirical evidence, past studies had also demonstrated the qualitative application of bricolage among firms or societies, which were directly engaged in coping within resource-scarce situation and environment (Aagard, 2009; Burke, Wilson, & Salas, 2005; Johannisson & Olaison, 2007). For instance, bricolage had been applied in the field of nursing, particularly while planning the agenda and running a health care program under the scarcity of staff and materials in remoted area. One such example was Aagard's (2009) work which demonstrated an exemplary case in point where bricolage was leveraged to help nurses survived through the resource-scarce nursing environment. Based on the setting of Tanzania, bricolage was found to be a constructive move applied in the first hospice and palliative care program in Tanzania. In face of nurse shortage to carry out home visit, the nurse in-charge materialized bricolage by taking a health care program which had already been successful run in the West and creatively infused her tribal insights to modify it into suiting the traditional Tanzanian tribal culture. To substantiate the resources at hand, the nurses incorporated visits of pastors as well evangelists to give rise to a culturally sound care delivery program.

Some other exemplary works that heightened such qualitative resourcefulness of bricolage was also traceable in past studies which discussed bricolage in association with highly emergent resource-scarce environment such as the unpredicted emerging contexts of disaster (Johannisson & Olaison, 2007), and challenges within the resilience-induced events (Mallak, 1998). Taking the emerging context as an instance, the work of Johannisson and Olaison (2007) had brought to the fore "social bricolage" (p. 72) as applied in a highly ambiguous research setting involving disaster, that was, Hurricane Gudrun which attacked the southern Sweden in 2005.

The study demonstrated how social bricolage was materialized to produce order when citizens involved spontaneously organized the various skills amongst themselves to forge new paths in a landscape that had been entirely changed by the hurricane. Bricolage in this context reflected a collective effort and a means figured out extemporaneously to combine and integrate chunks of daily routines in correspondence to the emerging events and needs raised by the scene. Similarly, Burke, Wilson, and Salas's (2005) work in the setting involving high reliability organizations and resilience issue was another instance which heightened the practical values of the combination and modification of the existing response repertoires into new strategies and responses to attain swift feedback, speed and accuracy of communication and adaptability.

Towards this end, it is postulated that, given the scarce resource position of entrepreneurial firms and the difficulty to source externally during recessionary disruption, firms that are able to make-do with the existing resource at hand (tangible, intangible, social) hold brighter chance to cope through. Hence, bricolage was a suggestive manifestation for BCS construct in the current study. Further, despite the rich descriptions and interesting insights noted on bricolage in term of resource, the shorts of more meaningful examination of bricolage with firm outcome variables had indeed been raised. As Senyard, Baker, and Davidsson (2009) claimed it, "little deductive theory has been developed and the relationship between bricolage and firm performance has not been systematically tested" (p.1). Therefore, altogether, the examination of bricolage as a dimension of BCS construct and its inherent role in the understanding of BCS-CR relationship contributed an empirical gap.

B. Network bricolage: Network as a critical resource for bricolage

Appending to the above discussion, it was also interesting to find out that in most studies of bricolage, resource was largely referred to resource of firms in the form of physical or tangible resource (Steffens & Senyard, 2009), and that the very critical resource particular for entrepreneurship, that was network, had been neglected. Bricolage by means of tangible resource was termed as "material bricolage" (p. 697), what initially introduced by Levi-Strauss (Baker, 2007).

To the knowledge of the researcher, the only empirical study that raised the concern about network as an important resource to be considered in the act of bricolage was the work of Baker et al. (2003). This work was the earliest empirical work that heightened the concept of bricolage from the perspective of network, and introduced the term "network bricolage" and its definition. Baker et al. (2003) defined network bricolage as the "dependence on pre-existing contact networks as the means at hand" (p. 269). Though empirical, this earliest work was largely descriptive and thus was superficial to suffice any constructive claim as to the potential contribution of network bricolage to firms. Not much empirical efforts had been endeavored in follow that resonant with Baker et al.'s (2003) definition, except another descriptive study of Baker (2007) alone.

Network is a crucial aspect of the context and process of entrepreneurship (Low & MacMillan, 1988). The current study argued that while network was prevalent and recognized as a particularly important resource in the entrepreneurship context (Dubini & Aldrich, 1991; Gilmore et al., 2006; Larson, 1991; Ostgaard & Birley, 1994; Lin & Chaney, 2007; Stokes, Wilson, & Mador, 2010; Watson, 2007; Zhao & Aram, 1995), discussing the essentially resource-concerned bricolage without

considering it would somehow overlook the real meaning of resource in an entrepreneurship study. In this light, it was the intention of the current study to address this gap by providing further insights into this phenomenon and rendering a critical line of conceptual discussion rationalizing network as an ineligible resource if bricolage was to take aim within the realm of entrepreneurship.

By definition, network is "a group of two or more firms that are banded together to carry out some new business activities that the members of the network could not pursue independently" (Sommers, 1998, p. 54). Network is a bridging kind of social capital. The tenet of Network Theory or Social Network Theory is that the success or the superior performance of a firm may well depend on the owner's networking maneuverability to gain access to resources beyond their control in a cost-effective manner (Zhao & Aram, 1995). Social Capital Theory asserts that a firm's social capital is made up of resources that are available to firms by the virtue of being a part of a network (Inkpen & Tsang, 2005). DeCarolis, Litzky, and Edleston (2009) defined social capital for the specific context of entrepreneurship as "good will and resources that emanate from an individual's network of social relationship" (p. 530). The influence of network is widespread; its influence goes beyond the individual and affects significantly the way firms are managed, developed, maintained, and sustained (Nelson, 2001).

Specifically, the evidence for resourcefulness of network for firms was replete in the reflections of extant studies. For instance, network or networking had been coined as demonstrating the luxury of enlarging knowledge of opportunities (Floyd & Wooldridge, 1999; Hills, Lumpkin, & Singh, 1997), facilitating access to information, which is a critical element of entrepreneurial opportunities (Shane &

Venkataraman, 2000), and connecting entrepreneurs with opportunities critical for a firm success (Ellis, 2000). Networks were also observed as able to facilitate the process of gaining access to critical resource (Renzulli & Aldrich, 2005), to provide support, credibility and contacts for entrepreneurs (Ostgaard & Birley, 1996), to mitigate the liability of newness (Stinchcombe, 1965), and to provide legitimacy (Hoang & Antoncic, 2003). Networks were also known for the significance of encouraging and diffusing innovations (Havnes & Senneseth, 2001). It was also coined as a potential means to spread risk (Julien, 1993). For instance, networking facilitated the attainment of economies of scale in smaller firms without causing the diseconomies inherent in large size, and therefore spreading risk (Julien, 1993).

Johannisson's (1999) typology explained three forms network ties. The information network proffered business intelligence (which also provided access to various other external resources); the exchange network proffered operational resources, and the influence network (which also provided information) operated as barriers to potential competitors. In line with these value-creation potentials of networks, the ability of networks to address resource concern was also reflected in the importance of networking in new venture creation process (Baron & Markman, 2003; DeCarolis & Saparito, 2006; Liao & Welsch, 2005). Essentially, it was noted that social capital rendered signaling effects and provided legitimacy for new firms by means of linkage to others with good reputation (Hoang & Antonoic, 2003).

Likewise, Stokes, Wilson, and Mador (2010) claimed networks as sources of idea, a route to resources in the form of money and other assets. It was a key means of finding customers, partners, distribution channels, and other collaborations. In fact, it was even contended that entrepreneurs must network if it was to survive (Huggins,

2000). These abilities of networks alluded above reflect the particular potentials of networks to tap the recessionary disruption context, which is characterized by uncertainty (opportunity), scarce resource, risk, earnest time concern, expensive information attainment, and turbulence.

In particular to the recessionary disruption context of this study, in making decision under the largely unexpected and novel events which mostly come with sensitive window of time, firms need timely information to make fast decision. Besides, firms facing recessionary periods must constantly scan for information regarding the macroeconomic atmosphere, industry, and competitive conditions to detect opportunities and threats (Pearce II & Michael, 1997). Most importantly, this must be done in a cost-effective manner given the resource-shock situation (Pearce II & Michael, 2006). Note that, not only that uncertain environment causes intense change and unpredictability in the information available, which consequently downgrade the ability of information exploration and processing (Fazlollahi & Tanniru, 1991; Weick, 1979, as cited in Akgun et al., 2007), information seeking itself is a time-consuming process (Crossan, Lane, White, & Klus, 1996). It is costly.

Similarly, a fast-changing environment though might generate various potential courses of information, it nevertheless might also lead to the lack of reliable information and deprive firms the time needed to process information (Johnston & Lewin, 1996). For the specific case of smaller firms, this could mean a huge hindrance as to their readily inferior financial position (Beaver, 2007; Latham & Braun, 2008; Tang, Wang, & Zhang, 2007) and their notorious difficulties to source externally during disruptive periods (Audretch e al., 2009; Brune-Jensen, 2009; CPA

Australia Asia-Pacific Small Business Survey, 2009; Economist Intelligence Unit, 2009; UEAPME Study Unit, European SME Finance Survey, 2009). In fact, information-seeking in uncertain environment might rest firms in a far too risky situation of forgoing window of time for effective response. Premising on this situation, it was to note that networks could indeed provide ways out to acquire important information in a cost-effective manner (Coleman, 1988). Further, it was also able to accelerate the timing, relevance, and quality of information (Adler & Kwon, 2002).

Above all, past literature had also demonstrated the positive association between networks and organizational outcomes (DeCarolis, Litzky, & Eddleston, 2009; Human & Naude, 2009; Lin & Chaney, 2007; Watson, 2007; Zimmerman, Barsky, & Brouthers, 2009). Particularly related to contribution of networks towards organizational outcomes, such empirical work as the one by DeCarolis et al. (2009) demonstrated significant association between social network and new venture progress, based on a sample of 269 entrepreneurs. Similarly, positive association was also found true in other studies in turbulent context such as the international context (Zimmerman et al., 2009). Zimmerman et al.'s finding revealed a significant positive relationship between the strength of network ties and outcome variable such as international diversity.

In another resonant instance, the empirical investigation by Human and Naude (2009) demonstrated that network capability was significantly and positively related to firm performance measured by subjective measures (sales growth, customer retention, ROI, and market share). Human and Naude's (2009) study was built around the tenet of resource-based view of firm in the context of emerging economy.

The finding was based upon the responses of 219 managers in South Africa obtained through a multi-informant mail survey. In the study, network capability was defined as "a firm's ability to develop and utilize inter-organizational relationships" (p. 6), which was captured by four latent dimensions denoting coordination, relational skills, market knowledge, and internal communication (Human & Naude, 2009).

In another instance agreeable to the above mentioned, the study by Watson (2007) which was based on a large longitudinal database to model the relationship between networking and SMEs performance, demonstrated networking (network intensity and range) as significantly and positively related to firm survival and growth. In a broader perspective, the indept case study among the Taiwanese SMEs by Lin and Chaney (2007) revealed that domestic inter-firm networks cast pivotal effect on firm's decision to internationalize. The researchers observed that firms depended on the network interactions to generate market knowledge and technology know-how. These network advantages made up the source of competitiveness for the firms, which were later transferred from the domestic into the international market. Such network advantages were found to be crucial not only at the early stage of internationalization, but also at the later stage when firms engaged in market information seeking to attract new customers. In fact, the critical attention networks carried in business and entrepreneurship had also in part portrayed by such empirical work which examined network as an independent unit of analysis (Van de Ven, 1993).

Having supported the importance of network inclusion in the definition of bricolage for the entrepreneurship context, however, to be regarded as a significant resource in limited time or to realize benefit in short term, the current study argued

that the act of "building" network at that particular short period of time might be an effort in futility. This was because network building is a process that consumes time (Chattopadhyay, 2008). Building on this premise, the current study further argued that, during time-limited period, it was not the act of building new networks that would contribute to add values; it was manipulating and making the best use of the existing networks that which would count. Such notion of manipulation of the existing networks corroborated the conception of network bricolage by Baker et al. (2003), the earliest work.

The practicality and feasibility of network bricolage in the view of the foregoing postulation was also found in several related discussions, though implicitly. For instance, Lechner and Dowling (2003) noted that it was not the networks themselves that seemed to matter, but the particular combinations of networks with other variables and/or particular types of networks such as reputational versus technology networks. Similarly, Larson (1991) in his study on inter-firm alliances of entrepreneurial firms showed that the closely integrated network arrangement amongst a firm's suppliers and customers was an important leverage to gain competitive advantage. In the same vein, Djankov, Qian, Roland, and Zhuravskaya (2006) found that social networks, along with certain unobserved variables, drove career choices of entrepreneurs in China. Further, in the study by Pacheco, York, Dean, and Sarasvathy (2010) which discussed the coevolution of institutional entrepreneurship, the researchers had proposed as a future research agenda the influence of different combinations of networks on entrepreneurial outcome, such as one's likelihood to engage in institutional entrepreneurship.

Particular to the context of Malaysia, the importance of networking in entrepreneurship is appealing (Lim & Abdullah, 2001; Kee & Effendi, 2011; Ahmad & Seet, 2009). Such researchers as Lim and Abdullah (2001) revealed that Malaysians are indeed relationship-oriented. Such contention was also consistent with a more recent study by Kee and Effendi (2011), who found networking to have indeed topped the list of key success factors of SMEs in Malaysia.

2.5 Entrepreneurial Orientation

Entrepreneurial orientation (EO) had appeared under different but terminologically similar labels such as entrepreneurial behavior, entrepreneurship (Bhuian, Menguc & Bell, 2005; Dimitratos et al., 2004; Lee & Hsieh, 2010; Salaran & Maritz, 2009), strategic orientation (Durand & Coeurderoy, 2001; Jantunen et al., 2008; Meskendahl, 2010; Morgan & Strong, 1998), strategic posture or entrepreneurial posture (Covin & Slevin, 1989), and entrepreneurial strategy making (Li, Zhang, & Chan, 2005) in previous studies. Nevertheless, the literature study revealed the term Entrepreneurial Orientation as the most frequently adopted among others (Baker & Sinkula, 2009; Huang, Wang, Tseng, & Wang, 2010; Lee & Peterson, 2000; Li, Liu, & Zhao, 2006; Memili, Eddleston, Kellermanns, Zellweger, & Barnett, 2010; Todorovic, McNaughton, & Guild, 2010).

Generally, EO refers to a firm's strategic orientation, acquiring specific entrepreneurial aspects of decision styles, practices and methods (Lumpkin & Dess, 1996). It reflects how a firm operates rather than what it does (Lumpkin & Dess, 1996). It reflects the degree to which firms establish the identification and exploitation of untapped opportunities as an organizing principle of the firms

(Lumpkin & Dess 1996). There are also other works which refer to EO as the strategic management processes and styles of firms that engage in entrepreneurial activities (Lumpkin & Dess, 2001, 2005). In a narrower definition, entrepreneurial orientation refers to top management's strategy in relation to innovativeness, proactiveness, and risk-taking (Lumpkin & Dess, 1996; Miller, 1983; Khandwalla, 1977; Covin & Slevin, 1989). Other scholars such as Slevin and Covin (1990) define EO as the processes, practices, methods, operating philosophy, and decision-making style used by the management to manage entrepreneurially.

One of the most debated issues in EO was the approach towards its dimensionality. The current research assumed a multidimensional (versus unidimensional) EO being more appropriate for tapping the multifaceted nature of the recessionary context. Such stance was grounded on the basis that recessionary disruptions were perceivably unique and unprecedented events (Roux-Dufort, 2007), which were potentially multi-faceted in the impacts; they created different levels of ambiguity and uncertainty in the aftermath (Harrald, 2009). Such condition suggestively refuted correlations of similar magnitude between different EO dimensions and performance.

Empirically, the adoption of the multidimensional approach in this research was consistent with the viewpoint of a majority of past studies, that different EO dimensions might indeed affect firm's performance or outcome differently, and that significant independent variance existed such that EO dimensions had different relationships with firm performance or firm outcome variables (e.g., Hughes & Morgan, 2007; Kreiser & Davis, 2010; Kreiser, Marino, & Weaver, 2002; Li et al., 2009; Li & Zhang, 2010; Lumpkin & Dess, 1996; Lyon, Lumpkin, & Dess, 2000;

Palalic & Busatlic, 2015; Richard, Barnett, Dwyer, & Chadwick, 2004; Voss, Voss, & Moorman, 2005).

Take some exemplary view of the differences meant above. These differences could be observed in the imparallel direction of EO dimensions' influences on firm performance. Hence, there appeared a situation where some dimensions were positively related to performance, while some the reverse. The like differences were also observed in that some EO dimensions were significantly related to performance, yet others under the same construct revealed insignificant associations (Musa, Abdul Ghani, & Ahmad, 2014; Fairoz, Hirobumi, & Tanaka, 2010; Li & Zhang, 2010; Palalic & Busatlic, 2015; Shamsuddin, Othman, Shahadan, & Zakaria, 2012). Another variance to these instances was that of the EO's examination within certain special context like the family firms, where dimension like risk-taking orientation often displayed varied explanations in predicting firm outcome across different studies (Craig, Pohjola, Kraus, & Jensen, 2014; Naldi, Nordqvist, Sjoberg, & Wiklund, 2007; Zahra, 2005; Zellweger & Sieger, 2012).

For example, Fairoz et al. (2010) demonstrated that only proactivessness orientation reported significant positive relationship with the overall business performance amongst all other orientations examined (risk-taking and innovativeness). Similarly, while Li and Zhang (2010) found innovation proactiveness significantly correlated with firm's overall performance, risk-taking was not. In another instance, Palalic and Busatlic (2015) only found significant positive correlation between two EO dimensions, namely risk-taking and innovativeness orientations, with sales and employee growth. Proactiveness orientation was however found not significant. Likewise, the study of Musa et al.

(2014) found innovativeness and proactivenss orientations to be significantly associated with performance among cooperative firms in the northern region of Peninsular Malaysia; however insignificant relationships were revealed for risk-taking, autonomy, and competitive-aggressiveness orientations.

Particularly related to EO in the family-firm context, past studies showed that family firms tend to be more conservative and risk-averse, and that their risk-taking action were found associated with lower performance (Craig, Pohjola, Kraus, & Jensen, 2014; Naldi, Nordqvist, Sjoberg, & Wiklund, 2007, Zahra, 2005; Zellweger & Sieger, 2012). Some other studies concluded the relationship as less obvious (Rauch, Wiklund, Frese, & Lumpkin, 2004; Wiklund & Shepherd, 2005). In fact, past studies also revealed that family firms took risk cautiously when faced with threat of losing their firm (Gomez-Mejia, Hayne, Nunez-Nickel, Jacobson, & Moyano-Fuentes, 2007), and that they were discouraged by excessively hostile environment (Zahra & Garvis, 2000).

Further, there were scholarly arguments that, investigating EO in unison though might improve the accuracy in the depiction of the EO construct, it however might also cause "a corresponding loss of parsimony" (Lumpkin & Dess, 2001, p. 431). While others had likewise remarked such summative approach as ignoring the individual uniqueness of EO dimensions (Hughes & Morgan, 2007), the current study was also concerned that the use of this approach in such exploratory-natured study (recessionary context) might result in a loss of potentially important information (Tan, 2001).

Further, given that EO had been an established construct in the entrepreneurship studies, it was believed that each dimension of EO was able to establish a standalone

effect on the performance surrogate. Though this research was in the stance that each dimension of EO might not necessarily be equally entrepreneurial, valuable or desirable in improving firm performance given the different situation of this study (Hughes & Morgan, 2007), however the separate dimensions should be positively correlated (Lumpkin & Dess, 1996). In this study, EO was examined as constituting five dimensions, namely (i) risk-taking, (ii) innovativeness, (iii) proactiveness, (iv) competitive-aggressiveness, and (v) futurity orientations. These dimensions are discussed in the following subsections for easier reading.

2.5.1 Risk-Taking Orientation

Risk-taking orientation is defined as the willingness to engage resources in strategies projects, activities or solutions where the outcomes may be inherently highly uncertain (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2003). It is the wilingness to be bold and aggressive in pursuing opportunities, and in preferring high-risk projects with chances of very high returns over low-risk projects (Jalali, Jaafar, & Thurasamy, 2013).

Li, Huang, and Tsai's (2009) definition of risk-taking encompassed the notion of venturing daring actions into unknown new markets and committing considerably sizable portion of resources to ventures of uncertain outcomes. It was contended in previous studies that risk-oriented firms invariably intertwined opportunity-seeking behavior with constructive risk taking which in turn drove their urge for exploration and exploitation (Baird & Thomas, 1990; Lumpkin & Dess, 1996). Risk-taking orientation therefore had important implications for firm performance in the context of recessionary disruption as it would draw firms towards actions and induce them to

embrace uncertainty. In the reverse, the absence of certain degree of risk-taking behavior might lead firms into conservative inaction responses, which in turn refrains them from introducing innovations and undertaking exploitative activities. This could eventually land firms into insignificant seizure of changing customer and market opportunities, and hence weaker performance.

In addition, substantial understanding that supported the relevance of the risk-taking orientation for the specific context of recession was also found in Prospect Theory (Kahneman & Tversky, 1979). The central tenet of Prospect Theory is that strategists tend to exhibit risk-seeking behavior when their recent performance is unsatisfactory. Similarly, other Prospect Theory theorists, Fiegenbaum and Thomas (1988) reasoned that the decision frame of firms under declining performance were largely attached to the interest of seeking gains in the essence of regaining the lost performance. Such decision frame was believed able to catalyze firms' willingness to take risky actions when their performance experience declined. In fact, a number of previous studies which had beheld behavioral decision theory had further attested this line of theorization, as firms were found more likely to take risks when they were pressured with losses or below-expectations performance (Miller & Chen, 2004; Morrow et al., 2007). These premises also concurred with Bowman's (1982) notion of "risk seeking by troubled firms" (p. 33) whereby poorer-performing firms often accepted greater risks.

In fact, tailoring to the context of recessionary disruption, the current study argued that it was indeed inevitable for a firm to not get involved with risk during uncertain time. This was because either in situation of taking action or being inaction, firms were to face either the risk of failure in the action taken or the risk of

missing out an opportunity in inaction (Dickson & Giglierano, 1986). In addition, it had also appeared in argument of previous studies that despite that risk-taking orientation might incur costs, it nevertheless became necessary for firms to take risks and challenge the existing order of business in conditions of incessant change of customer demands, in order to safeguard performance (Hughes & Morgan, 2007).

2.5.2 Innovativeness Orientation

Innovativeness orientation is defined as supporting creativity, introducing new products and services, and developing new processes (Lumpkin & Dess, 1996). It portrays a firm's inclination to embark on experimentation and depart from established practices (Lumpkin & Dess, 1996). In a more specific term, such researchers as Li et al. (2009) referred innovativeness to "the willingness to support creativity and experimentation in introducing new products/services and novelty, technological leadership and R & D in developing new processes" (p. 444).

It was important to note that, inherent in the changes and uncertainties of the external environment were not only risk, but also new opportunities (Morris, Kuratko, & Covin, 2008; Nathan, 2000), and hence the crucial need for new, innovative strategies to take advantage of them. Pertinent to this, previous studies had offered obvious reflection that being innovative was almost a necessity for firms while responding to external environment (Zahra & Neubaum, 1998). In fact, past research had established that innovative strategies prompted higher performance amongst firms in uncertain environment (Miller, 1988).

2.5.3 Proactiveness Orientation

Proactiveness orientation is an opportunity-seeking (Li et al., 2009; Lumpkin & Dess, 1996; Salaran & Maritz, 2009) and forward-looking behavior (Lumpkin & Dess, 1996), which involves pioneering or introducing new methods, techniques, products, services, and processes ahead of the competition (Lee, Lee, & Pennings, 2001; Lumpkin & Dess, 1996), and participating in changes within the operating environment (Lee et al., 2001) to seize initiatives in the market place (Li et al., 2009). It is also defined as a posture of anticipating and acting on future wants, needs, and changes in the marketplace or operating environment (Lee et al., 2001; Lumpkin & Dess, 1996).

Proactiveness orientation has an appealing significance for the particular context of recessionary disruption of the current study, as proactiveness orientation potentially drives firms to act in anticipation of future demand and thereby creates the first-mover advantage *vis-a-vis* competitors (Lumpkin & Dess, 1996). Being associated with such competitive superiority of step-ahead action and market leadership (Gatignon & Xuereb, 1997), proactiveness orientation is able to propel firms into creating change and thereby shaping the environment (Lumpkin & Dess, 2001). Such taking-lead and shaping-through engagement is beneficial for firms struggling in recessionary time, because recessionary disruptions are largely characterized by high dynamism reflected in the constant shifts in demand resulted from high unpredictability of customers and competitors, as well as high rates of changing market patterns (Dess & Beard, 1984; Miller, 1987a, b).

While the changing environment also comes with abundance of opportunities (Morris, Kuratko, & Covin, 2008), the forward-looking characteristics of

proactiveness orientation helps firms to capitalize on emerging opportunities in the changing environment (Li et al., 2009), which has since become more uncertain and scattered. In fact, firms exercising proactiveness orientation would tend to drive themselves to take initiative to re-create an environment to one's competitive advantage (Chen & Hambrick, 1995, Morgan & Strong, 2003), which gives rise to opportunities seizure.

Therefore, it was of strong postulation that firms which had such orientation to pursue emerging opportunities would outperform others in the course of recessionary disruption.

2.5.4 Competitive-Aggressiveness Orientation

The competitive-aggressiveness dimension of EO bears a profound relevance in addressing the greater intensity of competition resulting from uncertainty arosed during the course of recessionary disruption. Competitive-aggressiveness is defined as "how firms respond to competitive trends and demands that (already) exist in the marketplace" (Li et al., 2009, p. 444). Lumpkin and Dess (2001) defined competitive-aggressiveness as the "intensity of a firm's efforts to outperform industry rivals, characterized by a combative posture and a forceful response to competitor's action" (p. 431).

While some previous studies had treated proactiveness and competitiveness-aggressiveness as if they were interchangeable (e.g., Covin & Covin, 1990), several other studies provided credence that they were indeed distinct concepts with unique relationships to firm performance outcome (e.g., Lumpkin & Dess, 1996, 2001). The study by Lumpkin and Dess (2001) was one such exemplary effort purported to

exact the distinction between proactiveness and competiveness-aggressiveness orientation. Confining their study to only these two dimensions, their study lent confidence to such claim that despite the importance of both proactiveness and competitive-aggressiveness to firm success, they contributed uniquely to firm performance. The findings indicated that while a strong and positive relationship existed for proactiveness-performance relationship to all the three measures of performance used, competitive-aggressiveness was found associated negatively to sales growth and only displayed a mere weak relationship to profitability and return on sales. Further, such distinction was also heightened by the fact that though the correlation between proactiveness and competitive-aggressiveness was found at the significance level of $p < .01$, an R^2 of 92% however indicated a large percentage of variance that they did not share, and that they were indeed divergent in their relationship to performance.

In fact, Lumpkin and Dess's (2001) study had highlighted that proactiveness responded to opportunities but competitive-aggressiveness responded to threat. Based upon the understanding of Resource Theory that firms could either create, obtain, or leverage their resources to attain sustainable advantage (Barney, 1991), the researchers also substantiated that the part of the resource creation was represented by proactiveness orientation, while competitive-aggressiveness orientation denoted the part of defending existing resource (Lumpkin & Dess, 2001). The researchers argued that competitive-aggressiveness and proactiveness were most likely to happen sequentially, as it was exemplified that firms would seek out an attractive niche (proactiveness) and would protect it (competitive-aggressiveness) once it was established. Though noting the sequential occurrence of the both,

Lumpkin and Dess (2001) noted that competitive-aggressiveness and proactiveness might present simultaneously since both reflect a firm's future-oriented perspective. Further, the necessity for both dimensions to be present together was noted by Chen and Hambrick (1995) that, firms ought to be both proactive as well as responsive to threats in the environment which were initiated from competition or customers, and etcetera.

2.5.5 Futurity Orientation

While futurity orientation had been comparatively less-explored in previous research of EO, its importance however was expected to witness a rise given the increasing environmental uncertainty in the new era. As depicted in one of the very few works on futurity orientation, futurity orientation was referred to embody a firm's strategic imperative which was aimed at securing a competitive edge in the marketplace in the long-run perspective (Morgan & Strong, 2003). Such envisioning perspective was asserted as being able to help reduce anxiety about competitive futures, as it provided a foothold to recognize and understand patterns, forms, and degrees of potential changes in competitiveness, industry, market, and allied influences.

Further, previous empirical work of EO had also reported that high performing firms were among those attaching emphasis to futurity in their strategic orientation (Morgan & Strong, 2003). In fact, the significance of relationship between futurity and firm performance had been a grounded emphasis in the strategic management literature (Mintzberg, 1994). The futurity of decision had been coined as one of the core dimensions in Miller and Friesen's (1978) strategic decision construct.

2.6 Improvisational Competence

Organizational improvisation is a discipline of management science drawn upon the metaphor-based improvisational theatre and jazz music. Improvisation is verily defined. To start with a simple straight-forward definition, improvisation as taken from the jazz music connotes composing and performing contemporaneously (Barret, 1998; Weick, 1998).

Moorman and Miner (1998b) define improvisation as the convergence of the planning and the implementation stage (Moorman & Miner, 1998b). Miner et al. (2001) add to that definition and define improvisation as "the deliberate and substantive fusion of the design and execution of a novel production" (p. 314). Other researchers define it as the conception of an action as it unfolds, drawing upon available materials, cognitive, affective, and social resources (Cunha, Cunha, & Kamoche, 1999). It is also defined as knowledge, processes, and structure being recombined spontaneously in favor of creative problem solving which is grounded in the realities of the moment (McKnight & Bontis, 2002). Nachmanovitch (1990) describes improvisation as simultaneously rational and unpredictable; planned and emergent; purposeful and blurred; effective and irreflexive; perfectly discernible after the fact, but spontaneous in its manifestation.

In Baker, Miner, and Eesley's (2003) definition, improvisation is characterized as a process where thinking and doing happen almost simultaneously. Crossan (1998) recognizes improvisation as occurring when actions are engaged in spontaneous and intuitive manner. Jambekar and Pelc (2007) define improvisation as an expression of capability to sense emerging reality and to act in harmony with it. In the similar parallel, Ciborra (1999) denotes improvisation as an intriguing process as it is a

situated performance where thinking and action emerge simultaneously and on the spur of the moment. It is a purposeful human behavior which seems to be ruled at the same time by intuition, competence, design, and chance. Across the above improvisation definitions is the apparent reflection confluencing on attaining spontaneity and tapping the locality.

The feasibility of firm's engagement in improvisational action for the emergent context of recessionary disruption could be explained by Hmieleski and Corbett's (2006) matrix, as depicted in Figure 2.4. The matrix premises on deciding a course of action based upon the time and resources available in conjunction with the challenge of the situation.

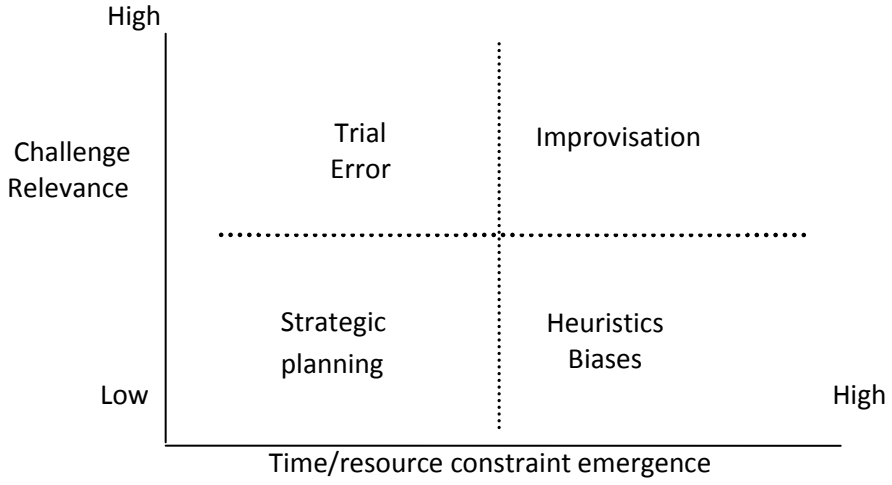

Figure 2.4. Improvisation: Challenge/relevance and time/resource constraint matrix

Referring to Figure 2.4, in a situation characterized by plenty time for decision making and the low challenge, planning can be a sufficient path of action. Firms have the luxury to think about the situation. In a situation of plenty time and resource but higher challenge, firms may adopt a trial-and-error path of action. At

the other end of the spectrum, firms in a scenario of very high time/resource constraint are advisable to apply heuristics, that is, referring back to the existing previous problem-solving approaches and apply one of the similar situation. Finally, a situation where very high time/resource constraint meets with a critical problem or unique challenge, firm must improvise.

2.6.1 Conceptualizing Improvisation as a Competence

Improvisation has been studied as both a competence (capability) (Baker, Miner, & Eesley, 2003; Boccardelli & Magnusson, 2006; Cunha, Cunha, & Chia, 2007, as cited in Leone, 2010; Haan & Cohen, 2007; Hmieleski & Eesley, 2004) and a process (Crossan, Cunha, Vera, & Cunha, 2005; Muhammed & Dhumal, 2008; Mendonca, Cunha, Kaivo-oja & Ruff, 2004; Moorman & Miner, 1998b; Vera & Crossan, 2007; Weick, 1998). However, taking into consideration the unique context and characteristics of managers and their firms in entrepreneurship, where smaller firms are more aptly be considered as a bundled entity (Chowdhury & Lang, 1994) with the manager being the coordinating ability of a firm (Kaldor, 1934, as cited in van Praag, 2003) rather than one that is process-oriented hierarchical institution, improvisation as a competence is suggestive to offer better value for smaller firm.

Consistent with the above claim, it is noteworthy that owner- or manager-entrepreneurs assume significant roles in almost all important tasks and decision-makings of their firms (O'Reagan, Sims, & Ghobadian, 2005). Further, smaller and entrepreneurial firms have rather flat organizational structure with no apparent levels of organizations, and with little functional areas (Chowdhury & Lang, 1994; Kotey & Slade, 2005). They are presumably tightly integrated entities where both business-

level and functional-level strategies are often inseparable (Chowdhury & Lang, 1994; Kotey & Slade, 2005).

Based on the appropriateness of competence in its attribute of bundled entity, the rationale of taking improvisation as a competence in the current study was also consistent with such entrepreneurship study of Hmieleski and Corbett (2008), which heightened the crucial dependence on the ability and the cumulated domain knowledge of the improviser for the effectiveness and success of improvisation. Further, several other scholarly works which attributed effective improvisation to the skills of improviser had also provided implicit credence to support the greater appropriateness of improvisation as a bundled quality (Leybourne & Sadler-Smith, 2006; Vera & Crossan, 2005). Such significantly person-oriented firm was therefore believed to be better-addressed by the embedded ability, rather than process.

In addition, competence rather than process was emphasized because it was believed that competence rendered more promising value to fabricate the resilience needed to tap the recessionary disruption context, being that competence is a higher order of resource (Hunt & Lambe, 2000; Amit & Schoemaker, 1993; Teece et al., 1997). As defined by Heene and Sanchez (1996), competence is the ability to sustain the coordinated deployment of firm assets in a manner that helps firms to achieve the targeted goals. This definition was also congruent with other scholars on the view that competence (capability) was indeed a special type of resource given its ability to improve the efficiency and the effectiveness of other resources possessed by firms (Eisenhardt & Martin, 2000; Makadok, 2001; Teece et al., 1997).

Besides, it was also crucial to note that, while process necessitates the time-lag to transform into outcome, competence which is an embedded ability (Teece et al.,

1997) is conceivably does not as much. This perspective was found resonant with what Collis (1994) defined competence (capability) as complex routines that gave rise to (determine) the efficiency with which firms transformed input to output. Further, competence being apparently an intangible entity in practice (Heene & Sanchez, 1996; Teece et al., 1997) and non-transferable (Eisenhardt & Martin, 2000; Makadok, 2001), could posit firms to compete more effectively, as such natured resource of firms could be parlayed into competitive advantages on the base of valuable, rare, inimitable, and non-substitutable attributes.

2.7 Hypotheses Development

In the current research, three main research hypotheses were postulated. The relationships conjectured were based on the theoretical associations between business coping strategy (BCS), entrepreneurial orientation (EO), improvisational competence (IC), and crisis readiness (CR). Specifically, the current study hypothesized the influence of BCS and EO on CR. Additionally, IC was hypothesized to mediate the relationship between BCS and CR. Besides these main hypotheses, there were another five sub-hypotheses, which theorized the associations between dimensions of EO and CR. The theoretical and empirical discussions for these hypothesized relationships are presented in the following.

2.7.1 Business Coping Strategy and Crisis Readiness

As crisis readiness (CR) was the surrogate used to operationalize firm performance in the recessionary context of the current study, the theoretical and empirical

supports for the hypothesized relationship between BCS and CR could be traced back to the corresponding literature of the strategy-performance relationship.

First and foremost, the important role of firm strategy to drive superior performance could be inferred from several dominant theoretical models such as Porter's (1980) generic competitive strategies, Miller's (1988) marketing differentiation strategy, Hofer's (1980) turnaround strategies, and etcetera. Though each these strategy typologies theorized strategy with different focus and level of specificity, they nevertheless concurred on the notion that the adoption of appropriate strategies led to superior firm performance.

While strategy-performance association had received broad examination, the findings of the majority reassured the positive impact of firm strategies on firm performance (Acquaah & Agyapong, 2015; Arasa & Gathinji, 2014; Bavarsad et al., 2014; Hansen et al., 2015; Kinyura, 2014; Lechner & Gudmundsson, 2014; Teeratansirikool et al., 2013). Take a recent instance. Using Porter's generic competitive strategies as the main reference, Arasa and Gathinji's (2014) study was set out to investigate the competitive strategies and performance of firms competing in the highly competitive environment of mobile telecommunication industry in Kenya. Using the theoretical perspective of Porter as the main reasoning towards achieving and sustaining competitive advantage, the study found that competitive strategies such as cost leadership, differentiation, market-focus, and strategic alliances asserted positive significant influence on the performance of firm in competitive environment. Particularly, the study found that firms implemented product differentiation and cost-leadership strategies relatively extensive.

In another example, Kinyura (2014) examined the performance of firms facing competitive business environment in Kenya. Using 116 responses, the researcher examined competitive strategies of Porter, which were cost leadership, differentiation, and focus strategies. While the researcher reassured past findings that the adoption of such strategies by firms would drive superior performance compared to those that adopt not, significant positive associations were discovered between these three strategies with performance. This line of past findings was indeed deeply ingrained within the dominant theoretical perspective regarding the importance of firm strategies in driving desired firm performance outcome (Porter, 1985; Miller, 1988).

While the above discussion had established the theoretical and empirical supports for the positive impact of strategies on firm performance, the literature study also revealed that changes in the business operating environment led firms to shift among different strategies accordingly. In other words, environmental contingencies led to changes in strategies which firms preferably adopted, and that the effectiveness of a certain strategy was largely contingent upon the environmental characteristics of a firm.

For instance, the study of Chi (2015) examined the formation of SMEs' response strategy and business performance in different characteristics of business environment in the Chinese apparel enterprises. Based on the response collected from a questionnaire survey, Chi examined the environment-strategy-performance model, with business environment characterized by diversity, complexity, dynamism, and hostility; and competitive strategy priorities captured by low cost, quality, delivery performance, and flexibility. Chi's study demonstrated that there

was no single one-for-all strategy for all circumstances, and therefore the lack of clear understanding on the suitable type of strategies could potentially lead firm into relatively inferior performance. Specifically, Chi found that high performers adopted differentiation strategy in turbulent business environment, while the low performers emphasized low cost strategy. The shift of strategy from cost reduction to differentiation which was less imitable by competitors was also evident.

Therefore, careful attention should be paid to the strategy content while studying the strategy-performance relationship in such distinctive environment as the recessionary context. As was discussed in Chapter One, the recessionary environment is a huge difference from the small-scaled incremental change taking place in normal business days. With regards to this viewpoint, the literature study did indeed find strategy-performance relationship examined in the specific setting of recession. However, this line of study was found still limited (Erfani & Kheiry, 2013; Naidoo, 2010). Take a recent instance. The study of Erfani and Kheiry (2013) examined the strategic reaction of companies to recession. Using a survey of 45 senior marketing executives in Abbasabad Industrial Park in Iran, the researchers examined the antecedents and consequences of proactive marketing during a recession. The study showed that proactive marketing played a significant role in improving both market and business performance during the recession.

However, amongst these still limited recession-specific studies of strategy-performance relationship, the current study found less empirical effort which instilled the specific criteria of recession into the understanding of corrective strategy. For instance, Naidoo's (2010) study associated business-level strategies to firm performance in the context of the 2008 global recession. Building his works on

the theoretical premise that competitive advantage was a value-creating strategy (Porter, 1980; Barney, 1997), Naidoo (2010) brought in Porter's competitive strategies to conceptualize and operationalize competitive advantage. The study corroborated the conventional empirical evidence of the positive strategy-performance relationship. Naidoo's (2010) work was one of the comparatively more meaningful works that particularly gave attention to firm-level strategies and performance in the context of recessionary disruptions. However, having operationalized business strategies as competitive advantage, the study did not append clear justification as to why Porter's (1980) generic strategies (differentiation, cost leadership and focus) were taken and deemed suitable to surrogate competitive advantage, and not other firm-level strategy typology.

Further, the literature study had found that many among the extant studies which examined strategies of recessionary time still remained exploratory. For instance, some of these studies were descriptive, and the assessments were aimed at determining which among the strategies were relatively favored (Zainul Abidin et al., 2014; Price et al., 2013; Skorvagova & Pasztorova, 2014; Tansey et al., 2013; Tansey et al., 2014). Likewise, there were some others which plainly discussed and suggested on certain strategies which were perceived to be useful during recession, but were yet to have further empirical examination carried out as to the impact of the suggested strategies on firm performance (Akyuz & Ercilasun, 2014; Demaki, 2012; Maheta, 2015; Polat & Nergis, 2011).

Further, still, there were amongst the past studies that examined firm performance in recessionary time which had attached inappropriate priority to the corrective strategy, and hence also inappropriately operationalized corrective strategies. This

line of studies had demonstrated the lack of rigor in incorporating the understanding of the disruptive phenomenon with the unique characteristics and context of smaller (non-large) firms when studying firm-level strategies during recessionary period.

For example, Cheungsuvadee (2006) who studied performance of Thailand SMEs meant during the 1997 Asian Economic Crisis had taken managerial-functional areas to surrogate business adaptation strategies, although the issue put forth was pertaining to SMEs performance while surviving crisis. This case in point was arguably rather reckless, not only it did meagerly to address the real caveats caused by the crisis (time and financial resource constraint) that prompted survival threats, it had also been rather injudicious to have not considered the fact of the rather flat organizational structure of SMEs (Chowdhury & Lang, 1994), the very prominent generalist roles of entrepreneur-managers over various aspects or functions (Beaver & Jennings, 2005; Hogarth-Scott, Watson & Wilson, 1996) and the informal practices in SMEs (Beaver, 2007; Ebben & Johnson 2005), and that smaller firms are presumably tightly integrated entities where both business-level and functional-level strategies are often not only interdependent but also inseparable, despite their various sizes and degrees of complexity in their management practices (Chowdhury & Lang, 1994).

Given the above discussion, therefore, the current study asserted that the BCS which was reconceptualized according to the specific criteria of the recessionary setting as well as the unique characteristics of the SMEs should be able to optimize the positive impact of one such strategy on firm performance during recessionary duress. Under the resource-scarce condition, the BCS as theorized and conceptualized in the earlier section as a dynamic capability might assert promising

impact on firm performance in recessionary environment. As far as the resource constraint was concerned, the dynamic capability allowed the reconfiguration of the resource base of firms, and thus giving rise to value creation. Accordingly, BCS which constituted revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB), and bricolage tactics (Bri), formed a dynamic capability in itself. Given the discussion above, the following hypothesis is put forth.

H1: Business coping strategy (BCS) is positively and significantly related to CR.

2.7.2 Entrepreneurial Orientation and Crisis Readiness

As far as the recessionary context was concerned, this doctoral thesis offered three main strains of empirical justification to support the hypothesized EO-CR association. Firstly, the long-standing positive relationship found between EO and firm performance; secondly, the greater performance impact of EO in environment of greater disruptions; and thirdly, the resourcefulness of EO to tap recessionary context.

Firstly, past studies over the years had observed a dominant trend of positive performance impact when firms entrepreneurially positioned their resource upon actions that were risk-taking, innovative, proactive, combative, and futurity-oriented (Alarape, 2013; Arief et al., 2013; Belgacem, 2015; Gupta & Batra, 2015; Jalali et al., 2014; Linyiru, Karanja, & Gichira, 2015; Lumpkin & Dess, 1996; Chow, 2006; Jantunen et al., 2008; Keh, Nguyen, & Ng, 2007; Otache & Mahmood, 2015; Rtanam, 2015; Simon et al., 2011; Su et al., 2015).

Take some recent instances where EO was examined as a multidimensional construct in relationship to firm outcomes. The recent work of Jalali et al. (2014) examined the influence of multidimensional EO on the firm performance among the Iranian manufacturing SMEs. Employing the responses gathered from 150 manufacturing firms, the study offered empirical evidence that corroborated many of the past findings' positive relationship of EO-performance. Specifically, the researchers found a positive and significant performance effect of risk-taking and proactiveness orientations. Likewise, the study of Rtanam (2015) found positive significant relationships between risk-taking, innovation, autonomy, and competitive-aggressiveness orientations with firm performance. The four entrepreneurial orientations were tested among SMEs in the hotel industry of Jaffna district in Sri Lanka.

Secondly, past literature had also revealed the more intense positive performance effect of EO in business environment challenged by greater volatility, hostility, dynamism, complexity, turbulence, competitive intensity, and less environmental munificence (Caruana, Ewing, & Ramaseshan, 2002; Chaston & Sadler-Smith, 2012; Covin & Covin, 1990; Dimitratos et al., 2004; Kaya & Seyrek, 2005; Kraus et al., 2012; Wiklund & Shepherd, 2005; Tsai & Yang, 2014; Zahra, 1993b Zahra & Covin, 1995). Such research findings were traceable in past studies which examined EO-Performance relationship with environmental contingencies. For instance, the study of Kraus et al. (2012) demonstrated that the positive relationships between EO dimensions and performance had indeed become stronger under conditions of higher market turbulence. Similarly, Tsai and Yang (2014) who examined 452 Taiwanese

manufacturing firms found more intense positive relationship between innovativeness and firm performance in higher market and technological turbulence.

In addition, the recent findings above indeed demonstrated concurrence with findings of numerous leading scholarly works in past entrepreneurship studies. For example, Covin and Slevin's (1989) study provided evidence that the effect of EO on profitability was more pronounced among small manufacturing firms operating in hostile environment and not among those of the benign. Similarly, Zahra's (1993b) study demonstrated that while a strong positive relationship existed between entrepreneurship and performance among firms in dynamic growth environment, a negative relationship was prevalent among firms in static environment. In the same vein, Zahra and Covin's (1995) work concluded that EO asserted a greater positive effect on firm performance in a hostile rather than a benign environment.

These earlier empirical findings were further substantiated by several other studies in the 20s'. For example, Zahra and Garvis (2000) discovered that hostility in the international environment cast a positive moderating effect on the relationship between entrepreneurship and firm performance. Similarly, Hitt, Ireland, Camp, and Sexton (2001) noted that firms with strong EO had the ability to make environmental uncertainty worked to their benefit. In the same vein, Dimitratos et al. (2004) who examined the volatile international context of firm performance in tandem with EO established that uncertainty in the domestic markets positively moderated the entrepreneurship-performance relationship. Further, Kaya and Seyrek (2005) also found that there was a positive, significant relationship between entrepreneurial orientation and financial performance when market turbulence was

high. In Kaya and Seyrek's work, market turbulence was a dimension determined by the amount of change that occured within the business environment.

Thirdly, EO had emerged in many previous studies reflecting the ability to address situations of resource scarcity (Hughes & Morgan, 2007) and timeliness (Frishammar & Horte, 2007; Li, Liu, & Zhao, 2006), as well as momentous changes (Li et al., 2006; Li, Zhao, Tan, & Liu, 2008). This particular ability tailored to the disruptive context of this study where resource scarcity and sensitive window of time were reportedly inherent. In light of the above contention, EO was found studied with small firms performance that pivoted around settings of significant environmental change like the course of transitional economies (Li et al., 2006; Li et al., 2008), economic reform (Tan, 2005), and in settings that involved highly volatile environment like the international context (Dimitratos et al., 2004; Dimitratos, Plakoyiannaki, Pitsoulaki, & Tuselmann, 2010; Jantunen et al., 2008; Jantunen, Pumalainen, Saarenketo, & Kylaheiko, 2005; Kuivalainen, Sundqvist, & Servais, 2007; Liu, Li, & Xue, 2010; Todd & Javalgi, 2007; Wiklund & Shepherd, 2003).

Further, EO had also been examined in interaction with resource-related variables (Li, Huang, & Tsai, 2009; Wiklund & Shepherd, 2003; Tan, 2007), resource acquisition (Huang, Wang, Tseng, & Wang, 2010), and was considered in previous studies that focused on firms of weaker financial status (Hughes & Morgan, 2007). In addition, EO was also found considered in studies that entailed the aspect of sensitive time, novelty, and high uncertainty such as new product development (Frishammar & Horte, 2007; Li et al., 2006).

In fact, the amenability of EO's notion to tap vicious environment was also demonstrated in studies of corporate entrepreneurship in large firms. For instance,

Romero-Martinez, Fernandez-Rodriguez, and Vazquez-Inchausti (2010) examined corporate entrepreneurship within the issue of privatization, one such concern that was largely related to environment of stringent competition or competitiveness. Their findings unearthed a positive association between corporate entrepreneurship and competition. Specifically, by segmenting their sample in accordance to competition, the study had indeed demonstrated that significant increases in corporate entrepreneurship only happened amongst firms which operated in industries that had become more competitive subsequent to privatization and in those which were already highly competitive prior to privatization. More than half among them turned out to be more innovation-driven, introducing more product and process innovations, and spending more on research and development (R & D).

While uncertain environment contains both elements of risks and opportunities (Thompson, 2010), it is empirically expectable that entrepreneurial actions with an appropriate balance of risk-taking, innovativeness, proactiveness, competitive-aggressiveness, and futurity would promote positive performance impact of firms specifically in the recessionary context. This viewpoint was empirically supported by past studies, in which each of these dimensions, namely risk-taking, innovativeness , proactiveness , competitive-aggressiveness, and futurity had been found casting positive independent influence on firm outcome variables (e.g., Alarape, 2013; Belgacem, 2015; Musa et al., 2014; Fairoz et al., 2010; Jalali et al., 2014; Jantunen, Puumalainen, Saarenketo, & Kylaheiko, 2005; Linyiru et al., 2015; Memili, Eddleston, Kellermanns, Zellweger, & Barnett, 2010; Palalic & Busatlic, 2015; Rtanam, 2015; Shamsuddin et al., 2012; Strong & Morgan, 2003; Tan & Litschert, 1994).

Therefore, taking inclusively the views that (i) each dimension of EO might not necessarily be equally entrepreneurial in improving firm performance given the different situations (Hughes & Morgan 2007), (ii) the separate dimensions should be positively correlated (Lumpkin & Dess, 1996), and (iii) EO had been a broadly-tested and established construct in the entrepreneurship study, and hence was believed that each dimension of EO was sufficiently robust to establish standalone effect on the performance surrogate; a multidimensional EO was chosen for measurement purpose in the current study.

In fact, measurement-wise, the examination of EO-CR relationship in this study was considerably novel, as EO was examined with a newly proposed performance surrogate, CR. Since past study indicated that the relationship between EO and performance might vary dependent on the indicators used to gauge firm performance (Lumpkin & Dess, 1996), the examinations of each EO's dimension with this particular performance surrogate became a theoretical and empirical gap to discover.

Towards this end, the current study put forth the following six hypotheses, one of which was the main hypothesis for EO-CR relationship, and the remaining were sub-hypotheses formulated between each EO dimension and CR.

H2: Entrepreneurial orientation is positively and significantly related to CR.

H2a: Risk-taking orientation is positively and significantly related to CR.

H2b: Innovativeness orientation is positively and significantly related to CR.

H2c: Proactiveness orientation is positively and significantly related to CR.

H2d: Competitive-aggressiveness orientation is positively and significantly related to CR.

H2e: Futurity orientation is positively and significantly related to CR.

2.7.3 The Potential Mediator: Improvisational Competence

Improvisational competence (IC), as has been conceptualized earlier, is the ability of a firm to converge the planning stage (design/composition) and the implementation stage (execution) of business planning process (Moorman & Miner, 1998b). The contemporaneous quality of IC (flexibility and spontaneity) gives rise to temporal attainment of speed. The notion of improvisation in this view is also consistent with such resilience definition of Mallak (1998), where resilience is defined as the ability of individual or organization to expeditiously design and implement positive adaptive behaviors matched to immediate situation. Such connection is not surprising because handling trying times requests a certain level of resilience (Cimellaro et al., 2010; Gittell, Cameron, Lim, & Rivas, 2006; Ramlall, 2009; Walsh, 2002), and it is well notable that rapid responses give rise to organizational resilience (Miner et al., 2001).

Though IC had not been empirically studied as a mediator for the association between BCS and firm performance, the theoretical tenet with which IC was proposed as a speed mechanism in recessionary business environment capitalizes on the speed essence heightened by Chaos Theory. Theoretically, Chaos Theory calls for the critical need to instill a sense of speed and timeliness while coping with recessionary disruptions which are largely unpredictable in nature. Chaos Theory accentuates the importance of immediacy in response actions during disorder situations, as disorder situations are believed to be potential of fluctuating small changes in the initial stage into unexpected large changes or impact (Stacey, 1993). This notion posits a particularly critical implication on the containment of effects brought about by recessionary disruptions, as resilience and crisis management

scholars have coined containment as one critical portion in handling unexpectedness when they have become manifest (Burke, Wilson, & Salas, 2005). Note that, while crisis containment is defined as the decisions and actions that aim at keeping a crisis from growing worse, acting quickly and decisively has topped the first rule of such action (Farrell, 2004). Moreover, it is asserted that the best chance to minimize loss during a crisis lies in the early stages of a crisis (Ho, Oh, Pech, Durden, & Slade, 2010).

The essence and practicality of improvisation and Chaos Theory were observable in literature demonstrating the dynamism of improvisation practice in helping establish prompt and speedy order in various situations. Previous studies had demonstrated the potential of improvisation either as a process (Crossan, Cunha, Vera, & Cunha, 2005; Muhammed & Dhumal, 2008; Mendonca, Cunha, Kaivo-oja, & Ruff, 2004; Moorman & Miner, 1998; Vera & Crossan, 2007; Weick, 1998), or a competence (Baker, Miner, & Eesley, 2003; Boccardelli & Magnusson, 2006; Cunha, Cunha, & Chia, 2007, as cited in Leone, 2010; Haan & Cohen, 2007; Hmieleski & Eesley, 2004), cast positive outcome impact in time-sensitive scenario such as innovation and new product development (Akgun, Byrne, Lynn, & Keskin, 2007; Eisenhardt & Tabrizi, 1995; Moorman & Miner, 1998b; Muhammed & Dhumal, 2008), software development (Haan & Cohen, 2007), agile project management (Leybourne & Sadler-Smith, 2006), as well as crisis-alike situations like organizational urgency (Mendonca, Cunha, Kaivo-oja, & Ruff, 2004), emergency response and disasters handling (Kendra & Wachtendorf, 2008; Mendonca & Wallace, 2004; Zumel, Franco, & Beutler, 2008), where time was a vivid scarce resource and spontaneity was highly desired.

Besides the inherent speed-harnessing quality of improvisation and the theoretical verification discussed above, the mediating potential of IC on the BCS-CR association was also empirically supported. Notably, though IC was a newly proposed variable of speed mechanism and had not been directly studied before, substantial supports could be found in studies which separately demonstrated positive associations for both partial paths making up the mediation effect, namely the organizational strategy or behavior-speed relationships (Calantone, Garcia, & Droge, 2003; Sisodiya & Johnson, 2014), and speed-organizational outcome relationship (e.g., Atuahene-Gima & Murray, 2004; Baum & Wally, 2003; Bourgeois & Eisenhardt, 1988; Cankurtaran et al., 2013; Chen et al., 2005; Eisenhardt, 1989; Judge & Miller, 1991).

Take some instances for the former. The study of Sisodiya and Johnson (2014) proposed a theoretical model to examine resource flexibility and resource augmentation as to their role as mechanism to enhance firm's capability to respond to opportunities and challenges in the new product development process. Based on the data of a cross-industry sample, the researchers found a significant positive relationship between resource augmentation and product development speed. In their study, while project speed and cost were the measures used to capture the new product outcomes, resource augmentation was defined as the process of enhancing a resource base through assembling additional resources and building on the existing ones. Resource augmentation allowed managers to monitor and check the available stocks, and increased the resource base prior to the time it was needed.

There were several noteworthy empirical instances for the latter partial relationship. Chen et al. (2005) found that speed-to-market was positively correlated

with new product success in a market characterized by uncertainty. Speed-to-market was examined as a firm-level variable. Instead, Chen et al.'s study also found a significant moderating effect of market uncertainty on the relationship between speed-to-market and new product success. This result implied that speed-to-market indeed became more salient to new product success while the market uncertainty was high.

Similarly, past studies had also empirically attested the positive influence of implementation speed (Atuahene-Gima & Murray, 2004) and decision speed (Baum & Wally, 2003; Bourgeois & Eisenhardt, 1988; Eisenhardt, 1989; Judge & Miller, 1991) on firm outcomes. For instance, the study of Atuahene-Gima and Murray (2004) demonstrated that implementation speed positively moderated the relationship between strategy-related variable and firm performance. In their study, implementation speed was defined as the pace of activities between the time a strategy was formulated and the time it was fully deployed. This notion which "captures the acceleration of decision making activities from their conception to their implementation" (Atuahene-Gima & Murray, 2004, p. 36), vividly echoed the essence of improvisation competence in the current research.

In parallel, such other researchers as Eisenhardt (1989), and Judge and Miller (1991) demonstrated that decision speed was indeed positively related to firm performance especially in high-velocity environment. Eisenhardt (1989) revealed that the best sales and profitability were achieved among the fastest decision makers among high-tech firms. Likewise, Judge and Miller (1991) who investigated the relationship between strategic decision-making speed and firm performance among biotechnology firms only found significant positive association among firms in high-

velocity environment. Similarly, Baum and Wally (2003) while finding out that rapid decision-making predicted the subsequent firm growth and profitability, their findings further demonstrated that fast decision making mediated the relationships of environmental dynamism, munificence, centralization, and formalization with firm performance.

In addition to the above, positive relationship between improvisation and organizational outcome variables were also observable in past studies (Arshad, 2013; Abu Bakar et al., 2015; Vera & Crossan, 2005). Take a recent instance. The study of Abu Bakar et al. (2015) examined the influence of strategic improvisation on the performance of SMEs in Malaysia. Measuring strategic improvisation using the seven-item scale adapted from Vera and Crossan (2005), the 140 responses gathered through an online survey demonstrated that strategic improvisation cast a significant positive impact on SMEs performance.

In another example, the study of Arshad (2013) examined the relationship between organizational improvisation and firm performance with environmental contingencies. Using a sample of 128 technonology-based firms in Malaysia, the finding of the study corroborated findings of the past which revealed positive significant association between organizational improvisation and firm performance. The study also offered evidence that the relationship had indeed become stronger when the competitive turbulence was stronger.

Based on the above discussion, the following hypothesis is forwarded.

H3: Improvisational competence (IC) significantly mediates the relationship between business coping strategy (BCS) and crisis readiness (CR).

2.8 The Proposed Research Framework and Discussion of Relevant Theories

Based on the above discussion, a schematic diagram illustrating the hypothesized relationships between BCS, EO, IC, and CR is presented in Figure 2.5. In this section, the research framework is explained with the incorporation of relevant theories which support the hypothesized relationship.

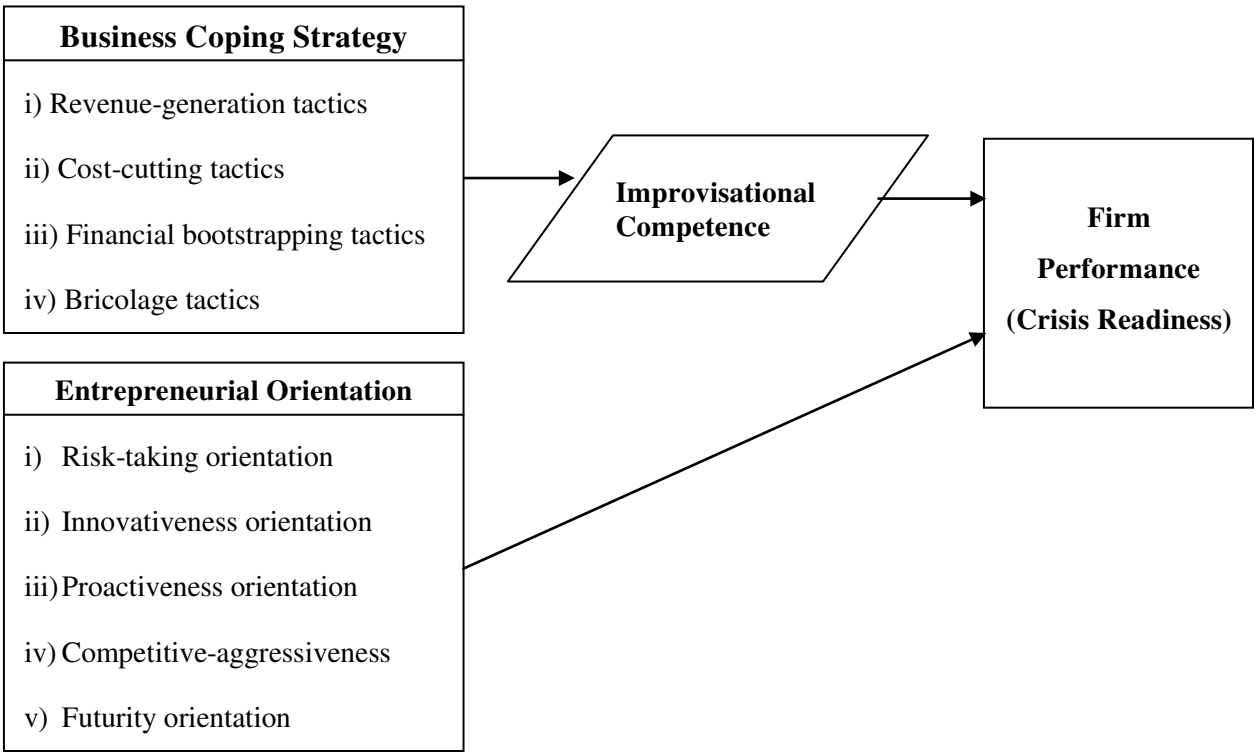

Figure 2.5. Research framework

As demonstrated above, this research framework was developed based on the resource-based view (RBV) perspective. According to Barney (1991), resource is defined as all assets, capabilities, organizational process, firm attributes, information, knowledge, etc., controlled by a firm to conceive of and implement strategies that improve its efficiency and effectiveness. In this study, BCS, EO, and

IC were firm resources in the forms of process and capability; they were meant to be synergistic sources of competitive advantage to firm performance in the recessionary context. The RBV, first posited in the literature by Wernerfelt (1984), is built upon the view that a firm's success is largely determined by the resources it owns and controls. RBV perceives firms as having different levels of resources and capabilities which form the basis for competitions and provide foundations for competitive advantage in favor of effective organizational strategies development. Specifically, RBV asserts that effective use of a firm's unique resources can lead to a sustained competitive advantage (Barney, 1991). Simply, RBV emphasizes on the internal resources of firms (Barney, 1991; Penrose, 1959).

The rationale of using RBV as the underpinning was consistent with the theoretical reasoning of pecking order theory, which asserts that firms tend to finance their needs in a hierarchical fashion, and that they will resort to internal resources before finally seeking out (Myers, 1984; Paul et al., 2007; Van Auken, 2005). Considering the simultaneous time and resource constraints faced by SMEs in recessionary periods, RBV-based variables were believed to better-tailor to the sensitive response time during recessionary disruptions, because internal resources (versus external resources) of firms rendered controllable. This advantage allowed firms the flexibility to re-organize or reconfigure firm resources, such that firms could react swiftly. It is argued that the emergent manner in which disruptive events take place deprives entrepreneurs the waiting time to seek for external resource, and therefore they must deal with it head-on. The search for resource should bear heightened awareness as to the trade-off between the risk of seeking resources

externally (resorting from outside resource) and the possibility of forgoing the window of opportunities (Kovoor-Misra & Nathan, 2000).

Business coping strategies (BCS) was the first predictor variable of this study. The construct was newly conceptualized and operationalized due to the absence of explicit measure in the extant measures which directly tapped corrective strategies in the specific recessionary context. Being a topic under the rubic of firm performance in environmental changes, the BCS-CR relationship was explicable within the theoretical notion of Contingency Theory. Contingency Theory asserts the importance of congruence or fit among key variables such as environment, structure and strategy to attain optimal performance (Schoonhoven. 1981; Venkatraman, 1989b). Therefore firms in recessionary time must tailor their existing strategies to the changing environment.

Specifically, BCS incorporated four main dimensions, namely revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB) and bricolage tactics (Bri). The combination of these four dimensions was theoretically supported by dynamic capability theory (Teece & Pisano, 1994; Teece, Pisano, & Shuen, 1997). Based on the dynamic capability theorization, although each dimension of BCS reflected different corrective actions, they nevertheless served the similar purpose, that was, to facilitate immediate positive cash flow of firms. The four distinct yet correlated dimensions collectively made BCS a dynamic capability. This viewpoint was in line with Teece et al.'s (1997) assertion that, particularly in dynamic environment, internal processes and routines which enable firms to renew and change its stock of organizational capabilities, form the base for competitive advantage. This emphasis on the internal resource was also consistent with

Eisenhardt and Martin (2000) that dynamic capabilities work by changing the underlying resource base of a firm. Further, as these internally-initiated actions were largely tacit, they thus allowed firms to better-leverage RBV's valuable, rare, inimitable and non-substitutable (VRIN) competitive advantage (Barney, 1991)

Next, entrepreneurial orientation was the second predictor variable. In this study, EO was tapped using five dimensions, viz., risk-taking orientation, innovative orientation, proactiveness orientation, competitive-aggressiveness orientation (combative orientation) and futurity orientation, of which all had been theorized to assert positive influence on firm performance. As decision-making styles, process, and practice are internally-initiated actions, the positive influence of EO on performance could be matched to those RBV's benefit of being tacit, and thus allowing firms to leverage valuable, rare, inimitable, and non-substitutable (VRIN) competitive advantage (Barney, 1991).

Finally, improvisational competence (IC) was the mechanism hypothesized to mediate the relationship between BCS and CR. Improvisation was operationalized as a competence in this study. Notably, IC is embedded in a firm's experience and practice, and that it is tacit in nature (Eisenhardt & Martin, 2000; Makadok, 2001; Teece, Pisano, & Shuen, 1997). IC in itself is also a dynamic capability. Capability is contended to be a special type of resource that is organizational embedded and non-transferable, and that it improves the efficiency and the effectiveness of other resources possessed by firms (Eisenhardt & Martin, 2000; Makadok, 2001; Teece et al., 1997).

The hypothesized mediation effect of IC on the BCS-CR relationship could be understood from the theoretical perspective of Chaos Theory. Particularly, the

mediation effect was explicable by the advantage of speed in disorder situation. The theory heightens the importance of addressing immediacy in response action during disorder situations. The critical point of this theory in verifying the theoretical possibility of IC lies in that disorder situations are believed to be potential of fluctuating small changes in the initial stage into unexpected large changes or impact (Stacey, 1993). Therefore, speed matters in firms' effort to strategize out of the recessionary ordeal.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter has discussed related literature on performance of entrepreneurial firms during the course of recessionary disruptions as well as three resource-based variables, namely business coping strategy (BCS), entrepreneurial orientation (EO), and improvisational competence (IC). This chapter details the methodology used to empirically examine the theoretical model established in Chapter Two, and to address the research questions discussed in Chapter One. This chapter is divided into twelve sub-sections. Following the introduction, the chapter starts with the discussion of research paradigm meant for the study (section 3.2). Section 3.3 proffers discussions and justifications as to the research design opted for this research. Section 3.4 discusses the population, sample, and the sampling process used. Data collection tool and methods are described in section 3.5. The validity and reliability of the measures are discussed in Section 3.6 and Section 3.7 respectively. Section 3.8 resides the operationalization of the constructs of all focal variables of interest. This is followed by specification of measurements in Section 3.9. Then, Section 3.10 describes about the questionnaire and its back-to-back translation. Section 3.11 outlines the data analysis tools and the main statistical techniques used in this research. Finally, section 3.12 summarizes the chapter.

3.2 Research Paradigm

Establishing an appropriate philosophical foundation is exceptionally important for studies of social sciences. Amongst the several existing philosophical paradigms, positivism and interpretivism (also so-called constructivism) are two broadly discussed worldviews in empirical social science. According to Creswell and Plano Clark (2007), while positivism paradigm is habitually related to the quantitative methodologies, interpretivism paradigm is associated with qualitative methodologies. Since the current study adopted the quantitative methodology, the research interest was addressed within the worldview of positivism.

Consistent with the quantitative methodology, the intent and the literature of the current research pointed toward focused, close-ended questions that associated variables to each other. Data were collected from participants to see how it fitted the theories, which was in turn used to test hypotheses in order to support or refute the relationship proposed. Further, the role of the researcher was largely at the background and steps were taken to reduce possible bias in the study (Creswell & Plano Clark, 2007).

Conversely, the methodology of a qualitative research is characterized as inductive, emerging, and shaped by the researcher's experience in collecting and analyzing the data. This inductive logic works from the ground up, rather than being handed down entirely from a theory or from the perspectives of the inquirer. Sometimes, the research questions change in the middle of the study to better-reflect the type of questions needed in order to understand the research problem. Therefore, it is common that the data collection strategy planned beforehand would need to be modified to accommodate the new questions. The researcher "follows a path of

analyzing the data to develop an increasingly detailed knowledge of the topic being studied" (Creswell, 2007, p.19). Throughout the process, the researcher is subjectively immersed in the data and does not stand objectively apart from the data (Quinlan, 2011).

Table 3.1 briefed out the differences of criteria between the quantitative and qualitative approaches to researching.

Table 3.1

Distinctions between Quantitative and Qualitative Methodology

Process of research	Elements of quantitative research tends towards…	Elements of qualitative research tends towards…
Intent of the research	• Test a theory deductively to support or refute it	• Understand meaning individuals give to the phenomenon inductively
How literature is used	• Major role • Justifies problem • Identifies questions and hypotheses	• Minor role • Justifies problem
How intent is focused	• Ask close-ended questions • Test specific variables that form hypotheses or questions	• Ask open-ended questions • Understand the complexity of a single idea (or phenomenon)
How data are collected	• Numbers • From many participants at many research sites • Sending or administering instrument to participants	• Words and images • From a few participants at a few research sites • Studying participants at their location
How data are analyzed	• Numerical statistical analysis • Rejecting hypotheses or determining effect sizes	• Text or images analysis • Themes •Larger patterns and generalizations
Role of the researcher	• Remains in background • Take step to remove bias	• Identifies personal stance • Reports bias
How data are validated	• Use validity procedures based on external standards, such as judges, past research, statistics	• Using validity procedures that rely on participants, the researcher or the reader

Source: Creswell & Plano, Clark (2007)

3.3 Research Design

Development of research design comes into place after the research problem of a study has been crystallized (Zikmund et al., 2010). Research design has been differently defined across different fields. Generally, research design is a "blueprint

for fulfilling research objective and answering question" (Cooper & Schindler, 2014, p. 82). It provides "a plan of action for research" (p. 66), in which the pre-determined research objectives of a study are imparted to ensure that data collected would be sufficient and appropriate for answering the research problem at stake (Zikmund et al., 2010). Practically, research design structures a research in a manner which shows how all major parts of a research coalesce to resolve a central research question (Gupta & Gupta, 2012). In line with these definitions, this study puts forth several methodological remarks which identified the research design of this study.

As important as realizing that quantitative and qualitative studies differ in the appropriate choices for research designs (Creswell, 2012), the current study applied a research design which purportedly suited quantitative methodology to cater for, first and foremost, the need of an explanatory research aiming at explaining the variance explained in the dependent variable as predicted by the predictor variables. Specifically, the current study explained the association between BCS, IC, EO, and CR. This explanatory nature was clearly observed in the hypotheses formulated to test the statistical significance of the relationships amongst the variables of interest.

Secondly, this study was also in part a descriptive study in that it described the phenomenon under investigation while attempting to determine the associations among the variables, and seeking to predict a future phenomenon (Gupta & Gupta, 2012). The study described the phenomenon at stake based on the past understandings of the nature of the research problem, which in turn purported for developing empirical generalization. Particularly, the descriptive task of the study was guided by the research problem pre-determined at the onset. There was no need

to investigate any cause and effect relationship in descriptive study (Gupta & Gupta, 2012).

Thirdly, the current study was strictly a correlational study (as opposed to causal study) in that it was purported to examine the influence of three predictor variables (two exogenous variables and one mediating variable), namely BCS, EO, and IC, on SMEs' performance during recessionary disruption times, as operationalized by CR. In other words, the study sought to examine the association amongst the variables of interest. Practically, the researcher developed and collected data to verify whether or not, and the degree to which relationships existed between the quantifiable variables understudied (Gay & Diehl, 1996), which was in turn be used for prediction purpose (Bordens & Abbott, 2011; Gay & Diehl, 1996). No examination on the cause-and-effect relationships among the variables were undertaken, as the pre-determined research issue did not require the identification of cause-and-effect relationships amongst the variables of interest (Zikmund et al., 2010). The mediation analysis undertaken in this study was one of that noted by Hayes (2013), which aimed at understanding the mechanism by which the effect operates. Drawing causal inference was beyond the research scope.

Fourthly**,** this study was a survey-based research, where carefully constructed standardized questionnaires were the main research instrument used to collect data (Babbie, 1999). Survey research offers quantitative description of trends, attitudes, or opinions of a population by studying a sample of the population (Creswell, 2009). While it is the most commonly used observation mode in social science studies, it is an appropriate choice particularly when social scientists need to collect original data for describing a population which is too large to observe directly (Babbie, 1999).

Being a survey research, careful probability sampling was used to provide a group of respondents whose characteristics reflect those of the population.

Fifthly, this study used primary data and adopted the cross-sectional design, as opposed to the longitudinal one. While cross-sectional studies are "carried out once and represent a snapshot of one point in time", "longitudinal studies are repeated over an extended period" (Cooper & Schindler, 2014, p. 128). This study was aware of the advantages the longitudinal data could offer in tracking changes over time (Cooper & Schindler, 2014), and rendering better capture for the constructs understudied. However, considering the time constraint for an academic research (Sekaran, 2003), and the fact that cross-sectional data has been granted as the acceptable second best option to counter the short-coming of collecting longitudinal data (Augusto & Coelho, 2009), the cross-sectional design was chosen for this study.

3.4 Population, Sample, and Sampling Process

Population is defined as the entire group of people, events or things of interest that a researcher wishes to investigate (Sekaran & Bougie, 2010), and to whom researcher intend to generalize the result (Salkind, 2012). A sample is a subset of a particular population (Sekaran & Bougie, 2010), which is "a smaller (but hopefully representative) collection of units from a population used to determine truths about that population" (Field, 2005, p. 793).

The principle of sampling is that, by selecting some of the elements in a population (a sample), researchers may draw conclusion about the entire population (Malhotra, 1996, 2007). The degree to which a selected sample represents an

intended population is the degree to which results may be generalized (Gay & Diehl, 1996). Only when results can be generalized from a sample to population do the results have meaning beyond the limited setting in which they are originally obtained (Salkind, 2012). When results are generalizable, they can be applied to different populations with the same characteristics in different settings. When results are not generalizable, the results are applicable only to the people in the same sample who participated in the original research, not to any others (Salkind, 2012).

Therefore, to achieve appropriate generalizability and representativeness of sample, this study followed a prudent sampling process. This process comprised several important steps, which included (i) clear articulation the unit of analysis, (ii) clear definition of the population of interest, (iii) the selection of appropriate definition to define population of interest, (iv) specification of a practical sampling frame, (v) determination of the sample size needed for the corresponding generalizabiliy and statistical power, and (vi) the selection of the appropriate sampling method.

3.4.1 Unit of Analysis

The unit of analysis for an empirical study "indicates what or who should provide the data and at what level of aggregation" (Zikmund, Babin, Carr, & Griffin, 2010, p. 119).

There seems to be a generally acceptable blur line between the organizational and individual level of analysis for entrepreneurship studies, given the unique characteristics of entrepreneurial small firms (Deakins & Freel, 2003). Therefore, as

an empirical study embarking on entrepreneurship examination, this study cautiously dealt with the unit of analysis.

In this study, the respondents of interest were organizations (medium-sized manufacturing enterprises). Hence this study was an organizational-level work. The current study examined the survival-threatening performance deterioration issue of entrepreneurial firms due to recessionary disruptions. This association to the external environment, according to Covin and Slevin (1991), made this study an organizational-level one. Such view is also agreeable with Zikmund et al.'s (2010) methodological view, which threads a close connection between determination of the unit of analysis and the problem-definition stage in which a research issue is cast.

Though an organizational study, the survey was responded by the manager or owner-manager entrepreneur of each firm. Given the prominent role of a manager or owner-manager entrepreneur in a firm, they are qualified as key informants to comment on organization-wide phenomena and the implicit processes underlying the internal resource and capabilities. Their points of view are indeed the most representative of the firm.

3.4.2 Define Population of Interest

In the particular context of recessionary disruption, the population of this study was defined based on two mutually inclusive sampling criteria, which were,

i) all medium-sized (with 51 to 150 employees) manufacturing SMEs in Malaysia (National SME Development Council [NSDC], 2005, as cited in NSDC Bank Negara Malaysia); and

ii) SMEs which have been established for at least two years.

The use of these two sampling criteria is further justified in the following subsections 3.4.2.1 and 3.4.2.2. This study was also aware of other criteria adopted in previous studies when defining population upon the crises-like backdrops. Therefore, an additional section (3.4.2.3) follows to discuss and justify as to why these other criteria, while suitable for the past studies, were not applicable to the current study.

3.4.2.1 Medium-sized Manufacturing SMEs

There were two main reasons. First and foremost, the manufacturing industry was chosen because it was the affected industry from which the research issue of this study was cast. Over the years, the recessionary disruptions had demonstrated manufacturing industry as being most severely affected compared to other industries (Goh & Lim, 2010).

Secondly, it was the medium-sized manufacturing SMEs that were purportedly used in this study because they were deemed potentially affected by financial struggles in Malaysia. Past recessionary experiences demonstrated that SMEs in general faced financial resource shortage during the period; they were reportedly facing difficulty in obtaining financial assistance from banks or financial institutions. This hurdle was presumably pressuring the medium-sized enterprises in Malaysia because approximately 47.7% of medium-size SMEs made use of financial institutions as their prime source of financing (Economic Census 2011, DOSM).

The comparatively more severe impact of recessionary disruption on manufacturing sector could partly be understood from the cyclical nature of the manufacturing industry itself, which normally provides durable goods (Pearce II & Michael, 2006). Durable goods depreciate over time. When end customers alter their purchasing behavior due to the corrosion of their purchasing power, older goods are preferred to be repaired, and that new purchases are postponed (Pearce II & Michael, 2006). Manufacturing industry is likely to suffer from falling prices, drop in real earnings as well as production capabilities, and high unemployment given its cyclical nature.

3.4.2.2 Taking Only SMEs of At Least Two-Year-Existence

The sampling frame was also generated with two-year existence benchmark in mind as a precaution to not include firms which were still too-young or still struggling within the transitional periods of start-up. This concern was important to be taken note of, because survivability between infant and established firms essentially differs. Two-year existence was also agreeable with the consideration that, in general, 25% of new firms fail in two years (SBA, 2005, as cited in Beaver, 2007).

3.4.2.3 Other Defining Criteria Not Preferred

On the basis of literature study, this study had also identified other defining criteria, which the current research did not prefer to use. These criteria could be categorized into two main streams.

Firstly, the current study did not choose to define the population based on a particular recessionary period as what was done by some previous studies

(Cheugsuvadee, 2006; Egan & Tosanguan, 2009; Grewal & Tansuhaj, 2001; Kambil, 2008; Latham, 2009). Among others, there were research works which collected data in a particular recessionary period such as the 1997 Asian Financial Crisis (Grewal & Tansuhaj, 2001; Cheugsuvadee, 2006), and the 2008 Global Recession (Egan & Tosanguan, 2009, Latham, 2009). However, the literature study revealed that these previous studies which confined their research setting to a certain event, among other reasons, would want to anticipate specific managerial or political implications specific to a particular event, just like the 2008 Global Recession as examined in Egan and Tosanguan's (2009) study. In another example, Latham's (2009) study which contrasted established and start-up firms' response to the 2001 Economic Recession was due to the need for an identical setting to render comparable for different groups of respondents. Nonetheless, the current study specified neither one nor the like.

The current study further argued that contriving the setting of the study to one particular event could possibly complicate the determination of sampling frame. This was because there was no definite test in real time to ascertain a firm's existence during a duress period (Pearce II & Michael, 2006); there was also no definite indication as to when a particular recessionary period started and ended. This point could be understood by the exemplary scenario of the 2001 recession in the United States. About 90% of economists did not believe that the United States was indeed in a recession six months after the 2001 recession took place (Kliesen, 2003; as cited in Pearce II and Michael, 2006). Furthermore, not all firms were affected by one particular disruptive event (Faust, 1992; Greval & Tansuhaj, 2001; Sandee & Wengel, 2004; Srinivasan et al., 2005).

Secondly, also recognizable in the existing research which examined issues of firm survival in disruptive business environment was the use of firms anchored by the criteria of high-performing or low-performing. Among this stream of previous studies, while some researchers sampled only among the higher-performing or outperforming firms (Bamiatzi & Kirchmaier, 2009; Kambil, 2008), or firms that had survived (Latham, 2009; Sexton & Landstrom, 2000; as cited in Seet, 2007), some others, on the other hand sampled only among the low-performing firms, failing or deteriorating firms. For instance, the study by Latham (2009) which sourced upon Hofer's turnaround framework to determine strategic responses of firms in Thailand, had sampled amongst firms that survived the 2001-2003 economic recession. Conversely, some that used failing or deteriorating firms focused on the turnaround arguments (Abdullah & Hussin, 2010; Tan & See, 2004). Especially for the latter, it could be difficult to determine the sampling frame and collect data from those failing firms.

The current study could have invoked survivorship bias should these sampling criteria be used, because the current study's variables of interest (i.e., CR, BCS, IC, and EO) concerned about the behaviors of the firms in recessionary times, and they were not bound to either specific state of failure or success of the firms.

3.4.3 Definition of SME Used to Define the Population

Small-and-medium-sized enterprises (SMEs) in Malaysia and all SME-related ministries, agencies, financial institutions and regulators are to abide by a common definition endorsed by the National SME Development Council (NSDC). To date, two definitions have been put forth. While the first was founded and used since 2005

(NSDC, 2005, as cited from Secretariat of National SME Development Council Bank Negara Malaysia), the second was a revision which was made effective on 1 January 2014, in order to correspond to the economic changes in Malaysia (NSDC, 2014). The old and the new definitions are attached in Table A and Table B of Appendix 3.1 respectively.

In this study, the determination of medium-sized manufacturing entreprises adopted the former. The old definition was used as it was the officially accepted definition at the time the current research was conducted. More importantly, this definition offered succinct size category within the manufacturing sector, which allowed the segregation of medium-sized entreprises.

There were several reasons why the number of full-time employees (versus the annual sales turnover) was used to draw the population list. The foremost motivation was to heed against the potential stagnancy of research work due to unavailability of financial data, which was deemed common in SMEs research (Hashim & Wafa, 2002; Ismail & King, 2005). This phenomenon is partly due to the smallness of SMEs which prompts them towards negligence on book keeping and recording (Kotey & Slade, 2005). Majority of them are also privately held and thus are reluctant to disclose particulars of their financial information or accounting data on firm performance (Garg, Walters, & Priem, 2003; Ismail & King, 2005; Latham, 2009; Tan, 2007). There is also no legislative requirement to force compulsory reporting of earning by SMEs (Hashim, 2007; Ismail & King, 2005; Keasey & Watson, 2000; Keh et al., 2007; Tan, 2007; Watson, 2003).

Furthermore, the number of employees was found a widely used definition in SMEs studies in Malaysia (Hashim, Zakaria, & Hassan, 2010; Ismail, 2009; Ismail & King,

2005; Zakaria & Hashim, 2008). Both approaches, either number of employees or annual sales turnover, were recognized by the National SME Development Council (2005, 2014). There was no assertion that both criteria must be met inclusively in defining an SME. Either one was reliable and applicable to classify enterprises as SME with reference to National SME Development Council (2005, 2014).

According to National SME Development Council (2014), a full-time employee is defined as all paid workers working for at least six hours a day and 20 days a month; or at least 20 hours a month. Crucial to note is that, this definition of full-time employee also includes those of the foreigner and contract workers, it however does not include working proprietors, active business partners and unpaid family members or friends who are working in the business and do not receive regular wages.

Of particular importance in this study, no differentiation was made between parent and subsidiary firm as to the definition of an SME. This case was justified as the National SME Development Council (2014) puts it,

> "…the calculation of the sales turnover and employees is based on a separate entity, not on a group basis. Therefore, as long as the businesses are registered under different entity, the subsidiaries are also SMEs if they meet the official criteria to be classified as SMEs". (p. 4 & Annex 2)

3.4.4 The Sampling Frame Chosen: Justification

Sampling frame which is also called population frame is a listing of all eligible sampling units or elements in the population from which the potential respondents (sample) are drawn (Hair, Wolfinbarger, Ortinau, & Bush, 2010; Sekaran & Bougie,

2010). The Federation of Malaysian Manufacturers directory (FMM, 2010) was used to generate the sampling list in this study. This choice was premised on two main reasons.

Firstly, the FMM directory is one attainable published official directory in Malaysia that caters for information of manufacturing firms. Essentially, this directory has also been widely used as a data source in previous entrepreneurship studies in Malaysia (e.g., Jusoh & Parnell, 2008; Ismail & King, 2005). It was also based on this ground that this study curtailed such appeared-to-be debatable point that the FMM directory enlisted only manufacturing firms which registered as members with them, and that those not registered were not included (Jusoh & Parnell, 2008). Further, this study believed that the data availability concern deserved greater priority compared to this shortcoming. As Sekaran (2003) noted:

> Although the population frame is useful in providing a listing of each element in the population, it may not always be a current updated document … it may not always be entirely correct and complete. However, the researcher might recognize this problem and not to be too concern about it because a few additions and deletions in the data source might not make any significant difference to the study. (p. 276)

Secondly, the FMM directory was able to provide all important information needed by this study to draw the respondents intended. For example, the information on the number of employees provided this study the first-hand information to segregate the medium-sized enterprises. Similarly, the information

on the year of incorporation also enabled researcher to directly recognize the at-least-two-year-existent firms. Most importantly, the FMM directory was also equipped with the contact numbers and postal address of firms which enabled the researcher to communicate and locate the intended respondents. The information on the premise address also helped the current study to recognize the state of which SMEs reside.

3.4.5 Determination of Sample Size

Although it is generally accepted that samples of larger size are better than those of the smaller, however it is also notable that, while too large a sample can lead to erroneous conclusions, too small a sample can distort the generalizability of the study regardless of how well it is selected (Gay & Diehl, 1996). Therefore, determining sample size was carefully dealt with.

There are several heuristics regarding the appropriate sample size required for an empirical study. For instance, Stevens (1996, as cited in Pallant, 2007) suggests that "for social science research, about 15 subjects per predictor are needed for a reliable equation" (p. 72). Tabachnick and Fidell (2007) provides the rule of thumb of "$N > 50 + 8m$ (where m = the number of independent variable)" (p. 123). In addition, while there is referable threshold in absolute number of minimum 100 (Coakes & Steed, 2007; Gorsuch, 1983; Ho, 2006), the item-to-respondent ratio such as the 1:5 (Bryant & Yarnold, 1995; Hair, Black, Babin, Anderson, & Tatham, 2006; Meyer, Gamst & Guarino, 2006; Ho, 2006) and the 1:10 (Hair et al., 2006; Ho, 2006; Nunnally, 1978) are also available.

In this study, the sample size for survey distribution was decided based on the estimations of two complementary approaches, namely, i) Krejcie and Morgan's sampling table, and ii) a priori G*Power analysis. Krejcie and Morgan's sampling table is a widely used method in determining sample size for social science and behavioral studies (Sekaran, 2003). The table provides a rough estimation of sample based on the population size. On the other hand, the center of G*Power analysis lies in its statistical power (ability) to detect an effect if one exists. G*Power analysis measures the ability of a test to reject the null hypothesis when it should be rejected (McCrum-Gardner, 2010). The G*Power 3.1.9.2 program used in this study is available from free download (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). Particularly, G*Power analysis is necessary for analysis using PLS SEM (Hair et al., 2014).

Practically, Krejcie and Morgan's (1970) sampling table was first used to determine the appropriate sample size based on the number of the population. Later, a minimum sample size was computed using a priori G*Power analysis to cross-check if the sample size estimated from the Krejcie and Morgan's table was sufficient to render satisfactory level of statistical power.

In this study, the population size was 713. According to Krejcie and Morgan's sampling table, a sample size of 251 was necessitated. An a priori G*Power analysis (versus posteriori) was computed based on the desired level of power, desired alpha level (error rate), desired effect size, and the known number of parameter. The minimal acceptable level for statistical power and alpha level are .80 and .05 respectively (Cohen, 1992; McCrum-Gardner, 2010). Effect size for correlation studies may be referred to one of the three categories, namely .02 as

small, .15 as medium, and .35 as large (Cohen, 1988). The power analysis revealed that a sample size of 114 was needed to detect an effect size of .15 (medium), with .80 power level, at the alpha level of .05. The result is demonstrated in Figure 3.1.

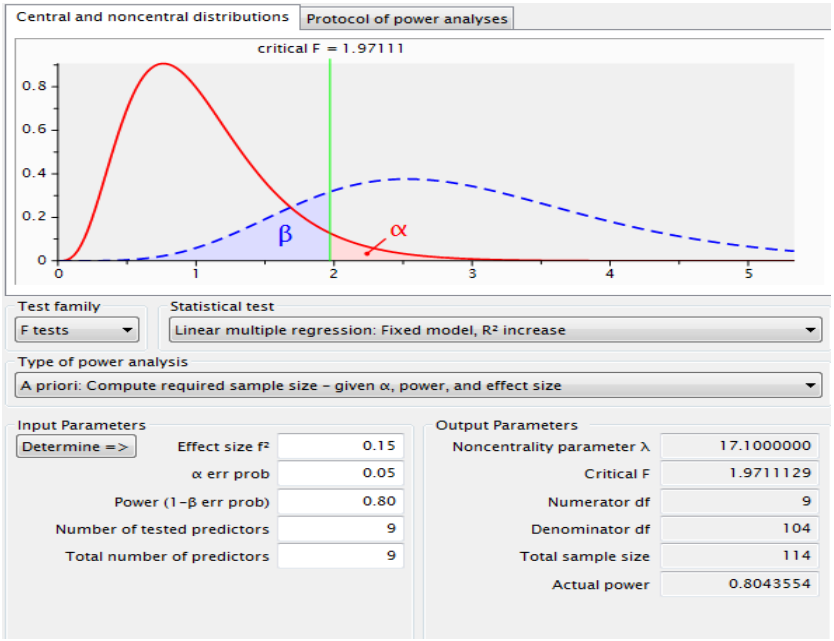

Figure 3.1. A-priori power analysis for minimum sample size estimation

The sample size estimated by a priori power analysis (n = 114) confirmed the sample size calculated from Krejcie and Morgan's table (n = 251) as sufficient, as the latter was not lower than the former's estimation. However, heeding on Bartlett, Kotrlik, and Higgins's (2001) recommendation to consider Salkind's (1997) cautionary step to increase the estimated minimal sample size by 40% to 50% to account for "lost mail and uncooperative subject" (p. 46) in survey studies, the current study chose to double the estimated sample size, and thus about 500 respondents were randomly selected to be administered the questionnaires. This sample size for administration was also consistent with Roscoe's (1975) rule of

thumb, wherein an appropriate sample size for most research should be "*larger than 30 and less than 500"* (as cited in Sekaran, 2003, p. 295).

3.4.6 The Sampling Technique Chosen

Though there is no sample which would "have a composition precisely like that of the population" (p. 141), however research which applies the appropriate sampling technique can reduce the odd of drawing a biased and under representative sample (Gay & Diehl, 1996).

As opposed to non-probability sampling techniques, the current study employed the probability sampling technique. Notably, only probability samples would provide estimates of precision, and only the probability samples offer the opportunities to generalize the findings to the population of interest (Cooper & Schindler, 2014). In addition, probability sampling is indeed demanded for an explanatory study (Cooper & Schindler, 2014). In particular, the simple random sampling technique was employed for the current study.

This sampling technique was considered appropriate based on two fundamental reasons. Firstly, the specific context and the direction in which the issue was cast in this study did not require a sampling technique that segregated among the sample in terms of the geopolitical states, or other certain specific criteria. This was largely because the current study found that the assumption of homogeneity held true for both the nature of the intended respondents and the nature of the environment within which the manufacturing firms operated.

On the one hand, homogeneity in the nature of the sample was assumable as past studies had shown that the manufacturing firms in Malaysia were considerably

homogenous (Ismail & King, 2005). This point was also in line with the conventional methodological request for a homogenous sample in an empirical study (Dess, Ireland, & Hitt, 1990; Kalleberg, Marsden, Aldrich, & Cassell, 1990).

On the other hand, homogeneity in the nature of the environment was also assumable, because past studies which had examined firms' adaptive responses following a large-scaled, industry-wide environmental change provided credence that, when the phenomenon understudied was one of that which involved large-scale, industry-wide environmental change, the assumption of environmental homogeneity within one industry held true (Dess & Beard, 1984; Lamont, Marlin, & Hoffinan, 1993). As indicated by past experience, recessionary disruptions were recognized for its unimpeachable wide-scaled impact over the whole industry and even the entire economy (OECD, 2009).

This latter assumption of environmental homogeneity was also agreeable with the popular economic dictum which went as, "a rising tide lifts all boats, when the tide goes out, all the boats go down" (Farrell, 2004, p. 7-8). It was also due to this notion of homogeneity that this study did not further stratify the manufacturing firms by sectors in deciding the sampling frame. Likewise, industrial sectors needed not be controlled as the control variable.

Secondly, the use of simple random sampling in this study was also theoretically agreeable in that the sampling list for the pre-defined bona fide sample was available. Of heightened note, simple random sampling only requires that a researcher has a list of all the members of the population, which allows him or her to get access to any member who might be chosen.

In fact, the simple random sampling is the ideal against which all other probability samples must be judged. It is simple yet posing the least bias and offering the most generalizability (Sekaran, 2003). It is the best single way to obtain a representative sample (Gay & Diehl, 1996). Being a probability sampling technique, the determination of who will end up in the sample is determined by nonsystematic and randon rules, and thus the chance that the sample will truly represent the population is increased (Salkind, 2012). Adopting this sampling technique, every element in the defined population has a known equal and independent chance of being selected as the sample (Gay & Diehl, 1996; Sekaran 2003).

Equal probability and independence are two essential characteristics in this sampling technique. Equal probability allows all members an equal chance to be selected from the sampling frame. This means that there is no bias that one person will be chosen rather than another, and that the probability of any particular person being chosen is same with the probability of any other person being chosen. The quality of independence means that the selection of one member does not bias researchers for or against the selection of another member (Salkind, 2012). When sampling randomly, the characteristics of the sample is very close to that of the population (Salkind, 2012).

3.5 Data Collection Tool and Method

Generally, there are several available tools and ways through which empirical researchers collect data. Particular in line with the quantitative approach inquiry in the current study, the current study chose to collect data using questionnaire, by means of self-administered drop-off survey.

Questionnaire is "a reformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives" (Sekaran, 2000, p.233). It is the most commonly used data collection tool in research related to business (Cooper & Schindler, 2014). First and foremost, questionnaire was deemed most appropriate for this study because the researcher had already known exactly what was required and how to measure the variables of interest (Cavana, Delahaye, & Sekaran, 2001; Sekaran, 2003). Secondly, questionnaires render reachable to a larger number of respondents. It supersedes other methods such as interview, personal or telephone calls, which are time-consuming and impractical with respect to the size of the research population (Sekaran, 1992).

While questionnaires administration could be carried out by means of personal administration, mail, and electronic questionnaire (Cavana, Delahaye, & Sekaran, 2001), the current study opted for self administration. The particular method of self-administration used in this study was the drop-off survey. Using this means, the researcher travelled to the locations of the respondents or the representative who assisted in delivering the questionnaire, in order to drop-off (hand-deliver) the questionnaires. The questionnaires were later picked up at a time agreed upon (Zikmund et al., 2010). Though administering questionnaires personally was expensive, it was however still regarded as within the doable boundary as the intended sample was not too geographically dispersed in this study (Cavana, Delahaye, & Sekaran, 2001). Most importantly, this study opted self-administration to caution upon the low response rate problem of collecting data in Malaysia (Saleh, Caputi, & Harvie, 2008; Rozhan, 1991; Kanapathy & Jabnoun, 1998). Respondents' interests to participate in the research were elicited through personal phone contacts,

emails and facsimiles. In the first contact, researcher briefed the potential respondents on the purpose of the research, and identified those interested. Later, follow-up contacts were made a week before the questionnaires delivery in order to notify respondents of the research visit (at the place agreed upon or the firm). Finally, reminder calls were made two days before the researcher's visit.

3.6 Validity

Validity and reliability are two important concerns that ensure upon the goodness of data (Sekaran, 2003). Generally, while reliability relates to the accuracy and stability of a measure, validity relates to the appropriateness of the measure to assess the construct it purports to gauge (Burns & Burns, 2008). For validity assessment, content validity, construct validity (convergent and discriminant validity), and nomological validity were addressed.

3.6.1 Content Validity (Pretest)

Content validity reflects the extent to which the content of a measurement reflects the intended content to be investigated (Burns & Burns, 2008). In this study, the content validity assessment resided as part of the pretest to content-validate the newly defined BCS, and the substantially revised constructs of IC and CR. EO, though is not a newly developed measure in the entrepreneurship domain, it was also subject to content validity process during the pretest, as EO measure was formed by adapting from numerous existing scales, in which the researcher had no prior knowledge that the items pooled from the different existing scales were indeed convergent to measure the intended factor (Byrne, 2010). Hence, content validity

present to ensure that both the developed and revised scale items extended beyond the mere empirical issue so as to include theoretical and practical considerations (Churchill, 1979; Robinson, Shaver, & Wrightsman, 1991).

In the current study, the content validity involved validations of experts and face validity. The expert validity assessment involved solicitation of opinions, knowledge and experience of both the academic and the field experts (practitioner). For the academic expert validity, the current research followed Lynn's (1986) recommendation of using three qualified experts. As the current study cross-disciplined among three main fields (entrepreneurship, business, and management), the academic expert panel composed of nine lecturers of Universiti Utara Malaysia, and that their levels of agreement were averaged in order to avoid bias. This quantification of content validity outcomes was to caution against bias outcome (Lawshe, 1975; Lynn, 1986), as the judgment was based upon subjective logic of the experts, who certainly had different opinions about the content validity of an instrument (Kumar, 2005).

In particular to the solicitation of expert opinion and the quantification of its outcome, the current study followed the principles outlined by Mohd Noah, Abdul Karim, Wan Jaafar, Ahmad, and Sulaiman (2008). Following the guidelines, each of the panel experts was given a copy of survey-like document within which all items were organized as per a structured questionnaire with ten-point scale, flowing from the independent variables to the dependent variable. The scale category represented the experts' level of agreement on the content of each item. The experts were also substantiated with the list of definitions of the variable of interests.

Provided the materials, the experts were carefully briefed on each construct's definition to ensure that their understanding of the conception were consistent with what the current research intended. Specifically, the panel experts were pinpointed to pay heed on cross-checking the wordings of scale items between the measures adapted from existing instruments and those newly pooled through literature study, so as to ensure if items in both cases were appropriate, precise, and coherently reflect the intended measure within. Notably, precise wordings give rise to discriminant validity. Further, in particular to ensure clarity, understandability, and readability of the items, experts were requested to check against the use of jargons, compounded words carrying multiple meanings, double-barreled items, leading items, and emotionally loaded items. They were also made mindful of the vignettes used to visualize the unique setting inherent in the disruptive environment purported in the current study.

The panel was informed that sessions of discussion were welcome should there be a need for further clarification. The experts were then left to their convenient time and very privacy to rate. They were requested to contact the researcher for the collection back of the form upon completion. During the collection back of the expert validity forms, short discussions were held. In fact, several follow-up discussion sessions ensued after the first meeting during the recollection.

After making the amendments accordingly, interview sessions were conducted with two voluntary field experts in the manufacturing industry in Kedah. During the interview sessions, the industry expert rated their agreement level on the same ten-point scale as to whether the items suggested reflected the definitions, in views of practicality and real world practice. Besides commenting content-wise, one

important suggestion came from both, was that of a Bahasa Melayu version of survey should be provided. Respondents should be allowed to choose one that they are convenient with. For this reason, back-to-back translation was carried out. It was reported in a separate section in this thesis.

Later, a student and a lecturer were invited to participate in the face validity assessment. By face validity, the measurement looks, on the face of it, as if it measures the construct intended. Face validity provides insights into how respondents might interpret the items (DeVon et al., 2007). This step helped to detect ambiguous questions and technical jargon that might jeopardize the understanding of the respondents. It, therefore, improved the language clarity, readability, and comprehensibility of the items from the layman stance. They were also asked as to how many times an item had to be read before a choice was made.

The content validity results showed that all items used in the current study were above the par of 50% agreement level. Presented in Table 3.2 is the change of number of items pre- and post content validity

Table 3.2

Construct Composition Pre- and Post-Content Validity

No	Variable of interest		Dimensions	No. of items before Content Validity		No. of items after Content Validity	
				By dimension	By Entire Global Construct	Dimension	Entire Global construct
1	Crisis readiness	i	Present crisis readiness	8	15	8	15
		ii	Prospective crisis readiness	7		7	
2	Business coping strategy	i	Revenue-generation tactics	26		28*	
		ii	Cost-cutting tactics	29	90	29	95
		iii	Financial bootstrapping tactics	19		20*	
		iv	Bricolage tactics	16		18*	
3	Entrepreneurial orientation	i	Risk-taking	4		7 *	
		ii	Innovativeness	4	19	10 *	37
		iii	Proactiveness	3		5*	
		iv	Competitive-Aggressiveness	4		8*	
		v	Futurity	4		7*	
4	Improvisational competence		Unidimensional scale	-	7	-	8*
	Total items in the instrument				131		155

Note. * Constructs with added items after the content validity process

3.6.2 Construct Validity

Validity is the extent to which a test measures what we actually wish to measure (Cooper & Schindler, 2014). In this study, construct validity was examined by assessing the convergent and discriminant validity.

Convergent validity is the extent to which "a set of indicators represents one and the same underlying construct, which can be demonstrated through their unidimensionality" (Henseler et al., 2009, p.299). Conversely, discriminant validity indicates the extent to which a given construct is different from other latent constructs, and that the measures of one construct could not have been correlated unreasonably high with other constructs (Sekaran, 2003).

In this study, both convergent and discriminnat validity were mainly assessed at the confirmatory factor analysis stage, that was, the measurement model stage.

Sufficient convergent validity was considered evident when a construct achieved the minimal average variance extracted (AVE) of .50 (Fornell & Larcker 1981). On the other hand, discriminant validity (at the construct level) was established when the square root of the AVE was greater than other inter-correlations within the row and column of a particular construct (Fornell & Larcker, 1981). Discriminant validity was also considered established when the standardized loading of an indicator exceeds all its corresponding cross loadings (Chin, 1998).

In addition, the preliminary idea of convergent and discriminant validity were also observed at the EFA stage. Convergent validity was statistically assumed when all factor loadings were statistically significant, with minimal standardized loading estimate of .50 (Hair et al. 1998). Discriminant validity was established when the correlations between factors did not exceed .85 (Kline, 2005).

3.6.3 Nomological Validity

Nomological validity assesses whether the correlations between the constructs in the measurement theory makes sense (Hair et al., 2006). In this study, nomological validity was assumed fulfilled in the examination within the PLS SEM framework.

3.7 Reliability of Measure Constructs

Any construct must be first proven reliable in order to be claimed valid (Ho, 2006). In this study, the reliability of the measures was preliminarily assessed during the pilot testing stage, and was later again confirmed at the measurement model stage.

While the reliability of a measure instrument can be determined by either the external consistency procedures or internal consistency procedures (Ho, 2006), the

latter was suitable for this study. Internal consistency reliability attests the ability of a construct to consistently measure the phenomenon it is designed for (Ho, 2006). It is the quality of consistency and stability of findings that enables findings to be replicated (Burns & Burns, 2008).

Reported in the following sub-section are the discussions and results of the preliminary reliability test (pilot test).

3.7.1 Preliminary Reliability Test Results (Pilot Test)

While pretest is the initial testing of one or more aspect of the study design, pilot test is important as it serves as "a miniaturized walk-through of the entire study design" (used in the final study) (Babbie, 1990, p.220). It is a small-scale version of a study used to establish procedures, materials, and parameters used in the full study (Bordens & Abbott, 2011). Therefore, pilot-testing assists to improve the reliability of scales (Neuman & Kreuger, 2003). It allows researchers to determine if the items are producing the anticipated pattern of correlations. Cases in which the pattern is not achieved, the sample correlation matrix can be used to identify the problem items. These items can then be revised or discarded based on a careful analysis of the content of each item (Summers, 2001).

In the practical sense, the pilot study attested the feasibility of the constructs for the specific context of the current study, which was, its workability under the real life condition and whether it worked well in the population for which it was intended for (Harris, 2010). This is important because reliability of a scale may vary across samples. A scale achieving good reliability in one past study does not grant its generalizability in producing the same findings in other studies of different context.

Therefore, it was necessary to check that each of the construct scales was reliable with the particular sample of the current study (Pallant, 2011).

For the pilot test, the Cronbach's alpha internal consistency reliability test and item analysis were undertaken. Specifically, while the Cronbach's alpha internal consistency reliability test was used to diagnose reliability of the entire construct, the item analysis procedures offered a closer assessment by checking the reliability of each separate item (Hair et al., 2006). The complementary item-specific and overall reliability provided a more complete picture as to the internal reliability.

The minimal reliability coefficient of .70 is required to claim a measure construct as consistently reliable (Nunnally, 1978). However, a less stringent level of .60 is acceptable for exploratory research, and new or revised scales (Hair et al., 2006), such as some constructs in the current research. Practically, the Cronbach's alpha test was run separately for scales at every subordinate-construct level, and was later run at every higher global-construct level. This was so-done to heed the possibility that subscales under a global scale might not always combine to produce a meaningful collective total scale score (Pallant, 2011).

On the other hand, item analysis was assessed by observing inter-items correlation and item-total correlation diagnostic measures. Both these are important item analysis indicators which provide additional scale refinement credence to attest the psychometric soundness of the 155 items at the very item level (Dunn, Seaker, & Waller, 1994; Robinson et al., 1991). A minimum item-to-total correlation of .50 and a minimum inter-items correlation of .30 are required to qualify an item's purity and render internally reliable (Robinson et al., 1991).

Towards this end, data was collected on the convenient sampling basis, assisted by the SME Corporation Malaysia. At the stage of pilot study, convenient sampling is generally acceptable (Gay & Diehl, 1996). This sample contained medium-sized manufacturing enterprises, listed in the SME Corporation online directory. A number of 60 sets of questionnaires were returned. This sample size concurred with the recommendation of at least thirty subjects to establish the existence or non-existence of a relationship (Gay & Diehl, 1996). SPSS version 18 was used for both data screening process and the reliability test. To note, a different sampling list (the 2010 FMM directory) was used for the final survey to ensure that the study did not use the same respondents. This concern was to take into account the inevitable learning process that could take place among the earlier respondents (Babbie, 1990).

The results of internal consistency reliability are presented in Table 3.3.

Table 3.3

Reliability Coefficients of all Constructs (Pilot Test; n = 60)

Construct Level				
Global construct	**Super-ordinate construct (dimensions)**	**Sub-ordinate constructs (Sub-dimensions)**	**No. of items**	**Reliability coefficient**
3rd-order	2nd-order	1st – order		
Business Coping Strategy (BCS)				**.926**
	Revenue-generation tactics*		28	**.924**
	Cost-cutting tactic *		29	**.854**
	Financial bootstrapping tactics			**.762**
		Bootstrapping with customer (AC)	6	.583
		Bootstrapping with supplier(AS)	5	.619
		Bootstrapping with owner (AO)	4	.669
		Bootstrapping with sharing (Ash)	5	.796
	Bricolage tactics			**.916**
		Material bricolage (MB)	11	.892
		Network bricolage (NB)	7	.864
	Entrepreneurial orientation			**.913**
		Risk-taking (Risk)	7	.804
		Innovativeness (Inno)	10	.906
		Proactiveness (Pro)	5	.717
		Competitive-Aggressiveness(ComAg)	8	.875
		Futurity (Fut)	7	.850
	Crisis Readiness			**.929**
		Present crisis readiness (PCr)	8	.885
		Prospective crisis readiness (ProsCr)	7	.875
		Improvisational Competence	8	**.907**
			155	

Note. * Dimensionality was yet to be examined at the this stage of the research

The findings revealed strong reliability coefficients (above .80) in all constructs, except two with above .60, and one to approximate .60. In fact, reliability coefficient as strong as above .90 (.926, .929, .913, .907) were evident for all global constructs. To note, at the time of the pilot study, exploratory factor analysis (EFA) was yet to be performed. Therefore, the raw items pooled for revenue-generation and cost-cutting tactics were not assessed in terms of separate dimensions.

Further, the item analysis revealed that most items met the minimum psychometric requirements. All, except several items, demonstrated inter-items correlation of exceeding .30 (Robinson et al., 1991). Likewise, all items except several showed item-to-total correlations exceeding .50 (Robinson et al., 1991). However, for constructs with cases of inter-item correlation below .30, the mean of the inter-item correlation were found well above .30. In fact, the considerably good item-to-total correlation scores found here had also partly supported the convergent validity of the scales (Kerlinger, 1986).

3.8 Measurement and Development of Scales

"Research questionnaire development stage is critically important as the information provided is only as good as the questions asked" (Zikmund, Babin, Carr, & Grifin, 2010, p. 336). The content by which a measure is assessed may undergo change, and may also include proportionately more of some unintended factor when items are dropped or added, or in other words, when items are revised (Schriesheim et al., 1993). Therefore, it is incumbent upon the responsibility of the researcher to provide justification for the modifications made to the existing measures so as to verify that the changes made have not disturbed the clarity and the psychometric balance of the measures (Schriesheim et al., 1993).

In the current study, the measures used were partly adapted from the existing measure instruments, and partly developed based on the dispersed extant literature. To note, amongst the four main variables of interest examined in this study (namely BCS, EO, IC, and CR), while the EO measures were slightly adapted, the CR and IC measures were revised at a comparatively greater extent, in that several new items

were built into the existing measures of CR and IC. However, BCS was a newly conceptualized construct, as discussed in Chapter Two (Literature Review).

Specifically, BCS construct had four super-ordinate scales, namely revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB), and bricolage tactics (Bri). While there were available measures for FB and Bri to adapt from, there was an absence of direct measures for RG and CC scales in the hitherto empirical works which tailored specifically to the pre-determined definition, and in accordance to the manufacturing sector as well as the recessionary characteristics of the environment. As such, RG and CC scales were pooled from the dispersed body of literature through the item pooling process. Therefore, before reporting the measurement used for each main variable of interest, a brief section (section 3.8.1) precedes to discuss the item generation procedure this study used for this purpose. This procedure was also applied to assist items addition of CR and IC.

In this study, all constructs were measured using multiple-item scales, all of which were gauged using the standard five-point Likert-like scale. Multiple-item scale allows researchers to sample from a wider range of content for a conceptual definition, and is less likely to have systematic error (Neuman & Kreuger, 2003). The scale point (five-point) was chosen on the basis of the nature of the respondents (Malhotra, 2007), and the "respondents' ability to discriminate meaningfully" (DeVellis, 2003, p.75). Respondents in this study were entrepreneurs, the layman who were not involved in highly technical tasks which required fine discrimination. According to Malhotra (2007), for respondents who do not lend themselves to fine discrimination, a small number of scale categories are deemed sufficient. Therefore,

it was reasonable that the five-point scale should render an appropriate level of comfort.

Although it might seem arguable that the sensitive setting of this study might require a broader point scale, this study however was far more concerned about the respondents, upon whom the quality of responses was held accountable. Furthermore, five-point scale had been broadly used in entrepreneurship studies.

Except for IC, all other variables of interest in this study had been previously measured using five-point scale. In this study, the same standard five-point scale format was used for all the measures, because standardized response format could encourage higher response rate by reducing time needed to complete a questionnaire (Kitchenham & Pfleeger, 2002). Respondents would already have in mind the choices available for each question, and thus avoid the need to re-read the choices carefully.

In addition, though incorporating reversed item in a scale may be advantageous in several aspects such as detecting reckless respondents (which in turn improve the accuracy of data), this study however insisted on using positively-worded items considering that reversed items might decrease the internal consistency reliability (Schriesheim, Eisenbach, & Hill, 1991). Further, it was also to heed upon the concern that "*the appearance of a negation in a questionnaire item paves the way for easy misinterpretation*" (Babbie, 2008, p. 276). In fact, the use of a mix of both positively and negatively-worded items would also intensify the cognitive burden on respondents (Barnette, 2000). This concern was an essential consideration given the possibly lower differential ability amongst respondents with lower level of education (Melnick & Gable, 1990).

3.8.1 Item Generation Procedure Used

For items generation and dimensions extraction purpose, this study was guided by the scale development procedures delineated by prominent scholars, among whom were Churchill (1979), Hinkin (1995), DeVellis (2003), MacKenzie, Podsakoff, and Podsakoff (2011), and Johnson et al. (2012). Demonstrated in Figure 3.2 is the workflow synthesized from these references.

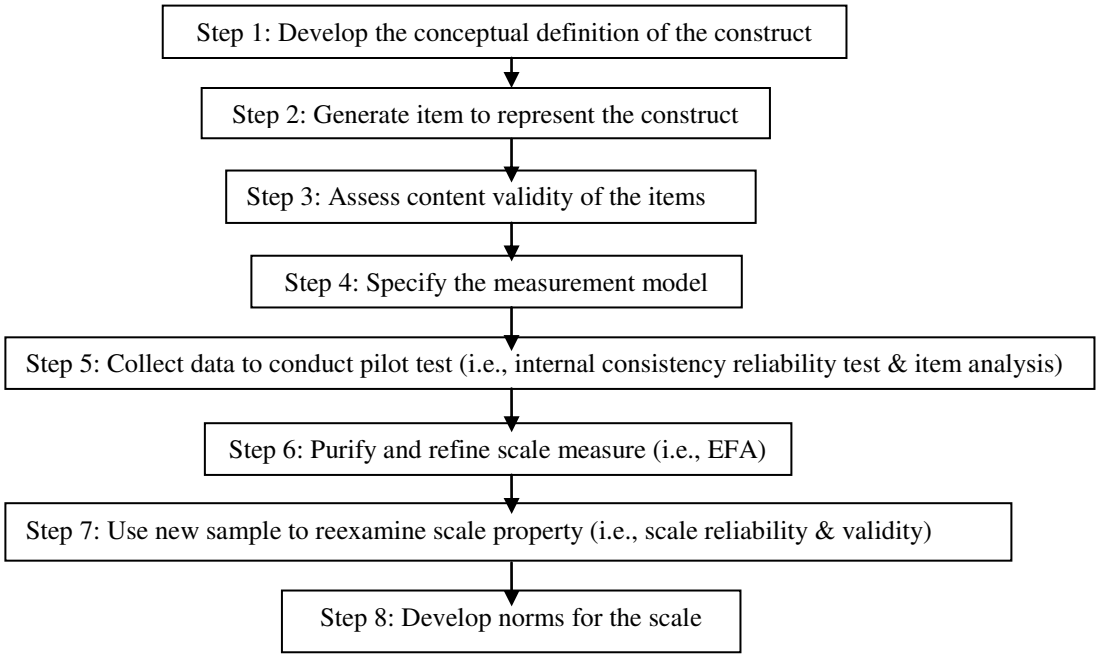

Figure 3.2. Scale development procedure

Particularly, Step 1 and Step 2 were carried out to pool items. Within Step 1, the phenomenon of interest was conceptually laid out in order to reach a well-formulated definition, and then the description of how a construct relates to the phenomenon was made (DeVellis, 2003). Practically, this Step 1 provided a clear boundary for the main construct domain, based on which dimensions were extracted (Robinson, Shaver, & Wrightsman, 1991). Herein, empirical and theoretical

understandings were reviewed as to justify how the dimensions came about. Later, empirically-testable inclusion criteria for selecting items were specified for each dimension extracted (Johnson et al., 2012). Specifically, the inclusion criteria for RG and CC were discussed in the literature review (Chapter Two), from section 2.4.2.1 and 2.4.2.2. Later in Step 2, the inclusion criteria were used to pool item into each respective dimension. The initiation and refining process encompassing Step1 and Step 2 were consistent with Hinkin's (1995) deductive approach (versus inductive approach). This approach was used given its logical flow which eased understandings.

To note, all the steps in Figure 3.2 were incrementally carried out in different sections of this study. Note that while Step1 and Step 2 were undertaken in Chapter Two (Literature Review), the content validity in Step 3 was addressed in Section 3.6.1 under the concern of validity. Content validity was a key concern in item generation of new measures (Hinkin, 1995). Then, while the specification of measurement models (Step 4) were discussed in Section 3.9, pilot-testing (Step 5) was attended to in Section 3.7.1, under the concern of preliminary reliability test. Similarly, Step 6 and Step 7 were addressed by exploratory factor analysis (EFA) and measurement model confirmatory factor analysis respectively, both of which were reported in the finding chapter (Chapter Four).

3.8.2 Measurement of Crisis Readiness

In this study, crisis readiness was defined as the effectiveness of firm in term of the extent to which a firm was prepared to cope with immediate and future crisis (disorder) situation. By the essence of coping with immediate and future crisis

respectively, present crisis readiness (PCr) of a firm was defined as a firm's ability to manage immediate disruptive events external to a firm, while prospective crisis readiness (ProsCr) was defined as a firm's ability to anticipate and cope with prospective disruptive events external to a firm.

To recap, crisis readiness was used as the performance surrogate to measure SMEs' firm-level performance during the course of recessionary disruption. The operating environment in which firm performance was captured in this study connoted Weick, Sutcliffe, and Obstfeld's (1999) "trying" (p. 35) environment, which required resiliency and sustainability to safeguard firm performance. Reckoning this point, the choice of crisis readiness as the performance surrogate in this study was made on the basis of organizational effectiveness essence consistent with Cameron and Whetten's (1983a) view, that "as a construct, organizational effectiveness is similar to an unwrapped terrain where the responsibility lies with the investigator to chart it" (p. 19-20).

The crises readiness measure used in this study was adapted from the crises-preparedness measure developed by Carmeli and Schaubroeck (2008). Carmeli and Schaubroeck referred crisis preparedness to the extent to which the firm was prepared to cope with immediate and future crisis situations. The researchers developed the measure based on extensive literature review of crisis management. Their original measure incorporated two important dimensions of crisis preparedness, namely the present and prospective crisis preparedness which reflected the context of unexpectedness and unprecedentedness respectively. The original scale of the two dimensions gained reliability coefficients of .87 and .84 respectively, which fulfilled Nunnally's (1978) requirement of reliability. The whole

scale of Carmeli and Schaubroeck (2008) contained 10 reflective items, with six and four items respectively measuring the subordinated scales of present crisis preparedness and prospective crisis preparedness.

However, in keeping with the context and specific use for the current study, the original scale was revised. The revision involved addition and deletion of items, which eventually resulted in 15 items. Specific to present crisis readiness scale, two additional items typifying flexibility had been added. The addition of flexibility-related items was deemed important in the current research context given the facts that flexibility was one crucial unique feature that characterized competitive advantage of smaller firms (Ahire & Golhar, 1996; Andren, Magnusson, & Sjolander, 2003; Bhide, 1994; Carr et al. 2004; Chen & Hambrick, 1995; Dean, Brown, & Bamford, 1998; Ebben & Johnson, 2005; Julien, 1993; Peters, 1992; Yu, 2001). These two items of flexibility were adapted from the study of Naldi (2008, as cited in Steffens & Senyard, 2009) which pertained to the "study of entrepreneurship in different organizational contexts". Naldi's flexibility scale yielded internal consistency reliability of .76. In the current study, the flexibility items were used to gauge the extent to which a firm had the flexibility to make quick decisions and react fast during disruptive periods. These two items were formulated as follow.

i) My firm has high flexibility to implement fast decision
ii) My firm has high flexibility to react fast to crisis once it is diagnosed

For the prospective crisis readiness scale, while two original items were dropped from the original scale, five were added anew. The two items dropped were pertinent to stakeholder's importance. This removal decision was based on the consideration

that the targeted respondents of the current study were all registered manufacturing SMEs, which were not differentiated between parent and subsidiary firms, or between owner-manager operated and hired-manager operated firms. Therefore, diagnosing and managing needs and expectation of stakeholder during crisis might not be applicable across.

On the other hand, the five items added were formulated as follow. The former three were closely related to sensing and diagnosis, as suggested by the literature (Chong, 2004). The latter two items denoted the weight of importance for crisis management plan as perceived by the firm.

i) My firm is good at catching early warning signals of a potential crisis.
ii) My firm closely monitors internal and external business environment trend.
iii) My firm is good at making insightful sense of the business environment trend.
iv) My firm sees that crisis management plan is important.
v) My firm thinks that it is important for my firm to have a crisis management plan.

Pertinent to the former three items, sensing, which is the ability to diagnose or detect problems in the distant future, is claimed one of the six crucial steps to better crisis management (Chong, 2004). Sensing was deemed relevant to reflect prospective CR, because the ability to diagnose potential triggers or problem would posit firms in a being-ready state. Note that the action of diagnosing and anticipating was one heightened feature constituting crisis management (Chong, 2004; Reilly, 1993). The foremost essential objective of sensing is to catch the early warning signals of a potential crisis (Chong, 2004). This undertaking calls for close

monitoring of a firm's internal and external environments. A good sensing stands a good chance to make insightful sense out of the trends, and thereby enabling firms to identify and track important signals that presage a crisis. This essence of sensing in that of catching early signals, making insightful sense, and tightly monitoring the internal and external environments were found closely resembling the "mindfulness" notion discussed in many studies of resilience and high reliability organizations that touched on the diagnostic behavior of firm which gave rise to reduce potential harms (Weick & Sutcliffe, 2001; Weick, Sutcliffe, & Obstfeld, 1999, p. 38).

Mindfulness is about "uncover[ing] and manag[ing] unexpected events" (Weick et al., 1999, p. 38). It is the combination of ongoing scrutiny of existing expectations, continuous refinement and differentiation of expectations based on newer experiences, willingness and capability to invent new expectations, that makes sense of unprecedented events; it is a nuanced appreciation of context and ways to deal with it, and the identification of new dimensions of context that improves foresight and current functioning (Weick et al., 1999). High level of mindfulness was reportedly prevalent in organizations resilient at addressing unexpected and potentially hazardous change event (Weick et al., 1999).

As to the latter two added items, it was rational to assert that, if a subject or a matter was not perceived as essential to a firm, it was then unlikely that a firm would be aware of or prompted to take action related to that matter. In line with this point, the attachment of items which aimed at seeking the agreement of respondents upon the importance (weight) of a subject concerned was also evident in previous empirical studies (Grawe, Chen, & Daugherty, 2009; Olson, Slater, & Hult, 2005; Spillan & Hough, 2003). For instance, in a study by Spillan and Hough (2003)

which examined the perceived importance of crisis planning in small business in conjunction with pre-occurrence of crises and the presence of a crisis management team, a section was devoted to ask if the firms surveyed had a crisis management team. Particularly, the whole crisis management functions to minimize the impact of a crisis and assists firms to gain control of the situation (Caponigro, 2000).

Above all, the item development approach employed for the above discussed items was in line with Goldberg's (1999) scale development contention whereby new items were built based on the existing measures by means of addition, deletion and modification so as to customize items to fit the specific context of the study. It was also agreeable with Reise, Waller and Comrey's (2000) notion of filling up the deficit of psychometric properties when an existing scale failed to include certain important aspect or items pertaining to certain views in a construct. Likewise, such addition was consistent with DeVellis's (2003, 2012) recommendation of items development that, "although items should not venture beyond the bounds of the defining construct, they should exhaust the possibilities for types of items within those bounds" (p. 64, p.77). DeVellis (2003) noted that, specifically related to writing items anew, researchers should think creatively about the construct they sought to measure.

The original and revised scales of present crisis readiness and prospective crisis readiness are per tabulated in Table 3.4 and Table 3.5 respectively.

Table 3.4

Present Crisis Readiness: The Original and Revised Scales

Original Scale (8)	**Revised Scale** (8 items)	**Sources**
1. We are prepared for different types of crises	1. My firm is prepared for different type of crisis.	**Items 1-6** Carmeli & Schaubroeck (2008)
2. Our preparation scope to cope with a crisis is good	2. My firm's preparation scope to cope with a crisis is good.	**Items 7-8** • Naldi (2008)
3. We know which types of crisis we will be able to cope with without severe damage	3. My firm knows which type of crisis we will be able to cope without severe damage.	•Suppoting sources that, flexibility makes sense as an additional concern to be integrated into the present crisis readiness scale: Mitroff (1988), Reilly (1993), Richardson, (1995), Ghemawat (1991)
4. We have good knowledge regarding the different phases of organizational crises	4. My firm has good knowledge regarding the different stages of a crisis.	
5. We know what to do at every possible phase of an organizational crisis	5. My firm knows what to do at every possible stage of a crisis.	• Sources to support the competitive advantage of flexibility in the specific context of SMEs:
6. In crisis situation, we know whether it is right to be reactive or proactive	6. In a crisis situation, my firm knows when it is right to be reactive or proactive.	Ahire & Golhar (1996), Andren, Magnusson, & Sjolander (2003), Bhide (1994), Carr et al. (2004), Chen & Hambrick (1995), Dean, Brown & Bamford, (1998), Ebben & Johnson (2005), Julien (1993), Metzler (2006), Peters (1992), Yu (2001)
7. Freedom for managers to make and implement fast decision	7. My firm has high flexibility to implement fast decision.*	
8. Flexibility to react fast to new trend	8. My firm has high flexibility to react fast to crisis once it is diagnosed.*	

Note. * New items added by the researcher based on the literature study.

Table 3.5

Prospective Crisis Readiness: The Original and Revised Scales

Original Scale (4 items)	Revised Scale (7 Items)	Sources
1. We would know how to diagnose the causes of a crisis	1. My firm would know how to diagnose the causes of a crisis.	**Item 1-2** Carmeli & Schaubroeck (2008)
2. We would know what resources and quantities to allocate in order to successfully cope with a crisis	2. My firm would know what resources and quantities to allocate in order to successfully cope with a crisis.	
3. We would know how to detect and manage the needs and expectations of the key constituents (stakeholders) in the crisis	3. My firm is good at catching early warning signals of a potential crisis.*	**Items 3-5** Infused based on the review of existing supporting literature
4. We would know how to diagnose changes in the need of the constituents (stakeholders) in the crisis	4. My firm closely monitors internal and external business environments from time to time.*	(Chong, 2004; Reilly, 1993; Weick & Sutcliffe, 2001; Weick, Sutcliffe, &
	5. My firm is good at making insightful sense of the business environment trend.*	Obstfeld,1999)
	6. My firm sees that crisis management plan is important.*	**Item 6-7** Infused based on the
	7. My firm thinks that it is important for us to have a crisis management plan.*	review of existing supporting literature (Spillan & Hough, 2003)

Note. * New items added by the researcher based on literature study.

3.8.3 Measurement of Improvisational Competence

Improvisational competence was defined as the ability of a firm to converge the planning and implementation stage (execution stage) of business planning process (Moorman & Miner, 1998b). Its essence was to render speed and flexibility to benefit from spontaneity and timeliness in situation of novelty or newness.

Since improvisational competence was defined following Moorman and Miner's (1998b) definition, which was, the ability of a firm to converge the planning and the implementation (execution) stage, the notion of bricolage was not meant to be inherent within the definition of this mediator. Moorman and Miner's measure was

chosen as the source for adaptation as this measure solely captured improvisation's notion of timeliness and its ability to marshal speed.

The original measure by Moorman and Miner (1998b) was a three-item, seven-point semantic differential scale used to measure organizational improvisation. This original measure provided a helpful foundation to develop the improvisational competence scale used in this study. Adhering to the definition of Moorman and Miner, additions of items, revisions in the wordings and sentence structure were made to give way to more comprehensible items in the context of this study. For example, the original semantic differential item (item 2) of "improvised in carrying out this action/ strictly followed our plan in carrying out this action" (p. 17) had been adapted to produce three items in the current study. The central tenet of this original item was to indicate the extent to which a firm improvised an action, as observed from the willingness to act according to or out of the predetermined plan. The three resultant items were generated by juxtaposing the essence of improvisation upon different yet similar perspectives (new challenges, new opportunities and new problems) inherent in disruptive environment.

These three items are presented as follow.

i) When new challenges come unexpectedly, my firm is able to improvise in searching for solutions.
ii) When new opportunities come unexpectedly, my firm is able to improvise in searching for workable way to reach it.
iii) When new problems come unexpectedly, my firm is able to improvise in searching for workable way to solve it.

By applying the similar approach, the original item of "ad-libbed action / not an ad-libbed action" (p. 17) was transformed into three items which maintained the pivotal essence of spontaneity and extemporaneity (Moorman & Miner, 1998b). The terms "spontaneity" and "spontaneous" were used to reflect the term "ad-lib" wherever *ad-lib* was meant to be used, as this term was considered as a difficult word which might not render comprehensible to the layman respondents.

The three items are formulated as in the following.

i) My firm is able to respond to unexpected new challenges in spontaneous way
ii) My firm is able to act spontaneously to new opportunities that come unexpectedly.
iii) My firm is able to respond to problems in spontaneous ways.

In addition to the item adaptation above, an additional item pertinent to time pressure was added to reflect the feasibility of improvisational act in the disruptive context, as perceived by the firm. This item was formulated as "My firm is able to perform under time pressure". Such item denoted the weight of the significance of time pressure perceived by firms for their improvisational act. This particular item was developed on the basis of literature study which recognized time pressure and uncertainty as essential factors that stimulate improvisational processes (Moorman & Miner, 1995; Vera & Crossan, 2004; Weick, 1993). Further, the subjective, psychological perception of time pressure was also deemed as an important determinant of improvisation (Crossan, Cunha, Vera, & Cunha, 2005). The principles of adding this item was consistent with DeVellis's (2003)

recommendation of creatively exhausting the possibilities for types of items within the bounds of the defining construct.

The original and the revised scales of improvisational competence are presented in Table 3.6.

Table 3.6

Improvisational Competence: The Original and Revised Scales

Original Scale Items	Revised Scale Items (8 Items)	Adaptation source (s)
1. Figure out action as we go along/ action followed a strict plan as it was taken 2. Improvised in carrying out this action / Strictly followed our plan in carrying out this action 3. Ad-libbed action/ not ad-libbed action	1. My firm has the ability to figure out action as we go along. 2. When new challenges come unexpectedly, my firm is able to improvise in searching for solutions.* 3. When new opportunities come unexpectedly, my firm is able to improvise in searching for workable way to reach it.* 4. When new problems come unexpectedly, my firm is able to improvise in searching for workable way to solve it.* 5. My firm is able to respond to unexpected new challenges in spontaneous way.* 6. My firm is able to act spontaneously to new opportunities that come unexpectedly.* 7. My firm is able to respond to problems in spontaneous ways.* 8. My firm is able to perform under time pressure.**	**Items1-7** Revised from Moorman and Miner's (1998b) 3-item scale **Item 8** Infused base on the literature study (Crossan, Cunha, Vera, & Cunha, 2005; Moorman & Miner, 1995; Vera & Crossan, 2004; Weick, 1993)

Note. * Items resulted from psychometric revisions; ** New item developed

3.8.4 Measurement of Entrepreneurial Orientation

In the current study, EO was referred to the firm's strategic orientation capturing the specific entrepreneurial aspects of decision making style, method and practices (Lumpkin & Dess, 1996). EO was operationalized as a multidimensional construct, made up of five first-order subordinate dimensions, namely risk-taking, innovativeness, proactiveness, competitive-aggressiveness and futurity orientations.

While this study had justified the preference for multi-dimensional EO over the uni-dimensional ones for the specific case of this study, there had been a number of organizational-level, multidimensional EO measurement scales available for adaptation from the existing studies. For the current research, the measures of EO were adapted mainly based on the scales reported in Morgan and Strong (2003) and, Hughes and Morgan (2007). The former was initially originated from Venkatraman (1989a).

While four dimensions, namely the risk-taking, proactiveness, competitive-aggressiveness, and futurity orientations were mainly adapted from Morgan and Strong's (2003) scale, the innovativeness orientation items were mainly adapted from Hughes and Morgan's (2007) scale. In addition to these two main measures, items from other scales such as those of Tan and Litschert (1994), Covin and Slevin (1989), Covin and Covin (1990), and Tan (2007) were also adapted to substantiate items for each dimension accordingly. This step was in part aiming at drawing in items which suited as closely as possible the setting of this study. On the other hand, it was also hopeful to render more items for each dimension, so as to caution against the possibility of insufficient items for further analysis after the iterative item

elimination process during exploratory factor analysis (Churchill, 1979; DeVellis, 2003).

At the very first place, opting for Morgan and Strong's (2003) scale had an important implication. It is a multidimensional EO scale which differentiated between proactiveness and competitive-aggressiveness dimensions. Such distinction was deemed an important concern in this study because being competitive-aggressive was elemental to combat the challenge inherent in recessionary disruptions. Verily, the current research context was incongruent with those studies undertaken within the ordinary context (which did not embrace the notion of inherent recessionary disruption), where proactiveness orientation was more commonly encapsulated with the risk-taking and innovativeness orientations to form the most primary EO combination. The soundness of such distinction was also supportedly heightened by previous work (Lumpkin & Dess, 2001).

Above all, amendments were made to best-tailor the selected items to the context of this study. Some of the amendments made included transforming reversed items into positive-worded ones. This action was consistent with Babbie's (2008) alert on avoiding negative items as "the appearance of a negation in a questionnaire item paves the way for easy misinterpretation" (p. 276). One such example of amendment was the change of the explanatory term 'conservative' to 'optimistic', as resultant in the revised item 'My firm adopts a rather optimistic attitude when making major (big, important) decisions' (Item 1, risk-taking orientation). In another instance, the term 'minor' had been changed to 'major', as observable in the resultant revised item 'Changes in product or service lines have been mostly major in nature' (under innovativeness orientation).

Another type of amendment was changes made to caution upon double barreled-questions. For example, the original item of "Our firm has marketed many new lines of products or services" (under innovativeness orientation) had been split to form two items, respectively corresponding to product and service (Item 5 and Item 6 of innovativeness orientation).

In previous studies, EO had been measured using five-point (Fairoz et al., 2010; Li et al., 2009), and seven-point Likert-type scales (Chow, 2006; Dimitratos et al., 2004; Green, Covin, & Slevin, 2008; Hughes & Morgan, 2007; Jantunen et al., 2008; Jantunen, Puumalainen, Saarenketo, & Kylaheito, 2005; Li, Liu, & Zhao, 2006; Liu, Li, & Xue, 2010; Morgan & Strong, 2003; Patel & D'Souza, 2009; Tan & Litschert, 1994; Walter, Auer, & Ritter, 2006). EO had also been measured using semantic differential scales of seven-point (Avlonitis & Salavou, 2007; Green et al., 2008; Lumpkin & Dess, 2001), and ten-point (Baker & Sinkula, 2009). However, five-point scale was used in keeping across with other measurements in the current study.

Given the length of the total scale, the original and revised scales for each dimension are presented in separate reporting tables. The five subordinate dimensions are presented separately from Table 3.7 through Table 3.11.

Table 3.7

Risk-taking Orientation: The Original and Revised Scales

	Revised scale (7 items)	Original scale	Adaptation sources
1	My firm adopts a rather optimistic attitude when making major (big, important) decisions.	We seem to adopt a rather conservative view when making major decision[a]	Morgan & Strong (2003)
2	My firm does not necessarily need to follow rigidly the step-by-step basis in considering and approving new project	i. New projects are approved on a "stage-by-stage" basis rather than with "blanket" approval [a].	Morgan & Strong (2003)
		ii. We approve new projects on a "stage-by-stage" basis rather than with "blanket approval".	Tan & Litschert (1994)
3	My firm has the tendency to support projects even when the expected return is uncertain.	i. We have a tendency to support projects where the expected returns are certain [a]	Morgan & Strong (2003)
		ii. A tendency to support projects where the expected returns are certain [a]	Venkatraman (1989a)
4	It is not a must for my firm's operation to follow only solutions which have been tried before and confirmed workable	i. Our operations have generally followed the "tried and true" paths [a].	Morgan & Strong (2003)
		ii. Operations have generally followed the "tried and true" paths [a].	Venkatraman (1989a)
5	In making strategic decisions, my firm tends to focus on investments that have high return despite the high risk	i. In general, the top managers of my firms have a strong proclivity for high risk projects (with chances of very high return)	Covin & Slevin (1989)
		ii. In making strategic decision, we tend to focus on investments that have… low risk and moderate return / high risk and high return	Tan & Litschert (1994)
6	My firm searches for big opportunities, and favor large, bold decision even though the outcome is uncertain	We search for big opportunities, and favor large, bold decisions despite the uncertainty of their outcomes	Tan & Litschert (1994)
7	When confronted with decision making situations involving uncertainty, my firm adopts brave, aggressive posture.	When confronted with decision-making situations involving uncertainty, my firm typically adopts a bold, aggressive posture in order to maximize the probability of exploiting potential opportunities.	Covin & Slevin (1989)

Note. [a] reversed item

Table 3.8

Innovativeness Orientation: The Original and Revised Scales

	Revised scale (10 items)	Original scale	Adaptation sources
1	My firm actively introduces improvement.	We actively introduce improvements and innovations in our business[a].	Hughes & Morgan (2007)
2	My firm actively introduces innovation.		Hughes & Morgan (2007)
3	My firm is creative in its methods of operation.	Our business is creative in its methods of operation.	Hughes & Morgan (2007)
4	My firm seeks out new ways of doing things.	Our business seeks out new ways to do things	Hughes & Morgan (2007)
5	My firm has marketed many new lines of products	Our firm has marketed many new lines of products or services[b]	Tan (2007)
6	My firm has marketed many new lines of services	(7-point scale anchored by 1 [*strongly disagree*] and 7 [*strongly disagree*])	
7	Many new lines of product have been marketed in the past five years.	i. Many new lines of products/services have been marketed in the past five years. (7-point scale anchored by 1 [*strongly disagree*] and 7 [*strongly disagree*])	Tan (2007)
8	Many new lines of service have been marketed in the past five years.	ii. How many new lines of products or services has your firm marketed in the past 5 year? No new lines of products or services / Very many new lines of products and services[c] (2 opposing anchors on 7-point scale)	Covin & Slevin (1989)
9	Changes in product lines have been mostly major in nature.	Changes in product or service lines have been mostly of a minor nature / Changes in product and service lines have usually been quite dramatic[d]	Covin & Slevin (1989)
10	Changes in service lines have been mostly major in nature.	(2 opposing anchors on 7-point scale)	

Note. [a] Split into revised scale Item 1 and Item 2

[b] Split into revised scale Item 5 and Item 6

[c] Split into revised scale Item 7 and Item 8

[d] Split into revised scale Item 9 and Item 10

Table 3.9

Proactiveness Orientation: The Original and Revised Scales

	Revised scale (5 items)	Original scale	Adaptation sources
1	My firm is constantly seeking new opportunities related to present operation.	We are constantly seeking new opportunities related to present operation.	Morgan & Strong (2003)
2	My firm is usually the first ones to introduce new products in the market.	We are usually the first ones to introduce new brands or products in the market	
3	My firm is constantly on the look-out for new opportunities	We are constantly on the look-out for business that can be acquired	
4	Whenever there is ambiguity in government regulation, my firm will move proactively to try to take a lead.	Whenever there is ambiguity in government regulation, we will move proactively to try to take a lead.	Tan & Litschert (2001) (The origin: Miller & Friesen, 1982)
5	In making strategic decisions, my firm responds to signals of opportunities quickly.	In making strategic decisions, we respond to signals of opportunities quickly.	

Table 3.10

Competitive-Aggressiveness Orientation: The Original and Revised Scales

	Revised scale (8 items)	Original scale items	Adaptation sources
1	My firm often sacrifices profitability to gain market share.	i. We often sacrifice profitability to gain market share	Morgan & Strong (2003)
		ii. Sacrificing profitability to gain market share	Venkatraman (1989a)
2	My firm often cuts price to increase market share.	i. We often cut prices to increase market share.	Morgan & Strong (2003)
		ii. Cutting prices to increase market share	Venkatraman (1989a)
3	My firm often sets price below competition.	i. We often set prices below competition	Morgan & Strong (2003)
		ii) Setting prices below competition	Venkatraman (1989a)
4	My firm often seeks market share position even by sacrificing cash flow.	i. We often seek market share position at the expense of cash flow and profitability. [a]	Morgan & Strong (2003) Venkatraman (1989a)
5	My firm often seeks market share position even by sacrificing profitability.	ii) Seeking market share position at the expense of cash flow and profitability.	

(*table continues*)

***Table 3.10.* (*continued*)**

6	My firm typically adopts a very competitive "undo-the-competitors" posture	In dealing with its competitors, my firm typically adopts a very competitive "undo-the-competitors" posture	Morgan & Strong (2003)
7	My firm is very aggressive in competing action	My firm is very aggressive and intensely competitive[b]	Covin & Covin (1990; as cited in Lumpkin & Dess, 1996, 2001)
8	My firm is intensely competitive		

Note. [a] split into revised scale Item 4 and Item 5
[b] split into revised scale Item 7 and Item 8

Table 3.11

Futurity Orientation: The Original and Revised Scales

	Revised scale (7 items)	Original scale	Adaptation sources
1	My firm emphasizes research to provide us with future competitive edge.	We emphasize basic research to provide us with future competitive edge	Morgan & Strong (2003) The origin:Venkatraman (1989)
2	Forecasting key indicators of operations is common in my firm.	i. Forecasting key indicators of operations is common. ii. Forecasting key indicators of operations	Morgan & Strong (2003) The origin:Venkatraman (1989)
3	Formal tracking of general trend is common in my firm.	i. Formal tracking of significant general trends is common. ii. Formal tracking of significant general trends	Morgan & Strong (2003) The origin:Venkatraman (1989)
4	My firm often conducts "what if" analysis of critical issues.	i. We often conduct "what if" analyses of critical issues ii. "what if" analyses of critical issues	Morgan & Strong (2003) The origin:Venkatraman (1989)
5	In making strategic decisions, my firm looks into the future to anticipate conditions.	In making strategic decisions, we look into the future to anticipate conditions.	Tan & Litschert (1994)
6	My firm is willing to sacrifice short-term profitability for long-term goal.	We are willing to sacrifice short-term profitability for long-term goal.	Tan & Litschert (1994)
7	My firm emphasizes investments that will provide us with a future competitive edge.	We emphasize investments that will provide us with a future competitive edge.	Tan & Litschert (1994)

3.8.5 Measurement of Business Coping Strategy

As conceptualized in Chapter Two (Literature Review), business coping strategy (BCS) was defined as firm-level strategy that eased immediate cash flow problems by means of preserving a positive cash flow status of firms through facilitating cash inflow and reducing cash outflow. In specific, while facilitating cash inflow was done by generating revenue through various marketing and customer-related tactics related to boosting demand, reducing cash outflow incorporated cutting cost related to operating efficiency and by the containment of expenses. Cutting operating cost was aimed at keeping firms operating; the containment of expenses was aimed at preventing or reducing the need to expense.

Based on this theoretical definition, BCS was operationalized as a firm-level strategy that embodied revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB), and bricolage tactics (Bri). The operationalization of each these subordinate constructs are put forth in separate subsections below, given their length.

3.8.5.1 Revenue-Generation Tactics

In this study, revenue-generation tactics was operationalized as marketing-related firm-level tactics that attracted revenue by boosting demand, which largely capitalized on customers and marketing-related activities. Strictly based on the pre-determined definitions and the corresponding literature study of both BCS and RG tactics in Chapter Two, about 28 items for revenue-generation tactics were pooled.

Importantly, the pooling considered the suitability of items in terms of the recessionary context, the manufacturing context, and the SME context. The pooled

item were found converging towards forming several collective main themes, namely (i) promotion and advertising, (ii) distribution channel, (iii) discounting and pricing, (iv) emphasis on after-sale service, (v) product quality decision, and (vi) market niche and market refocusing.

As far as marketing-oriented items were concerned, the current research found that several among the items were also agreeable with items of Porter's (1980) generic strategies, particularly the differentiation and focus strategies (Dess & Davis, 1984). At recognizing this, the current study was also aware that the super-ordinate dimension of RG and CC might run argument with Porter's stuck-in-the-middle assertion (Porter, 1980), given that RG and CC share a certain proximity to Porter's differentiation and cost-leadership strategies. The current study however maintained that, although Porter's (1980) competitive strategies taxonomy initially refuted the simultaneous exercise of the two strategies, Porter's later work however corroborated and acknowledged that many firms had indeed found ways where costs could be reduced in ways that did not jeopardize their level of differentiation, but increased them instead (Porter, 1985).

Further, past studies had also demonstrated that differentiation and cost leadership strategies did coexist and were positively associated to performance outcome (e.g., Arasa & Gathinji, 2014; Bavarsad et al., 2014; Kinyura, 2014). Therefore, this study did not preclude the possible practicality of RG and CC to coexist as dimensions to the high order of BCS.

Presented in Table 3.12 are the item gist identified from the literature and their corresponding restated items. The RG items agreeable with Porter are marked with asterisk.

Table 3.12

Revenue Generation Tactics: Item Battery Pooled from Dispersed Literature and their Restated Items

General themes	The gist of items batteries pooled from dispersed literature	Item batteries restated into survey-statement form	Sources of supporting literature
Strengthening Marketing	1. Enhancing advertising* 2. Change advertising style 3. Increase sales 4. Improve marketing* 5. Trade promotion 6. Use business network for promotion	1. My firm enhances advertising to attract more revenue. 2. My firm changes advertising style to attract customers. 3. My firm increases sales activity. 4. My firm improves marketing activities to promote our product. 5. My firm increases trade promotion. 6. My firm makes use of business networks for promotion activities.	Ang (2001a, b), Bamiatzi & Kirchmaier (2009), Blackburn & Stokes (2003, as cited in Stokes et al., 2010), Gilmore et al. (2006), Hollis (2008), Kambil (2008), Koksal & Ozgul (2007), Latham (2009), Moeller & Rawlinson (2009), New Zealand Trade and Enterprise (2009), Stokes, Fitchew, & Blackburn (1997, as cited in Stokes et al., 2010), Stokes, Wilson & Mador (2010)
	7. Increases marketing budget for marketing activities.	7. My firm increases marketing budget to assist marketing activities.	Kitching et al. (2009), Koksal & Ozgul (2007), Morbey & Dugal (1992), Pearce II & Michael (1997, 2006), Roberts (2003), Srinivasan et al. (2005), Mattsson (2009)
	8. Increase distribution* channel 9. Distribute through discounters	8. My firm increases distribution channel. 9. My firm does distribution through discounters.	Griffith et al. (2010), Koksal & Ozgul (2007), Latham (2009), Moeller & Rawlinson (2009)
Discounting practice	10. Offer discount 11. Increase discount rate 12. Offer discount coupon	10. My firm offers discount for our product 11. My firm increases discount rate. 12. My firm increases discount coupon.	Caudillo-Fuentes & Li (2009), Kotler & Caslione (2009), Harris Interactive Survey (2008), Koksal & Ozgul (2007)

(table continues)

***Table 3.12.* (*continued*)**

	13. Selective discount for most valuable customers 14. Selective discount for most loyal customers 15. Selective discount for most satisfied customers	13. My firm selectively offers discount to the most valuable customers. 14. My firm selectively offers discount to the most loyal customers. 15. My firm selectively offers discounts to the most satisfied customers.	Hollis (2008), Ravichandran (2009)
Juggling between pricing and quality	16. Compete with price to improve customer base 17. Reduces price	16. My firm uses price-based competition to attract customers. 17. My firm reduces price.	Caudillo-Fuentes & Li (2009), Chou & Chen (2004), Hollis (2008), Kambil (2008), Kotler & Caslione (2009), Pearce II & Michael (2006), Poulter (2009)
	18. Emphasizes quality of product *	18. My firm emphasizes high quality of product.	Ang, Leong, & Kotler (2000), Bamiatzi & Kirchmaier (2009), Chou & Chen (2004), Chapman & Wahlers (1999), Cooper & Kaplan (1988), Hollis (2008), Koksal & Ozgul (2007), Teas & Argawal (2000), Yoo, Donthu , & Lee (2000)
	19. Higher quality at the same price	19. My firm offers higher quality product at the same price.	Koksal & Ozgul (2007)
	20. Introduce new product capabilities* 21. Improve aesthetic features	20. My firm introduces new product capabilities. 21. My firm improves aesthetic features of product.	DeDee & Vorhies (1998), Kambil (2008,) Koksal & Ozgul (2007), Latham (2009), Morbey & Dugal (1992), Pheng & Hua (2001), Roberts (2003)
Value-added-centered initiative	22. Pay attention to after-sales service* 23. Improve quality of our after-sales service	22. My firm gives attention to after-sales service. 23. My firm improves the quality of our after-sales service.	Brege et al. (2008); Koksal & Ozgul (2007), Latham (2009), Liu, Li, & Xue (2010), Pheng & Hua (2001), Ravichandran (2009)
	24. Focus on high value-added market segment*	24. My firm focuses on high-value-added segment of market	Bamiatzi & Kirchmaier (2009), Moeller & Rawlinson (2009)

(*table continues*)

***Table 3.12.* (*continued*)**

25. Seek opportunities for market diversification	25. My firm seeks opportunities for market diversification.	Pearce II & Michael (2006), Ravichandran (2009)
26. Lower price in price-sensitive market	26. My firm lowers price in price-sensitive market.	Chou & Chen (2002), Kitching, Blackburn, Smallbone, & Dixon (2009)
27. Target new market niches*	27. My firm targets on new market niches.	Caudillo-Fuentes & Li (2009), Kotler & Caslione (2009), Miller & Toulouse (1986), Moeller & Rawlinson (2009), Pearce II & Michael (2006)
28. Withdraw from unprofitable market segments	28. My firm withdraws from unprofitable market segments.	Pheng & Hua (2001)

Note. * RG items agreeable with Porter's differentiation and focus strategies

3.8.5.2 Cost-Cutting Tactics

Cost cutting tactics was defined as efficiency-related firm-level cost reduction tactics. The essence of this tactic was to sustain operating efficiency by means of reducing operating cost. Applying the same items pooling procedures as used in item generation of revenue-generation tactics, a battery of 29 items were generated, twenty of which were pooled from the relevant dispersed body of literature, and nine which tapped the essence of economies of scale and scope were adapted from an existing scale (Grawe, Chen, & Daugherty, 2009). The latter had been used previously in the context of economic crisis.

Altogether, the initial items pool comprised several identifiable collective themes, which were reflective of adjustments related to working capitals, R & D for

manufacturing, production capacity, manufacturing investment, inventory control, and the attainment of economies of scale and scope. Specifically, while economies of scale enable firms to produce greater volumes and benefit from lower costs per unit (Porter, 2008), economies of scope give rise to more efficient product diversification through sharing centralized operations (Goldhar & Jelinek, 1983).

Presented in Table 3.13 are the item battery pooled and their corresponding restated items used in the current survey. These items were pooled with specific consideration of the manufacturing sector, smaller firms, and the recessionary context. Sources of supporting literatures are reported in the last column of table. As far as cost-cutting was concerned, the current study found that some pooled items were also agreeable with Porter's items of cost leadership.

Table 3.13

Cost-cutting Tactics: Item Battery Pooled from Dispersed Literature and their Restated Items

General themes	Gist of items pooled from dispersed literature	Item batteries restated into survey-statement form	Sources of supporting literature
Working capital control	1. Reduce working capital when possible	1. My firm reduces working capital whenever possible.	**Item 1-7**: British Chamber of Commerce (2009a,b), Chen (1985), Chu & Siu (2001), Epstein & Myers (2009), Geroski & Gregg (1997) Kambil, 2008, Kitching , Blackburn, Smallbone & Dixon (2009), Kitching, Smallbone, & Xheneti (2009), Mooney (199), OECD (2001), Pearce II & Robinson (2002),Pheng & Hua (2001), Salamon, Geller, & Spence (2009)
	2. Reduce working hours	2. My firm reduces working hours.	
	3. Reduce employment / cutting man-power	3. My firm reduces employment	
	4. Cut wage	4. My firm cuts wages.	
	5. Institute wage freeze	5. My firm freezes worker's wage	
	6. Reduce overhead cost	6. My firm reduces overhead cost.	
	7. Cut transportation cost	7. My firm cuts transport cost.	

(table continues)

***Table 3.13.* (*continued*)**

Reduce R&D for manufacturing	8.	Reduce expenditure for R&D activities for manufacturing process	8.	My firm reduces expenditure for R & D activities for manufacturing process.	**Items 8-11**: Caudillo-Fuentes & Li, (2009), Kitching, Blackburn, Smallbone & Dixon (2009), Kotler & Caslione (2009), Mattsson (2009), Raisch & Birkinshaw (2008)
	9.	Cut innovation activities	9.	My firm cuts innovation activities.	
	10.	Do selective investment in product innovation	10.	My firm does selective investment in product innovation.	
	11.	Reduce expenses on worker's training	11.	My firm reduces expenses on worker's training.	
Reduce manufacturing investment	12.	Reduce investment in factory and equipment	12.	My firm reduces investment in the factory and equipment.	**Items 12-15**: Kitching, Blackburn, Smallbone, & Dixon (2009), Kotler & Caslione (2009), Mattsson (2009)
	13.	Postpone purchasing for manufacturing use	13.	My firm postpones purchasing for manufacturing use.	
Reduce production capacity	14.	Cut capacity of production	14.	My firm cuts down the capacity of production.	
	15.	Reduce product range/ number of product lines	15.	My firm reduces product range.	
Cost-production streamlining-inventory control	16.	Switches to cost-saving production methods	16.	My firm switches to production methods that save cost.	**Item 16**: Koksal & Ozgul (2007)
	17.	Outsource to cut cost	17.	My firm outsources to cut cost.	**Item 17**: Charan (2009), Mattsson (2009)
	18.	Reduce steps in production cycle	18.	My firm reduces the steps in production cycle.	**Item 18-19**: Cooper & Kaplan, (1988), Farrell (2004), King (1997), New Zealand Trade & Enterprise (2009)
	19.	Streamlines production activities	19.	My firm streamlines production activities so that we become more efficient in the production process	
	20.	Stock / inventory control	20.	My firm is cautious on stock control to minimize level of unproductive stock.	**Item 20**: Altman (2009), Engle (2009), McGladrey (April, 2008, The Controller's Report), Moeller & Rawlinson (2009), Pheng & Hua (2001)
Striving for economies of scale and scope	21.	Improving operating efficiency is a top priority in my firm.	21.	Improving operating efficiency is a top priority in my firm.	**Items 21-29**: Grawe, Chen, & Daugherty (2009),

(table continues)

***Table 3.13.* (*continued*)**

22.	Achieving economies of scale is an important element of our strategy.	22.	Achieving economies of scale is important for my firm.	Goldhar & Jelinek (1983), Porter (2008), The Economist (2008)
23.	Achieving economies of scope is important for my firm.	23.	Achieving economies of scope is important for my firm.	
24.	Achieving cost advantage is very important to our firm.	24.	Achieving cost advantage is very important to my firm.	
25.	Cost is the most critical component in our firm's performance measures.	25.	Cost is the most critical component in my firm's performance measures.	
26.	Consideration of cost always comes first in any decision making process in our firm.	26.	Consideration of cost always comes first in the decision making process of my firm.	
		27.	My firm has a continuing overriding concern for operating cost reduction.	
		28.	My firm continuously seeks to improve production processes so that we can lower cost.	
		29.	My firm closely monitors the effectiveness of key business processes.	

3.8.5.3 Financial Bootstrapping Tactics

Financial bootstrapping was defined as a collection of creative internal adjustment tactics related to receivables, delaying payments, sourcing from owner-related resources, and joint-utilization in favor of minimizing the need for making expenses. This tactic tackled the notion of cash flow struggle by the least need to finance or borrow out. Such tactic tailored to the difficulty of financing from bank or other

forms of external financing channels during recessionary disruptions. Essentially, these creative tactics largely embody negotiations with suppliers and customers, which are two crucial factors in smaller firms' immediate external environment.

In the current study, the measure of financial bootstrapping tactics was adapted from Ebben and Johnson's (2006) work. This measure was chosen for two main reasons.

Firstly, Ebben and Johnson's (2006) work was built upon a considerable number of discussions and reviews strongly related to financial bootstrapping in the past studies before it (Berger & Udell, 1995; Bhide, 1992; Carpenter & Peterson, 2002; Cassar, 2004; Davila, Foster, & Gupta, 2003; Egeln, Licht, & Steil, 1997; Gendron, 1999; Van Auken & Neeley, 1996; Vandenberg, 2003; Watson & Wilson, 2002), and had later been cited in a number of empirical research works that came after it (Ebben, 2009; Lam, 2010; Winborg, 2009).

Secondly, Ebben and Johnson's work was the foremost empirical study that attempted to validate the financial bootstrapping tactics statistically after the first listing was put forth by Winborg and Landstrom (2000). The list contained internal methods identified as having potentials to ease cash flow struggle of smaller and entrepreneurial firms, given their difficulty to source externally due to their liability of smallness, newness and risk. Having been empirically and statistically validated, this measure was perceivably more able to assume a set of items that render practicality. It also, to certain extent, allowed more informed reading about the possible dimensionality. Adapted from Ebben and Johnson's (2006) scale, the construct of financial bootstrapping used in this study comprised four main themes, namely customer-related bootstrapping, delaying payments-related bootstrapping,

owner-related bootstrapping, and joint utilization-related bootstrapping. Perceivably, the construct was itself originally a multidimensional construct.

Further, considering that financial bootstrapping was brought into this study to constitute a newly defined construct (BCS) that tailored to the specific context of this study, it was therefore the intention of this study to take the wholesome set of items in Ebben and Johnson's scale, so as to avoid having relevant items being eliminated. However, necessary modifications were made accordingly in order to suit the items to the context of this study. Items were also revised with local norms in mind. The latter was important to ensure that items were accustomed in correspondence to the cultural nature of the current research's setting, Malaysia. Some of the modified items that worth-noting are presented in the following, along with their corresponding translated Bahasa Melayu (BM) version.

Item 5:

Original item: My firm ceases business with late payers.

Revised item: My firm will not start another new transaction with customers who have been paying late.

BM version : Syarikat saya tidak membuat urusniaga baru dengan pelanggan yang membayar lewat.

Item 8

Original item: My firm purposely delays payment.

Revised item: My firm delays payment to suppliers as one of the last resort.

BM version: Syarikat saya menundakan bayaran kepada pembekal apabila terdesak

Tabulated in Table 3.14 are the original and revised scales of financial bootstrapping in the entirety.

Table 3.14

Financial Bootstrapping Tactics: The Original and Revised Scales

	Original scales (20 items)		Revised scale (20 items)
	A. Customer-related bootstrapping (6 items)		**A. Receivables-related bootstrapping** (6 items)
1	Offers discount on upfront payment	1	My firm offers discount on upfront payment.
2	Obtain advanced payments from customer	2	My firm negotiates for advanced payment from customer.
3	Use methods that speed up invoicing	3	My firm uses methods that speed up invoicing.
4	Use interest on overdue payments from customer	4	My firm uses interest on overdue payments.
5	Cease business relations with late payers	5	My firm will not start another new transaction with customers who have been paying late.
6	Deliberately choose customers who pay quickly	6	My firm chooses customer who pay quickly.
	B. Delaying-payment-related bootstrapping (5 items)		**B. Payables-related bootstrapping** (5 items)
7	Negotiates payment conditions	7	My firm negotiates payment conditions with suppliers.
8	Deliberately delays payments	8	My firm delays payment to suppliers as one of the last resort.
9	Uses bartering for goods and services	9	My firm uses bartering for goods and services.
10	Lease equipment instead of buying	10	My firm leases equipment instead of buying.
11	Buys used instead new equipment	11	My firm buys used equipment instead of the new one.
	C. Owner-related Bootstrapping (4 items)		**C. Owner-related Bootstrapping** (4 items)
12	Withholds founder's salary for some period	12	My firm withholds owner's salary.
13	Use founder's personal credit card for business expense	13	My firm uses owner's personal credit card for business purpose.
14	Obtain capital from founder's salary at another business	14	My firm obtains loans from family.
15	Obtain loans from family and friends.	15	My firm obtains loans from friends.
	D. Joint- utilization Bootstrapping (5 items)		**D. Joint- utilization Bootstrapping** (5 items)
16	Borrow equipment from other businesses for short period of time	16	My firm borrows equipment from other businesses.
17	Share business space with another firm	17	My firm shares business space with another firm.
18	Share employees with another firm	18	My firm shares employees with another firm.
19	Share equipment with another firm	19	My firm shares equipment with another firm.
20	Hire temporary rather than permanent employees	20	My firm hires temporary rather than permanent employees.

3.8.5.4 Bricolage Tactics

Bricolage tactics was defined as a firm's making-do with whatever existing resources at hand, by which the resource covered across material resource and networking. By this definition, this tactic was meant to encompass the essence of creative combination and reconfiguration of the existing resource (material and networking) to handle the problems at hands.

For operationalization, this current study adapted the eight-item bricolage construct developed by Steffens and Senyard (2009). The originally used five-point scale with 1 and 5 signifying "*never*" and "*always*" were replaced with a five-point scale anchored by 1 denoting "*strongly disagree*" and 5, "*strongly agree*". This amendment was made to suit the need of this study, in which the scale was meant to capture respondents' agreement on the statements.

The original bricolage construct was solely a uni-dimensional scale with eight items, which did not comprise the essence of networks as a resource. In this study, the development of the new scale to incorporate network as an important resource had resulted in a super-ordinate bricolage construct with two subordinate constructs - namely, material bricolage and network bricolage.

For the material bricolage construct, besides items accustoming, the adaptations made were mainly to caution upon committing double-barreled-question blunder and to give way to easier comprehension of questions by altering wordings or sentence structure. In particular, the originally stated-together "new problems or opportunities" in Steffens and Senyard's (2009) Item 3 and Item 5 were split to form three and two items respectively, thus resulting in an increased number of items

from eight to eleven for material bricolage. The original and revised scales for material bricolage are presented in Table 3.15.

Table 3.15

Materials Bricolage Tactics: The Original and Revised Scales

Original scale	Revised scale	Adaptation sources
Bricolage (8 items)	**Material Bricolage** (11 items)	**Items 1-11**
1. We are confident of our ability to find workable solutions to new challenges by using our own existing resources.	1. Using only the existing resources of the firm, my firm is confident of our ability to find workable solutions to new challenges	Adapted from Steffens and Senyard (2009) with some amendments
2. We gladly take on a broader range of challenges than others with our resources would be able to.	2. My firm gladly takes on a broader range of challenges than others with our resources would be able to	
3. We use any existing resource that seems useful to responding to a new problem or opportunity. [a]	3. When responding to a new challenge, my firm uses any existing resource that seems useful.	
4. We deal with new challenges by applying a combination of our existing resources other resources inexpensively available to us.	4. When responding to a new problem, my firm uses any existing resource that seems useful.	
5. When dealing with new problems or opportunities, we take action by assuming that we will find a workable solution. [b]	5. To respond to a new opportunity, my firm uses any existing resource that seems useful.	
6. By combining our existing resources, we take on a surprising variety of new challenges.	6. My firm deals with new challenges by applying a combination of our existing resources and other resources cheaply available to us.	
7. When we face new challenges, we put together workable solutions from our existing resources.	7. When dealing with new opportunities, my firm takes action by assuming that we will find a workable solution.	
8. We combine resources to accomplish new challenges that the resources weren't originally intended to accomplish	8. When dealing with new problems, my firm takes action by assuming that we will find a workable solution.	
	9. By combining the existing resources, my firm takes on a surprising variety of new challenges.	

(table continues)

***Table 3.15.* (*continued*)**

	10. When my firm faces new challenges, we put together workable solutions from our existing resources.
	11. My firm combine resources to accomplish new challenges that the resources weren't originally intended to accomplish.

Note. [a] split into revised scale Item 3, Item 4, and Item 5
[b] split into revised scale Item 7 and Item 8

For the network bricolage construct, seven items were newly developed on the basis of literature study which had been rigorously discussed in Chapter Two. To recap, Baker, Miner, and Eesley's (2003) work was the earliest empirical work that heightened the concept of bricolage from the perspective of network. The researchers defined network bricolage as the "dependence on pre-existing contact networks as the means at hand" (p. 269). The term of "network bricolage" used in the current study was initiated from this work.

However, to the knowledge of the researcher, none empirical work had since embarked on operationalizing this conceptual definition to render measurable, and hence opening up opportunities for further research investigation and expansion of knowledge in the field. This psychometric void was filled in by several empirical evidences pulled together from the body of literature.

Essentially, networks had been found to be an important potential source of resource (including information) in duress time and resource-constrained situations (Aller & Kwon, 2002; Carson, Cromie, McGowan, & Hill, 1995; Kaplan, 2009). Besides being coined as a competitive advantage (Evans et al., 2003), positive

relationship was found between networking and firm performance (De Carolis, Litzky, & Eddlestone, 2009; Watson, 2007; Zhao & Aram, 1995). Furthermore, the prevalence of networks and networking activities in the entrepreneurship context were also strongly grounded (Egbert, 2009; Gilmore et al., 2006; Klerk & Havenga, 2004; Nijkamp, 2003).

Aided by Steffens and Senyard's (2009) original item design, the potentials of network as a resource for bricolage was infused to formulate items which manifested what Baker et al. (2003) termed as network bricolage. Such way of item formulation was consistent with Robinson, Shaver, and Wrightsman's (1991) scale development guideline where available items were used as prototypes to further develop other items. This item development approach also lent zest to establish the instrument's face validity (Robinson et al., 1991). Together with Baker et al.'s (2003) conceptual definition of network bricolage, the scale items of network bricolage in this study were also developed based on the constituent elements in Baker and Nelson's (2005) bricolage definition, which was, "making do by applying combinations of resources at hand to new problem and opportunities" (p. 333).

The act of incorporating network bricolage to complement the original scale of material bricolage was consistent with Reise, Waller, and Comrey's (2000) underlying motivation for scale revision, which was the inadequacy of psychometric properties of an existing scale to tap a research's intended dimension or aspect.

Given that the existence of network was the central tenet for the desirability of network bricolage, a question that carried the weight of importance of network as perceived by firm was added. This question preceded other questions of network

bricolage. The question was formulated as "My firm views business network as an important resource". Such rationalization of item addition, particularly with regards to writing items anew, was consistent with DeVellis's (2003, 2012) recommendation of creative thinking which works by "exhaust[ing] the possibilities for types of items within those bounds" (p. 64, p. 77) of the defining construct.

The newly developed scale for network bricolage is presented in Table 3.16.

Table 3.16

Network Bricolage Tactics: The Newly Developed Scale and the Supporting Sources

Newly developed scale	Supporting sources for scale development
1. My firm views business network as an important resource. 2. When my firm faces new challenges, we generate workable solution from the existing business networks. 3. My firm uses existing business networks to help handling new problems. 4. My firm uses existing business networks to respond to new opportunity. 5. My firm uses existing business networks to deal with resource problem. 6. When my firm faces new challenges, we generate workable solutions by adjusting among several existing networks. 7. By combining existing business networks, my firm takes on a surprising variety of new challenges	**Items 1- 7:** Based on Steffens and Senyard's (2009) original item design, the importance of network as a resource for bricolage is infused to formulate items for network bricolage. **Prominent sources used: Baker, Miner, and Eesley (2003)** - The earliest empirical work that clearly heightens the concept of bricolage from the perspective of network. - The term "network bricolage" is initiated from this work - Baker et al. (2003, p. 269) defined network bricolage as "dependence on pre-existing contact networks as the means at hand". **Other supporting sources:** i) The importance of networks as a potential source of resource in duress time and resource-constrained situations, including information (Aller & Kwon, 2002; Carson, Cromie, McGowan, & Hill, 1995; Kaplan, 2009). ii) The prevalence of networks or networking activities in the entrepreneurship context (Egbert, 2009; Gilmore et al., 2006; Klerk & Havenga, 2004; Nijkamp, 2003). iii) The positive relationship between networking and firm performance (De Carolis, Litzky, & Eddlestone, 2009; Watson, 2007; Zhao & Aram, 1995). iv) Networks as competitive advantage (Evans et al., 2003)

3.9 Specification of Measurement

Given that this study involved PLS path modeling, clarification on the specification of the measurement model type (either reflectively- or formatively measured constructs) was crucial (Henseler, Ringle, & Sinkovics, 2009). Reflective and formative measurement models differ in the analysis approach and are thus evaluated differently. Misspecification of measurement model would distort the structural parameter estimation and produce measurement error which would ultimately lead to erroneous assessments of structural relationships in structural models (Jarvis et al., 2003; Law & Wong, 1999; MacKenzie et al., 2005), and hence misleading findings which hamper the hypothesis testing.

While measurement model could either be formative or reflective, all the constructs in this study were designed as reflectively-measured constructs. According to MacKenzie, Podsakoff, and Podsakoff (2011), "constructs are not inherently formative or reflective in nature, and most can be modeled as having either formative or reflective indicators depending upon the researcher's theoretical expectations about how they should be related based on the conceptual definition of the construct" (p. 302).

3.9.1 Crisis Readiness, Improvisational Competence, and Entrepreneurial Orientation as Reflective Measures

CR, IC, and EO were specified as a reflectively measured construct. CR was manifested by the essence of present crisis readiness (PCr) and prospective crisis readiness (ProsCr), by means of 15 reflective items. The droppings of any items would not cause any change to the underlying construct, as they were all manifest

variables which were meant to be equally interchangeable. The same understanding was also applied for IC.

EO was treated as a reflectively-measured construct in keeping with the initial mode they were specified. Its higher hierarchy structure resembled the *Type I* configuration of higher-order model (Jarvis, MacKenzie, & Podsakoff, 2003), and that the global construct of EO caused the five lower-order dimensions, which in turn causing the items. All indicators were manifestations caused by the same underlying structure of the corresponding higher-order latent construct, and hence also of highly correlated (Hair et al., 2006).

3.9.2 Business Coping Strategy as a Reflective Measure

BSC was meant a reflective measurement, with the third-order construct causing four second-order constructs (RG, CC, FB, and Bri), which in turn causing 13 first-order constructs. The reflective nature of BCS was due to and could be explained by the working principle of deductive top-down classification approach (Hinkin, 1995) employed by the current study in the earlier stage of construct conceptualization and item generation. This logical flow in top-down classification approach was parallel with the direction of causality for a reflective measurement. In fact, this top-down deductive working flow (Hinkin, 1995) was consistent with the repeated-indicator approach used in PLS SEM to model reflective measurement of higher-order construct (Edwards, 2001; Wilson, 2007). Based on the theoretical definition, dimensions and items were derived through the top-down flow of the deductive process.

To note, the bricolage construct was revised from an originally uni-dimensional formative measure of Steffens and Senyard (2009). By developing and adding the network element to the scale, the current study assumed this covariate addition accounted for the reflective nature of the measurement model. Based on the understanding of MacKenzie, Podsakoff, and Jarvis's (2005) conception of reflective and formative measures, the result of an exploratory factor analysis and a Cronbach's alpha test of bricolage tactics supported the reflective nature of bricolage construct. Clear solutions without many complex cross-loadings, and the high Cronbach's alpha value were observed.

All the predetermined measurement specifications were incrementally confirmed through exploratory factor analysis, internal consistency reliability test, and confirmatory factor analysis (measurement model).

3.10 Questionnaire

The questionnaire survey packets administered to respondents were attached with a cover letter with brief instruction and an envelope. An additional authoritative endorsement letter issued by Federation of Malaysian Manufacturing (FMM) was also appended to encourage increased commitment among the respondents.

Participants were invited to participate in this survey through the cover letter enclosed on the first page of the survey (see Appendix 3.2). The cover letter was important because it encouraged respondents to complete and return the questionnaire (Zikmund et al., 2010). This letter introduced the study and it aimed at assuring confidentiality and anonymity of the respondents, as well as providing the researcher's contact details. The issues of anonymity and confidentiality of

respondents have potential effect on the response rate (Burns & Burns, 2008). The cover letter also emphasized that there was no right or wrong answers.

The questionnaire was compartmentalized into five distinct sections (see Appendix 3.2). The section soliciting demographic details were placed at the foremost Section A, as these questions did not demand hard mental ability and were easy to answer. Followed suit were four sections, namely Section B, Section C, Section D, and Section E, respectively comprising measures of dependent variable (CR), mediating variable (IC), and two predictor variables (BCS and EO). Measures for crisis readiness and improvisational competence were placed the foremost amongst the four variables of interest (Section B and Section C), as the pretest and pilot test found that questions related to these two variables were particularly attention-catching. Essentially, these variables managed to arouse their feeling of direct involvement into the issue.

Measures of BCS and EO were placed in section D and E respectively. All the measures were operationalized upon a five-point Likert-type scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). In particular, the placement of the dependent variable (CR) in the foremost section was hopeful of cautioning against missing value. As Hair et al. (2006) noted, while missing data of predictor variables in a research can be treated by several alternatives of imputation methods, there is however little researchers can do for amendment when data of dependent variable is missing considerably. These five sections are per detailed separately as follow.

Section A

This section requested respondents to respond to thirteen inquiries, twelve of which solicited demographic information of the firm and one confirmation question as to whether a firm had felt or experienced any recessionary disruption. The demographic questions were differentiated into firm profile and manager's demographic details. The former solicit details such as firm's name (optional), state, year of establishment, the number of full-time workers, the number of family members working in the firm, and the type of business. The latter requested six main details about the manager, namely gender, age, race, marital status, education background, and ownership structure. In particular, three inquiries on year of establishment, number of full-time workers, and recessionary disruption experience were confirmative questions used to ensure respondents taken were in line with the pre-defined sample.

Section B

Section B included fifteen questions, requesting respondents to rate their agreement on the statements pertinent to crisis readiness. These questions reflected two dimensions of crisis readiness, namely present crisis readiness (eight questions) and prospective crisis readiness (seven questions).

Section C

Section C consisted of eight questions on improvisational competence. These questions sought to discover the ability of respondents to act on the fly under distress conditions.

Section D

This section contained questions directed at four super-ordinate constructs of BCS, namely revenue-generation tactics (RG), cost-cutting tactics (CC), financial bootstrapping tactics (FB), and bricolage tactics (Bri). The measurement of these four super-ordinate constructs were gauged by 28, 29, 20, and 18 questions respectively, making section D the most lengthy among all. These measures were made up of practical tactics acted upon recessionary times.

Section E

This final section contained 37 questions soliciting opinions on the firm's entrepreneurial orientation. These questions reflected five dimensions of entrepreneurial orientation, namely risk-taking, innovativeness, proactiveness, competitive-aggressiveness, and futurity orientation.

Above all, section D and E were substantiated by a vignette to ensure that respondents answered within the predetermined standardized frame of mind regarding recessionary disruptions. Vignette is a short descriptive story that has a situation sketched out which provides some standardization to the context upon which the respondents must decide upon a course of action (Bushe & Gilbertson, 2007). Vignette worked as a stimulus to create a reality for the situation understudied (Alexander & Becker, 1978; Gerber, Wellens, & Keeley, 1996). The placement of vignette ruled out the possibility that respondents might answer in term of their own mental picture, given the arguably abstract nature of recessionary disruptions in firms' mind (Alexander & Becker, 1978). Take Section D for

instance, respondents were requested to rate their level of agreement as to how likely they would employ the tactics mentioned, based on the specific description in the vignette provided. In this study, vignette was developed based on the discussion of "The Scenario of Recessionary Events" in Section 2.2, Chapter Two.

All the sections including the covering letter were presented on eleven pages, printed on both sides. Respondents were allowed to choose between the two sets of questionnaires, the English or the Bahasa Melayu version.

3.10.1 Back-to-Back Translation

The back-to-back translation was carried out to translate the original English worded items into a comparable version of Bahasa Melayu. In particular, two Malay secondary-school English teachers were involved. Being native speakers of Bahasa Melayu and professionally involved in teaching English as a subject, the two were bilingual-competent for the translation task.

One of them first translated the original English-worded questionnaire into Bahasa Melayu. Later, this resultant Bahasa Melayu questionnaire was back-translated again into English by the second teacher. The translated English version by the second teacher was then cross-checked for its consistency with the original English version. This process was vital to achieve "translation equivalence" (Craig & Douglas, 2005). In the cross-checking, any aggressive differences (deviation) in the meaning of item between the two English versions were inspected, and verifications were carried out to scrutinize the precision of the Bahasa Melayu version (Brislin, Lonner, & Thorndike, 1973). The verification outcomes showed

trivial differences between the two English versions, it thus granted the translation satisfactory.

One crucial concern in the back-to-back translation in the current study was the accustomization of items to the cultural nature of the research setting, and therefore literal word-for-word translation was by all means avoided. This concern was in line with Hofsted's (1980, as cited in Conte, Rizzuto & Steiner, 1999) claim, that literal word-for-word translation is not at all times attainable. Instead, what concerns principally is having items that convey the same meaning in one particular culture.

Upon the completion of the Bahasa Melayu version, two field experts (manufacturing firms) were involved on voluntary-participation basis to comment on the comprehensibility, readability, and the cultural appropriateness of the questionnaire. Adjustments and refinement were made accordingly.

In fact, back-to-back translation was highly crucial for the current study given the constraint in the comprehensibility of the English language among the Malaysian entrepreneurs, as observed during several personal meetings with the volunteering firms. Respondents were asked whether they can understand the questions by one or two readings.

Official letters sent to invite and seek both translators' interest for the back-to-back translation task are attached in Appendix 3.3. Certificates of appreciation endorsed by the graduate school (Otman Yeap Abdullah [OYA] Graduate School of Business, UUM) were presented to both translators to appreciate their enthusiasm and willingness to help. Both accepted no monetary remuneration.

3.11 Data Analysis Tools and Techniques

Generally, Statistical Package for Social Sciences (SPSS) version 18 and Smart PLS 2.0 M3 software were two main analysis tools used to analyze data in this study.

On the one hand, SPSS was a powerful tool that catered for numerous statistical tasks in the current study. These included tasks of data entry and coding, preliminary data cleaning, descriptive statistics, t-test for detecting non-response bias, internal consistency reliability assessment of Cronbach's alpha, missing data detection and treatment, outliers detection, assessment of multivariate assumptions (normality, linearity, multicollinearity, homoscedasticity), and common method variance.

Of particular, SPSS was also used to perform exploratory factor analysis (EFA) and parallel analysis. Exploratory factor analysis (EFA) was carried out to discover the underlying structure of the measures used in this study. In this study, EFA was necessary to assess the dimensionality of the newly defined BCS measures. According to Gerbing and Anderson (1988), EFA is essentially "useful as a preliminary analysis in the absence of sufficiently detailed theory about the relations of the indicators to the underlying constructs" (p. 189).

On the other hand, SmartPLS 2.0 M3 software developed by Ringle, Wende, and Will (2005) was used to estimate the measurement and structural models in the confirmatory factor analysis stage. Particularly, the structural model was used for hypotheses testing. Structural equation modeling (SEM) allows researchers to assess inter-related dependence relationships simultaneously. The reason as to why PLS was preferred to AMOS for structural equation modeling was further discussed in section 4.4.2 in Chapter Four that follows. Essentially, the foremost reason PLS was used was that of its great statistical power to estimate large number of measured

variables with small sample size (Chin, 1998b; Chin, Marcolin, & Newsted, 2003; Reinartz, Haenlein, & Henseler, 2009). PLS SEM was also used due to the purpose of theory development related to the newly conceptualized BCS, and the heavily revised scales of CR and IC (Barclay, Higgins, & Thompson, 1995; Reinartz et al., 2009).

3.12 Summary of Chapter

In sum, this chapter justifies the need for quantitative analyses to answer the research questions, and testing the hypotheses. While this chapter also provides explanation on the population, sample chosen, sample size required by the statistical power needed, and the sampling technique used, the methods of data collection used in the pilot study and the final survey are described. The measurement scales for the constructs in the proposed model have been partly developed based on dispersed literature and partly revised from the existing tested scales. The revisions which take place in the scale development have been discussed. The corresponding item-generation procedures used and the specification of the measurement type are aslo delineated. One of the remarkable methodological concerns addressed in this chapter is the content validity procedures and the expert panel used in the pre-test. Back-to-back translation is carefully delineated as well. Finally, data analysis tools and techniques are elaborated.

CHAPTER FOUR

ANALYSIS PROCEDURES AND FINDINGS

4.1 Introduction

In general, this chapter reports all findings and interpretations of main analyses carried out in this study. For the ease of reading, the findings of the three main analyses, namely the exploratory factor analyses (section 4.3), the assessments of measurement models (4.4), and the assessment of structural model and hypotheses testing (4.6) are organized in separate sub-sections. Between the latter two sections is Section 4.5 which presents the revision of the research model. Response rate and non-response bias test results are reported in the preceding Section 4.2.

4.2 Response Rate and Non-response Bias Test

Though researchers may take all possible approaches to encourage response rate, the existence of non-respondents in survey research remains one sticky issue. The existence of large non-response group may distort the representation of the sample and the ultimate generalizability of the results (Urbach & Ahlemann, 2010). In particular, when survey respondents and non-respondents differ systematically, findings solely generated from the sole data of respondents may not generalize to the original sample, as well as the intended population (Rogelberg & Luong, 1998). Therefore, when a portion of intended respondents fail to respond to a survey, it is crucial that researchers ensure if respondents differ systematically and substantially from non-respondents in the focal constructs examined, so as to ascertain whether

non-response would lead to non-response bias. According to Malhotra, Hall, Shaw, and Oppenheim (2006), non-respondents differ systematically from respondents in their attitude, motivation, behavior, and etcetera. Therefore, the response rate was checked and non-response bias was tested.

4.2.1 Response Rate

Of the 500 questionnaires distributed, 323 sets questionnaires were returned, gaining a response rate of 64.6%. During the preliminary data editing stage, 28 sets of questionnaires which had more than 25% uncompleted questions (Sekaran, 2003) as well as those of the "straight lining" cases (Hair, Hult, Ringle, & Sarstedt, 2014, p.52) were eliminated. This left a number of 295 usable datasets for analysis. The response rate is summarized in Table 4.1.

Table 4.1

Response Rate of the Survey

Response rate		
	Number	Percentage
Total surveys administered	500	100%
Unreturned questionnaires	177	35.4 %
Returned questionnaires	323	64.6%
Usable questionnaires	295	-
Unusable questionnaires	28	-
Split-half samples for EFA and CFA		
Split-half sample for EFA	145	49.2%
Split-half sample for CFA (PLS-SEM)	150	50.8%

These remaining 295 sets were randomly split into two near-halves sub-samples of 145 and 150 to be used for exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) respectively. The splitting of data was necessary because EFA

and CFA should be conducted using different sets of data (DeVellis, 2003; Hair et al., 2006; Kline, 2005). The latter served the purpose of measurement model, structural model and hypotheses testing.

The virtue of using split-half samples originating from a single sampling list is that, two sub-samples randomly divided from the same sampling list are likely to represent the same population, and therefore are more likely to be similar than the use of two entirely different samples (DeVellis, 2003). In this view, any special conditions that may have applied to data collection of one subsample would also apply equally to the other (DeVellis, 2003). Further, the split-half (or near split-half) sample approach has been a broadly used and recognized practice particularly for cases of measures development and validation; its working principles is theoretically accepted (DeVellis, 2003). According to DeVellis (2003), while exact split-half can be used if the sample is sufficiently large, sample can be randomly split unevenly in cases where sample is comparatively small to yield adequately large halves.

4.2.2 Non-response Bias Test

The non-response bias test was carried out with the entire remaining 295 usable responses. To confirm that non-response bias did not exist, Armstrong and Overton's (1977) time-trend extrapolation test was used. This test assumes that non-respondents are similar to late respondents, and hence a study is expecting non-significant differences between the early and late responses in a survey (Lindner, Murphy, & Briers, 2001; Lineback & Thompson, 2010).

In this study, surveys were self-administered. Therefore, differences in the timing of returned surveys were dependent on the researcher's plan of survey distribution,

and were not plainly caused by any reason due to the respondents. Therefore, the non-response bias test for this study was not assessed based on the timing of the trips of data collection. A narrower view was taken instead.

Amongst the survey responses collected in this study, while some were collected back on the same day of survey administration, some on the second, third, and fourth; some only after several follow-up contacts. Applying Armstrong and Overton's (1977) principle that the non-respondents have similar characteristics with the late respondents, all respondents of this study were segregated into two groups, namely the early respondents and late respondents. Referring to Malhotra et al. (2006), late respondents potentially represent the non-respondent, as they probably could have not responded had they not been intensely urged in follow-up contacts by the researcher. Therefore, in this study, surveys collected after the third follow-up calls starting from a week after the distribution, were considered as late responses.

Having this defined, independent-sample t-test was performed on the continuous variables (the main constructs). The result of the *t*-test is per reported in Table 4.2. Determining based on *t*-value, *df*, and two-tail significance for the equal variance estimate (Coakes & Steed, 2007), the t-test did not reveal any significant differences between the early and late-response groups, as evident in the two-tail significance of $p > .05$ in Table 4.2. Therefore, non-response bias was not an issue in this study, and that the responses obtained were representative of the intended population.

Table 4.2

Results of Non-response Bias Test for Constructs

Constructs		**Levene's Test for Equality of Variances**		***T*-test for Equality of Means**		
		F	Sig	T	df	Sig
Present crisis readiness	Equal variances assumed	.492	.483	.814	293	.416
	Equal variances not assumed			.781	85.008	.437
Prospective crisis readiness	Equal variances assumed	.047	.829	1.511	293	.132
	Equal variances not assumed			1.551	92.283	.124
Improvisational competence	Equal variances assumed	.295	.588	.657	293	.512
	Equal variances not assumed			.688	94.755	.493
Risk-taking	Equal variances assumed	.267	.606	.331	293	.741
	Equal variances not assumed			.337	91.083	.737
Innovativeness	Equal variances assumed	1.447	.230	-.091	293	.927
	Equal variances not assumed			-.100	101.319	.920
Proactiveness	Equal variances assumed	.018	.894	.253	293	.800
	Equal variances not assumed			.256	90.623	.798
Competitive-Aggressiveness	Equal variances assumed	.068	.794	.890	293	.374
	Equal variances not assumed			.865	86.348	.389
Futurity	Equal variances assumed	.203	.652	.982	293	.327
	Equal variances not assumed			.971	87.996	.334
Strengthening marketing initiatives	Equal variances assumed	.072	.789	1.492	293	.137
	Equal variances not assumed			1.504	90.108	.136
Differentiated discounting practice	Equal variances assumed	.164	.686	1.472	293	.142
	Equal variances not assumed			1.538	94.447	.127
Quality and Pricing	Equal variances assumed	.758	.385	1.010	293	.313
	Equal variances not assumed			1.094	99.397	.277
Care for value-added	Equal variances assumed	.839	.360	.728	293	.467
	Equal variances not assumed			.678	82.256	.500
Working capital control	Equal variances assumed	.007	.935	.022	293	.983
	Equal variances not assumed			.022	93.202	.982
Cut manufacturing investment	Equal variances assumed	2.159	.143	-.235	293	.814
	Equal variances not assumed			-.273	111.549	.785
Cut manufacturing capacity	Equal variances assumed	.148	.701	-.793	293	.428
	Equal variances not assumed			-.824	93.789	.412
Cost-Streamlining and stock control	Equal variances assumed	.223	.637	.924	293	.356
	Equal variances not assumed			.855	81.807	.395
Strive for economies of scale and scope	Equal variances assumed	1.200	.274	1.754	293	.080
	Equal variances not assumed			1.666	84.086	.099
Customer-related bootstrapping	Equal variances assumed	.187	.666	.743	293	.458
	Equal variances not assumed			.729	87.345	.468
Delaying-payment-related bootstrapping	Equal variances assumed	.888	.347	.441	293	.659
	Equal variances not assumed			.471	97.148	.639
Owner related Bootstrapping	Equal variances assumed	2.708	.101	-.593	293	.554
	Equal variances not assumed			-.656	102.515	.514
Joint- utilization Bootstrapping	Equal variances assumed	.519	.472	-.073	293	.942
	Equal variances not assumed			-.077	95.568	.938
Material bricolage	Equal variances assumed	5.339	.022	.764	293	.446
	Equal variances not assumed			.692	80.038	.491
Network bricolage	Equal variances assumed	.201	.655	.560	293	.576
	Equal variances not assumed			.563	89.898	.575

Following strictly, a t-test was performed on some selected main constructs for the two randomly split datasets for EFA (n = 145) and CFA (n = 150). While Table 4.3 reports the descriptive statistics of the selected constructs for the two datasets used in EFA and CFA (PLS SEM) respectively, Table 4.4 indicates a non-significant difference (2-tail sig., $p > .05$) in the responses between the two datasets.

Table 4.3

Descriptive Statistics of Two Datasets used for EFA and PLS SEM

	Groups Dataset 0 (for PLS SEM) Dataset 1 (for EFA)	***N***	**Mean**	**Std. Deviation**	**Std. Error Mean**
Mean PCr	0	150	3.70	0.470	0.038
	1	145	3.80	0.500	0.042
MeanProsCr	0	150	3.67	0.561	0.046
	1	145	3.80	0.519	0.043
MeanIC	0	150	3.97	0.467	0.038
	1	145	3.99	0.478	0.040
MeanEO	0	150	3.77	0.379	0.031
	1	145	3.81	0.325	0.027

Note. MeanPCr denotes present crisis readiness; MeanProsCr denotes prospective crisis readiness; MeanIC denotes improvisational competence; MeanEO denotes entrepreneurial orientation

Table 4.4

T-test Results of the Two Split-half Datasets Used for EFA and PLS SEM

Constructs		**Levene's Test for Equality of Variances**		**t-test for Equality of Means**		
		F	Sig.	T	Df	Sig. (2-tailed)
Mean PCr	Equal variances assumed	0.033	0.855	-1.815	293	.071
	Equal variances not assumed			-1.813	290.323	.071
MeanProsCr	Equal variances assumed	2.496	0.115	-1.948	293	.052
	Equal variances not assumed			-1.951	292.432	.052
MeanIC	Equal variances assumed	0.022	0.882	-.336	293	.737
	Equal variances not assumed			-.335	292.080	.738
MeanEO	Equal variances assumed	2.078	0.150	-1.080	293	.281
	Equal variances not assumed			-1.083	288.765	.280

4.3 Analyses and Findings of Exploratory Factor Analysis (EFA)

Exploratory factor analysis (EFA) was performed to discover the underlying structure of the measure instruments used in the current study. EFA was particularly important for the newly developed BCS and the heavily revised IC and CR constructs in this study, as there was a need to confirm the proposed links between the measured variables and the latent variable construct which were not yet known (Byrne, 2010).

To note, the prevalently studied EO construct was also subjected to EFA. This was done to heed the possible effect that a different research setting could have on the underlying nature of the construct dimensionality (Schriesheim et al., 1993). Furthermore, the underlying structure of the dimensionality could also been altered when different sources were adapted to operationalize the EO global construct in this study. As Schriesheim et al. (1993) note, the content by which a measure is assessed may undergo change as items are dropped or added. It was therefore necessary for the researcher to validate that the adaptations made to the existing measure had not disturbed the psychometric balance of the measure (Schriesheim et al., 1993). Above all, all the constructs understudied had been customized (contextualized) in compliance to the very context of this study.

Following suit the EFA assessments, internal consistency reliability test of Cronbach's alpha (α) was run on each resultant factor obtained from EFA. This step worked as a preliminary verification to attest if the proposed reflective measurements in this study were indeed appropriate, before furthering to the next stage of measurement model.

According to MacKenzie, Podsakoff, and Jarvis (2005), high levels of internal consistency reliability of Cronbach's alpha should be expected for reflective measures, because indicators for reflective measurement reflect the same underlying construct and correlate highly. Similarly, this study also observed whether items elimination in EFA would cause changes to the conceptual domain (meaning) of the construct. As items of reflective measure should share the same underlying theme, they are thus a representative sample of items which are equally reliable and interchangeable. Hence, item dropping should not cause changes to a reflective construct (Jarvis, MacKenzie, & Podsakoff, 2003; MacKenzie, Podsakoff, & Jarvis, 2005).

Preceding the analyses and results reporting of EFAs, other tests related to data cleaning (missing data detection and replacement, outlier detection), assessment of normality and linearity assumptions, and descriptive profile of respondents were performed. The alluded above are reported accordingly in the following sub-sections.

4.3.1 Preparing and Screening Data (EFA Stage)

To begin with data cleaning, the first half-split of 145 datasets were subjected to manual editing and a series of screening and cleaning processes. The data editing was carried out to identify the omission and check on the completeness of the data. Item-level descriptive statistics were run to screen for values that fell outside the range of possible values for a variable, for both categorical and continuous data respectively (Pallant, 2007, 2011). The identified out-of-range scores were corrected and the descriptive analyses were re-run (Pallant, 2007, 2011). This step was

important because such erroneous scores could potentially distort the statistical analysis (Pallant, 2007).

The datasets were then further screened through four major steps of data cleaning which comprised missing data analysis, outlier detection, and examination of normality and linearity assumptions (as reported in section 4.3.1.1 through 4.3.1.5 respectively). While the former two steps cleaned and conditioned data to a format most suitable for multivariate analysis (Hair et al., 2010), the entire cleaning process was crucial as factor analysis is very sensitive to outliers and abnormal data. SPSS program was used to compute descriptive statistics for both categorical demographic and continuous variables. SPSS program was also used for cleaning data and performing exploratory factor analysis.

4.3.1.1 Missing Data Detection

Missing data can significantly influence multivariate analyses specifically (Hair et al., 2006). Practically, missing data analysis aimed at assessing the existence of pattern in missing data that would affect the analysis. For this purpose, the extent and pattern of missing data were visually inspected. Two main observations, which were (i) the percentage of variables with missing data for each case and, (ii) the number of cases with missing data for each variable, were tabulated following Hair et al.'s (2006) reporting standard. These observations are summed up in Table 4.5.

Table 4.5

Assessment of the Extent of Missing Data

Case ID													**Missing data by case**	
	IC1	RG3	RG9	RG12	RG18	CC4	MB6	Risk1	Inno4	Inno6	Pro4	Fut3	**No.**	**Percent (%)**
case1	1												1	0.68
case10	1												1	0.68
case30		1		1									2	1.37
case46			1			1							2	1.37
case59						1							1	0.68
case81							1			1			2	1.37
case112								1					1	0.68
case122												1	1	0.68
case132									1		1		2	1.37
case141					1								1	0.68
Missing data by variable													Total missing value	
No.	2	1	1	1	1	2	1	1	1	1	1	1	Number: 14	
%	1.4	0.7	0.7	0.7	0.7	1.4	0.7	0.7	0.7	0.7	.07	0.7	Percentage: 0.066%	

Referring to Table 4.5, there was no sign of any one item suffering from severe missingness. Only as small number as fourteen (14) missing values, an equivalent of only approximately 0.066% of the entire dataset, was spotted. The percentage of missing data by variable was also below 10%, the acceptable level of individual missing data to be warranted ignorable (Hair, Black, Babin, & Anderson, 2010). Likewise, Cohen and Cohen (1983) assert that missing data of up to 10% is not large and that it is unlikely to cause problem to results interpretation. The low amount of missing data rendered exemptible the need for this study to further diagnose the randomness of missing data processes, before remedial action took place (Hair et al., 2010). All SPSS outcomes of the missing data detection are attached in Appendix 4.1.

In addition to the above inspection, the current study adopted Hair et al.'s (2006) recommendation to further confirm about the impact of missing data by inspecting the existence of any marked differences between two analyses each conducted with and without deleted cases or variable. Given that EFA's working principle premises upon correlations between variables, the impact of missing data can therefore be checked by observing their correlation. As such, two correlation matrices were produced using SPSS, with one done by the listwise-deletion-of-cases approach, and the other by the pairwise-deletion-of-cases approach. Upon cell-by-cell comparison, it was found that the correlation matrices between the two methods produced essentially trivial differences, suggesting a non-impact of missing data on the analyses. Specifically, most of these correlation differences were less than .02, and many indeed scarcely came up to even .01. In fact, constructs such as crisis readiness (CR) and financial bootstrapping tactics (FB) revealed exactly identical correlation matrices between the two methods. Further, similarity was also observed in the pattern of statistical significance for almost all pairs compared.

In view of these evidences, it was assured that a pattern associated with missing data was not a critical concern such that it would affect the analysis. This supposition also further secured the use of the listwise deletion of cases in the EFA. Towards this end of missing value assessment, not any measured variable was eliminated.

4.3.1.2 Missing Data Treatment

At this juncture, both the acceptably low amount of missing data and the justifiable absence of specific nonrandom pattern qualified the use of any replacement technique without biasing the results in any appreciable manner (Hair et al., 2010).

For the purpose of the current study, mean substitution technique was applied. Mean substitution replaces the missing values for a variable with the mean value of that variable calculated from all valid responses (Hair et al., 2010; Meyers, Gamst, & Guarino, 2006). This approach capitalizes on the rationale that mean is the best single replacement value (Hair et al., 2010), being that a value derived from all other observations in the sample is the most representative replacement value (Hair et al., 2010). It is one of the most prevalent replacement techniques used in social sciences studies, as it is easily implemented and it provides all case with complete information (Hair et al., 2010). Though mean substitution has been cautioned over its potentials to distort the analysis result, it was not a problem for the current study, given the very low level of missing data (Pallant, 2007). Items detected with missing values and their replacement values are summarized in Appendix 4.2.

Following the mean replacement treatment, paired-sample *t*-test and its nonparametric counterpart, Wilcoxon signed-rank tests, were conducted. Both t-tests aimed at examining the existence of any significant differences in the variables' means pre- and post mean-substitution. Practically, this step was important to ensure that, replacing missing values with mean substitution had not changed the very nature of the original data, which in turn could affect the analysis result (Hair et al., 2006). Both parametric and non-parametric techniques were performed, considering

that normality assumption had yet to be assessed at this particular juncture of research.

The results of both the paired-samples and Wilcoxon signed-rank *t*-tests revealed the non-significant difference of variables between the pre- and post- mean replacement, and thus confirming that the mean substitution technique applied to treat missing values had not significantly changed the very nature (mean and distribution) of the initial variable means. The results of both tests are attached in Appendix 4.3.

Referring to Appendix 4.3 Table A, the partial result of paired-samples *t*-test depicted a zero mean difference for all pairs of variables tested, while all the standard error of the difference was found zeroes. Similarly, as in Appendix 4.3 Table B, the Wilcoxon test which revealed *z* values of .000, and the significance value (Asymp. Sig.) of 1.000 also proved a non-significant differences between the two data sets of pre- and post- mean substitution. For this test, a difference was considered as statistically significant if the critical values of *z*-score are ±1.96 at the .05 level of significance (Asymp. Sig. 2-tailed ≤ .05).

Finally, given that the evidence in the form of statistics above proffered no information about the shape of distribution, boxplots were presented to provide direct visual presentations of the distribution of the pre- and post mean substitution datasets (Coakes & Steed, 2007). Each variable pairs were plotted side-by-side to allow direct comparison of the shape of the distributions. All variable pairs exhibited complete similarity, and hence further establishing that the mean replacement had not altered the data's nature of distribution (Appendix 4.3 Figure A).

4.3.1.3 Univariate and Multivariate Outliers Detection

Having settled the entire assessment of missing values detection and treatment, the dataset was subjected to outlier detection before the assumption of normality was examined.

Outliers are observations or cases with scores that are distinct from the remainder of the sample, either much higher or much lower (Pallant, 2007). The differences can happen to a single variable (univariate variable), a relationship between two variables (bivariate outliers), or across an entire set of variables. The issue at stake for outlier detection is the representativeness of the variable to be succumbed into the final sample to be used for analysis (Hair et al., 2010). Filtering data from outliers is crucial as outliers potentially jeopardize the normality of data which in turn distorts the statistical findings (Hair et al., 2010).

The current study took notes of Hair et al.'s (2010) recommendation to exhaust the possibility of outlier detection approach, as each of these approaches proffers unique perspective on the observations; altogether, they provide a complementary set of perspective with which consistent pattern can be observed to best-identify and -justify observations which are truly unique as outlier (Hair et al., 2010).

As such, this study started off with the multivariate outlier detection. The identified potential multivariate outlying cases were then reexamined with the outcomes of univariate detection method to "fully understand the nature of their uniqueness" (p. 75) in order to decide on the detainment or deletion of the cases (Hair et al., 2006). This study did not consider bivariate outlier detection as it became less practical in the sense that, this method would require a large number of

graphs to be produced, and each time each inspection caters for only two dimensions (Hair et al., 2010).

The multivariate outlier detection was carried out by computing Mahalanobis Distance measure for every single case using the SPSS Regression procedure. They were evaluated with a chi-square (χ^2) distribution and a stringent alpha level ($p <$ .001), with degree of freedom equating the number of independent measured variables being examined (Meyers et al., 2006). Multivariate outliers are evident should Mahalanobis Distance (D^2) for any particular case be greater than the critical value of chi-square. With degree of freedom of 155, as well as Tabachnick and Fidell's (2007) recommended alpha value of .001, the chi-square value was 215.149. Upon inspection, this multivariate perspective revealed no evidence of outlying cases (Appendix 4.4 Table A). Further, the SPSS Explore procedure was run to observe the extreme values score for the new Mahalanobis variables (Meyers et al., 2006). As attached in Appendix 4.4 Table B-1, the Extreme Value output showed that none of the critical values among the five highest and lowest cases equated or exceeded the chi-square value of 215.149. To assure the non-existence claim of multivariate outliers, the Mahalanobis D^2/df measure was computed. Support was found, as none of the cases demonstrated value exceeding the threshold value of 3 (Hair et al., 2006). The Mahalanobis D^2/df measure results were tabulated along in Appendix 4.4 Table A.

Having done the multivariate outlier detections, this study inspected the univariate outliers by computing standard values of *Z*-score (Coakes & Steed, 2007; Hair et al., 2010). In this detection, an exclusion was decided based on the threshold value of standard score of ± 4, given that the size of the dataset (n = 145) was considerably

large and not too small (Hair et al., 2010). The resultant z-scores are appended in Appendix 4.4 Table C. However, only the *Z*-scores computed for CR are appended as examples, because appending the results for all the measured variables would occupy a great length of space. This univariate perspective tests observed approximately ten cases as exceeding the standard score of ± 4 threshold on more than a single variable. These cases were case 1, 10, 18, 27, 31, 32, 36, 48, 49, and 54.

The outliers detected using both methods were compiled in Table 4.6

Table 4.6

Univariate and Multivariate Outliers Detected (n = 145)

No.	**Case no.**	**UNIVARIATE OUTLIERS**		**MULTIVARIATE OUTLIERS**	
		Cases with Standardized Values Exceeding ± 4		***Cases with Mahalanobis Distance Greater than of χ^2***	***Cases with a Value of D^2/df Greater than 3 (df = 145)***
		Frequency	**Variable(s)**		
1	1	1	ZRisk2	None cases	None cases
2	10	4	ZMB1, ZMB3, ZPro3, ZFut4		
3	18	1	ZFut1		
4	27	1	ZAC6		
5	31	1	ZProsCr2		
6	32	1	ZPCr5		
7	36	4	ZRG6 ZRG15 ZRG23 ZCC20		
8	48	2	ZCC10 Zrisk4		
9	49	1	ZRG15		
10	54	1	ZCC7		

Based on the results in Table 4.6, it was concluded that no outliers were observed in the multivariate method, they however appeared in the univariate method. This phenomenon indicated that outliers were not unique in combination, but instead were unique on the single-variable basis. Therefore, additional observation was made to check the extent to which the potential outliers identified in the univariate detection could cause undue problem. This was done by comparing the 5% trimmed mean with the mean value (Pallant, 2007). The 5% trimmed mean is the mean of distribution resulting from having the top 5% and bottom 5% of scores removed in order to get a measure of central tendency which is unaffected by extreme values (Coakes & Steed, 2007). By comparing the two values, a researcher could determine whether the extreme scores cast strong impact on the mean. If a big difference between the two values was observed, further investigation would have to follow (Pallant, 2007).

To this end, this study found only subtle difference existed between the trimmed means and mean values (Appendix 4.4 Table B-2), thus indicating a weak influence of the univariate outliers (Pallant, 2007). Therefore, it was concluded that there was none among these cases which had value that was so extreme as to affect any of the overall measure.

Considering all the above evidences together with the concern of having sufficient sample size remained for the following factor analysis, this study therefore retained all cases.

4.3.1.4 Assessment of Normality Assumption

Having done the outliers detection, the remaining sample was further subjected to normality examination, which is one the most elemental assumption in multivariate analysis (Hair et al., 2006). Normal distribution could improve factor solutions (Coakes & Steed, 2007).

Multivariate normality is assumed when individual measured variables are normal in a univariate sense and that their combinations are also normal (Hair et al., 2006). However, characterizing and testing multivariate normality is highly difficult, as specialized test is needed (Hair et al., 2006; Stevens, 2007). According to Hair et al. (2006), "in most cases, assessing and achieving univariate normality for all variables is sufficient, and we will address multivariate normality only when it is especially critical" (p. 80). Noting the complexity of assessing multivariate normality, other scholars such as Meyers et al. (2006) recommend a thorough univariate normality assessment be coupled with bivariate scatterplots of the key pairs of variables.

However, for the purpose of this study, the assumption of normality was inspected through the univariate distribution, using both graphical plots and statistical tests. Incorporating both was hopeful "to assess the actual degree of departure from normality" (Hair et al., 2006, p. 82).

Specifically, univariate normality was visually inspected using Normal Q-Q (Quantile-Quantile) plots, detrended Q-Q plot, histograms, and further substantiated by assessment of skewness and kurtosis statistical criteria (Coakes & Steed, 2007; Pallant, 2007). The specific statistical test of Kolmogorov-Smirnoc/Shapiro-Wilk was not used for interpretation, given its weaknesses related to sample size, which

might lead to unimportant deviations becoming technically significant (Allen & Bennett, 2012; Garson, 2012; Hair et al., 2006).

As attached in Appendix 4.5, the SPSS outputs revealed evidence of no serious violation from normality. Generally, the normal Q-Q and detrended normal Q-Q plots approved a reasonable assumption of normality (Allen & Bennett, 2012; Pallant, 2007). In these normal Q-Q plots, data points were found clustered close along the diagonal line, forming a reasonably straight line. Likewise, the detrended normal Q-Q plots also showed no obvious pattern in the clustering of points around the horizontal zero line.

In addition, the absolute skewness and kurtosis values were inspected. Almost all values of skewness were found within the acceptable range of ±1 (Garson, 2012; Meyers et al., 2006), with only seven values within the acceptable range of ±2 (Garson, 2012). For the kurtosis, most of the kurtosis value fell well within the range of ±1, with some within the range of ±2 and ±3 respectively; all of which were acceptable range (Garson, 2012). Though four kurtosis values were observed as slightly greater than 3, these value was not considered as serious departure from normality when assessed across other acceptable ranges such as ±7 (Curran, West & Finch, 1996) and ± 10 (Kline, 2005).

Further, standard scores (Z-score) for skewness (*Z* skewness) and kurtosis (*Z* kurtosis) were also calculated by dividing the skewness and kurtosis statistics by their respective standard error (Field, 2009; Garson, 2012). *Z*-score is useful as researcher could assess how likely skew and kurtosis are to happen. Field (2009) defined z-score below 1.96 ($p < .05$), 2.58 ($p < .01$) and 3.29 ($p < .001$) as indications for normal distribution of data at different levels of significance. The

inspection found that most of the Zskewness and Zkurtosis values were well below the upper threshold of 3.29 (Field, 2009).

Considering the above evidence, no item was considered as substantially or extremely skewed and kurtortic. According to Coakes and Steed (2007), while moderate to extreme deviation from normality may cause serious underestimation of a relationship, mild violations are not serious anyway. Therefore, transformation was not considered for this study.

4.3.1.5 Assessment of Linearity Assumption

Factor analysis is primarily based on correlation, and only linear relationships are suitable for correlation analysis (Pallant, 2007). Therefore, the assessment of linearity assumption is obligatory. Failure to attain linearity would potentially degrade the factor solutions (Coakes & Steed, 2007).

In this study, the inspection of matrix of scatterplots found neither serious violation in linearity assumption, nor any evidence of curvilinear relationship (see Appendix 4.6). In the scatterplots, data points formed a vague cigar shape, with a noticeable clustering of points around the imaginary straight lines.

4.3.2 Descriptive Profile of Respondents (n = 145)

Presented in Table 4.7 is the descriptive information of the respondents' profile. The sample was made up of respondents involving in a variety of manufacturing businesses. The highest percentage of SMEs came from those of food and beverage businesses (29%), followed by the array of agriculture-related SMEs (13.1%), rubber and plastic-related businesses (6.2%), and iron and steel manufacturing

business (4.8%). While private limited company (46.9%) and sole proprietary businesses (31.7%) constituted majority of the sample, about 44.1% of the respondents were family business. Of the responding firms, about 60.7% were managed by Malay, followed by Chinese (33.1%), Indian (1.4%) and others (4.8%). While a bigger portion of the manufacturing SMEs sampled (60.7%) were operated by male manager-entrepreneurs, about 80% of the sampled respondents were married.

Further, nearly half of the SMEs managers were bachelor degree (26.9%) and diploma holders (22.1%), followed by those attending formal education up to secondary-school level (24.8%), certificate level (14.5%), and primary-school level (5%). About 5% were Masters-degree holder. Majority of the managers fell in the age range of 41-50 (35.9%) and 31-40 years old (31.0 %). In this first half of the split-sample, about 31.7% were SMEs from Perak, followed by 17.9% from Kedah, 17.2% from Penang and 11.7 % from Selangor. The rest of the sample constituents were made up of other states including Johore (6.9%), Sarawak (4.8%), Federal Territory of Kuala Lumpur (4.1%), Perlis (2.8%), Malacca (1.4%), Negeri Sembilan (0.7%), and Kelantan (0.7%).

The descriptive information is as per reported in Table 4.7.

Table 4.7

Descriptive Information of the Respondents (n = 145)

	Frequency	Percentage (%)
Types of business		
Textile, clothes, footware	5	3.4
Food and beverage	42	29.0
Agricultural products; forestry and forest products; wood and wood products; furniture and office equipment; tobacco; palm oil, palm kernel oil, coconut oil	19	13.1
Chemical and petrochemical products; pharmaceutical product	6	4.1
Clay-based, sand-based and non-metallic product	5	3.4
Rubber and plastics	9	6.2
Transport equipment	6	4.1
Electrical and electronics; metal product	5	3.4
Machinery, appliances and parts; hand tools	2	1.4
Iron and steel products	7	4.8
Others	39	26.9
Years of establishment		
Less than 5 years	62	42.8
6 - 10 years	36	24.8
11- 15 years	13	9.0
16 - 20 years	13	9.0
21 - 25 years	7	4.8
26 - 30 years	6	4.1
31 - 35 years	2	1.4
36 - 40 years	1	.7
41 - 45 years	1	.7
46 - 50 years	2	1.4
Above 50 years	2	1.4
Ownership structure		
Sole proprietary	46	31.7
Partnership	16	11.0
Public limited company (Bhd.)	15	10.3
Private limited company (Sdn. Bhd)	68	46.9
Family/non-family business		
Non-Family business	81	55.9
Family business	64	44.1

(*table continues*)

Table 4.7. (*continued*)

State		
Kedah	26	17.9
Penang	25	17.2
Perlis	4	2.8
Johore	10	6.9
Federal Territory of Kuala Lumpur	6	4.1
Selangor	17	11.7
Malacca	2	1.4
Kelantan	1	.7
Perak	46	31.7
Sarawak	7	4.8
Negeri Sembilan	1	.7
Gender of owner-manager / manager		
Male	88	60.7
Female	57	39.3
Age of owner-manager/ manager		
Below 30	23	15.9
31-40	45	31.0
41-50	52	35.9
51-60	20	13.8
61 and above	5	3.4
Race of owner-manager/manager		
Malay	88	60.7
Chinese	48	33.1
India	2	1.4
Others	7	4.8
Marital status of owner-manager/ manager		
Single	23	15.9
Married	116	80.0
Divorced / Widowed	6	4.1
Education background of the owner-manager/manager		
Primary school education	8	5.5
Secondary school education	36	24.8
Certificate level	21	14.5
Diploma holder	32	22.1
Degree holder	39	26.9
Masters holder	8	5.5
Others	1	.7

4.3.3 EFA Analysis Procedures

Up to this stage, no dataset had been so severely unclean so that it was eliminated during the data screening stage. Therefore, 145 datasets were subjected to EFA.

In this study, all constructs were extracted using principle component analysis (PCA) and then rotated by Promax rotation method. Promax rotation was used because this oblique rotation method allowed factors to be correlated among the rotated factors (Hair et al., 2006, Ho, 2006). This criteria suited the aim of this study, which was to discover theoretically meaningful factors, given that both theoretical and empirical reasons exist to support the assumption that factors in this study should be correlated (Ho, 2006). Essentially, the use of Promax oblique rotation was obligatory in this study, because the use of orthogonal rotation at any level of the analysis would terminate the higher-order sequence (Loehlin, 1992, as cited in Johnson, Johnson, & Heimberg, 1999, p.165). This option bore important implication as this study had constructs of second-order and beyond. In fact, psychometric researchers concurred on the point that a study should first attempt with the oblique rotation before opting for the orthogonal alternative (Floyd & Widaman, 1995; Ho, 2006; Pallant, 2007). Should low correlations emerge from the oblique rotation, it then presents a posteriori justification to apply orthogonal rotation method. Furthermore, "if factors are virtually orthogonal in a given sample, the oblique rotations will return solutions with essentially orthogonal factors" (Floyd & Widaman, 1995, p.292; Reise, Comrey, & Waller, 2000).

For interpretations of the EFA, first and foremost, the factorability of the correlation matrix was examined. To assume factorability, a Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) value of .60 and above should

present, and the Bartlett's test of sphericity should be significant at the level $p < .05$ (Tabachnick & Fidell, 2007). Further, the presence of numerous inter-item correlations of .30 and greater is also necessary to assure the factorability (Pallant, 2007). In addition, this study adhered to the minimal cut-off of individual MSA of .50 (Field, 2009; Hair et al., 2006). Individual MSA is the KMO statistics for individual items (Field, 2009).

Further, the number of factors to retain was decided mainly based on the eigenvalue cut-off of greater than 1 (Field, 2009; Pallant 2007), rather than fixing a priori the number of factors to be extracted. This preference was made based on the theoretical basis to render flexibility for items to load freely based on the real data (Pallant, 2007), which was suggestively essential for the newly developed and the revised constructs in this study. This rationale behind the use of eigenvalue-of-1 criterion was that eigenvalues represent the amount of variation explained by a factor, and that an eigenvalue of 1 represents a substantial amount of variation (Kaiser, 1960; as cited in Field, 2009). Further, in situations where the decision of retaining appropriate number of factors became ambiguous, Catell's scree plot and parallel analysis were used to assist more accurate decision (Pallant, 2007). By means of scree plot, factors were accepted up to the breaking point where the graph leveled off. For parallel analysis, factors were retained only up to the level where the eigenvalues generated from the principal component analysis was still greater than the corresponding eigenvalues randomly generated by parallel analysis (Pallant, 2007). This principle worked on the basis that factors from real data with a valid underlying factor structure should have larger eigenvalues than those derived from random data, given the same sample size and number of variables (Horn, 1965).

Having decided the number of factor to retain, the total variance extracted and item communalities were observed. This study followed the rule of thumb that a solution explaining about 60% of the total variance was considered as satisfactory for a social science research (Hair et al., 2006). In this study, total variance explained indicated the percentage of variance explained by the extracted factors as interpreted using the threshold of eigenvalue 1. On the other hand, item communality indicates how much of the variance in each item is explained by a factor. Low communality of one item means that, that particular item does not fit well with the rest in the component (Pallant, 2007). However, high communalities are rare to happen in real data; the magnitudes of .40 -.70 are considered as common in social science (Costello & Osborne, 2005). This study followed Costello and Osborne's guideline of .40 - .70 range, while acknowledging that a communality of .50 and above was good (Hair et al., 2006).

Given that the oblique rotation was used, loadings in the pattern matrix were interpreted. This study retained items with loading of .50 and greater, as loading of ± .50 is considered practically significant (Hair et al., 2006). However, items with loadings lower than this threshold were also accepted given the case-to-case considerations such as content adequacy and empiric reasons. In such cases, Hair et al.'s (2006) guideline of significant minimal loading based on sample size was also used to assist decision; hence the minimal loading of .475 was acceptable for n = 145. Likewise, Steven's (2002, as cited in Field, 2009, p. 644) sample-specific rule would suggest a lower acceptable loading of .438 (n = 145).

Further, this study also deleted items that incurred several cross-loadings which loaded greater than .40, but were of less than .20 discrepancy values between them.

For cases where the discrepancy value was greater than .20, the item was retained and permissibly assumed to load on the factor for which it had the highest loading (Ferguson & Cox, 1993). For the new factors emerged from EFAs, the naming was done by interpreting the essence of the items which constituted the highest factors loading (Hair et al., 2006; Tabachnick & Fidell, 2007). As Burns and Burns (2008) noted, a factor is only as good as the items making up them.

Finally, the current study chose to factor-analyze the items within one sole predictor variable (independent variable [IV]), rather than clumping all items of all IVs into one factor analysis. This working principle was consistent with Kumar and Dillon's (1987) within-block factor analysis approach, which heightened the dimensionality within a latent construct itself. This factor-analytic principle is one of the two views closely related to uni-dimensionality involving construct of higher-order (Kumar & Dillon, 1987). There is no right or wrong in the adoption of the either view; its appropriateness depends on how uni-dimensionality is operationalized in a particular study (Kumar & Dillon, 1987).

It is asserted that the precise meaning of unidimensionality is context-specific, and that it is incumbent upon the researcher to specify exactly whether a study intends to evaluate the dimensionality within a sole latent construct itself (within-block) or the dimensionality of the observed set of indicators in the context of full structural model (Kumar & Dillon, 1987). Therefore as the researchers noted, "Hence we have a situation in which a set of observed measures is unidimensional if considered by themselves and ceases to be unidimensional in the context of a structural model" (Kumar & Dillon, 1987, p. 441). While the former is based on the criterion of internal consistency, the latter is based on the criterion of external

consistency. Kumar and Dillon (1987) however suggested that unidimensionality specified and assessed in terms of external consistency was of "less useful" (p. 441) to the substantive researchers. Accordingly, the within-block factor analysis approach was used, and that separate series of EFA were performed for CR, IC, EO, and the four second-order dimensions of BCS. Their EFA results are presented in the next Section 4.3.4 through 4.3.7.

4.3.4 EFA Results of Crisis Readiness (CR)

Demonstrated in Table 4.8 is the psychometric properties and factorial solution of crisis readiness. The assurance of factorability was evident in the Kaiser-Meyer-Olkin (KMO) value of .885, the presence of a complete inter-item correlations of .30 and greater (Pallant, 2007), and the statistically significant Bartlett's test of Sphericity (χ^2 = 904.265, df = 55, p < .001). The individual measures of sampling adequacy (MSA) were found ranging from .835 to .940, and item communalities were all well above the cut-off of .50 (Hair et al., 2006).

The scale was validated to be a uni-dimensional latent scale with eleven (11) items, explaining nearly 55% of the variance extracted. This finding was different from the original scale from which this study adapted, which was a two-factor multidimensional construct. Given this difference, the corresponding scree plot was inspected and parallel analysis was performed for additional evidence to decide on the number of factor to retain. The scree plot revealed an obvious break right after the first component before leveling off, thus indicating the existence of one-factor solution. On the other hand, the parallel analysis exhibited that the actual eigenvalue generated from EFA ceased to exceed the random criterion value produced by

parallel analysis at the second component, thus further confirming the one-factor solution of crisis readiness. The result of the parallel analysis is presented in Table 4.9.

It is notable that although the number of items was reduced from 15 to 11, the remaining items however still encapsulated both the present and prospective essence inherent in the conceptual definition of crisis readiness. Of the eleven items, while five were items reflecting present crisis readiness (PCr4, PCr5, PCr6, PCr7, PCr8), six were items of prospective crisis readiness (ProsCr1, ProsCr2, ProsCr3, ProsCr4, ProsCr5, ProsCr7). Since the meaning of the construct had not been altered after the dropping of items, it implied that the changes in the items had not caused changes in the construct.

Further, the eleven items were found loading sufficiently on the single factor, with all demonstrated loadings of above .70 (ranging from .709 to .790). The reasonably high loadings despite the removal of four items implied that items were equally reliable and interchangeable, and that the remaining items were still sufficiently correlated with each other after items elimination. These observations, along with the high Cronbach's alpha value of .916 supported the postulated reflective nature of CR.

Being revealed as a single-factor solution, the resultant construct was plainly named as crisis readiness. Being reflective, the eleven items was seen as a representative sample of items for CR construct (MacKenzie, Podsakoff, & Jarvis, 2005).

Table 4.8

Exploratory Factor Analysis Results of Crisis Readiness (n = 145)

Item codes	Items (11 items; α = .916)	Factor Loadings
PCr4	My firm has good knowledge regarding the different stages of a crisis.	.725
PCr5	My firm knows what to do at every possible stage of a crisis.	.718
PCr6	In a crisis situation, my firm knows when it is right to be reactive or proactive.	.731
PCr7	My firm has high flexibility to implement fast decision.	.767
PCr8	My firm has high flexibility to react fast to crisis once it is diagnosed.	.728
ProsCr1	My firm would know how to diagnose the causes of a crisis.	.717
ProsCr2	My firm would know what resources and quantities to allocate in order to successfully cope with a crisis.	.749
ProsCr3	My firm is good at catching early warning signals of a potential crisis.	.790
ProsCr4	My firm closely monitors internal and external business environments from time to time.	.773
ProsCr5	My firm is good at making insightful sense of the business environment trend	.709
ProsCr7	My firm has crisis management plan.	.742
	Eigenvalue	6.045
	Percentage of Variance Explained	54.956%
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	.885
	Bartlett's Test of Sphericity Approx. Chi Square	904.265
	Df	55
	Sig.	.000

Table 4.9

Parallel Analysis Result of Crisis Readiness (n = 145)

Component no.	Actual eigen value from PCA (SPSS)	Greater/ smaller than	Random criterion value from parallel analysis	Factor retained / rejected	Decision
1	6.045	>	1.4728	Retained	1-factor solution
2	.969	<	1.3266	Rejected	

Note. > denotes a value greater than; < denotes a value smaller than

4.3.5 EFA Results of Improvisational Competence (IC)

Depicted in Table 4.10 is the psychometric properties and factor solution result of improvisational competence (IC). The analysis revealed a clear unidimensional scale, with all the eight items retained. The factor analysis yielded a KMO value of .885, which was well above the satisfactory level of .60. The individual MSA ranged from .865 to .908. While the Bartlett's test of sphericity was significant (χ^2 = 575.748, df = 28, p < .001), all inter-item correlations coefficients were found above .30. The attainment of the above results together confirmed the factorability of the correlation matrix. Further, communalities were all above the acceptable level of .50 (Hair et al., 2006).

The EFA had proven IC as a uni-dimensional latent construct, as proposed by the current study. However, given the newness of the IC construct, the dimensionality was further assessed using parallel analysis. As evident in Table 4.11, the actual eigenvalue generated from the EFA principal component analysis was only greater than the random criterion value produced by the parallel analysis for the first factor. Therefore, the one-factor solution was further established.

Further, all factor loadings were found greater than the threshold of .70, except one item (IC2) which yielded a loading of .694. This loading was only slightly lower than .70, and hence was not regarded as a critical issue. The existence of many high loadings and the Cronbach's alpha value of .890 rendered preliminary evidence of IC being a reflectively measured latent construct. The high internal consistency reliability indicated that items were indeed well correlated and shared the same underlying theme (Jarvis, MacKenzie, & Podsakoff, 2003). This condition was consistent with their purported development of being interchangeable items, such

that the elimination of any item would not alter the meaning of the construct (MacKenzie et al., 2005).

Table 4.10

Exploratory Factor Analysis Results of Improvisational Competence (n = 145)

Item codes	Items (8 items; α = . 890)		Factor loadings
IC1	My firm has the ability to figure out action as we go along.		.737
IC2	When new challenges come unexpectedly, my firm is able to improvise in searching for solutions.		.694
IC3	When new opportunities come unexpectedly, my firm is able to improvise in searching for workable way to reach it.		.771
IC4	When new problems come unexpectedly, my firm is able to improvise in searching for workable way to solve it.		.741
IC5	My firm is able to respond to unexpected new challenges in spontaneous way.		.746
IC6	My firm is able to act spontaneously to new opportunities that come unexpectedly.		.831
IC7	My firm is able to respond to problems in spontaneous ways.		.751
IC8	My firm is able to perform under time pressure.		.761
	Eigenvalue	4.558	
	Percentage of Variance Explained	56.976	
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	.885	
	Bartlett's Test of Sphericity Approx. Chi Square	575.748	
	Df	28	
	Sig.	.000	

Table 4.11

Parallel Analysis Result of Improvisational Competence (n = 145)

Component no.	Actual eigen value from PCA (SPSS)	Greater/ smaller than	Random criterion value from parallel analysis	Factor retained / rejected	Decision
1	4.558	>	1.3645	Retained	1-factor solution
2	.977	<	1.2209	Rejected	

4.3.6 EFA Results of Entrepreneurial Orientation (EO)

Extracted by the cut-off value of Eigenvalue one, a clear factorial solution emerged, confirming the five dimensions of EO proposed by the current study, namely the risk-taking orientation, innovativeness orientation, proactiveness orientation, competitive-aggressiveness and futurity orientation. Basically, the initial 37-item scale had been reduced to a 28-item scale, achieving a good KMO of .784 along with significant Bartlett's test of sphericity (χ^2 = 2139.805, df = 378, p < .001). Many inter-item correlations coefficients greater than .30 were evident. In addition, the KMO statistic for individual items ranged from .695 to .892. Therefore, altogether, the factorability of the correlation matrix was confirmed.

The five dimensions extracted explained approximately 60.57% of the variance extracted. This reflected a rather favorable state as the study could economize on the number of variables (from 37 items to 28 items, capturing still the essence of the five sub-ordinate dimensions proposed), while losing only nearly 38% of the construct item content. As depicted in the factorial solution in Table 4.12, it was also noted that most of the items still clang much in the reminiscence to the pattern in which they were initially proposed for. Given this, no re-naming of factors was made. Each sub-ordinate dimension comprised some items carrying good factor loadings above the range of .70, earning the benefit of marker variable. Overall, all the loadings ranged between .555 and .879. Each first-order sub-ordinate construct consisted of more than 3 items, the minimal requirement to prevent indeterminacy problem. There were five (5) items retained for risk-taking orientation; seven (7) for innovativeness orientation, five (5) for proactiveness, five (5) for competitivene-aggressiveness, and finally six (6) for futurity orientation. Further, all items were

found achieving communalities of above .50, except item Fut4 (.472). This particular item was decided to be retained in the scale after considering its potential contribution to the content validity. This decision was also substantiated by the fact that the construct had also been scrutinized through a prudent series of content validity involving both academic and field expert in the pretest stage. Moreover, this item communality was still agreeable with Costello and Osborne's (2005) acceptable range of .40 -.70 in social science.

Generally, all factors experienced items deletion. Only item "Risk 1" which was initially intended to constitute the risk-taking orientation had been factored into proactiveness orientation. Given that the eliminations and reshuffling of items had not altered much the construct domain, this indicated that changes in the items did not cause changes in the construct, hence preliminarily supporting the reflective nature of the EO construct and its dimensions (Jarvis, MacKenzie, & Podsakoff, 2003). Parallel support was also evident in the high Cronbach's alpha value of EO global construct (α: .886), and each of its dimensions (Risk-taking, α = 804; Innovativeness, α = .883; Proactiveness, α = .837; Competitive-aggressiveness, α = .824; Futurity, α = .817).

The findings also confirmed the multidimensional nature of the EO as a second-order construct, which tailored to the rationale of its examination within an environment of considerably complex. To note, the factor analysis also further provided confirmation that the proactiveness and competitive-aggressiveness orientations were meant to be separate dimensions of EO upon the backdrop of this study.

Table 4.12

Exploratory Factor Analysis Results of Entrepreneurial Orientation (n = 145)

Items code	Items (28 items; α = .886)	Component				
		1	2	3	4	5
	Factor 1: Risk-taking orientation (α : .804)					
Risk3	My firm has the tendency to support projects even when the expected return is uncertain.	.693				
Risk4	My firm's operations seldom follow the "tried and true" path.	.635				
Risk5	In making strategic decisions, my firm tends to focus on investments that have high risk to favor for high return.	.810				
Risk6	My firm searches for big opportunities, and favor large, bold decision despite the uncertainty of the outcome.	.758				
Risk7	When confronted with decision making situations involving uncertainty, my firm adopts brave, aggressive posture.	.747				
	Factor 2: Innovativeness orientation (α : .883)					
Inno2	My firm actively introduces innovation.		.574			
Inno5	My firm has marketed many new lines of products.		.718			
Inno6	My firm has marketed many new lines of service.		.762			
Inno7	Many new lines of product have been marketed in the past five years.		.818			
Inno8	Many new lines of service have been marketed in the past five years		.863			
Inno9	Changes in product lines have been mostly major in nature.		.756			
Inno10	Changes in service lines have been mostly major in nature.		.783			
	Factor 3: Proactiveness orientation (α : .837)					
Pro1	My firm is constantly seeking new opportunities related to present operation.			.791		
Pro3	My firm is constantly on the look-out for new opportunities.			.737		
Pro4	Whenever there is ambiguity in government regulation, my firm will move proactively to try to take a lead.			.555		
Pro5	In making strategic decisions, my firm responds to signals of opportunities quickly.			.570		
Risk1_Pro	My firm adopts a rather optimistic view when making major decision.			.803		

(*table continues*)

***Table 4.12.* (*continued*)**

	Factor 4: Competitiveness-aggressiveness orientation (α : .824)					
ComAg2	My firm often cuts price to increase market share.				.759	
ComAg4	My firm often seeks market share position by sacrificing cash flow.				.879	
ComAg5	My firm often seeks market share position by sacrificing profitability.				.853	
ComAg6	My firm typically adopts a very competitive "undo-the-competitors" posture.				.624	
ComAg7	My firm is very aggressive in competing.				.503	
	Factor 5: Futurity orientation (α : .817)					
Fut2	Forecasting key indicators of operations is common in my firm.					.764
Fut3	Formal tracking of general trend is common in my firm.					.762
Fut4	My firm often conducts "what if" analysis of critical issues.					.573
Fut5	In making strategic decisions, my firm looks into the future to anticipate conditions.					.668
Fut6	My firm is willing to sacrifice short-term profitability for long-term goal.					.749
Fut7	My firm emphasizes investments that will provide us with a future competitive edge.					.579
	Eigenvalue	1.383	7.119	1.781	3.245	3.430
	Percentage of Variance Explained (60.565%)	4.941	25.425	6.361	11.589	12.249
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	.784				
	Bartlett's Test of Sphericity Approx. Chi Square	2139.805				
	Df	378				
	Sig.	.000				

4.3.7 EFA Results of Business Coping Strategy (BCS)

Four separate series of EFAs were done for the four second-order constructs of BCS, namely RG, CC, FB, and Bri, to reveal the underlying construct of the proposed measure instrument.

Further, to heed the importance of validating the higher-order construct (Edward, 2001, Hair et al., 2006; Johnson, Rosen, Chang, Djurdjevic, & Taing, 2012), bivariate correlation (Pearson product-moment correlation) analysis was performed

on all the second-order constructs to assure that sufficiently strong significant correlations did indeed exist between all the second-order constructs which were proposed to reflect the third-order BCS construct. Cohen's (1988, as cited in Pallant, 2007, p.132) guideline was later used to further determine the strength of the correlation. Based on Cohen's threshold, the ranges of .10 - .29, .30 - .49, and .50 - 1.0 correspond to small, medium, and large correlation respectively.

The EFA results and their corresponding interpretations of RG, CC, FB, and Bri are presented in the following subsections 4.3.7.1 through 4.3.7.4, while the bivariate correlation result is reported in subsection 4.3.7.5.

4.3.7.1 EFA Results of Second-Order RG

The EFA result of RG is presented Table 4.13. The exploratory factor analysis had reduced the initially 28 content-validated revenue-generation tactics items to 19, with four factors achieving eigenvalues exceeding 1 emerged to explain 69.20% of the variance explained, which was satisfactory in line with Hair et al.'s (2006) cut-off of 60%. The KMO value was .896, exceeding acceptable value of .60. The individual MSA ranged from .798 to .943. While the Bartlett's test of sphericity attained statistical significance (χ^2 = 1844.799, df = 171, p < .001), numerous inter-item coefficients of .30 and above were evident; and hence altogether supporting the factorability of the correlation matrix.

All, except one (RG8, item loading = .479), items loaded sufficiently on the respective factors, ranging from above .530 to .941. Although item RG8 was below the threshold of .50, this study decided to keep it considering its potential contribution to the content validity and its prevalent use in prior research.

Furthermore, the item had been carefully reviewed during the content validity stage. Moreover, this item loading still fell within the acceptable level of Hair et al.'s (2006) sample-specific guideline (minimal loading of .475, n = 145), and was also far above Steven's (2002; as cited in Field, 2009) sample-specific acceptable level of .438.

Amongst the retained 19 items, seven were factored into Factor 1, strengthening marketing initiatives; three, Factor 2, differentiated discounting; four, Factor 3, juggling quality and pricing policy; and finally five, Factor 4, care for value-added. While all the communalities of items ranged well above the acceptable cut-off of .50, the resultant component correlation matrix provided evidence that the four factors were positively and rather strongly correlated, with correlation coefficient ranging from .301 to .676, signifying medium to large correlation (Cohen, 1988, as cited in Pallant, 2007). The internal consistency reliability test revealed high Cronbach's alpha values for the global construct (α = .935) and all corresponding lower-order constructs of revenue-generation tactics (ranging from α = .776 to .941). These reasonably high internal consistency reliability coefficients also preliminarily supported the reflective nature of the RG tactics.

Table 4.13

Exploratory Factor Analysis Results of Revenue-Generation Tactics (n = 145)

Item code	Items (19 items; α = .935)	Component			
		1	2	3	4
	Factor 1: Strengthening marketing initiative (α = .880)				
RG2	My firm changes advertising style to attract customers.	.543			
RG3	My firm increases sales activity.	.636			
RG4	My firm improves marketing activities to promote our product.	.885			
RG5	My firm increases trade promotion.	.886			
RG6	My firm makes use of business networks for promotion activities.	.564			
RG7	My firm increases marketing budget to assist marketing activities.	.934			
RG8	My firm increases distribution channel.	.479			
	Factor 2:Differentiated discounting (α = .941)				
RG13	My firm selectively offers discount to the most valuable customers.		.922		
RG14	My firm selectively offers discount to the most loyal customers.		.885		
RG15	My firm selectively offers discounts to the most satisfied customers.		.941		
	Factor 3:Juggling quality and pricing policy (α = .776)				
RG18	My firm emphasizes high quality of product.			.893	
RG19	My firm offers higher quality product at the same price.			.862	
RG20	My firm introduces new product capabilities.			.582	
RG21	My firm improves aesthetic features of product.			.530	
	Factor 4: Care for value-added (α = .874)				
RG22	My firm gives attention to after-sales service.				.928
RG23	My firm improves the quality of our after-sales service.				.845
RG24	My firm focuses on high-value-added segment of market.				.821
RG25	My firm seeks opportunities for market diversification.				.654
RG27	My firm targets on new market niches.				.663
	Eigenvalue	9.084	1.135	1.065	1.863
	Percentage of Variance Explained (69.197%)	47.812	5.974	5.605	9.807
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)		.896		
	Bartlett's Test of Sphericity Approx. Chi Square		1844.799		
	Df		171		
	Sig.		.000		

4.3.7.2 EFA Results of Second-Order CC

About 29 items carrying the essence of cost-cutting tactics were subjected to EFA. About nine items were deleted throughout the iterative process of EFA. The remaining 20 items formed four factors with eigenvalues exceeding 1, which together explained 60.33% of the variance. Supports for the factorability of the correlation matrix were established upon the evidence of the KMO value of above .60 (.796), the substantial number of inter-items correlation of .30 and greater, coupled with statistically significant Bartlett's Test of Sphericity at $p < .05$. Further, the individual MSA were all well above the threshold of .50, ranging from .688 to .896. The 20 items loaded sufficiently onto four factors, with loadings ranging from .607 to .828. Communalities of all items were also well above the acceptable cut-off of .50. Amongst the four factors, the first factor was renamed as working capital control (item CC1, CC6, CC7); the second, production capacity and manufacturing investment control (item CC 8, CC9, CC11, CC12, CC13, CC14, CC15); the third, cost-streamlining-stock control (item CC 16, CC19, CC20); the fourth, care for economies of scale and scope, and cost priority (items CC 22, CC23, CC24, CC25, CC26, CC27, CC29).

Factor 1 (working capital control) constituted the practices of promoting towards a more manageable working capital, with which controlling overhead cost (such as electricity and water usage) and transportation cost were of usefulness. Factor 2 (production capacity and manufacturing investment control) comprised tactics which mainly nurtured towards monitoring manufacturing expenses by adjusting the intensity of production and other manufacturing investments. As observed, this factor included cost-cutting moves related to R & D activities for manufacturing

process, expenses of worker's training, and investment in factory equipment. It also encapsulated the postponement of manufacturing use's purchasing, and the reduction of production capacity and product range. Factor 3 (cost-streamlining-stock control) was largely related to keeping lean by means of switching to cost-saving production method, streamlining production activities for improved efficiency and minimizing the level of unproductive stock. Factor 4 (care for economies of scale and scope, and cost priority) comprised numerous tactics which capitalized on economies of scale and scope, as well as other concerns of cost priority. In particular, attaining economies of scale in smaller firms allows firm to avoid the diseconomies inherent in large size, and therefore spreading risk (Julien, 1993).

In addition, the Cronbach's alpha value of the global construct of CC was .860. Equally high internal consistency reliability coefficients were also observed in all four lower-order constructs (.738, .836, .810 and .858). Thus, it was fair to claim that the postulated reflective nature of the CC measurement was to some extent, supported. The EFA result of CC is tabulated in Table 4.14.

Table 4.14

Exploratory Factor Analysis Results of Cost-Cutting Tactics (*n = 145*)

Item Code	Items (20 items; α = .860)	Factors			
		1	2	3	4
	Factor 1: Working capital control (α = .738)				
CC1	We reduce working capital whenever possible.	.607			
CC6	We reduce overhead cost (electricity, water supply, etc).	.729			
CC7	We cut transportation cost.	.781			
	Factor 2: Production capacity and manufacturing investment control (α = .836)				
CC8	We reduce expenditure for R & D activities of manufacturing process.		.758		
CC9	We cut innovation activities.		.730		
CC11	We reduce expenses on worker's training.		.687		
CC12	We reduce investment in the factory and equipment.		.691		
CC13	We postpone purchasing for manufacturing use.		.659		
CC14	We cut down the capacity (quantity) of production.		.648		
CC15	We reduce product range (or the number of product lines).		.766		
	Factor 3: Cost-streamlining-stock control (α = .810)				
CC16	We switch to production methods that save cost.			.767	
CC19	We streamline production activities to become more efficient in the production process.			.716	
CC20	We care for stock control to minimize level of unproductive stock.			.688	
	Care for economies of scale and scope & cost priority (α = .858)				
CC22	We care for achieving economies of scale.				.608
CC23	We care for achieving economies of scope.				.716
CC24	Achieving cost advantage is very important to my firm.				.687
CC25	Cost is the most critical component in my firm's performance measures.				.828
CC26	Consideration of cost always comes first in the decision making process of my firm.				.730
CC27	My firm has a continuing overriding concern for operating cost reduction.				.623
CC29	My firm closely monitors the effectiveness of key business processes.				.697
	Eigenvalue	1.371	3.042	1.837	5.816
	Percentage of Variance Explained (60.328%)	6.855	15.208	9.185	29.079
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)		.796		
	Bartlett's Test of Sphericity Approx. Chi Square		1297.784		
	Df		190		

4.3.7.3 EFA Results of Second-Order FB

About 20 content-validated items of financial bootstrapping were subjected to EFA. As depicted in Table 4.15, the analysis revealed a three-factor solution which explained 60.59% of the variance. About seven items were deleted. The factorability of the correlation matrix was found evident given the KMO value of .766, numerous inter-item correlation coefficients of .30 and above, as well as the statistically significant Bartlett's Test of Sphericity ($\chi^2 = 707.739$, $df = 78$, $p < .05$). In addition, the individual MSAs ranged from .634 to .882.

Amongst the three resultant factors, all items of joint-utilization related bootstrapping factor were retained (ASh1, ASh2, ASh3, ASh4, ASh5). The other two factors were composed of mixed items. While the items AC2, AC3, AC6, and AS1 were renamed into receivable-payable related bootstrapping, item AO1, AO2, AS4, and AS5 made up the factor of operator-and/or-owner-related bootstrapping. The former clearly reflected the essence of receivables and payables practices in business, whilst the latter to some extent embodied the fundamentals related operator and/or owner's decision. The term operator-related bootstrapping was used hereafter to connote operator-and/or-owner-related bootstrapping.

Further, substantial loadings were noticeable for all items (ranging from .541 to .893); with ten over thirteen demonstrating loadings above the threshold of .70. As the iterative factor analysis process also revealed a feasible four-factor solution, a parallel analysis was carried out to further assist the decision of number of factor to retain. As the results depicted in Table 4.16, the appropriateness of three-factor solution was confirmed given the evidence that the eigenvalue derived from the principal component analysis became smaller than the corresponding criterion value

randomly generated by parallel analysis at the forth factor. Therefore, a three-factor solution of financial bootstrapping was decidedly used in the further confirmatory analysis (measurement model). This result demonstrated that financial bootstrapping was indeed a three-factor construct in the Malaysian manufacturing firms setting.

Further, the reasonably high internal consistency reliability (α = .793) of the global construct of financial bootstrapping was also suggestive of the reflective nature of the measurement. Evidence of satisfactory Cronbach's alpha level were also found in the three lower-order constructs, namely joint utilization-related bootstrapping (α = .811), receivables-payables-related bootstrapping (α = .664), and operator-related bootstrapping (α = .853). Though the receivable-payables bootstrapping was slightly lower than the .70 threshold, it was however still scoring above the acceptable level of .60 for exploratory setting.

Table 4.15

Exploratory Factor Analysis Results of Financial Bootstrapping Tactics (n =145)

Item codes	Items (13 items; α = .793)	Factors		
		1	2	3
	Factor 1: Joint utilization-related bootstrapping (α = .811)			
ASh1	My firm borrows equipment from other businesses.	.808		
ASh2	My firm hires temporary rather than permanent employees.	.624		
ASh3	My firm shares business space with another firm.	.788		
ASh4	My firm shares employees with another firm.	.830		
ASh5	My firm shares equipment with another firm.	.893		
	Factor 2: Receivables-payables-related bootstrapping (α = .664)			
AC2	My firm negotiates for advanced payment from customer.		.825	
AC3	My firm uses methods that speed up invoicing.		.788	
AC6	My firm chooses customer who pays quickly.		.754	
AS1	My firm negotiates payment conditions with suppliers.		.820	
	Factor 3: Operator-related bootstrapping (α = .853)			
AO1	My firm withholds owner's salary.			.801
AO2	My firm uses owner's personal credit card for business purpose.			.764
AS4	My firm leases equipment instead of buying.			.541
AS5	My firm buys used equipment instead of the new one.			.665
	Eigenvalue	3.831	2.495	1.551
	Percentage of Variance Explained (60.588%)	29.470	19.190	11.929
	Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)		.766	
	Bartlett's Test of Sphericity Approx. Chi Square		707.739	
	Df		78	
	Sig.		.000	

Table 4.16

Parallel Analysis Result of Financial Bootstrapping Tactics (n =145)

Component no.	Actual eigen value from PCA (SPSS)	Greater/smaller than	Random criterion value from parallel analysis	Retain/Reject factor	Decision
1	3.831	>	1.5258	Retained	3-factor solution
2	2.495	>	1.3919	Retained	
3	1.551	>	1.2835	Retained	
4	1.029	<	1.1905	Rejected	

4.3.7.4 EFA Results of Second-Order Bri

Presented in Table 4.17 is the EFA result of bricolage tactics. A total of 18 reflective items of bricolage tactics were subjected to EFA. The appropriateness of data for factor analysis was confirmed by the presence of many inter-item correlation coefficients of .3 and above. The factorability of the correlation matrix was further supported by the Kaiser-Meyer-Olkin value which exceeded the acceptable threshold value of .60 (.883), and the statistically significant Bartlett's test of Sphericity ($\chi^2 = 862.734$, $df = 66$, $p < .001$).

Table 4.17

Exploratory Factor Analysis Results of Bricolage Tactics (n = 145)

Item code	Items (12 items; α = .895)	Factors	
		1	2
	Factor 1: Network bricolage (α = .863)		
NB1	My firm views business network as an important resource.	.741	
NB2	When my firm faces new challenges, we generate workable solution from the existing business networks.	.788	
NB3	My firm uses the existing business networks to help handling new problem.	.850	
NB4	My firm uses the existing business networks to respond to new opportunity.	.863	
NB6	My firm adjusts among several existing networks to generate solutions.	.534	
NB7	By combining existing business networks, my firm takes on a surprising variety of new challenges.	.554	
	Factor 2: Material bricolage (α = .855)		
MB2	My firm gladly takes on a broader range of challenges than other firms, even by using only our existing resources.		.580
MB7	My firm uses any existing resources that seem useful to respond to a new opportunity.		.689
MB8	When dealing with new challenge, my firm is able to use a combination of our existing resources and other resources cheaply available to us.		.844
MB9	By combining the existing resources, my firm takes on a surprising variety of new challenges.		.819
MB10	When my firm faces new challenges, we put together workable solutions from our existing resources.		.873
MB11	My firm is able combine resources to accomplish new challenges, with resources which are actually not originally used for it.		.825

(*table continues*)

Table 4.17. (continued)

Eigenvalue	1.584	5.631
Percentage of Variance Explained (66.127%)	13.203	46.924
Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)	.883	
Bartlett's Test of Sphericity Approx. Chi Square	862.734	
Df	66	
Sig.	.000	

The Promax rotation revealed two factors above the eigenvalues of 1, which together explaining 66.13% of the variance. The factor analysis had economized the number of items from 18 to 12, with 6 items remained each for material bricolage (MB2, MB7, MB8, MB9, MB10, MB11) and network bricolage (NB1, NB2, NB3, NB4, NB6, NB7) respectively. As demonstrated in Table 4.17, no renaming of factors was necessitated as items were found still assembling within the initial theoretically proposed factor structure. Six out of the seven newly developed items of network bricolage were remained, all of which demonstrated sufficient loadings (.534, .554, .741, .788, .850, and .863). Likewise, the resultant six items of material bricolage revealed sufficient loadings ranging from .580 to .873. Numerous marker variables with loading above .80 were evident in both factors.

Considering that the global construct of bricolage was indeed an incorporation of a new scale developed in this study (network bricolage) with the existing one, further confirmation regarding the number of factors was made with the assistance of parallel analysis. As demonstrated in Table 4.18, the parallel analysis supported the two-factor solution revealed by EFA. As demonstrated in Table 4.18, it was only up to the second factor wherein the actual eigenvalues produced from principal component analysis was found greater than the corresponding random criterion value generated from parallel analysis. Further, the component correlation matrix

indicated that the two factors were indeed sufficiently correlated (correlation coeeficient = .543), and yet not as extremely strong to incur multicollinearity or singularity issue, both of which could be recognized from correlation between factors of greater than .80 (Field, 2009). This result while providing an important evidence to further support the existence of multidimensional nature of bricolage tactics in this study, it also further proved that the incorporation of network bricolage with the existing bricolage scale was theoretically acceptable.

In addition, the reflective nature postulated for the construct was preliminarily supported by the Cronbach's alpha values of .863 and .855 for MB and NB respectively; and .895 for the global bricolage construct. Hence, material bricolage and network bricolage were two lower-order reflective constructs which were meant to manifest the corresponding higher-order construct. Likewise, the items of MB and NB were the manifestations of these constructs. The reflective nature inherent in these constructs was also suggestive from the unaltered meaning of the constructs, as it was notable that items pre-proposed to manifest MB and NB still clutched together after items deletion. The two-factor solution was later further validated in PLS-SEM examination.

Table 4.18

Parallel Analysis Results of Bricolage Tactics (n = 145)

Component no.	Actual eigen value from PCA (SPSS)	Greater or smaller than	Random criterion value from parallel analysis	Retain/reject Factor	Decision
1	5.631	>	1.4885	Retain	2-factor solution
2	1.584	>	1.3716	Retain	
3	.922	<	1.2605	Reject	

4.3.7.5 Validating Third-Order BCS within the EFA framework

Depicted in Table 4.19 are the correlations and their corresponding significance for the four second-order constructs under BCS. The analysis of significance revealed statistically significant positive correlations among all the second-order constructs, all of which demonstrated strength of correlation ranging from medium to large (r = .386 to r = .581), based on Cohen's guideline (1988, p.79-81; as cited in Pallant, 2007, p.132). Correlation coefficients of greater than .70 were not present in the correlations matrix. This indicated that there was no multicollinearity issue among the four proposed second-order constructs (Pallant, 2011).

In this view, this study could safely conclude that, while the four proposed second-order constructs were sufficiently correlated, they did not incur multicollinearity issues, and that each of them captured sufficiently distinct contribution. Hence, the possible existence of the theoretically hypothesized third-order BCS construct was statistically supported within the EFA framework. This finding was later reconfirmed in the measurement model stage.

Table 4.19

Correlations between the Second-order Constructs of BCS (n = 145)

Second-order RG	Pearson Correlation	1			
	Sig. (1-tailed)				
Second-order CC	Pearson Correlation	.395(**)	1		
	Sig. (1-tailed)	.000			
Second-order FB	Pearson Correlation	.386(**)	.444(**)	1	
	Sig. (1-tailed)	.000	.000		
Second-order Bri	Pearson Correlation	.581(**)	.545(**)	.457(**)	1
	Sig. (1-tailed)	.000	.000	.000	

Note. Second-order RG: second-order construct of revenue-generation tactics; Second-order CC: second-order construct of cost-cutting tactics; Second- order FB: second-order construct of financial bootstrapping tactics; Second-order Bri: second-order construct of bricolage tactics
** Correlation is significant at the 0.01 level (1-tailed).

4.3.8 Descriptive Analysis of the Main Constructs (EFA, *n* = 145)

Reported in Table 4.20 is the descriptive analysis of the main constructs for the EFA stage. All the constructs were captured on a 5-point Likert-type scale, anchoring from 1 (*strongly disagree*) to 5 (*strongly agree*). The table indicates that most of the response average were above the middle point of 3, varying from 3.08 to 4.20, except for joint-utilization bootstrapping which was slightly below 3 (2.67), being the lowest of the mean values. Such findings gave an overall indication of somewhat positive attitude amongst the respondents for most of the constructs examined. On the other hand, all standard deviations values were all below 1. While the differentiated discounting practice construct charted the highest value of standard deviation (.897), construct of care for economies of scale and scope, and cost priority reported the lowest (.515). Given that most of the constructs had reasonably small values of standard deviation (.515 and .731), low variance was suggestive, and that data points were gathering around the mean. With scores less spread out around the mean, it also indicated a somehow rather homogeneous response of the sample for those particular constructs.

Table 4.20

Descriptive Statistics of Focal Constructs in the EFA Stage (n = 145)

Constructs	Mean	Std. Deviation	Min	Max
Crisis readiness	3.65	.586	2	5
Improvisational competence	3.90	.559	2	5
Risk-taking orientation	3.41	.603	1	5
Innovativeness orientation	3.46	.699	1	5
Proactiveness orientation	4.15	.573	2	5
Competitive-aggressiveness orientation	3.23	.700	1	5
Futurity orientation	3.96	.586	2	5

(*table continues*)

***Table 4.20.* (*continued*)**

Strengthening marketing initiatives	3.88	.662	2	5
Differentiated discounting practice	3.85	.897	1	5
Juggling quality and pricing policy	4.08	.570	3	5
Care for value-added	4.14	.620	2	5
Working capital control	3.89	.766	1	5
Production capacity and manufacturing investment control	3.14	.731	1	5
Cost-Streamlining-stock control	4.01	.761	1	5
Care for economies of scale and scope, and cost priority	4.20	.515	3	5
Receivable-payable-related bootstrapping	4.07	.668	2	5
Operator-related bootstrapping	3.08	.726	1	5
Joint utilization-related bootstrapping	2.67	.811	1	5
Material bricolage	3.78	.532	2	5
Network bricolage	3.93	.554	2	5

Note. Min denotes minimum score values; Max denotes maximum score values.

4.4 Analyses and Findings of Measurement Models

The comprehensive analysis embodied within the structural equation modeling (SEM) capability can be performed through one of the two distinct statistical techniques, namely the covariance-based SEM (i.e. AMOS, LISREL, SQL) and the variance-based or component-based SEM, i.e. Partial Least Square (Gefen, Straub, & Boudreau, 2000). However, the variance-based SEM (PLS SEM) was opted for this study. The reasons as to this option are further delineated in sub-section 4.4.2.

When PLS is in use for SEM, a full latent variable model encapsulates both a measurement model and a structural model. Whereas the measurement model depicts the link between a hypothesized latent construct and its observed measures, the structural model specifies the links amongst the latent constructs, as conjectured by theories (Byrne, 2010). The working principle is that, the psychometric soundness of the measurement model must first be achieved before the structural model was evaluated in the analysis of full latent variable model (Byrne, 2010).

Specifically, PLS SEM was used in this study to further assess the adequacy of the dimensional structure and the replicability of the resultant outcome from the EFA stage (Hair et al., 2006). Important to note, while the unidimensionality of constructs was primarily assessed by EFA (Gefen & Straub, 2005), the explicit evaluation of unidimensioality was accomplished by PLS SEM which was the confirmatory factor analysis (CFA) of the measures (Gerbing & Anderson, 1988). The capability of SEM technique to examine measures and theory simultaneously gave rise to the validation process in this study (Fornell & Bookstein, 1982), which involved development and revisions of several focal constructs.

4.4.1 Measurement Model Analysis Procedures and Sample

The remaining split-half sample of 150 was subjected to analyses of measurement model and structural model. As far as PLS-SEM was concerned, this sample size was still in agreement with Hair, Hurt, Ringle, and Sarstedt's (2014) recommendation of Cohen's (1992) ten-time rule used to calculate the minimum sample size necessary for PLS path estimation. This minimum number was calculated by multiplying-ten the largest number of arrows (structural paths) pointing at a particular latent variable within the inner model (Barclay, Higgins, & Thompson, 1995; Cohen, 1992). In the current study, the largest number of arrows pointing at one particular latent construct within the inner model was three. Therefore, a minimum sample size of thirty (3*10 = 30) was needed for the PLS path estimation. In this view, a sample size of 150 in this study was well above the PLS path modeling requirements.

Prior to the SEM analyses, the sample was subjected to all necessary preliminary screenings and diagnostic assessments of multivariate assumptions. These assessments included the out-of-range checking, missing data assessment, identifications of outliers, and the assessments of normality and linearity assumptions. Following suit these initial screenings were the assessments of common method variance, multicollinearity (and singularity), and homoscedasticity. In particular to the missing values assessment and treatment at the stage of measurement model, dataset were first inspected and treated in SPSS as it was done in the EFA stage. This concern was then further notified (marked) and taken care of by Smart PLS algorithm at the measurement model stage. All the above assessments were carried out using the SPSS software. The results of data screening are presented in section 4.4.3 through 4.4.6.

Further, SmartPLS 2.0 M3 software developed by Ringle, Wende, and Will (2005) was used to perform the estimation and evaluation of the measurement and the structural models. The justification as to why PLS was opted for this study is discussed in the following section 4.4.2.

4.4.2 Justifying the Choice of Using PLS SEM

Researchers using PLS path modeling for SEM purpose are obliged to justify substantially the rationale of choosing PLS (Chin, 2010). The choice for PLS SEM in this study was made on the basis of several considerations tailoring to the specific context and needs of the current study. These considerations are per-clarified as in the following explanation.

Firstly, PLS was preferred because this study involved a newly developed measure - BCS (Chin, 1998b; Chin, & Newsted, 1999). Leaving aside the psychometric revision and expansion of other constructs (CR and IC), the newly developed BCS alone sufficed the call for PLS use. PLS serves best to accommodate the nascence involving theory development (Barclay, Higgins, & Thompson, 1995; Reinartz, Haenlein, & Henseler, 2009). For theory development, PLS is used to explore the relationships between measured variables as to develop propositions related to psychometric soundness of the nascent measurement proposed anew. More importantly, while poor indicators jeopardize model fit in CB-SEM analysis, PLS modeling on the contrary, capitalizes on the inclusion of weak items to extract whatever useful information available in the indicators to create a better construct score (Roldan & Sanchez-Franco, 2012). This advantage contributed important implication to the new measure developed in this study, as it countered the possibility of inappropriately discarding significant items which would hamper the content domain of the construct. Further, PLS is a SEM technique "designed to reflect the theoretical and empirical conditions present in the behavioral and social sciences, where these are habitual situations with no solid theories and with scarce knowledge" (Wold, 1980; as cited in Barroso, Carrion, & Roldan, 2010).

Secondly, the ultimate research model of the current study was conceivably complex. It had a considerable large number of latent variables (26 constructs) and indicator variables (102 items), which eventually involved many paths. Chin (2010) defined a complex model as a larger model with many latent variables and indicators, such as model with 10 or more constructs and 50 or more items. With such complexity, PLS SEM is deemed most suitable as it is highly competent in

analyzing and explaining complex relationships (Chin, 2010; Fornell & Bookstein, 1982). Particularly, PLS is capable of handling complex models without leading to estimation problems (Chin, 1998b, 2010; Chin & Newsted, 1999; Hair et al., 2010), given its limited-information procedure characteristics (Barclay, Higgins, & Thompson, 1995). Moreover, using PLS to estimate complex model affords greater theoretical parsimony and reduces the model complexity (Chin, 2010; Wetzels, Odekerken-Schroder, & van Oppen, 2009).

Thirdly, this study had a third-order construct, BCS. The BCS construct was a global construct comprising a third-order factor which encapsulated four second-order and thirteen first-order latent constructs, with approximately 64 primary indicators (remaining from EFA). While both CB-SEM and PLS SEM manage to make-possible the extensions of the higher-order factor, PLS SEM however outperforms this task in the sense that it is not acutely restricted by model complexity as compared to CB-SEM (Chin et al., 2003). Such merit is attributed to PLS's segmentation process and algorithm which enable division of complex models such that only one subset of parameter is estimated at a single moment (Chin et al., 2003). In addition, PLS is competent to analyze constructs involving high complexity (Chin, 1998, 2010; Hair et al., 2010). PLS is asserted the best option to deal with construct of high-level abstraction given its capability to produce latent variable scores which are crucial for predictive relevance in subsequent analysis to build higher-order or multidimensional construct (Chin, 2010; Hair, Ringle, & Sarstedt, 2011; Lohmoller, 1989). Such task of providing latent variable score is highly difficult in CB-SEM as constructs are modeled as indeterminate in CB-SEM

(Fornell, 1982; Chin & Newsted, 1999). Further, CB-SEM's estimation only affords up to the second-order reflective model (Chin, 2010).

Fourthly, PLS was also chosen to address the problem of small sample size (Chin, 1998b; Chin et al., 2003; Chin & Newsted, 1999), as PLS imposes less stringent requirements on sample size as well as residual distributions compared to other alternatives of SEM techniques, such as LISREL and AMOS which are both covariance-based SEM techniques. In particular to the 150 usable responses for the PLS-SEM in this study, PLS was able to afford higher statistical power to address the rather complex model of the current study with the limited sample size (Reinartz, Haenlein, & Henseler, 2009).

Finally, PLS was also chosen because the current research was a correlational study where prediction was deemed more important than parameter estimation (Chin, 1998b; Chin & Newsted, 1999). PLS is the preferable approach when researchers focus on prediction and theory development, as PLS demands only about half as many observations to reach a given level of statistical power the CBSEM does (Reinartz, Haenlein, & Henseler, 2009).

4.4.3 Data Screening and Multivariate Assumptions Assessments (n = 150)

Upon inspection, no out-of-range score was found. Missing score was found at minimal level and was treated using mean replacement method. Further, neither the Mahalanobis Distance test find evidence of multivariate outlying cases, nor univariate outliers examined through the means of *Z*-score in the dataset used (Hair et al., 2006). With the degree of freedom equating the number of items (111 items), the study did not identify any case demonstrating Mahalanobis Distance values

greater than the chi-square value of 162.788 (Appendix 4.7 Table A). Further, from the extreme values computed for the MAH value, none of the critical values associated with any cases was spotted as greater than the critical chi-square value of 162.788 (Appendix 4.7 Table B). Therefore, no multivariate outliers were present. On the other hand, the absence of univariate outliers was evident in that none of the z-scores computed depicted a value greater than the threshold standard score of ±4 (Hair et al., 2010). The z-scores were attached in Appendix 4.7 Table C. Note that only z-scores of CR were appended due to space constraint.

Next, normality assumption was assessed by two means; firstly, skewness and kurtosis criteria, secondly the plotting of normal probability Q-Q plots and detrended Q-Q plots. No serious violations were evident as all skewness values were well below 2.0 (Curran, West, & Finch, 1996; Kline, 2011), and most kurtosis values were below the 3 (Garson, 2012). There were only two kurtosis values which were slightly above 4.0, but still within the threshold of 7.0 (Curran et al., 1996). Further, data points in the normal Q-Q plots were found clinging reasonably tight to the straight line along the diagonal (Allen & Bennett, 2012; Pallant, 2007). All assessment results of normality were attached in Appendix 4.8.

However, the non-normality treatment was not a critical concern in this stage as PLS SEM is robust against distributional violation (Cassel, Hackl, & Westlund, 1999). The slight non-normality found had indeed substantiated evidence to justify the necessary use of PLS in the current study. In fact, PLS SEM outperforms CBSEM SEM in cases of multivariate non-normality (Squillacciotti, 2010).

Finally, the linearity assumption was examined. In structural equation modeling, linear relationships are assumed between the indicators and their corresponding

latent constructs, as well as between the latent constructs (Garson, 2007). Inspection of scatterplot matrix did not reveal any indication of curvilinear relationship or serious violation of linearity among the continuous variables in the study (see Appendix 4.9). The clustering of data points around the imaginary straight lines in the plots was evident to refute violation of linearity assumption.

To this end, the whole data screening process retained the 150 sets of surveys for confirmatory factor analysis, which served the purpose of both the measurement and structural model assessments.

4.4.4 Common Method Variance Assessment

The particular way data is collected in a research has some bearing on the likely threat of common method variance which could affect the postulated relations in the PLS path model. In particular, common method variance is one of the important challenges for a study with cross-sectional design (Podsakoff, Mackenzie, Lee, & Podsakoff, 2003). Further, data used in the current study was collected from a single source and was itself subjective self-report data. Therefore, asssessing the threat of the common method variance was substantially crucial (Podsakoff & Organ, 1986). Particular to the use of self-report data, though a common practice in social science research, the threat of common method variance still exists in certain circumstances in which the magnitude of the postulated relationships can suffer from either being inflated (Williams, Cole, & Buckley,1989) or suppressed (Ganster, Hennessey, & Luthans, 1983).

In the current study, the existence of common method bias was tested using Harman's single-factor (one-factor) test (Harman, 1967, as cited in Podsakoff & Organ,

1986; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). When all measured variables (items) of all the independent and dependent variables were loaded into one single principle component factor analysis without rotation, a 27-factor solution emerged to explain about 75.64% of the variance, with no one particular single factor accounting for variance exceeding 20% (Appendix 4.10) . The first factor extracted accounted for only 19.45% of the overall variance explained. Given that the first factor did not account for a disproportionately large amount of variance and that no one apparent single (dominant) factor was evident, the test therefore concluded that common method variance was unlikely a critical issue which would affect the analysis findings of the current study (Podsakoff & Organ, 1986).

4.4.5 Multicollinearity and Singularity Assessment

Mild multicollinearity is not as severe to distract the factor analysis result, though it is crucial to avoid extreme multicollinearity and singularity (Field, 2009). Multicollinearity presents when predictor variables are very highly correlated. This is problematic because the overlap or sharing of predictive power among the predictor variables would blur and make the unique contribution of each predictor variable difficult to assess (Ho, 2006). To the extreme extent that the predictor variables are perfectly correlated, singularity then happens. This means that one predictor variable is actually a combination of other predictor variables in a study (Field, 2009). As multicollinearity increases, it complicates the interpretation of the relationships, as it is more difficult to ascertain the effect of any single construct owing to their inter-relationahip (Hair et al., 2010).

In this study, multicolinearity was detected using variance inflated factor (VIF), condition index, and the observation of correlation matrix. A predictor variable with VIF greater than 10 merits further investigation (Ho, 2006; Stevens, 2009). Likewise, a condition index of over 30 suggests a serious multicollinearity problem (Ho, 2006). Further, multicollinearity occurs when predictor variables are highly correlated among themselves, for instance with correlations (r) of $r \geq .70$, or some less rigid cut-off of $r \geq .80$ (Field, 2009), and $r \geq .90$ (Field, 2009; Pallant, 2011).

In this study, the VIFs were computed at the global-construct and dimension level. Particularly, the dimension-level collinearity was also inspected, because high degree of collinearity among dimensions could lead to unstable estimates and cause difficulty to detach the distinct effect each individual dimension had on the construct (Petter, Straub, & Rai, 2007; as cited in Roldan & Sanchez-Franco, 2012). However, some degree of multicollinearity was desirable because the factors under each global construct were made up of interrelated sets of measured variable (Hair et al., 2006).

Demonstrated in Table 4.21 and Table 4.22 are the multicollinearity assessment results. Both tables show that the VIF values assessed either at the dimension level or the global-construct level of the independent variables were all found far below 10. Likewise, no bivariate correlations greater than .70 were evident for both cases. As seen in Table 4.22, the condition index for BCS and EO global constructs are 25.786 and 32.174 respectively. While the condition index of BCS was lower than the threshold of 30, a slightly-above-30 value was observed for EO. However, considering the non-contravention of VIF and correlation criteria for both independent variables (BCS and EO), as well as the condition index of below 30 for

one of the independent variable (BCS), this study did not assume serious multicollinearity problem given the slightly higher condition index of EO.

Table 4.21

Collinearity Statistics and Correlations between Dimensions of Independent Variables (n = 150)

Constructs	RG	CC	FB	Bri	Risk	Inno	Pro	ComAg	Fut	Collinearity Statistics	
										Tol.	VIF
RG	1									.648	1.543
CC	.164*	1								.631	1.585
FB	.253**	.355**	1							.807	1.239
Bric	.537**	.501**	.354**	1						.370	2.702
Risk	.063	.245**	.191*	.328**	1					.734	1.362
Inno	.353**	-.037	.108	.352**	.185*	1				.747	1.340
Pro	.358**	.335**	.187*	.610**	.224**	.325**	1			.474	2.111
ComAg	.077	.173*	.128	.183*	.416**	.190*	.236**	1		.778	1.286
Fut	.297**	.392**	.269**	.569**	.274**	.251**	.653**	.279**	1	.500	2.001

Note. Tol. denotes tolerance; VIF denotes variance accounted for; RG denotes revenue-generation tactics; CC denotes cost-cutting tactics; FB denotes financial bootstrapping; Bri denotes bricolage tactics; Risk denotes risk-taking orientation; Inno denotes innovativeness orientation; Pro denotes proactiveness orientation; ComAg denotes: competitive-aggressiveness orientation; Fut denotes futurity orientation

* Correlation is significant at the .05 level (2-tailed).

** Correlation is significant at the .01 level (2-tailed).

Table 4.22

Collinearity Statistics and Correlations between Global Constructs of Independent Variables (n = 150)

	Correlation between Independent Variables		Collinearity Statistics		
	BCS	EO	Tolerance	VIF	Condition Index
BCS	1	.517(**)	.733	1.365	25.786
EO	.517(**)	1	.733	1.365	32.174

Note. BCS denotes business coping strategies; EO denotes entrepreneurial orientation.

** Correlation is significant at the 0.01 level (2-tailed)

4.4.6 Homoscedasticity Assessment

Homoscedasticity is one of the imperative assumptions for multivariate analysis. Such assumption is grounded from the general notion that "the variability in scores for one variable should be roughly the same at all values of the other variable" (Coaskes & Steed, 2007, p.58). Specifically, homoscedasticity refers to the "assumption that dependent variable exhibits equal level of variance across the range of predictor variables" (p. 73) in a study (Hair et al., 2010). Homoscedasticity is desirable because the variance of the dependent variable being explained in the dependence relationship should not be concentrated in only a limited range of the independent values (Hair et al., 2010). In other words, it compels that each predictor variable should have homogenous variance on the dependent variable.

Homoscedasticity for continuous variables is best examined graphically (Hair et al., 2006). In this study, the visual evaluation was made by inspecting scatterplots (Hair et al., 2010). As demonstrated in Figure 4.1, the elliptical distribution of points and no observation of shapes of cone or diamond revealed evidence of no heteroscedasticity (Hair et al., 2010). The scatterplots also revealed reasonably tight sets of confidence intervals and reasonable R-squares.

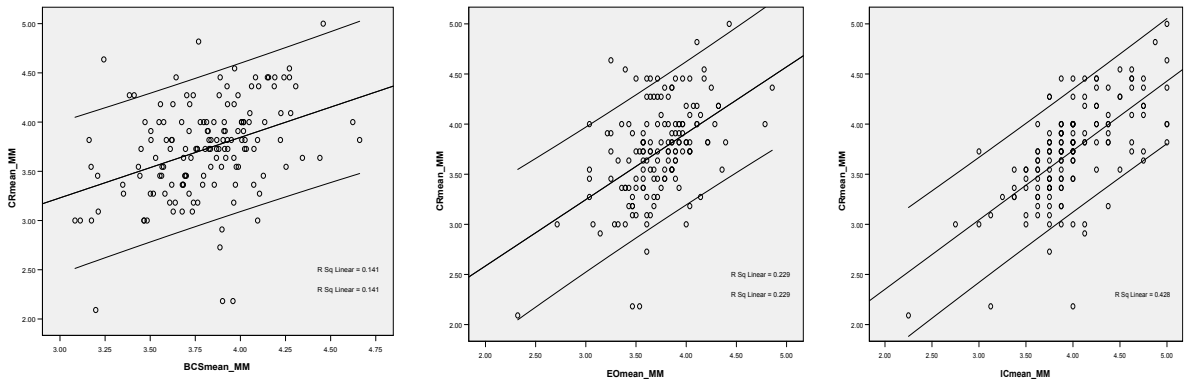

Figure 4.1. Scatterplots of BCS, EO, and IC

4.4.7 The Demographic Profile of Respondents (Measurement Model)

Frequency analysis was performed to profile the demographic characteristics of the respondents, as presented in Table 4.23.

Table 4.23

Descriptive Profile of Respondents (Measurement Model, n = 150)

Items	Frequency	Percentage (%)
Types of business		
Textile, clothes, footware	2	1.3
Food and beverage	43	28.7
Agricultural products; forestry and forest products; wood and wood products; furniture and office equipment; tobacco; palm oil, palm kernel oil, coconut oil	15	10.0
Chemical and petrochemical products; pharmaceutical product	6	4.0
Clay-based, sand-based and non-metallic product	8	5.3
Rubber and plastics	6	4.0
Transport equipment	0	0
Electrical and electronics; metal product	17	11.3
Machinery, appliances and parts; hand tools	8	5.3
Iron and steel products	6	4.0
Others	39	26.0
Years of establishment of firm		
≤ 5 years	67	44.7
6 - 10 years	32	21.3
11- 15 years	16	10.7
16 - 20 years	16	10.7
21 - 25 years	9	6.0
26 - 30 years	1	.7
31 - 35 years	1	.7
36 – 40 years	2	1.3
41 – 45 years	3	2.0
46 – 50 years	1	.7
Above 50 years	2	1.3
Ownership structure of the firm		
Sole proprietary	43	28.7
Partnership	16	10.7
Public limited company (Bhd.)	11	7.3
Private limited company (Sdn. Bhd)	80	53.3
Non-family/ Family business type		
Non-Family business	89	59.3
Family business	61	40.7

(*table continues*)

Table 4.23. (*continued*)

States		
Kedah	21	14.0
Penang	30	20.0
Perlis	3	2.0
Johore	6	4.0
Federal Territory of Kuala Lumpur	9	6.0
Selangor	15	10.0
Malacca	1	.7
Kelantan	0	0
Perak	61	40.7
Sarawak	4	2.7
Negeri Sembilan	0	0
Gender of owner-manager / business operator		
Male	100	66.7
Female	50	33.3
Age of owner-manager/ business operator (years old)		
Below 30	20	13.3
31-40	49	32.7
41-50	46	30.7
51-60	27	18.0
61 and above	8	5.3
Race of owner-manager/business operator		
Malay	86	57.3
Chinese	55	36.7
India	3	2.0
Others	6	4.0
Marital status of owner-manager/business operator		
Single	21	14.0
Married	124	82.7
Divorced / Widowed	5	3.3
Education background of the owner-manager/manager		
Primary school education	4	2.7
Secondary school education	44	29.3
Certificate level	16	10.7
Diploma holder	33	22.0
Degree holder	46	30.7
Masters holder	7	4.7
PhD holder	0	0
Others	0	0

The highest percentage of respondents was that of the state of Perak (40.7%), followed by Penang (20%), Kedah (14%), Selangor (6%), Federal Territory of Kuala Lumpur (6%), Johore (4%), Sarawak (2.7%), Perlis (2%) and so on. In terms of the

types of business, 28.7% of respondents involved in food and beverage; 11.3%, electrical, electronics, and metal products; and 10%, agriculture-related manufacturing. About 44.7% of the respondents were firms with five or less years of establishment; 21.3% aged between 6 and 10 years; 10.7% were those of 11-15 years establishment. More than half of the respondents were private limited companies (53.3%), followed by sole proprietary (28.7%), partnership (10.7%), and public limited company (7.3%). Nearly 41% were family businesses. Approximately 67% of respondents were managed by male managers. Among all responding managers, more than 60% (63.4%) ranged between the age of 31 and 50 years old. Majority of the managers (82.7%) were married. While about 30.7% of the firm managers were degree holders, about 29.3% and 22% of the managers attended secondary school and diploma education respectively.

4.4.8 Assessment Criteria of Reflective Measurement Model

Having discovered the underlying structure of the constructs and having preliminarily attested their theoretically-proposed reflective measurement specification in the previous section (Section 4.3), the PLS-SEM measurement model was constructed for the purpose of confirmatory factor analysis.

Generally, reflective measurement models were examined in terms of the reliability and validity. Both were assessed at the indicator and construct level. To achieve this end, this study followed Henseler, Ringle, and Sinkovics's (2009) five evaluation criteria to assess the measurement models of reflectively-measured constructs. These criteria included the examination of (i) indicator reliability, (ii)

internal consistency reliability, (iii) convergent validity, (iv) discriminant validity at the indicator level, and (v) discriminant validity at the construct level.

The indicator reliability is the reliability of each individual item (measured variable). It explains the extent to which an item or set of items consistently measures what it intends to measure (Urbach & Ahlemann, 2010). Indicator reliability is established by inspecting whether an indicator achieves the acceptable level of standardized loadings onto the construct it intends to measure. Several rules regarding acceptable level of loading exist. Amongst these are the loading cut-off of at least .707 (Carmines & Zeller, 1979), at least .55 (Falk & Miler, 1992, as cited in Wilson, 2010, p.637), and at least .60 (Chin, 1998). This study however mainly followed the recommendation of Hair et al. (2014) that the item loadings should be higher than .708. However, an item with lower loading (within the range of .40 - .70) should be considered for deletion if the deletion leads to an increase in the composite reliability and average variance extracted (AVE) above the recommended cut-off value. This study also took note of other suggestions as to not being as rigid for scales in the early phases of development (Chin, 1998b), and when scales were indeed applied in a different context (Barclay, Higgin, & Thompson, 1995). The like consideration is also found in Hulland (1999), in which a minimal loading of .70 is recommended as acceptable along with consideration that loadings as low as .40 are also acceptable for exploratory study. Chin (1998) also noted that "loadings of 0.5 and 0.6 may still be acceptable if there exists other indicators in the block for comparison" (p.325). However, items with very low loadings of .40 or lower were deleted in this study (Hair, Ringle, & Sarstedt, 2011). Item deletion decision was

also carefully considered so as not to risk jeopardizing the content validity (Hair et al., 2011). Item loadings should be significant at the least of $p < .05$ level.

The internal consistency reliability is the reliability at the construct level. In this study, it was examined using composite reliability. Composite reliability was preferably interpreted over the conventional measure of Cronbach's alpha (Chin, 1998b). Cronbach's alpha assumes that all indicators are equally weighted or in other words, have the same loadings. This assumption seriously underestimates the internal consistency reliability of latent variables in PLS SEM. Conversely, composite reliability overcomes this deficiency by prioritizing indicators according to their reliability during model estimation, and hence making it more suitable for PLS SEM (Hair et al., 2011). However, Cronbach's alpha was also reported herein as a matter of convention. Both were similarly interpreted.

This study followed Hair et al.'s (2011) recommendation that composite reliability should be above .70 in general. Specifically, this study also followed that values in the range of .60 - .70 and .70 - .90 are suitably acceptable for exploratory and advanced stages of research respectively. Notably, while values lower than .60 indicates a lack of reliability (Hair et al., 2011), too high the values such as ones greater .950 however invite more suspicions than those in the middle ranges, as such level of internal consistency reliability suggests potential common method bias (Straub, Boudreau, & Gefen, 2004, p. 401; as cited in Urbach & Ahlemann, 2010).

Convergent validity is the extent to which "a set of indicators represents one and the same underlying construct, which can be demonstrated through their unidimensionality" (Henseler et al., 2009, p. 299). In this study, convergent validity was examined using Fornell and Larcker's (1981) average variance extracted (AVE)

criterion. AVE measures the amount of variance a latent construct captures from its indicators, compared to the amount due to measurement error (Fornell & Larcker, 1981). This study applied the AVE cut-off of greater than .50, a level which sufficed the explanation of more than half of the indicators variance by the latent variable it is assigned to (Henseler et al., 2009). However, this study also took into account case-to-case consideration for AVE of less than .50. According to Fornell and Larcker (1981), AVE of lower than .50 could still be considered acceptable to support the convergent validity of a construct, provided that the composite reliability of the construct is above .60.

Also important to note, as the repeated-indicator approach was used to construct measurement model of the second-order construct (herein, EO), the AVE of the second-order construct was manually calculated using the conventional AVE formulae. This was to deal with the changed role of loadings between the higher-order construct and that of the lower-order. While loadings in first-order constructs are resultant from the relations between a higher-order construct and the manifest variables, loadings of the higher-order (second-order) construct are however obtained from the relations between the higher-order (second-order) construct and the lower-order (first-order) constructs. Therefore, the loadings are "represented by the path coefficients between the higher-order and lower-order constructs, and not by the manifest indicators that are repeated at the construct level" (Becker et al., 2012, p.378). Detailed explanation of the rationale for such AVE computation was clearly reviewed by Becker, Klein, and Wetzel (2012). Hence, in this study, AVE of the second-order EO was computed by dividing the sum of squared loadings by the

number of the paths (Hair et al., 2014). Such procedure was also practiced by other recent researchers using PLS SEM (i.e., Wilden, Gudergan, Nielsen, & Lings, 2012).

After confirming the convergent validity, the study proceeded to examine the discriminant validity of the constructs. This study used Fornell and Larcker's (1981) AVE criterion and cross loadings criterion (Chin, 1998) to assess the discriminant validity at the construct and indicator level respectively. Following Fornell and Larcker's (1981) criterion, construct-level discriminant validity is established if the square root of the AVE is greater than other intercorrelations within the row and column of a particular construct. Hereby, discriminant validity indicates the extent to which a given construct is truly distinct from other constructs by empirical standard, and that this construct is unique and it captures phenomena not presented by other constructs in the model (Hair et al., 2014). By the approach of cross loading criterion, discriminant validity is supported when the standardized loading of an indicator exceeds all its corresponding cross loadings (Chin, 1998).

Within the PLS-SEM framework, the importance of examining the validity and reliability of the higher-order constructs has been heightened (Chin, 2010; Hair et al., 2010). In this study, the same validation criteria discussed above were also applied to examine the validity and reliability of the higher-order constructs. As Chin (1998a; as cited in Chin, 2010) has noted, the assessment of validity for a second-order factor model should, by analogy, follows the same process which is used to assess the validity of the first-order construct. Validation for the higher-order construct is important to ascertain that the lower-order constructs actually tap into the same underlying higher-order construct (Chin, 1998a). Chin (1998a; as cited in Chin, 2010) asserts that because a second-order factor such as a molecular

(reflective) model is modeled as being at a higher level of abstraction and reflected by the first-order factors, this higher-order factor therefore needs to be related with other factors that are at a similar level of abstraction independent of whether these other factors are inferred from measured items or other first order factors.

4.4.9 Specific Considerations for Measurement Model of This Study

Using PLS for structural equation modeling, supposedly, all measurement models of all constructs in the full research model were able to be incorporated in one construction. However, this advantage was not applicable to the current study, and that separate measurement models were run for each construct. There were two main reasons for such preference.

Firstly, the full research model comprised too large a number of measured variables to be drawn within a single PLS drawing canvas. About 111 items were brought forward from the preceding EFA process. Specifically, the research model comprised a second-order (EO) and a third-order constructs (BCS), which consisted of 28 and 64 manifest variables respectively. Along with these higher-order constructs, the remaining two first-order constructs were reflected by 11 and 8 manifest variables respectively.

Secondly, the third-order BCS needed to be assessed in its own hierarchical component model (HCM). It is advisable that a HCM should be assessed alone without including the relationships of other latent constructs within the structural model, as they are not part of the HCM (Hair, Ringle, & Sarstedt, 2013). Further, as the third-order BCS construct also required a comparatively far more extensive

assessments and reporting of validity and reliability, making separate measurement models also gave way to a less-complicated result reporting.

4.4.10 Measurement Model Results of Crisis Readiness (CR)

About 11 item of CR brought forward from the EFA stage were subjected to assessment of measurement model. Presented in Figure 4.2 is the PLS algorithm diagram for the measurement model of CR.

All necessary information to demonstrate the reliability and validity of the construct were extracted from the PLS algorithm results of the measurement model, and tabulated in Table 4.24 and Table 4.25 that follow strictly. Referring to Table 4.24, the assessment provided evidence that the crisis readiness construct attained satisfactory level of indicator reliability, as most of the indicators loaded greater than .70, while some approaching .70. Further, the reliability at the construct level was also observed, as the PLS algorithm revealed composite reliability and Cronbach's alpha values of .922 and .907 respectively. Sufficient convergent validity was also evident in the AVE value of .519, which was greater than the acceptable threshold of .50. Further, Table 4.25 shows the *t*-statistics, *p*-value and the significance level of the outer model loadings. All loadings were found significant at the level of $p < .001$.

None of the CR items brought forward from the EFA stage were eliminated at this confirmatory stage. This also further confirmed the unidimensional structure of crisis readiness as extracted from the earlier EFA stage.

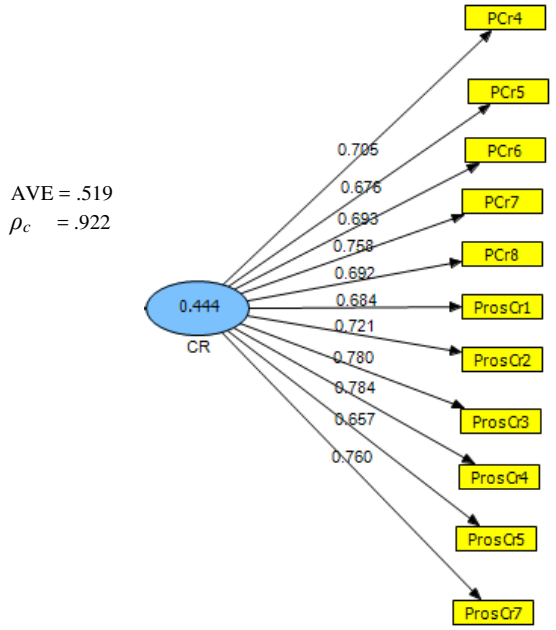

Figure 4.2. Measurement model of crisis readiness

Table 4.24

Crisis Readiness: Items Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Construct	Items	Standardized Loadings	AVE	Composite Reliability (ρ_c)	Cronbach's Alpha
Crisis readiness	PCr4	.705	.519	.922	.907
	PCr5	.676			
	PCr6	.693			
	PCr7	.758			
	PCr8	.692			
	ProsCr1	.684			
	ProsCr2	.721			
	ProsCr3	.780			
	ProsCr4	.784			
	ProsCr5	.657			
	ProsCr7	.760			

Table 4.25

Crisis Readiness: T-statistics, P-value, and Significance Level of Loadings

Construct	Items	Standardized Loadings	*T*-statistics	*P*-value	Significance level
Crisis readiness	PCr4	.705	14.566	.000	$p < .001$
	PCr5	.676	13.549	.000	$p < .001$
	PCr6	.693	13.590	.000	$p < .001$
	PCr7	.758	16.958	.000	$p < .001$
	PCr8	.692	13.494	.000	$p < .001$
	ProsCr1	.684	14.926	.000	$p < .001$
	ProsCr2	.721	15.241	.000	$p < .001$
	ProsCr3	.780	21.110	.000	$p < .001$
	ProsCr4	.784	20.462	.000	$p < .001$
	ProsCr5	.657	11.984	.000	$p < .001$
	ProsCr7	.760	22.421	.000	$p < .001$

4.4.11 Measurement Model Results of Improvisational Competence (IC)

Presented in Figure 4.3 is the PLS algorithm diagram for the measurement model of IC. No items were deleted at this stage. The intact eight items of IC produced the following PLS algorithm diagram.

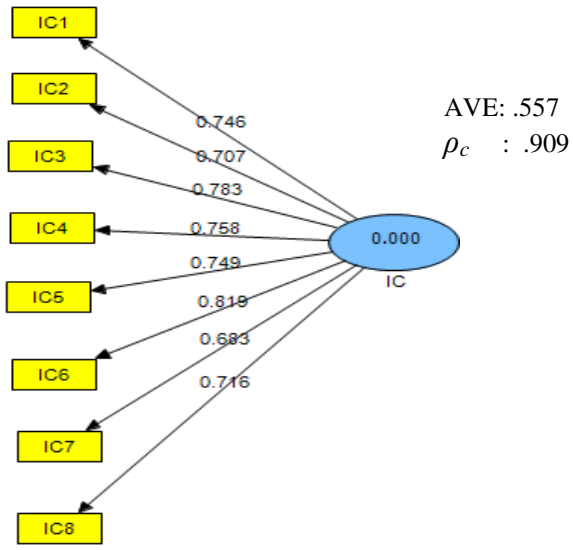

Figure 4.3. Measurement model of improvisational competence

Further presented in Table 4.26 is the PLS algorithm results of IC. The construct achieved good indicator reliability, with seven out of eight items loaded above .70 (.746, .707, .783, .758, .749, .819, and .716). One item, IC7, loaded .683. Though lowest amongst others, this items was still considered as adequately reliable within the acceptable range of .40 - .70 (Hair et al., 2014). Likewise, the composite reliability of .922 and Cronbach's alpha of .909 indicated good internal consistency reliability. Convergent validity was sufficient, given the AVE value of .557. This therefore indicated that the eight IC items represented the same underlying construct. As demonstrated in Table 4.27, the bootstrapping resampling also revealed that all items had loaded significantly at the level of $p < .001$.

Table 4.26

Improvisational Competence: Item Loadings, Average Variance Extracted, Composite Reliability, Cronbach's Alpha

Construct	**Items**	**Standardized Loadings**	**AVE**	**Composite Reliability (ρ_c)**	**Cronbachs Alpha**
Improvisational competence	IC1	.746	.557	.909	.886
	IC2	.707			
	IC3	.783			
	IC4	.758			
	IC5	.749			
	IC6	.819			
	IC7	.683			
	IC8	.716			

Table 4.27

Improvisational Competence: T-statistics, P-values, and Significance Level of Loadings

Construct	Items	Standardized Loadings	*T*-statistics	*P* value	Significance level
Improvisational competence	IC1	.746	15.995	.000	$p < .001$
	IC2	.707	14.608	.000	$p < .001$
	IC3	.783	22.755	.000	$p < .001$
	IC4	.758	19.106	.000	$p < .001$
	IC5	.749	13.987	.000	$p < .001$
	IC6	.819	25.286	.000	$p < .001$
	IC7	.683	11.396	.000	$p < .001$
	IC8	.716	13.767	.000	$p < .001$

4.4.12 Measurement Model Results of Entrepreneurial Orientation (EO)

The second-order EO construct was specified using repeated-indicator approach. Using this approach, the second-order construct of EO was directly measured by the manifest variables of all the first-order constructs. Manifests variables were repeated to represent the higher-order construct (Becker et al., 2012). The use of repeated-indicators approach to specify EO in this study was amenable to the prerequisite that all indicators of the first- and second-order constructs were reflective (Rajala & Westerlund, 2010).

Depicted in Figure 4.4 is the measurement model of EO, a second-order construct with five first-order constructs. All the 28 items brought forward from EFA stage remained intact.

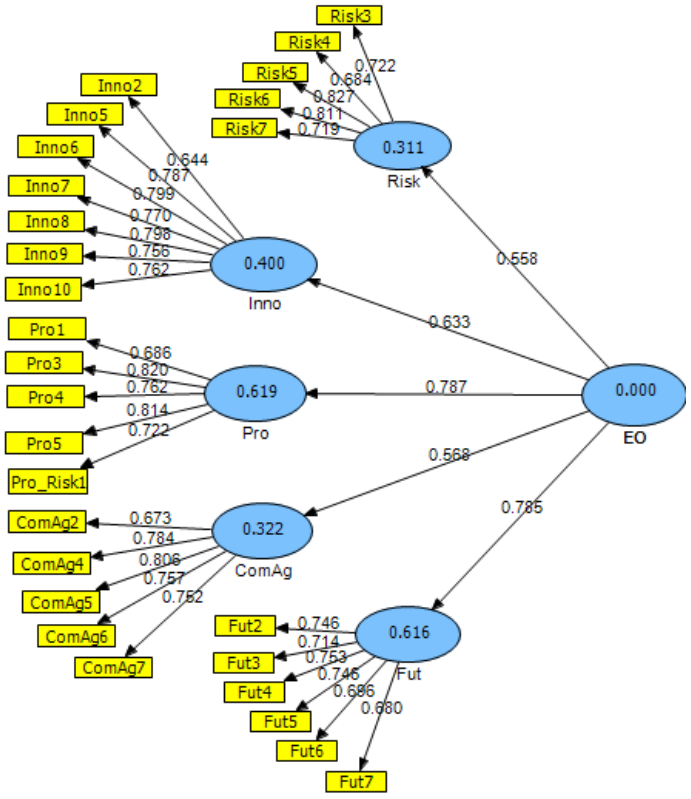

Figure 4.4. Measurement model of entrepreneurial orientation

All evidence of reliability and validity of EO, for both first- and second-order constructs, are tabulated in Table 4.28. Referring to Table 4.28's section A, all items reflecting EO's five first-order constructs were found loaded sufficiently, ranging from loadings of .644 to .827, with many scored above loading of .70. This hence assured the indicator reliability. Further, satisfactory internal consistency reliability were also evident in all the five first-order constructs, namely risk-taking orientation ($\boldsymbol{\rho_c}$ = .868; α = .810), innovativeness orientation ($\boldsymbol{\rho_c}$ = .906; α = .878), proactiveness orientation ($\boldsymbol{\rho_c}$ = .874; .α = .821), competitive-aggressiveness ($\boldsymbol{\rho_c}$ = .869; α = .812), and futurity orientation ($\boldsymbol{\rho_c}$ = .868; .α = .818). These five first-order constructs attained AVEs ranging from .523 to .582, and thus were also proven having sufficient convergent validity.

Further, as depicted in Table 4.29, all the square root of AVEs (as shown in the parentheses along the diagonal) are reportedly greater than the intercorrelation coefficients vertical and horizontal to the respective construct. These results were agreeable with Fornell and Larcker's (1981) criterion of construct-level discriminant validity. Therefore, the five first-order constructs of EO were proven adequately different from each other. Further, Table 4.30 demonstrates the outer model cross loadings of EO. It is evident in the table that each indicator loads the highest on the construct it is intended to measure; hence the discriminant validity at the indicator level was established. All items loadings were also found significant at the level of $p < .001$.

At the second order, EO was also found reliable and valid as depicted in Table 4.28 Section B. The standardized loadings were found ranging between .558 and .787, indicating that the second-order EO construct possessed sufficient indicator reliability. The composite reliability of .902 and Cronbach's alpha of .887 indicated good internal consistency reliability. The AVE of the second-order EO construct was .454, as calculated by dividing the sum of the squared loadings by the number of paths ($.558^2 + .633^2 + .787^2 + .568^2 + .785^2 / 5 = .454$). This AVE was considered acceptable to support the convergent validity of the second-order EO in this study, considering that it possessed high composite reliability (.902), which was above the composite reliability threshold of .60 for conditions of lower AVE (Fornell & Larcker, 1981). According to Fornell and Larcker (1981), AVE of lower than .50 is acceptable to establish the convergent validity of a construct, provided that the composite reliability of the construct is above .60. Further, this lower AVE of EO

was also reasonably acceptable as it was the AVE at the second-order level, and not those of the primary level.

Table 4.28

EO: Item Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

(A) First-order constructs					
Constructs	**Items**	**Standardized Loadings**	**AVE**	**Composite Reliability (ρ_c)**	**Cronbach's Alpha**
Risk-taking orientation	Risk3	.722	.570	.868	.810
	Risk4	.684			
	Risk5	.827			
	Risk6	.811			
	Risk7	.719			
Innovativeness orientation	Inno2	.644	.579	.906	.878
	Inno5	.787			
	Inno6	.799			
	Inno7	.770			
	Inno8	.798			
	Inno9	.756			
	Inno10	.762			
Proactiveness orientation	Pro1	.686	.582	.874	.821
	Pro3	.820			
	Pro4	.762			
	Pro5	.814			
	Pro_Risk1	.722			
Competitive-aggressiveness orientation	ComAg2	.673	.571	.869	.812
	ComAg4	.784			
	ComAg5	.806			
	ComAg6	.757			
	ComAg7	.752			
Futurity orientation	Fut2	.746	.523	.868	.818
	Fut3	.714			
	Fut4	.753			
	Fut5	.746			
	Fut6	.696			
	Fut7	.680			
(B) Second-order construct					
Construct	**Items**	**Standardized Loadings**	**AVE**	**Composite Reliability (ρ_c)**	**Cronbach's Alpha**
Entrepreneurial orientation	RISK	.558	.454	.902	.887
	INNO	.633			
	PRO	.787			
	COMAG	.568			
	FUT	.785			

Note. RISK denotes risk-taking orientation; INNO, innovativeness orientation; PRO, proactiveness orientation; COMAG, competitive-aggressiveness orientation; FUT, futurity orientation.

Table 4.29

Entrepreneurial Orientation: Correlations and Square Roots of AVEs

Construct	ComAg	Fut	Inno	Pro	Risk
COMAG	(.756)				
FUT	.290	(.723)			
INNO	.195	.267	(.761)		
PRO	.252	.660	.341	(.763)	
RISK	.416	.286	.190	.239	(.755)

Note. Values in parentheses along the diagonals are the square roots of AVEs of the constructs. Off-diagonal elements are correlations amongst the constructs.

Table 4.30

Entrepreneurial Orientations: Outer Model Cross Loadings and Loadings' Significance

Items	RISK	INNO	PRO	COMAG	FUT	*T*-value	*P* -value	Sig. level
Risk3	**.722**	.238	.110	.332	.180	10.111	.000	$p < .001$
Risk4	**.684**	.006	.282	.229	.350	8.708	.000	$p < .001$
Risk5	**.827**	.204	.246	.289	.236	18.351	.000	$p < .001$
Risk6	**.811**	.201	.091	.410	.182	15.655	.000	$p < .001$
Risk7	**.719**	.038	.164	.313	.110	9.542	.000	$p < .001$
Inno2	.035	**.644**	.315	.103	.294	10.560	.000	$p < .001$
Inno5	.193	**.787**	.393	.133	.242	24.429	.000	$p < .001$
Inno6	.100	**.799**	.271	.229	.203	20.828	.000	$p < .001$
Inno7	.135	**.770**	.237	.089	.129	13.513	.000	$p < .001$
Inno8	.112	**.798**	.177	.125	.095	16.924	.000	$p < .001$
Inno9	.209	**.756**	.206	.158	.242	13.910	.000	$p < .001$
Inno10	.210	**.762**	.184	.191	.190	17.138	.000	$p < .001$
Pro1	.045	.139	**.686**	.030	.376	10.029	.000	$p < .001$
Pro3	.172	.230	**.820**	.205	.536	24.543	.000	$p < .001$
Pro4	.235	.343	**.762**	.257	.519	18.714	.000	$p < .001$
Pro5	.240	.343	**.814**	.246	.608	26.880	.000	$p < .001$
Pro_Risk1	.169	.190	**.722**	.162	.432	15.604	.000	$p < .001$
ComAg2	.260	.190	.150	**.673**	.169	8.767	.000	$p < .001$
ComAg4	.254	.130	.109	**.784**	.174	11.284	.000	$p < .001$
ComAg5	.402	.094	.204	**.806**	.261	12.946	.000	$p < .001$
ComAg6	.315	.105	.180	**.757**	.155	10.218	.000	$p < .001$
ComAg7	.320	.210	.277	**.752**	.300	9.831	.000	$p < .001$
Fut2	.175	.304	.519	.113	**.746**	15.381	.000	$p < .001$
Fut3	.168	.199	.480	.101	**.714**	11.316	.000	$p < .001$
Fut4	.234	.348	.540	.294	**.753**	16.279	.000	$p < .001$
Fut5	.261	.049	.442	.249	**.746**	14.641	.000	$p < .001$
Fut6	.162	.052	.405	.265	**.696**	12.331	.000	$p < .001$
Fut7	.236	.141	.458	.232	**.680**	11.894	.000	$p < .001$

4.4.13 Measurement Model Results of Business Coping Strategy (BCS)

The BCS construct was specified and estimated following the recommendation by Becker et al. (2012), which pointed to the use of alternative procedures suggested by Ringle, Sarstedt, and Straub (2012), and Wilson (2010). By this procedure, the repeated-indicator approach was first used in the first run of PLS algorithm to obtain a single estimate score for each of the first-order constructs of BCS. Later, using two-stage approach (or the so-called sequential latent variable score method), the resultant scores of the first-order constructs were used as indicators to estimate latent scores of the second-order constructs in a separate second stage; and so forth with the third-order construct.

The repeated-indicator approach used for the first estimation offered coupled advantage of simplicity and superiority, as the approach could be easily done (Becker et al., 2012; Ciavolino & Nitti, 2010), and yet performs best with large number of indicators as it was in the case of the current study (Wilson & Henseler, 2007). The use of repeated-indicator approach also tailored to the prerequisite that all measurement relationships were reflective (Rajala & Westerlund, 2010).

4.4.13.1 Measurement Model of BCS's First-Order Constructs

To assess the reliability and validity of the 13 first-order constructs of BCS, each second-order measurement model was estimated separately using repeated-indicator approach. Such working principle was also practiced by recent researchers who used PLS SEM to examine constructs at the higher level of abstraction (i.e., Wilson, 2010). As BCS conceived four second-order constructs (RG, CC, FB, Bri), therefore four separate measurement models were run.

The resultant PLS algorithm diagrams of the four measurement models, namely revenue-generation tactics (Figure 4.5a), cost-cutting tactics (Figure 4.5b), financial bootstrapping tactics (Figure 4.5c) and bricolage tactics (Figure 4.5d), are depicted in the Figure 4.5 series.

The psychometric properties and explanations of each these resultant measurement models (MM) are tabulated and discussed in separate subsections of A, B, C, and D that follow strictly.

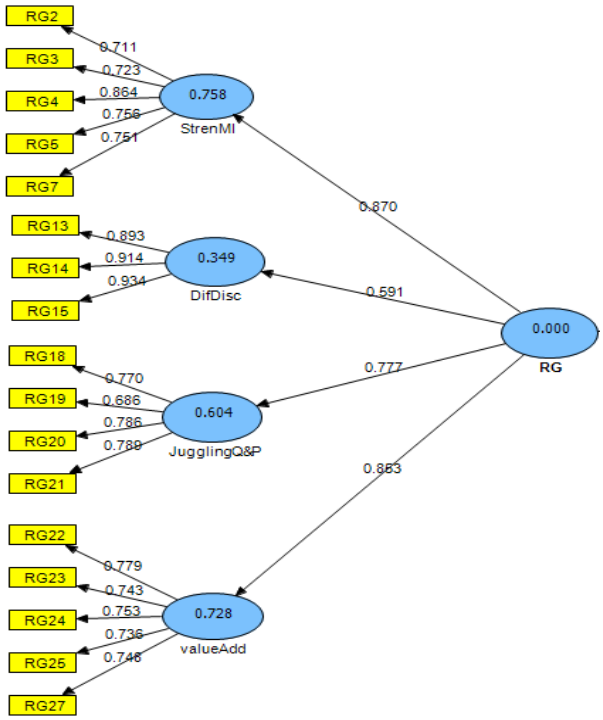

Figure 4.5a MM of revenue-generation tactics

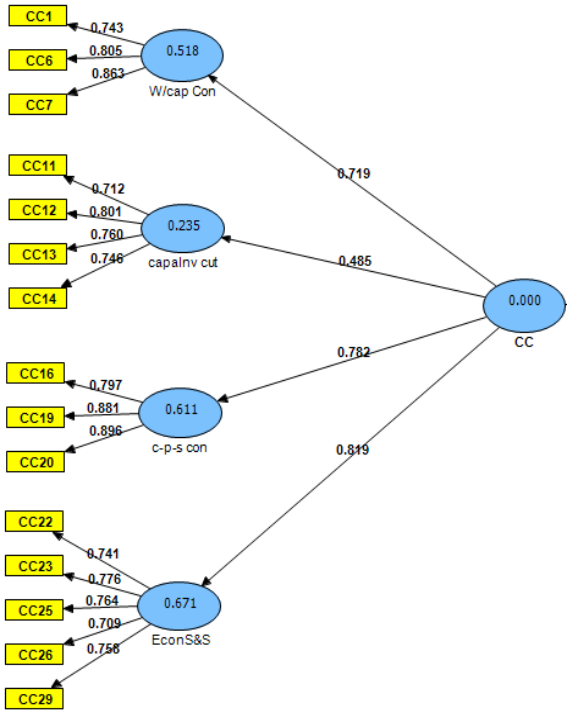

Figure 4.5b MM of cost-cutting tactics

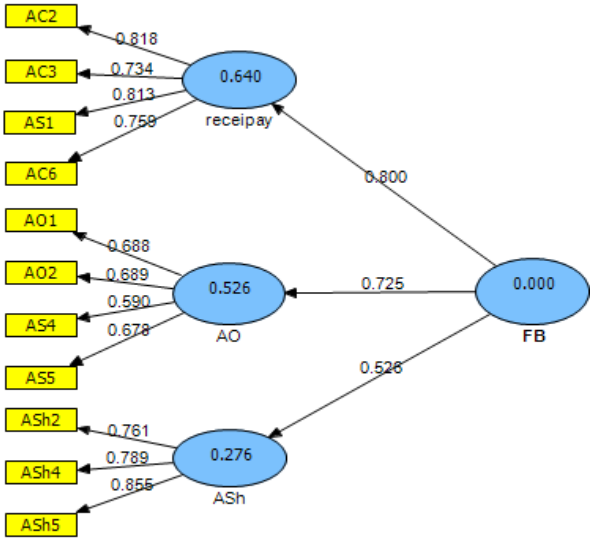

Figure 4.5c MM of financial bootstrapping tactics

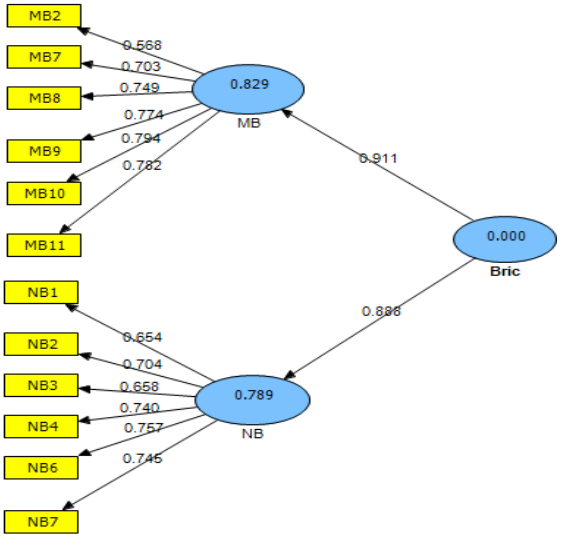

Figure 4.5d MM of bricolage tactics

Figure 4.5. PLS algorithm diagrams for BCS's first-order measurement models

A) Measurement Model of Revenue-Generation Tactics (RG)

Presented in Table 4.31 through Table 4.33 are the psychometric properties results of RG's measurement model. From the 19 items brought forward from EFA stage, 17 items remained in the measurement model stage.

From Table 4.31, all items loaded sufficiently, ranging from .686 to .934, with majority of them loaded above .70. These results asserted item reliability. Besides, the four first-order constructs (StrenMI, DifDisc, JugQ&P, and valueAdd) also exhibited sufficient construct reliability, as evident in their composite reliabilities ranging from .844 to .938. All four RG's first-order constructs were also proven achieving sufficient convergent validity, as indicated by all achieving AVEs of above .50.

Further demonstrated in Table 4.32 that follows, the four first-order constructs of RG were also found sufficiently distinct from each other at the construct level. As depicted in Table 4.32, the square roots of AVEs along the diagonal were all greater than other intercorrelations within the row and column of a construct. Further down, Table 4.33 demonstrated that the discriminant validity at the item level was also established. Each indicator's standardized loading was found exceeding all its corresponding cross loadings. Altogether, all the four first-order constructs of RG were valid in terms of convergent and discriminant validity.

Table 4.31

Revenue Generation Tactics: Item Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Constructs	Items	Standardized Loadings	AVE	Composite Reliability (ρ_c)	Crongach's Alpha
Strengthening marketing initiatives (StrenMI)	RG2	.711	.582	.874	.818
	RG3	.723			
	RG4	.864			
	RG5	.756			
	RG7	.751			
Differentiated discounting practice (DifDisc)	RG13	.893	.835	.938	.901
	RG14	.914			
	RG15	.934			
Juggling quality and pricing policy (JugQ&P)	RG18	.770	.576	.844	.755
	RG19	.686			
	RG20	.786			
	RG21	.789			
Care for value-added (valueAdd)	RG22	.779	.566	.867	.808
	RG23	.743			
	RG24	.753			
	RG25	.736			
	RG27	.748			

Table 4.32

Revenue Generation Tactics: Latent Variable Correlations and Square Roots of AVEs

Constructs	1	2	3	4
1. Differentiated discounting	(.914)			
2. Juggling quality & pricing	.252	(.759)		
3. Strengthening marketing initiative	.388	.600	(.763)	
4. Care for value-added	.393	.562	.626	(.752)

Note. Numbers in parentheses on the diagonal are the square roots of AVEs of the constructs. Off-diagonal elements are correlations amongst the constructs.

Table 4.33

Revenue-Generation Tactics: Outer Model Cross Loadings and Loadings' Significance

Items	StrenMI	DifDisc	JugQ&P	valueAdd	*T*-statistics	*P*-value	Significance level
RG2	**.711**	.378	.469	.490	9.667	.000	$p < .001$
RG3	**.723**	.225	.426	.540	15.582	.000	$p < .001$
RG4	**.864**	.297	.523	.509	38.896	.000	$p < .001$
RG5	**.756**	.201	.401	.429	17.516	.000	$p < .001$
RG7	**.751**	.369	.458	.413	19.245	.000	$p < .001$
RG13	.292	**.893**	.199	.291	23.193	.000	$p < .001$
RG14	.426	**.914**	.266	.408	30.300	.000	$p < .001$
RG15	.331	**.934**	.219	.367	30.946	.000	$p < .001$
RG18	.366	.276	**.770**	.371	19.441	.000	$p < .001$
RG19	.371	.150	**.686**	.321	10.079	.000	$p < .001$
RG20	.529	.166	**.786**	.462	21.535	.000	$p < .001$
RG21	.530	.178	**.789**	.525	21.484	.000	$p < .001$
RG22	.502	.377	.417	**.779**	16.022	.000	$p < .001$
RG23	.409	.396	.317	**.743**	14.547	.000	$p < .001$
RG24	.412	.271	.441	**.753**	13.813	.000	$p < .001$
RG25	.519	.159	.481	**.736**	15.766	.000	$p < .001$
RG27	.503	.275	.455	**.748**	19.061	.000	$p < .001$

Note. StrenMI denotes strengthening marketing initiative; DifDisc denotes differentiated discounting; JugQ&P denotes juggling quality and pricing; valueAdd denotes care for value-added

B) Measurement Model of Cost-Cutting Tactics (CC)

Presented in Table 4.34 through Table 4.36 are the psychometric properties of the CC's measurement model. About 15 items were remained in this stage.

As shown in Table 4.34, item-level reliability was evident in that all indicators loaded above .70, ranging from .709 to .896. The four first-order constructs of CC, namely w/cap con, capaInv con, c-p-s con, and EconS&S, were proven reliable in their attainment of composite reliabilities of .846, .841, .894, and .865 respectively. These four constructs also achieved sufficient convergent validity, as demonstrated in their respective AVE of .648, .571, .738, and .562. The evidence that they were

sufficiently different from each other was also observed. As in Table 4.35, their respective square root of AVE exceeds the intercorrelation values within the matrix. Further, each indicator was also found carrying the highest standardized loading compared to other cross loadings (Table 4.36). Given these accounts, all the four first-order constructs of CC were proven all-round valid.

Table 4.34

Cost-Cutting Tactics: Item Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Constructs	Items	Standardized Loadings	AVE	Composite Reliability (ρ_c)	Cronbachs Alpha
Working capital control (w/cap con)	CC1	.743	.648	.846	.726
	CC6	.805			
	CC7	.863			
Production capacity and manufacturing investment control (capaInv con)	CC11	.712	.571	.841	.749
	CC12	.801			
	CC13	.760			
	CC14	.746			
Cost-production streamlining-stock control (c-p-s con)	CC16	.797	.738	.894	.823
	CC19	.881			
	CC20	.896			
Care for economies of scale and scope, and cost priority (EconS&S)	CC22	.741	.562	.865	.805
	CC23	.776			
	CC25	.764			
	CC26	.709			
	CC29	.758			

Table 4.35

Cost-Cutting Tactics: Latent Variable Correlations and Square Roots of AVEs

Constructs	1	2	3	4
1. Care for economies scale and scope, and cost priority	(.750)			
2. Working capital control	.404	(.805)		
3. Cost-production streamlining-stock control	.475	.469	(.859)	
4. Production capacity and manufacturing investment control	.225	.228	.231	(.755)

Note. Numbers in parentheses on the diagonal are the square roots of AVEs of the constructs. Off-diagonal elements are correlations amongst the constructs

Table 4.36

Cost-Cutting Tactics: Outer Model Cross Loadings and Loadings' Significance Level

Item	w/cap con	capaInv con	c-p-s con	EconS&S	*T*-value	*P*-value	Significance Level
CC1	**.743**	.231	.305	.428	14.962	.000	$p < .001$
CC6	**.805**	.146	.419	.289	17.399	.000	$p < .001$
CC7	**.863**	.169	.409	.253	29.352	.000	$p < .001$
CC11	.190	**.712**	.220	.178	8.191	.000	$p < .001$
CC12	.219	**.801**	.211	.069	10.751	.000	$p < .001$
CC13	.084	**.760**	.130	.188	9.402	.000	$p < .001$
CC14	.185	**.746**	.131	.239	9.968	.000	$p < .001$
CC16	.411	.140	**.797**	.253	14.732	.000	$p < .001$
CC19	.398	.155	**.881**	.402	38.753	.000	$p < .001$
CC20	.406	.282	**.896**	.533	50.367	.000	$p < .001$
CC22	.264	.105	.418	**.741**	13.682	.000	$p < .001$
CC23	.279	.161	.420	**.776**	20.734	.000	$p < .001$
CC25	.321	.150	.260	**.764**	17.359	.000	$p < .001$
CC26	.303	.246	.306	**.709**	14.004	.000	$p < .001$
CC29	.347	.182	.370	**.758**	19.413	.000	$p < .001$

Note. w/cap con denotes working capital control; capaInv con, production capacity and manufacturing investment control; c-p-s con, cost-production streamlining-stock control; EconS&S, economies of scale and scope, and cost priority

C) Measurement Model of Financial Bootstrapping Tactics (FB)

As demonstrated in Table 4.37, 11 out of 13 items brought forward from EFA were remained in the measurement model of FB. Referring to Table 4.37, items of the three first-order constructs of FB loaded satisfactorily in line with Hair et al.'s (2014) .40 - .70 acceptable range. These constructs, namely receivable-payable-related bootstrapping (receipay), operator-related bootstrapping (AO), and joint utilization-related bootstrapping (Ash), also demonstrated good composite reliabilities of .862, .757 and .844 respectively. While satisfactory level of convergent validity were observed in receipay (AVE = .611) and ASh (AVE = .644), a tolerable level was noted in AO (.439). The AO construct was decidedly retained in the model, because its composite reliability (.757) was still above .60, which still

fulfilled Fornell and Larcker's (1981) acceptable condition for lower AVE to support convergent validity.

Table 4.37

Financial Bootstrapping Tactics: Item Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Constructs	Items	Standardized Loadings	AVE	Composite Reliability (ρ_c)	Cronbach's Alpha
Receivable-payable related bootstrapping (receipay)	AC2	.818	.611	.862	.787
	AC3	.734			
	AC6	.759			
	AS1	.813			
Operator-related bootstrapping (AO)	AO1	.688	.439	.757	.571
	AO2	.689			
	AS4	.590			
	AS5	.678			
Joint utilization-related bootstrapping (Ash)	ASh2	.761	.644	.844	.729
	ASh4	.789			
	ASh5	.855			

In Table 4.38, all square roots of AVEs were found greater than all other correlations within the matrix, hence indicating adequate discriminant validity. Discriminate validity was further supported by the cross loadings results in Table 4.39, in which all indicators of the corresponding intended constructs revealed loadings higher than their cross loadings.

Table 4.38

Financial Bootstrapping Tactics: Latent Variable Correlations and Square Roots of AVEs

Constructs	AO	ASh	Receipay
1. Operator-related bootstrapping (AO)	(.663)		
2. Joint utilization-related bootstrapping (Ash)	.248	(.803)	
3. Receivable & payable-related bootstrapping (receipay)	.316	.112	(.782)

Note. Numbers in parentheses on the diagonal are the square roots of AVEs of the constructs. Off-diagonal elements are correlations amongst the constructs.

Table 4.39

Financial Bootstrapping Tactics: Outer Model Cross Loadings and Loadings' Significance Level

Items	receipay	AO	ASh	*T*-value	*P*-value	Sig. level
AC2	**.818**	.239	.038	15.718	.000	$p < .001$
AC3	**.734**	.242	- .038	11.789	.000	$p < .001$
AC6	**.759**	.277	.118	14.096	.000	$p < .001$
AS1	**.813**	.232	.208	17.921	.000	$p < .001$
AO1	.131	**.688**	.216	5.562	.000	$p < .001$
AO2	.179	**.689**	.217	6.061	.000	$p < .001$
AS4	.315	**.590**	.042	5.027	.000	$p < .001$
AS5	.215	**.678**	.178	5.879	.000	$p < .001$
ASh2	.188	.248	**.761**	4.829	.000	$p < .001$
ASh4	- .024	.175	**.789**	2.953	.002	$p < .01$
ASh5	.066	.158	**.855**	3.251	.001	$p < .01$

D) Measurement Model of Bricolage Tactics (Bri)

The psychometric properties of the measurement model of bricolage tactics are presented in Table 4.40 through Table 4.42. None of the 12 items brought forward from the EFA stage was eliminated during this confirmatory stage.

As depicted in Table 4.40, all items of bricolage tactics were found reliable, most of which carried loadings of above .70. The two first-order constructs, namely MB and NB, attained composite reliability of .873 and .859 respectively; thus indicating acceptable internal consistency.

Table 4.40

Bricolage Tactics: Item Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Constructs	Items	Standardized Loadings	AVE	Composite Reliability (ρ_c)	Cronbach's Alpha
Material bricolage (MB)	MB2	.568	.537	.873	.824
	MB7	.703			
	MB8	.749			
	MB9	.774			
	MB10	.794			
	MB11	.782			
Network bricolage (NB)	NB1	.654	.505	.859	.805
	NB2	.704			
	NB3	.658			
	NB4	.740			
	NB6	.757			
	NB7	.745			

Further, being two reflective subordinate dimensions under the bricolage construct, MB and NB were also evident in satisfactory convergent and discriminant validity. While the former was observed in the AVEs of above .50 for both MB (AVE = .537) and NB (AVE = .505), the latter was evident in that all square roots of AVEs were found greater than all cross correlations in the matrix, as depicted in Table 4.41. The discriminant validity at item level was also assured by the cross loadings in Table 4.42.

Table 4.41

Bricolage Tactics: Latent Variable Correlations and Square Roots of AVEs

	MB	NB
Material bricolage (MB)	(.733)	
Network bricolage (NB)	.619	(.711)

Note. Numbers in parentheses on the diagonal are the square roots of AVEs of the constructs. Off-diagonal elements are correlations amongst the constructs.

Table 4.42

Bricolage Tactics: Outer Model Cross Loadings and Loadings' Significance Level

Items	Material Bricolage (MB)	Network Bricolage (NB)	*T*-values	*P*- value	Significance level
MB2	**.568**	.339	6.847	.000	$p < .001$
MB7	**.703**	.520	14.383	.000	$p < .001$
MB8	**.749**	.441	15.881	.000	$p < .001$
MB9	**.774**	.448	21.898	.000	$p < .001$
MB10	**.794**	.466	15.477	.000	$p < .001$
MB11	**.782**	.488	21.162	.000	$p < .001$
NB1	.326	**.654**	10.787	.000	$p < .001$
NB2	.405	**.704**	12.514	.000	$p < .001$
NB3	.345	**.658**	9.970	.000	$p < .001$
NB4	.326	**.740**	15.713	.000	$p < .001$
NB6	.580	**.757**	22.164	.000	$p < .001$
NB7	.582	**.745**	20.249	.000	$p < .001$

4.4.13.2 Measurement Model of BCS's Second-Order Constructs

The measurement model of BCS's second-order constructs (RG, CC, FB, Bri) is depicted in Figure 4.6. The four second-order measurement models of BCS consisted of 13 indicators. The psychometric properties of the measurement model are tabulated in Table 4.43, Table 4.44, and Table 4.45 that follow strictly.

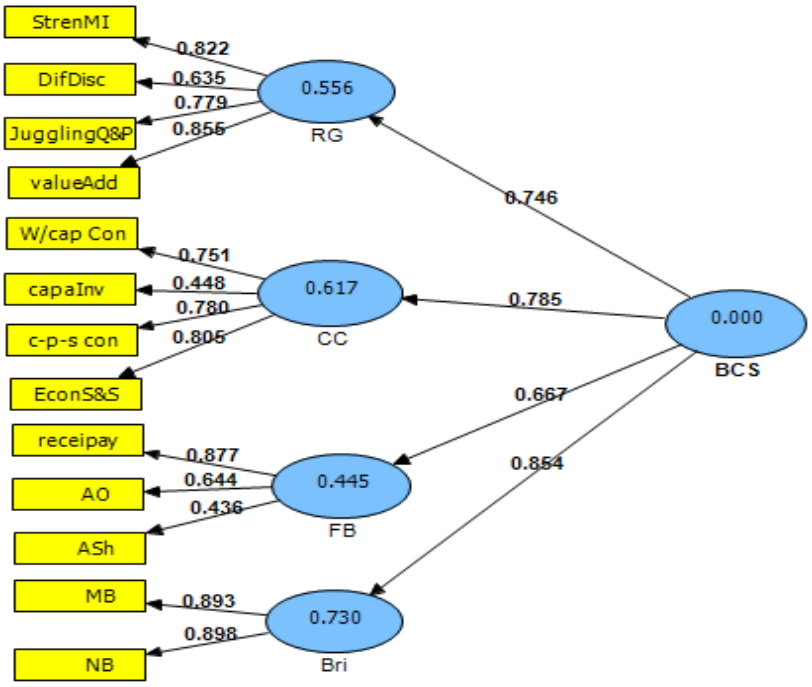

Figure 4.6. Measurement model of BCS's second-order constructs

Table 4.43

Second-Order Constructs of BCS: Loadings, Average Variance Extracted, Composite Reliability, and Cronbach's Alpha

Constructs	Items	Standardized Loadings	AVE	Composite Reliability (ρ_c)	Cronbachs Alpha
Revenue-generation tactics (RG)	StrenMI	.822	.604	.858	.777
	DifDisc	.635			
	JugglingQ&P	.779			
	valueAdd	.855			
Cost-cutting tactics (CC)	W/cap Con	.751	.505	.796	.666
	capaInv	.448			
	c-p-s con	.780			
	EconS&S	.805			
Financial bootstrapping (FB)	Receipay	.877	.458	.702	.448
	AO	.644			
	Ash	.436			
Bricolage tactics (Bri)	MB	.893	.802	.890	.753
	NB	.898			

Table 4.44

Second-order Constructs of BCS: Correlations and Square Roots of AVEs

Constructs	Bri	CC	FB	RG
1. Bricolage tactics (Bri)	(.896)			
2. Coat-cutting tactics (CC)	.585	(.711)		
3. Financial bootstrapping tactics (FB)	.487	.479	(.677)	
4. Revenue-generation tactic (RG)	.541	.324	.292	(.777)

Note. Numbers in parentheses on the diagonal are the square roots of AVEs of the constructs. Off-diagonal elements are correlations amongst the constructs

Table 4.45

Second-order Constructs of BCS: Outer Model Loadings, Cross Loadings and Loadings' Significance Level

Items	RG	CC	FB	Bri	*T*-value	*P*-value	Sig. level
StrenMI	**.822**	.071	.131	.363	22.33	.000	$p < .001$
DifDisc	**.635**	.287	.296	.341	5.7379	.000	$p < .001$
JugglingQ&P	**.779**	.246	.201	.436	12.089	.000	$p < .001$
valueAdd	**.855**	.358	.266	.509	34.147	.000	$p < .001$
W/cap Con	.251	**.751**	.282	.417	11.981	.000	$p < .001$
capaInv con	- .013	**.448**	.301	.214	4.3646	.000	$p < .001$
c-p-s con	.231	**.780**	.305	.356	15.866	.000	$p < .001$
EconS&S	.336	**.805**	.465	.586	25.601	.000	$p < .001$
Receipay	.296	.516	**.877**	.500	20.01	.000	$p < .001$
AO	.143	.126	**.644**	.177	5.2404	.000	$p < .001$
ASh	.078	.180	**.436**	.186	2.9702	.002	$p < .01$
MB	.440	.533	.459	**.893**	57.479	.000	$p < .001$
NB	.527	.515	.413	**.898**	50.522	.000	$p < .001$

Referring to Table 4.43, all items for the second-order constructs had demonstrated acceptable indicator reliability. All indicator loadings were found within the acceptable range of .40 - .70 (Hair et al., 2014), and were all significant at the level of $p < .01$ (Table 4.45). As in Table 4.43, majority of the items loaded between .635 and .898, except the indicator capaInv con (.448) and indicator ASh

(.436), which loaded below .50. These two indicators were however retained in this study considering the newness of the construct, and their potential content contribution. Notably, the two indicators were still within the acceptable range of .40 - .70. Further, the analysis also attested that the four second-order constructs were also reliable at the construct level, as RG, CC, FB, and Bri attained good composite reliabilities of .858, .796, .702, and .890 respectively.

Also depicted in Table 4.43, the AVE values of RG, CC, FB, and Bri were reportedly .604, .505, .458, and .802 respectively, thus supporting convergent validity of the constructs. The .458 AVE value of FB, though was comparatively lower, was still considered as acceptable to establish convergent validity, considering its composite reliability of .702. According to Fornell and Larcker (1981), an AVE of less than .50 is still adequate to support the convergent validity of a construct, provided that the composite reliability of the construct is above .60. This study also considered acceptable this lower AVE in the view that FB was comprised within the newly conceptualized third-order BCS, in which the FB construct itself was a construct of higher order.

Further, evidence of discriminant validity of constructs is provided Table 4.44 and Table 4.45. All square roots of AVEs were found exceeding all cross correlations in the matrix. Standardized loading of each item was also the highest among their corresponding cross loadings. Therefore, with all the evidence of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity, it was concluded that all the first-order constructs did indeed load onto the posited second-order constructs.

4.4.13.3 Measurement Model of BCS's Third-Order Construct

At the third-order measurement assessment of BCS, the fulfillment of convergent validity was established (AVE = .561). The BCS scale developed was also found reliable at both the construct and item levels, with composite reliability of .833 and all items loaded sufficiently (.732, .709, .597, & .921) at the level of $p < .001$ as demonstrated in Table 4.46. The PLS algorithm diagrams of the third-order BCS construct follows in Figure 4.7.

Table 4.46

Third-Order Construct of BCS: Loadings, Average Variance Extracted, Composite Reliability, Cronbach's Alpha, and Loadings' Significance Level

Global construct (3^{rd}-order construct)	**Items (2^{nd} order constructs)**	**Standardized Loadings**	**AVE**	**ρ_c**	**A**	**Significance of Loadings**		
						***T*-value**	***P*-value**	**Sig. level**
BCS	RG	.732	.561	.833	.749	12.246	.000	$p < .001$
	CC	.709				7.772	.000	$p < .001$
	FB	.597				6.060	.000	$p < .001$
	Bri	.921				57.104	.000	$p < .001$

Note. BCS denotes business coping strategies; RG denotes revenue generation tactics; CC denotes cost-cutting tactics; FB denotes financial bootstrapping tactics; Bri denotes bricolage tactics; $\boldsymbol{\rho_c}$ denotes composite reliability of a construct; α denotes Cronbach's alpha value.

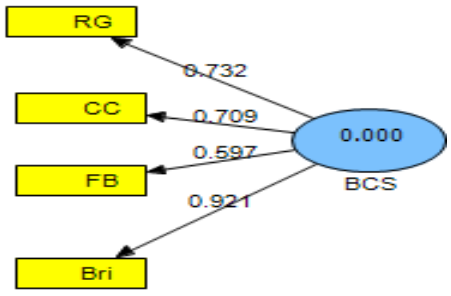

Figure 4.7. Measurement model of the third-order BCS

To this end, overall, this study found sufficient evidence for acceptable measurement properties of the second- and third- order constructs of BCS, and thus supporting the valid and reliable existence of a single third-order factor BCS. As the development and validation of BCS construct was exploratory in nature, this part of validation concerned theory development and not theory testing. To sum up, BCS was attested as a valid and reliable third-order construct, which was reflected by four second-order (RG, CC, FB, Bri), and thirteen 13 first-order constructs

4.4.14 Descriptive Analysis of Main Constructs (Measurement Model; *n* = 150)

Having the above done, descriptive analysis was run to produce the descriptive statistics of all constructs used in the measurement model (final survey). The results of the descriptive analysis are tabulated in Table 4.47.

Table 4.47

Descriptive Analysis of Main Constructs used in Measurement Models (n = 150)

Constructs	Mean	Std. Dev.	Min.	Max.
Crisis readiness (CR)	3.728	.488	2	5
Improvisational competence (IC)	3.988	.461	2	5
Strengthening marketing initiatives (StrenMI)	3.856	.570	3	5
Differentiated discounting practice (DifDisc)	4.044	.698	1	5
Juggling quality and pricing policy (JugQ&P)	4.118	.505	3	5
Care for value-added (valAdd)	4.131	.487	3	5
Working capital control (wcap)	4.120	.569	2	5
Production capacity and manufacturing investment control (capaInv con)	3.352	.689	1	5
Cost-production streamlining-stock control (c-p-s)	4.167	.613	1	5
Care for economies of scale and scopes, and cost priority (econSS)	4.297	.464	3	5
Receivables & payables related bootstrapping (receipay)	4.317	.502	3	5
Owner related bootstrapping (AO)	3.218	.606	1	5
Joint- utilization related bootstrapping (ASh)	2.669	.771	1	5
Material bricolage (MB)	3.870	.459	2	5
Network bricolage (NB)	4.037	.419	3	5

(table continues)

Table 4.47. (***continued***)

Risk-taking orientation (Risk)	3.547	.548	1	5
Innovativeness orientation (Inno)	3.411	.586	2	5
Proactiveness orientation (Pro)	4.240	.475	3	5
Competitive-aggressiveness orientation (ComAg)	3.331	.599	1	5
Futurity orientation (Fut)	4.147	.454	3	5

Note. Std. Dev. denotes standard deviation

As a standardized scale-point was used across, responses were captured on a five-point Likert-type scale. Except for joint utilization-related bootstrapping (mean = 2.669), all constructs' average charted above the middle point of the scale (ranging from 3.218 to 4.317). This indicated a somewhat optimistic attitude amongst the respondents for each scale. For a scale of five-point, the values of standard deviation (ranging from .419 to .771) were considerably small and appropriate. These small values of standard deviations showed that data points were clustering around the mean.

4.5 Revision of the Research Model

Having confirmed the reliability and validity of the measurement models, the study was then ready to assess the structural model which involved the examination of the model's predictive capability and the relationship between the constructs. However, since modifications had taken place during the preceding measurement models assessment, this section presents the ultimate revised framework to give a succinct view of the hypothesized relationship, and the remaining constructs and items used in the structural model assessment.

The ultimate revised theoretical model as shown in Figure 4.8 comprised two predictor variables (BCS and EO), a mediator (IC), and a dependent variable (CR), all of which were multiple-item continuous constructs. In particular, the revised model indicated the presence of a third-order factor model of BCS. This higher-order component model captured four second-order constructs (RG, CC, FB, Bri), and thirteen (13) first-order constructs, which were in turn reflected by 55 items. While RG and CC were four-factor model constructs, FB and Bri were respectively a three- and two-factor model constructs. All the first-order constructs were reflected by at least three items.

The second predictor, EO, was retained as a multidimensional five-factor model, reflected by 28 items. For the dependent variable (CR), a uni-dimensional construct of 11 items was chiseled out for the structural model assessment. CR was initially proposed as a 15-item, two-factor model construct. Finally, the mediating variable (IC) was an eight-item unidimensional construct. Altogether, the revised theoretical model consisted of 26 constructs and 102 items.

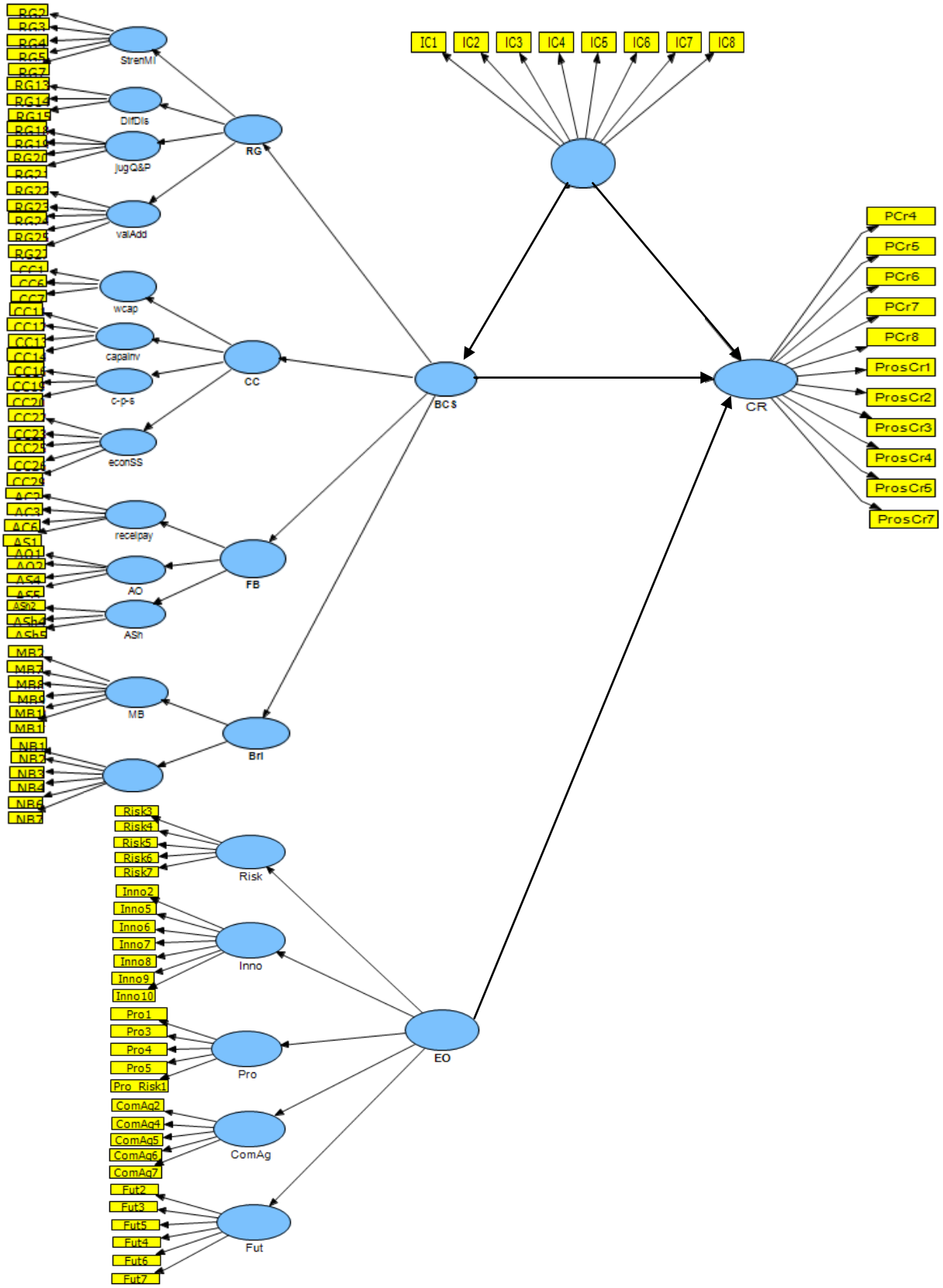

Figure 4.8. Revised theoretical framework (after measurement model assessments)

However, given the complexity of the model, this study assessed the structural model using latent scores of the constructs, which were estimated from the PLS algorithm procedure (Hair et al., 2014). The structural model used for the ultimate estimations for hypotheses testing in this study is as presented in Figure 4.9.

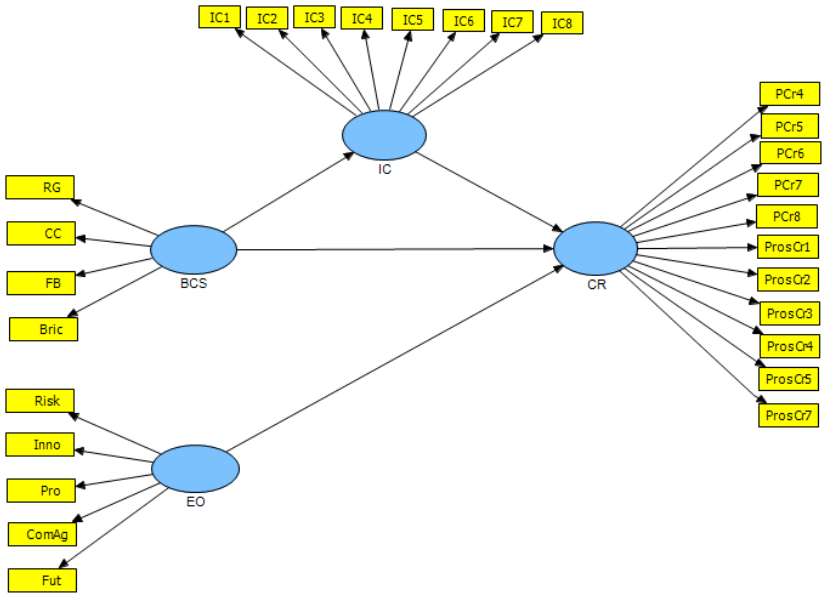

Figure 4.9. Revised model used for structural model assessment

Above all, the statements of the main hypotheses remained intact. To recap, three main hypotheses were tested to answer three main research objectives. The hypotheses and their corresponding research objectives are per tabulated in Table 4.48. Hypothesis H1, H2, and H3 corresponded to Objective 1, Objective 2, and Objective 3 respectively.

Table 4.48

Hypotheses and Corresponding Research Objectives Reassured

	Hypotheses	Research Objectives
H1	BCS is positively and significantly related to CR.	**Objective 1** To examine the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.
H2	EO is positively and significantly related to CR.	**Objective 2** To examine the relationship between EO and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.
H3	IC significantly mediates the relationship between BCS and CR.	**Objective3** To determine the mediating effect of IC on the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.

In parallel, the five sub-hypotheses postulated between five individual dimensions of EO and CR also remained intact. These hypotheses conjured up additional five direct effects tested in this study. These hypotheses are recapped in the following:

H2a: Risk-taking orientation (Risk) is positively and significantly related to CR.

H2b: Innovativeness orientation (Inno) is positively and significantly related to CR.

H2c: Proactiveness orientation (Pro) is positively and significantly related to CR.

H2d: Competitive-aggressiveness orientation (ComAg) is positively and significantly related to CR.

H2e: Futurity orientation (Fut) is positively and significantly related to CR.

The examinations of three main hypotheses and the five sub-hypotheses of EO-CR relationships were reported in two separate subsections under Section 4.6 that follows, namely Section 4.6.3 (Testing Main Hypotheses: H1, H2, and H3 [Direct

and Mediating Effects]) and Section 4.6.4 (Testing Sub-hypotheses H2a through H2e). They were reported separately to ease reading, as different analyses and tools were used for both. While the former used PLS SEM, the latter used semi-partial correlation carried out using SPSS program.

4.6 Analyses and Findings of Structural Model and Hypotheses Testing

To assess the structural model, this study adhered to the statistical procedure recommended by Hair et al. (2014, p.169). The procedure is composed of five main steps, as demonstrated in Figure 4.10.

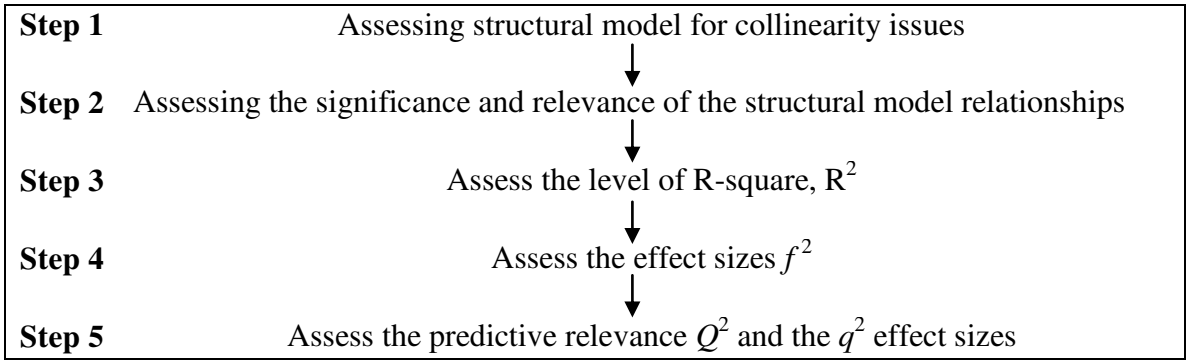

Figure 4.10. Structural model assessment procedure

Note that the global goodness-of-fit measure (GoF) proposed by Tenenhaus, Esposito, Chatelin, and Lauro (2005) was not employed in this study as its use has been alarmed as not appropriate for identifying misspecified models; that is, this fit measure is unable to distinguish valid models from invalid ones (Henseler & Sarstedt, 2013). Essentially, the focus of PLS-SEM is more on prediction rather than explanation, therefore the fit measure as required by the covariance-based structural equation modeling (CB-SEM) is not the goal. Given that the primary objective of

PLS is prediction, according to Chin (1998), the goodness of a theoretical model is established by the strength of structural path and the combined predictiveness (*R*-square, R^2) of exogenous variables.

4.6.1 Assessing Collinearity for the Structural Model

To recall, a multicollinearity test had been tested at the earlier measurement model assessment stage, which proved non-existence of multicollinearity problem. However, in the current study, it was necessary to perform another round of collinearity test prior to all other analyses of structural model estimation. This was so because the measurement models and the structural model of this study were not accomplishable simultaneously due to the large number of measured variables (111 items) comprising the research model; and that the collinearity at the structural stage was yet to be assessed.

Testing the collinearity before assessing structural model is crucial because path coefficients in a structural model are estimated based on the OLS regression of each endogenous latent variable on its corresponding predecessor constructs. If estimations were produced from predictor variables that are significantly collinear, the path coefficients might be biased (Hair et al., 2014).

According to Hair et al. (2014), because the collinearity issues were examined at the structural model level, latent scores were needed. Following the procedure delineated by Hair et al. (2014), latent variable scores were extracted using the PLS algorithm procedure, which were in turn used as input in SPSS program to obtain the variance inflated factor (VIF).

As tabulated in Table 4.49, the VIFs of all tested predictor constructs were found well below the acceptable threshold of 5 (Hair et al., 2014). Hence, the possibility of structural estimations being biased by collinearity was not an issue.

Table 4.49

Collinearity Statistics before Structural Model Assessment (n = 150)

Constructs	Tolerance	VIF
Business coping strategies (BCS)	0.558	1.791
Entrepreneurial orientation (EO)	0.569	1.757
Improvisational competence (IC)	0.631	1.584

4.6.2 Assessing the Predictive Power and Relevance of the Research Model

Using PLS for prediction purpose requires a measure of predictive capability. For this purpose, this study adhered to Hair, Ringle, and Sarstedt's (2011) guidelines, and hence examined the R-squared value (R^2 value) of the endogenous latent variables (Chin, 1998), effect size, f^2 (Cohen, 1988), and the Stone-Geisser Q-square statistics (Geisser, 1974; Stone, 1974). Practically, the coefficient of determination (R^2 value) and effect size (f^2) were used to analyze the predictive power of the research model, while Stone-Geisser's Q^2 statistic was used to investigate the predictive relevance of the endogenous constructs.

4.6.2.1 Coefficient of determination (R^2 value)

R^2 value, coefficient of determination, is a measure of the model's predictive accuracy or power (Hair et al., 2014). It indicates the combined effect (explanatory power) of exogenous latent variables on the endogenous latent variable (Hair et al.,

2014). R^2 value ranges between zero (0) and one (1), with higher R^2 implying greater level of predictive accuracy, the greater explanatory power of the predictors in the model; and hence a good path model (Hair et al., 2014). Therefore, R^2 value should be sufficiently high for a model to attain the minimum level of explanatory power. The accuracy that higher R^2 value indicates greater explanatory power of the predictors is particularly true when a model comprises a small number of predictors (Kock, 2014).

The interpretation and acceptability of R^2 value are judged on the case-to-case basis of the model's complexity and the research discipline, there is no one fixed threshold. For instance, while R^2 value of .20 is considered high in disciplines involving consumer behavior, a much higher corresponding threshold value such as .75 is expected for research of success driver (Hair et al., 2014). For research in marketing discipline, R^2 values of .75, .50, and .25 respectively indicates substantial, moderate, and weak value (Hair et al., 2011). Other researcher such as Cohen (1988) recommends R^2 values of .26, .13, and .02 as the cut-off for substantial, moderate, and weak, with the corresponding path coefficients of greater than .10. Chin (1998b) recommends the cut-off of .67, .33, and .19 as substantial, moderate and weak, with acceptable path coefficients ranging from .20 to .30.There is also such R^2 cut-off as lenient as .10 (Falk & Miller, 1992).

Practically, the PLS algorithm was used to compute R^2 statistics for two endogenous constructs in the structural model, namely IC and CR. The R^2 values of CR and IC were reportedly .482 and .352 respectively (see Table 4.50). Applying Chin's (1998b) cut off of .67 (substantial), .33 (moderate) and.19 (weak), this study

interpreted both IC and CR as exhibiting moderate R^2, and hence a moderate predictive accuracy for both respectively.

Table 4.50

R-squared Values of Endogenous Variables

Endogenous latent variables	Predecessor variables	R^2 Values	Level of Predictive Accuracy
Crisis readiness	• Business coping strategy • Entrepreneurial orientation • Improvisational competence	.482	Moderate
Improvisational competence	• Business coping strategy	.352	Moderate

4.6.2.2 Effect Size (f^2)

In addition to evaluating the R^2 value of all endogenous constructs above, effect size was computed. The effect size analysis (f^2) complements R^2 in that the effect size of the impact of the specific latent variables on the dependent latent variables can be known (Chin, 2010). Effect size (f^2) is the change in the R^2 value when a specified exogenous construct is omitted for the model. Under this principle, it thus evaluates whether the omitted construct has a substantive impact on the endogenous constructs (Hair et al., 2014). In this study, the effect sizes (f^2) were computed using Equation 4.1.

$$\text{Effect size, } f^2 = \frac{(R^2_{\text{included}} - R^2_{\text{excluded}})}{(1 - R^2_{\text{included}})} \qquad (4.1)$$

Based on the f^2 values guideline of Cohen (1988) whereby .02, .15 and .35 respectively indicate small, medium and large effect sizes of the predictive variables, this study found both predictor variables having small size on CR. As demonstrated in Table 4.51, firstly, BCS, EO, and IC had an effect size of very small (f^2 = .002), small (f^2 = .058) and medium (f^2 = .315) on the endogenous CR respectively. Finally, it was found that BCS casted a large effect (f^2 = .543) on the endogenous IC.

Table 4.51

Effect Size of Predictive Variables

Endogenous Variables	**Predecessor latent variables**	**R^2 included**	**R^2 excluded**	**Effect size (f^2)**	**Effect size rating**
Crisis readiness	BCS	.482	.483	.002	Very small
	EO		.452	.058	Small
	IC		.319	.315	Medium
Improvisational competence	BCS	.352	.000	.543	Large

4.6.2.3 Testing Predictive Relevance of the Model

Having assessed the predictive power of the model, the study proceeded to examine the predictive relevance of the model, which is the measure of how well a model predicts the data of omitted cases (Chin, 1998; Hair et al., 2013a). In this study, predictive relevance was assessed only for the two endogenous latent variables with reflective measurement model, which were, CR and IC. Following Hair et al.'s (2014) guideline, two separate blindfolding runs were performed for each CR and IC constructs.

To achieve this purpose, the Stone-Geisser's Q^2 statistic was used, given that both the endogenous latent constructs in this study were reflectively measured (Geisser, 1975; Stone, 1974). While Q^2 statistics greater than zero signifies that a model has predictive relevance, a Q^2 statistics less than zero means a lack of predictive relevance (Fornell & Cha, 1994).

In this study, the Q^2 statistics was computed by means of blindfolding re-sampling approach. "The Q^2 values estimated by the blindfolding procedure represent a measure of how well the path model can predict the originally observed values" (Hair et al., 2014, p.183). The omission distance of 7 was used. This omission distance (*d*) was within the acceptable distance of 5-10, and it was also in agreement with the requirement that, when dividing the number of cases (herein, n = 150) by the omission distance (herein, 7), it did not result in an integer. Thus so, when the omission distance of 7 was chosen for 150 cases used in the model estimation, a non-integer value was produced (150 /7 = 21.43). Adhering to this principle was critical because if the resultant division was an integer, we would have always deleted the same set of observations in each round from the data matrix (Hair et al., 2014).

In PLS, Q^2 statistics could be produced using one of the two types of prediction techniques, namely cross-validated communality and cross-validated redundancy. While cross-validated communality is generated by predicting data points using latent variable score, cross-validated redundancy is obtained by predicting the questionable blocks using the latent variables used for prediction. This study opted for cross-validated redundancy approach for its superiority; in that it uses the path model estimates of both the structural and measurement models for data prediction

(Chin, 1998b; Hair et al., 2014). It "fits the PLS-SEM approach perfectly" (Hair et al., 2014, p.183), just as what Wold (1982, p.30) expressed it as fitting the "soft modeling like hand in glove". This approach is also suitable for use of a large complex model (Chin, 2010).

Later, the relative impact of the predictive relevance was examined by manually computing the measure of q^2, using Equation 4.2. Just as the case for effect size, the computation procedure and the interpretation of the effect size of predictive relevance (q^2) was analogous to those of the effect size based on R-squared. Thus, the values of .02, .15, and .35 were used to denote small, medium, and large effect size of predictive relevance.

$$\text{Effect size of predictive relevance, } q^2 = \frac{Q^2_{\text{included}} - Q^2_{\text{excluded}}}{1 - Q^2_{\text{included}}} \quad (4.2)$$

Depicted in Table 4.52 are the results of the blindfolding procedure. The Q^2 values of greater than zero were evident in all the latent constructs examined, and hence supporting the predictive relevance of the research model in line with Chin (1988). The full blindfolding procedure results are attached in Appendix 4.11

Table 4.52

Cross-validated Redundancy Blindfolding Procedure Results of CR and IC

Total	SSO	SSE	Q^2 statistics (1-SSE/SSO)
Crisis readiness (CR)	1650	1244.666	.2457
Improvisational competence(IC)	1200	966.708	.1944

Note. SSE denotes sum of the squared predictor errors; SSO denotes sum of the square observation

Further, the respective q^2 effect of corresponding predecessors on CR and IC are presented in Table 4.53. The results revealed that the endogenous latent CR and IC had a Q^2 included value of .2457 and .1944 respectively. For the former, the omission of the predecessors BCS, EO, and IC in separate runs of blindfolding had resulted in Q^2 excluded value of .2451, .2292, and .1636 respectively, and hence denoting very small (q^2 = .001), small (q^2 = .022), and small (q^2 = .109) effect size of predictive relevance respectively. In the like manner of the procedure, large (q^2 = .456) effect size of predictive relevance was revealed for the endogenous IC. Altogether, Q^2 statistics and q^2 values computed established evidence that the model in this study had predictive relevance.

Table 4.53

Effect Size of Predictive Relevance (q^2) of Predecessors on Endogenous CR and IC

Endogenous variables	**Predecessor latent variables**	**Q^2 included**	**Q^2 excluded**	**q^2 value**	**Effect size Rating**
Crisis readiness		.2457			
	BCS		.2451	.001	very small
	EO		.2292	.022	small
	IC		.1636	.109	small
Improvisational competence	BCS	.1944	0.562	.456	Large

Further, a post-hoc power analysis was conducted to add convincement to the findings above. As depicted in Figure 4.11, the power analysis revealed statistical power of .92, which was well above Cohen's (1992) threshold of .80.

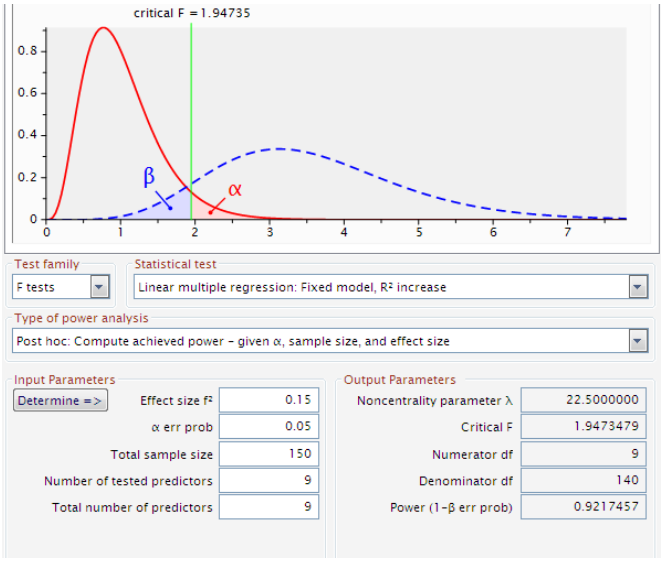

Figure 4.11. Post-hoc power analysis

4.6.3 Testing Main Hypotheses: H1, H2, and H3 (Direct and Mediating Effects)

In this study, higher-order constructs were used to assess the structural model because the model had become complex (102 measured variables, 20 first-order constructs, 5 second-order constructs, and 1 third-order construct) should the whole model was to be assessed within a single structural model. Specifically, the estimation of structural model of this study employed the individual items (at the primary level) as measured variables for the uni-dimensional constructs IC and CR. For BCS and EO which were a third- and second-order construct respectively, latent variable scores were used in the estimation of the structural model.

The estimations of these latent variable scores were produced by, first, generating the latent score of the first-order constructs by means of repeated-indicator approach; and secondly using the resultant latent score as indicators in the consequent two-stage approach, and so forth (Becker et al., 2012). Having used the higher-order constructs within the structural model, the number of relationships had

been reduced substantially, and hence making the path model more parsimonious and easier to understand (Hair et al., 2014).

Later, the study evaluated the statistical significance of the path coefficient. For this purpose, standard errors and *t*-statistics were obtained by performing nonparametric bootstrapping procedure using 5000 subsamples (Hair, Ringle, & Sarstedt, 2011; Henseler, Ringle, & Sinkovics, 2009). The number of bootstrap cases was set to equate the number of observations, 150. The bootstrapping technique is able to produce more reasonable standard error estimates (Tenenhaus, Esposito Vinzi, Chatelin, & Lauro, 2005).

Finally, the mediation effect was tested. Theoretically, a mediation effect is tested to explain why a relationship exists between an exogenous and an endogenous construct (Hair et al., 2014), and so was with the relationship between BCS and CR in this study. To test the mediation, this study followed Hair et al.'s (2014) recommendation to use the suggested analysis approach by Preacher and Hayes (2004, 2008), which is done by means of bootstrapping the sampling distribution of the indirect effect (which is the product of path coefficients). According to Hair et al. (2014), the bootstrap distribution reasonably approximates the population distribution of an estimated coefficient, and its standard deviation can be used as a proxy for standard error. Further, bootstrapping does not require the assumption of the shape of sampling distribution. It is able to produce greater levels of statistical power compared to the Sobel test.

Later, following Hair et al.'s (2014) procedures, the variance accounted for (VAF) was also computed to assess the extent of mediation effect. Though the extent of a mediation effect (whether it is a full or partial mediation) is not an important

concern so long as the indirect effect is significant (Hayes, 2013), the VAF was reported herein as a matter of convention. Later, the bootstrap confidence interval was computed, as it is advisable particularly for mediation test (Hair et al., 2014). Further, Kock's (2014) spreadsheet was also used as supplement to estimate the mediation effect. Above all, to assure that the proposed mediator was indeed a true mediator and not a suppressor, this study followed the heuristics recommended by Rucker, Preacher, Tormala, and Petty (2011).

To note, this study did not opt for Baron and Kenny's (1986) causal-step approach for three main reasons. Firstly, this approach does not estimate the indirect effect, nor does it consider the standard error of the indirect effect which allows statistical significance to be examined. There is no confirmation as to whether the indirect effect is indeed significantly different from zero (Preacher & Hayes, 2008). Secondly, this study did not mean to establish order in the chain of BCS causing IC, which in turn causing CR. Instead, this study aimed at discovering the mechanism that explained further why and how the relationship of BCS-CR could happen. As put forth by Azen (2003; as cited in Preacher & Hayes, 2008, p.879), when a logical ordering of IV-mediator-DV cannot be established, methods other than Baron and Kenny's causal step should be employed to examine mediation. Thirdly and most importantly, Baron and Kenny's approach requires a significant total effect (direct effect before adding a mediator) between the independent and dependent variable as a prerequisite condition for mediation to exist. This requirement is the key difference between Baron and Kenny's approach and other approaches for testing mediation (MacKinnon & Fairchild, 2009). Significant total effect should not be considered as a prerequisite condition to examine the indirect effect. In fact, significant indirect

effect can occur in the absence of significant total effect (Hayes, 2013; MacKinnon & Fairchild, 2009; Rucker, Preacher, Tormala, & Petty, 2011). As noted by MacKinnon and Fairchild (2009), the testing of whether "… X is significantly related to Y is an important test in any research study, but mediation can exist even in the absence of such a significant relationship" (p. 3).

To begin with, a PLS algorithm procedure was first run on only the direct relationship between the independent variables and the dependent variable, and that the mediator was not included. Later, PLS algorithm was run for the second time, in which the mediator was included into the relationship between the independent variable (BCS) and the dependent variable (CR). For both runs of PLS algorithms, their corresponding PLS bootstrapping were also performed. For the parsimony of the research model and the nomological validity concern, EO was included along into the structural model while testing the mediating effect of IC on the BCS-CR relationship.

Presented in Figure 4.12 and 4.13 are the PLS algorithm and PLS bootstrapping diagrams (results) without including the mediator.

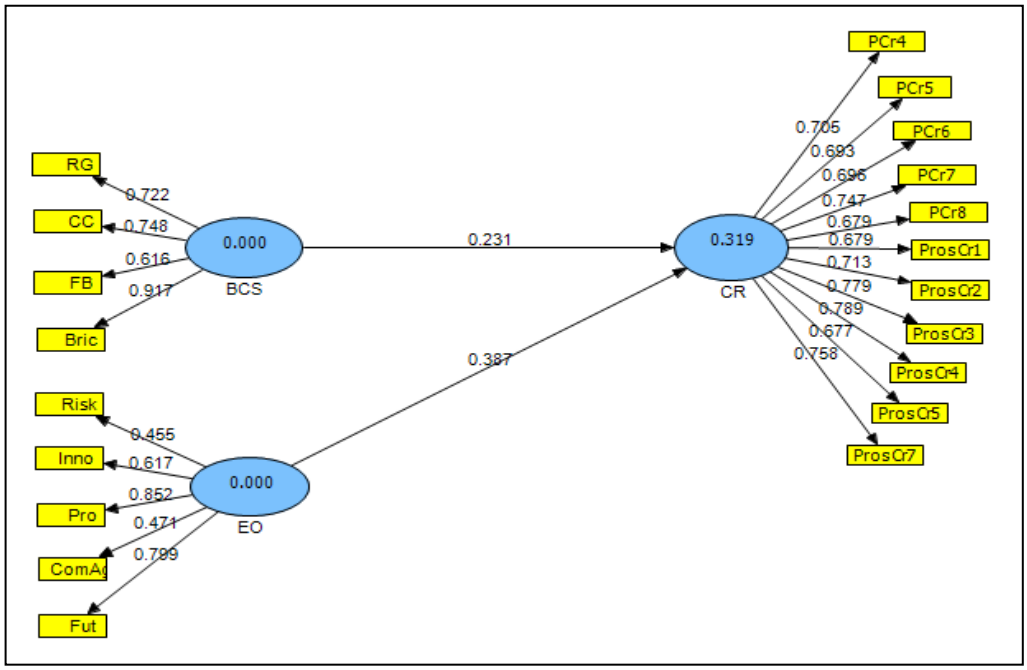

Figure 4.12. PLS algorithm results without the mediator

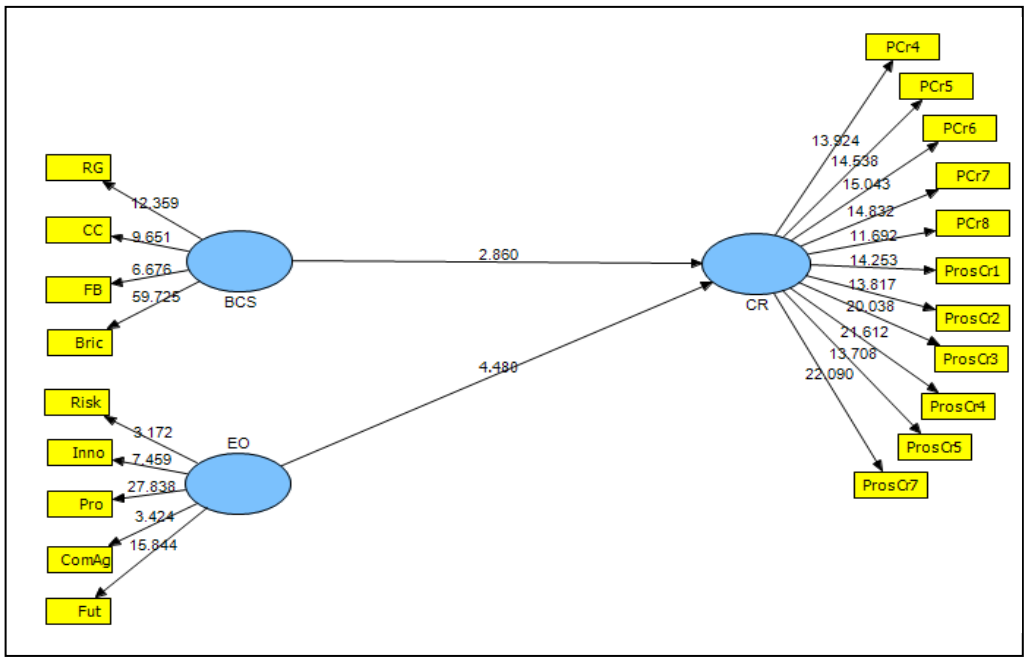

Figure 4.13. PLS bootstrapping results without the mediator

The separate second round of PLS algorithm and bootstrapping procedures performed with the mediator included produced Figure 4.14 and Figure 4.15.

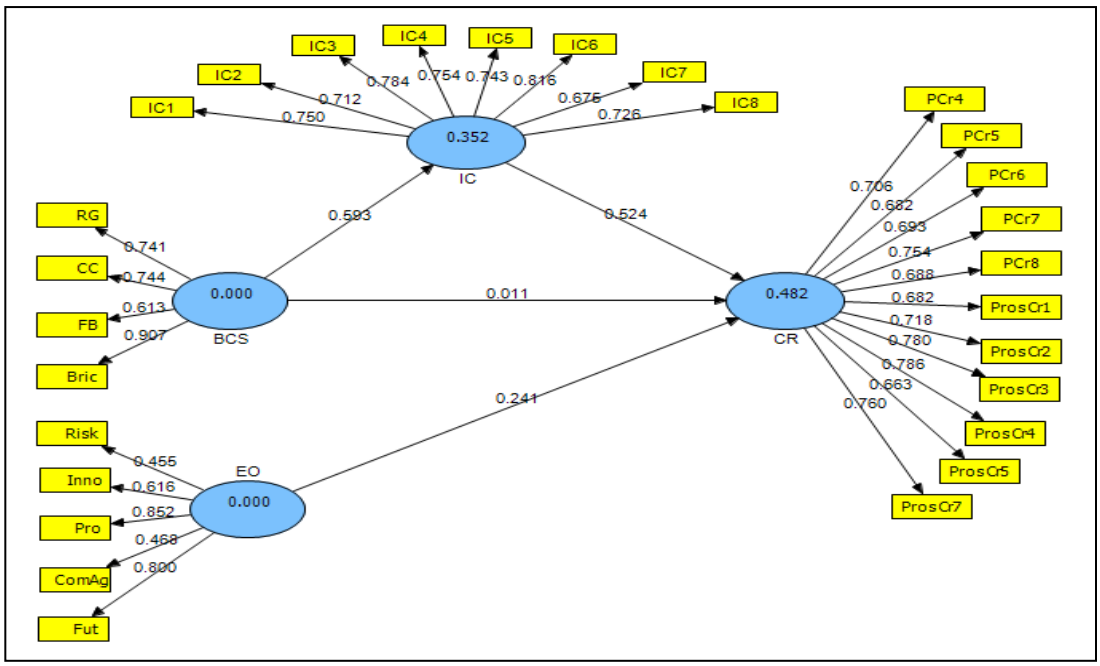

Figure 4.14. PLS algorithm results with the mediator included

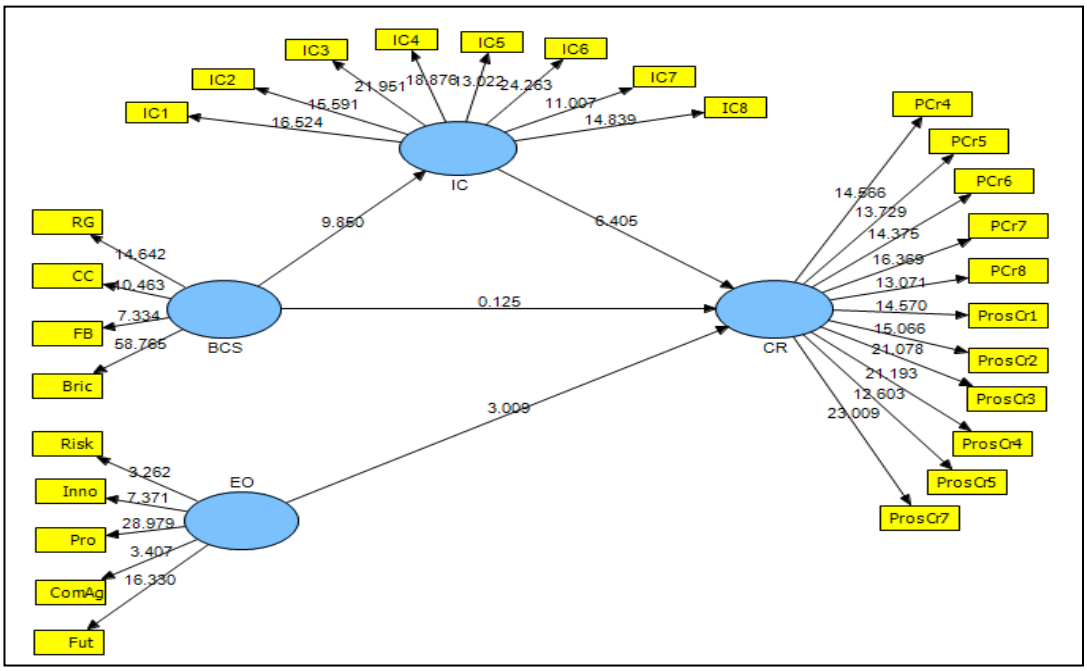

Figure 4.15. PLS bootstrapping results with the mediator included

As evident in Figure 4.12 and 4.13 in the first round, the study observed a significant beta value (β) of .231 (t = 2.860; p < .01) and .387 (t = 4.481; p < .001) respectively for the BCS-CR relationship and EO-CR relationship. These results hence supported hypothesis H1 and hypothesis H2. Therefore, it was concluded that BCS was positively and significantly related to CR. Likewise, EO was positively and significantly related to CR.

When mediator was included into the structural model as demonstrated in Figure 4.14 and Figure 4.15, the bootstrapping procedure was found producing significant positive results for both the individual partial paths of BCS→IC (β = .593; t = 9.805; p < .001) and IC→CR (β = .524; t = 6.410; p < .001). Specifically for testing mediation by means of bootstrapping the product of path coefficients, the significance of each individual partial path is a requirement (a necessary but not sufficient condition) to achieve significant product of path coefficients, which represent the indirect effect (Hair et al., 2014).

Having fulfilled this condition, this study proceeded to verify if the product of the two path coefficients (indirect effect) was indeed significant (Hair et al., 2014). For this purpose, the researcher copied and pasted the result of the 5000 bootstrap subsamples into the spreadsheet of Microsoft Excel for further calculation. There, the researcher first computed the product of the two path coefficients (β_{ab}) for each of the 5000 subsamples. Secondly, the bootstrap standard error (.018) was obtained using the function of STDEV in Microsoft Excel. Thirdly, the empirical t-value of the indirect effect was calculated by dividing the indirect path coefficient estimate (.311 [.593*.524]) by the resultant bootstrap standard error (.018). We thus obtained a t-value of 17.28 (.311/.018), with which a corresponding p-value (p = .000) was

computed. These results provided evidence that the indirect effect through the proposed mediator was significant at the level of $p < .001$. Further, with the beta estimate of the indirect effect ($\beta_{ab} = .311$) and the bootstrap standard error (.018) obtained above, the researcher manually computed the 95% bootstrap confidence interval for the indirect effect estimate coefficient. At the chosen significance level of $\alpha = .05$ ($t = 1.96$), the confidence interval of the indirect effect was found not straddling zero (Lower bound = .276 [.311 - 1.96 * .018]; Upper bound = .346 [.311 – 1.96 * .018]); hence further supported the significance of the estimated mediated path (Hair et al., 2014). Notably, the confidence interval [.276; .346] was narrow; it thus indicated a high level of estimate stability of the mediated path (Hair et al., 2014).

Concurrently, the significant mediating effect was also confirmed by the computation using Kock's (2014) spreadsheet ($\beta_{ab} = .311$; $S_{ab} = .058$; $T_{ab} = 5.320$; $P_{ab} = .0000$), as attached in Appendix 4.12. Taking the above altogether, hypothesis H3 was supported, that was, IC significantly mediates the relationship between BCS and CR.

In addition to the mediation results, given that the significant indirect effect ($\beta = .311$; t-value = 17.280; $p < .001$) had the same positive sign (+) with the direct effect before adding in the mediator ($\beta = .231$; t-value = 2.860; $p < .01$), IC was therefore confirmed a mediator, and not a suppressor (Rucker et al., 2011).

Finally, the extent of the mediation effect was determined by computing the variance accounted for (VAF), which "equals the direct effect divided by the total effect" (Hair et al., 2014, p. 228). Given the direct effect size of .231 and the indirect effect size of .311 (.593 * .524), a total effect of .542 (.231 + .311) was obtained.

Plucking the values into the VAF formulae, we obtained a VAF of 0.426 (.231 / .542). This value implied that 42.62% of the BCS's effect on CR was explained via the mediator, IC. Based on Hair et al.'s (2014) VAF guideline, a partial mediation was established.

Though the extent of a mediation effect was not too much a concern so long as the indirect effect was significant (Hayes, 2013), the VAF was reported herein as a matter of convention. Indeed, a full mediation was to be claimed based on the interpretation guideline of Kock (2014). It was observed that the indirect effect generated by Kock's spreadsheet was significant at the level of $p < .001$ (β_{ab}= .311; T_{ab} = 5.320; P_{ab} = .000). The direct effect before adding mediator was found significant (β = .231; *t*-value = 2.860; $p < .01$), and each individual partial path of BCS→IC (β = .593; *t*-value = 9.805; $p < .001$) and IC→CR (β = .524; *t*-value = 6.410; $p < .001$) were also found significant. However, the direct path after including the mediator had turned insignificant (β = .011; *t*-value = .126; *p*-value = .450). These conditions, according to Kock (2014), suggested a full mediation effect.

In addition to the testing of the mediated effect, the significant path between IC and CR was also concurrently revealed**.** To note, IC-CR relationship was deemed an important gap in this study, because IC-CR relationship had not been empirically tested previously. Both individual constructs of IC and CR had also undergone considerable psychometric revisions in the current study. As shown in Figure 4.14 and Figure 4.15, the beta value of .524 indicates a rather strong positive relationship between IC and CR. The t-value (t = 6.410) shows that the relationship was significant at the level of $p < .001$.

All the path estimates and their corresponding significance discussed above are summarized in Table 4.54. Also included in Table 4.54 is the mediation result computed using Kock's (2014) spreadsheet. The last column in the table indicates accordingly where hypotheses were found supported across the different stages of model estimations.

Table 4.54

Summary of Hypotheses Testing Results of Three Main Hypotheses (H1, H2, H3)

Bootstrapping results before including the mediator

Paths	Beta (β)	Standard Error	*T*-value	*P*- value	Sig. level	Decision
BCS -> CR	.231	.081	2.860	.002	$p < .010$	Supported H1
EO -> CR	.387	.086	4.481	.000	$p < .001$	Supported H2

Bootstrapping results after including the mediator

Paths	Beta (β)	Standard Error	*T*-value	*P*-value	Sig. level	
BCS→ IC	.593	.061	9.805	.000	$p < .001$	
IC→CR	.524	.082	6.410	.000	$p < .001$	
BCS→CR	.011	.086	0.126	.450	not significant	
EO→CR	.241	.080	3.021	.001	$p < .01$	Supported H2

Results of Bootstrapping the Product-of-path-coefficients (indirect effect) for mediation test

Path	Beta (β_{ab})	Standard Error	*T*-value	*P*-value	Sig. level	
BCS→IC→CR	.311 *	.018	17.280	.000	$p < .001$	Supported H3

Mediation Result Computed Using Kock's (2014) Spreadsheet

Path	Beta (β_{ab})	Standard error (*Sab*)	*T*-value (*Tab*)	*P*-value (*Pab*)	Sig. level	
BCS-IC-CR	.331	.058	5.320	.0000	$p < .001$	Supported H3

Note. *Bootstrap confidence interval [0.27572, 0.34628]

The next section examines and discusses the results of the sub-hypotheses set between each EO dimension and CR (H2a, H2b, H2c, H2d, and H2e).

4.6.4 Testing Sub-Hypotheses H2a through H2e

In this study, semi-partial correlation was chosen (versus the PLS estimation) for the testing of the sub-hypotheses H2a through H2e (Abdi, 2007; Steven, 2003). The decision was made based on two reasons.

Firstly, this study reckoned the need for an approach which was able to estimate the correlations between predictors (herein, the EO dimensions) and the dependent variable, while being able to partition succinctly the variance explained among these predictors (Steven, 2003). This was so-heeded because the five EO dimensions were indeed correlated constructs, subsumed under a global EO construct. They were not plainly independent predictors. Being correlated constructs, the effects of the covariates of other predictor dimensions on one particular dimension would not allow us to capture the unique relationship between each predictor and the dependent variable (Weinberg & Abramowitz, 2008). In other words, we need to know how much of the criterion variance explained by regression was uniquely attributable to each specific predictor (Field, 2009; Johnson, 2004). Such need to appropriately addressing the partitioning of variance has also received attention recently. As was recently reinforced by Tonidandel and LeBreton (2014) the concern alarmed by past researchers that, "a predictive variable may explain only a small proportion of predictable variance and yet be very meaningful" (p. 2) in some situation (Martell et al. 1996); conversely "a larger percentage of the variance but" is of "little practical utility" (p. 2) in other situation (Cortina & Landis, 2009).

Secondly and concomitantly, semi-partial correlation was able to cater for accurate relative importance analysis. As EO had been an established construct in entrepreneurship, this study was also keen to find out which among the EO's

dimensions were indeed significant drivers for CR. In this view, it was observable that many previous studies which operationalized EO as multidimensional construct had also assessed the separate role of EO dimensions on the dependent variable of interest. Though the examination of EO-CR relationship in this study was considerably novel, the current study however reckoned that EO dimensions were already broadly-tested measures in entrepreneurship studies, and that this study regarded them as sufficiently robust to establish standalone effect with the dependent variable. Further, as EO was examined with a newly proposed performance surrogate, CR, the examinations of EO's dimensions became a theoretical gap to discover. By the simplest way, relative importance analysis is best done by semi-partial correlation analysis (Weinberg & Abramowitz, 2008).

In this study, the residualization approach was used to perform the semi-partial correlation analysis. The working principle of semi-partial correlation analysis is that it estimates the relationship between a specific predictive variable (herein, dimension) and a dependent variable (herein, CR) after controlling the effects of the covariates of other predictive variables in the model on either that particular predictive variable or the dependent variable (Stevens, 2003).

Presented in Table 4.55 are the results of the semi-partial correlation analysis. Specifically, the study chose to run the semi-partial correlation analysis by means of the former, which was the residualization that controlled the effects of the covariates of other predictive variables (dimensions) in the model on the particular predictive variable (dimension).

Table 4.55

Semi-partial Correlation between each EO Dimension and CR by Means of Controlling the Effect of Covariates on the Predictor Dimension (n = 150)

Model		**Unstandardized Coefficients**		**Standardized Coefficients**	***T*-value**	**Sig.**	**Correlations**			**Squared Correlation**
		B	Std. Error	Beta (β)			Zero-order	Partial	Part	
1	(Constant)	1.069	.345		3.099	.002				
	Risk	-.030	.065	- .035	- .462	.645	.162	- .038	- .031	.001
	Inno	.166	.061	.202**	2.731	.007	.374	.222	.186**	.035
	Pro	.228	.083	.245**	2.744	.007	.473	.223	.187**	.035
	ComAg	.131	.065	.162*	2.017	.046	.370	.166	.137*	.019
	Fut	.182	.088	.188*	2.069	.040	.457	.170	.141*	.020

Note. Dependent Variable: CR.

** Correlation is significant at the .01 level (1-tailed)

* Correlation is significant at the .05 level (1-tailed).

From the results, risk-taking orientation was found carrying insignificant weight and correlation (*r*) on CR (β = - .035, *p* = .645, *r* = .031). Referring to Table 4.55, as the significance level (denoted as "Sig.") applied across the row, the weight of innovativeness (β = .202, *p* < .01, *r* = .186), proactiveness (β = .245, *p* < .01, *r* = .187), competitive-aggressiveness (β = .162, *p* < .05, *r* = .137), and futurity orientations (β = .188, *p* < .05, *r* = .141) were found significant. Further interpreting from the beta (β) column in Table 4.55, proactiveness orientation was found to be the most infuential driver for CR (β = .245), followed by innovativeness (β = .202), futurity

(β = 0.188), and competitive-aggressiveness orientations (β = .162). Their relationships were also found sufficiently correlated at the significance level of *p* < .01 and *p* < .05.

4.7 Summary of Chapter

This chapter has attested and reported the construct validity and reliability of the measurements used in this study. These validations are done through EFA and CFA (measurement model). Particularly, the theoretically proposed third-order BCS receives statistical supports. Ultimately, this chapter has also reported the results of the hypotheses testing. Out of eight hypotheses set, seven (H1, H2, H3; H2b, H2c, H2d, and H2e) were statistically accepted. Specifically, the current study found that that risk-taking orientation which corresponded to hypothesis H2a, had no influence on CR during recessionary disruption time. A non-significant and negative association was evident. Albeit this, significance was found for all other positive associations hypothesized between other EO dimensions (Inno, Pro, ComAg, Fut) and CR. On the other hand, BCS and EO were proven of significantly and positively influencing CR, while IC was also found significantly mediated the relationship between BCS and CR. Further, positive and significant associationss were also evident in the novel BCS-IC and IC-CR relationships. Table 4.56 demonstrates all the results of the hypotheses testing.

Table 4.56

Summary of All Hypotheses Testing Results

Hypotheses		**Results**
H1	BCS is positively and significantly related to CR.	Supported
H2	EO is positively and significantly related to CR.	Supported
H2a	Risk-taking orientation is positively and significantly related to CR.	Not supported
H2b	Innovativeness orientation is positively and significantly related to CR.	Supported
H2c	Proactiveness orientation is positively and significantly related to CR.	Supported
H2d	Competitive-aggressiveness orientation is positively and significantly related to CR.	Supported
H2e	Futurity orientation is positively and significantly related to CR.	Supported
H3	IC significantly mediates the relationship between BCS and CR.	Supported

CHAPTER FIVE

DISCUSSIONS, IMPLICATIONS AND THE CONCLUSION

5.1 Introduction

This final chapter discusses the findings reported in Chapter Four as well as to present the implications and conclusions from this doctoral research. This chapter is divided into seven sections. Following this section, the next section 5.2 provides an overview of the research. Then, section 5.3 provides interpretations for the findings put forth in Chapter Four, which in turn answers the three main research questions set forth in Chapter One. Section 5.4 consists of theoretical, methodological and managerial implications of this doctoral research. Section 5.5 highlights the limitations of this research. Indications for future research are discussed in section 5.6. Finally, a brief conclusion ends this chapter.

5.2 Summary of Thesis

The current thesis examined the influence of BCS, EO, and IC on the Malaysian manufacturing SMEs' performance during the recessionary periods. Specifically, firm performance was measured by the surogate CR. IC was proposed to mediate the relationship between BCS and CR. While resource-based view of firm (RBV) upheld the underpinning of the whole research framework, several other supporting theories, namely Pecking Order Theory (POT), Contingency Theory, Chaos Theory, and Dynamic Capability provided additional understandings to the theorized relationships. Chaos Theory calls for the importance of speed-harnessing mechanism

in facilitating the driving of change effort to outpace the fast-changing environment, and hence the mediating effect of IC on the BCS-CR. While BCS, EO, and IC were all internal resources of firms in line with RBV, the conceptualization of BCS was supported by dynamic capability theory.

The study was an organizational-level study, where manager entrepreneurs of the medium-sized manufacturing firms were used as key informants to respond to the survey. They were most qualified to comment on organization-wide phenomena of their firms, because their prominent involvement in the firm enables them to understand well the implicit processes underlying the internal resource and capabilities of their firms.

Seven out of eight hypotheses tested were accepted.

5.3 Discussion of the Findings

To ease reading, the discussion of the findings of this study was organized according to the flow of the three main research objectives. Table 5.1 recaps the research objectives, and their corresponding research questions and hypotheses.

Table 5.1

Recap of Research Objectives, Research Questions, and Hypotheses

Research Questions	Research Objectives	Hypotheses
During recessionary disruptions, does business coping strategy (BCS) have any significant influence on the performance (CR) of the Malaysian medium-sized manufacturing enterprises?	To examine the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.	H1: BCS is positively and significantly related to CR.
During recessionary disruptions, does entrepreneurial orientation (EO) (namely risk-taking, innovativeness, proactiveness, competitive-aggressiveness and futurity) have significant influence on the performance (CR) of the Malaysian medium-sized manufacturing enterprises?	To examine the relationship between EO and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.	H2: EO is positively and significantly related to CR H2a: Risk-taking orientation is positively and significantly related to CR. H2b: Innovativeness orientation is positively and significantly related to CR. H2c: Proactiveness orientation is positively and significantly related to CR. H2d: Competitive-aggressiveness orientation is positively and significantly related to CR. H2e: Futurity orientation is positively and significantly related to CR
During recessionary disruptions, does improvisational competence (IC) of firms mediate the relationship between BCS and the performance (CR) among the Malaysian medium-sized manufacturing enterprises?	To determine the mediating effect of IC on the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions.	H3: IC significantly mediates the relationship between BCS and CR.

5.3.1 Business Coping Strategy and Crisis Readiness (Research Objective 1)

The first research objective of the current research was "To examine the relationship between business coping strategy (BCS) and crisis readiness (CR) among the

Malaysian medium-sized manufacturing enterprises during recessionary disruptions". Parallel to research objective 1, hypothesis H1 was tested. The analysis finding reported in Table 4.54 (under Section 4.6.3) supported the existence of a significant positive relationship between BCS and CR during the course of recessionary disruptions ($\beta = .231$; t-value = 2.860; $p < .01$). This means that the proper undertaking of BCS is associated with improved firm performance during recessionary disruptions.

Firstly, the fundamental explanation for the significant and positive BCS-CR association could be traced back to past studies which demonstrated positive significant association in strategy-firm performance studies (Acquaah & Agyapong, 2015; Arasa & Gathinji, 2014; Bavarsad, Rahimi, & Seyfi, 2014; Dadzie, Winston, & Dadzie, 2012; Kinyura, 2014). For instance, the study of Arasa and Gathinji (2014) examined the relationship between competitive strategies and organizational performance among firms in the highly competitive mobile telecommunications industry in Kenya. The competitive strategies taken into investigation were the differentiation, cost leadership, strategic alliance strategies, and specific market focus strategies. While finding the former two as the most commonly used strategies to combat fierce competition, study found positive association between these four competitive strategies with the overall firm performance. In another instance, Kinyura (2014) assessed the performance of firms facing competitive business environment in Kenya. Using 116 responses, the researcher examined competitive strategies of Porter, which were cost leadership, differentiation, and focus strategies. While the researcher reassured past findings that adoption of such strategies drives superior performance compared to those that do not, significant positive associations

were discovered between these three strategies with performance. This line of past findings is indeed deeply ingrained within the dominant theoretical perspective regarding the importance of firm strategies in driving desired firm performance outcome (e.g., Porter, 1985; Miller, 1988).

Secondly, the significant positive BCS-CR association is also supported by past studies which demonstrated positive significant relationships between various forms of corrective strategies and firm outcome in the particular setting of recession (Naidoo, 2010; Erfani & Kheiry, 2013). Take a recent instance. The study of Erfani and Kheiry (2013) examined the strategic reaction of companies to a recession. Specifically, using a survey of 45 senior marketing executives in Abbasabad Industrial Park in Iran, the researcher examined the antecedents and consequences of proactive marketing during a recession. The study showed that proactive marketing plays a significant role in improving both market and business performance during the recession.

Thirdly, this study also believed that the significant positive BCS-CR relationship found in this research could also partly due to the fact that both BCS and firm performance had been appropriately conceptualized and operationalized in way that allowed them to tap the specific context of the phenomenon understudied. In fact, this reckoning was germane to the point that distinguished the findings of the current research from those of the previous line of strategy-performance studies. It was appealing that, many among the existing studies which examined the strategy-performance association were those conducted upon a backdrop of plain non-recessionary setting (e.g., Acquaah & Agyapong, 2015; Arasa & Gathinji, 2014; Bavarsad et al., 2014; Hansen et al., 2015; Kinyura, 2014; Lechner &

Gudmundsson, 2014; Teeratansirikool et al., 2013). Only a handful had empirically examined the association in the recession-specific context (Erfani & Kheiry, 2013; Kitching et al., 2011; Naidoo, 2010). In fact, the emerging recession-scented stratagey studies were found to be still largely exploratory (Zainul Abidin et al., 2014; Price et al., 2013; Skorvagova & Pasztorova, 2014; Tansey et al., 2013; Tansey et al., 2014). In addition, no noticeable empirical effort was observed to have conceptualized corrective strategies in consistence to the specific criteria of recessions.

Specifically for BCS, both empirical and anecdotal evidence had been reviewed to carefully lay out the phenomenon understudied in order to determine the real caveat that safeguarded firm performance in such specific phenomenon. Later, only having identified immediate positive cash flow as the caveat to safeguard firm performance in the recessionary context, BCS was reconceptualized. The identified caveat, in other words, provided the researcher a clear boundary as to the conceptual definition of BCS and its suitable dimensions. The whole process of conceptualization and operationalization followed closely the appropriate procedures of instrument development to ensure the reliability and validity of the measure (Churchill, 1979; DeVellis, 2003; Hinkin, 1995; Johnson et al., 2012; MacKenzie et al., 2011).

As far as the merits above was noteworthy, the newly conceptualizedd BCS was a third-order construct. The construct was built on the theoretical basis of Dynamic Capability, where the four dimensions (RG, CC, FB, and Bri) were distinct, yet they collectively resonant (correlated) on leveraging towards the same purpose (Teece & Pisano, 1994; Teece et al., 1997), that was, to facilitate the immediate positive cash flow of firms. Resource scarcity was addressed in that the underlying resource base

had been changed with the dynamic coping (Eisenhardt & Martin, 2000). Indeed, this multifaceted and internally-initiated nature of coping strategy not only was hopeful to gain competitive advantage, but also the sustainability of that advantage. This was because these internally-initiated actions were largely tacit, and thus allowing firms to better-leverage valuable, rare, inimitable, and non-substitutable (VRIN) competitive advantage, as RBV theorized (Barney, 1991). Additionally, it was also in line with Porter (1996) that, it was more difficult for competitors or rivals to match an array of interlocked activities.

Likewise, the same intensity of care was exercised onto the literature study to operationalize firm performance. CR was an effectiveness measure of performance, which was deemed able to better-capture firm's ability to perform in recessionary times. This effectiveness measure contained the essence of resilience which tapped the tension elements of the recessionary environment.

5.3.2 Entrepreneurial Orientation and Crisis Readiness (Objective 2)

The current study was also set out to examine the relationship between EO and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions; this was the second research objective. While EO was examined as a multidimensional construct compassing five dimensions, the current study also investigated the relationships between each of these dimensions with the firm outcome variable, CR. The motivation behind examining the latter was that, multidimensional EO had been an established construct in entrepreneurship, and therefore each dimension was presumably sufficient to establish a standalone effect on CR. By doing this, the current study was able to determine which among the

dimensions drove CR. Altogether, this second research objective was corresponded by six hypotheses, one of which concerned the direct relationship between the overall EO and CR (hypothesis H2), and the remaining were related to relationships between each EO dimension with CR (hypotheses H2a, H2b, H2c, H2d, and H2e).

A mixture of results was found. Five out of the six hypotheses tested were supported. Table 4.54 in Chapter Four provides statistical evidence for hypothesis H2, that is, a significant positive relationship is established between the overall EO and CR ($\beta = .387$; t-value = 4.481; $p < .001$). On the other hand, Table 4.55 provides evidence to support all sub-hypotheses except hypothesis H2a, which hypothesized the positive and significant relationship between risk-taking orientation (Risk) and CR. As depicted in Table 4.55, while risk-taking orientation had an insignificant relationship with CR ($\beta = .035$, $p = .645$, $r = .031$), all other EO dimensions - namely, innovativeness ($\beta = .202$, $p < .01$, $r = .186$), proactiveness ($\beta = .245$, $p < .01$, $r = .187$), competitive-aggressiveness ($\beta = .162$, $p < .05$, $r = .137$), and futurity orientations ($\beta = .188$, $p < .05$, $r = .141$) were each positively and significantly correlated with CR at the significance level of $p < .01$ and $p < .05$.

Note that, though the mixture of results was not as expectedly hypothesized, it was however also not something mysterious or something totally empirically new in the entrepreneurship realm. It was common among past studies which studied EO as a multidimensional construct to find positive and significant influence of the overall EO on firm performance, and yet discovered differential impact its each different dimension had on firm performance or outcome variable. The impacts differed in terms of the direction and significance of the relationship.

Considering the recessionary context, it is possible that each dimension of EO may not necessarily be equally valuable or desirable in improving firm outcome given the different situations (Hughes & Morgan 2007). For instance, while the study of Palalic and Busatlic (2015) found risk-taking and innovativeness orientations positively and significantly related to sales growth and employee growth, the proactiveness orientation which was found positively associated with the former two dimensions, was however insignificant in predicting sales and employee growths.

To assist readability of the mixed results, the significant positive relationships were first discussed, and followed by the insignificant relationship between risk-taking orientation and CR. Firstly, although the hypothesized association between EO and CR had not been examined empirically in the past by the virtue of measurement, its positive significant association found in this research could be reasonably supported by the dominant and long-standing positive performance effect of EO over the years (Alarape, 2013; Arief et al., 2013; Belgacem, 2015; Gupta & Batra, 2015; Jalali et al., 2014; Linyiru et al., 2015; Otache & Mahmood, 2015; Rtanam, 2015; Simon et al., 2011; Su et al., 2015).

Take a recent instance. Jalali et al. (2014) who examined multidimensional EO among the Iranian manufacturing SMEs had found a positive and significant performance effect of risk-taking and innovativeness orientations. Likewise, Rtanam (2015) found positive significant relationships between the orientations of risk-taking, innovation, autonomy, and competitive-aggressiveness with firm performance among SMEs in the hotel industry of Jaffna district in Sri Lanka.

Further, as far as the recessionary context is concerned, the significant positive EO – CR relationship is also consistent with past studies which demonstrated greater performance impact of EO in environment characterized by higher volatility, hostility, dynamism, complexity, turbulence, and competitive intensity (Caruana, Ewing, & Ramaseshan, 2002; Chaston & Sadler-Smith, 2012; Covin & Covin, 1990; Dimitratos et al., 2004; Kaya & Seyrek, 2005; Kraus et al., 2012; Wiklund & Shepherd, 2005; Tsai & Yang, 2014; Zahra, 1993b; Zahra & Covin, 1995). For instance, the study of Kraus et al. (2012) demonstrated that the positive relationships between EO dimensions and performance had indeed become stronger under conditions of higher market turbulence. Similarly, Tsai and Yang (2014) who examined 452 Taiwanese manufacturing firms found more intense positive relationship between innovativeness and firm performance in higher market and technological turbulence.

Note that, inherent in the changes and uncertainties in the recessionary environment are not only risk and threat, but also opportunities (Dada, 2010; Misrai, 2010; Morris, Kuratko, & Covin, 2008; Nathan, 2000; Skorvagova & Pasztorova, 2014). Therefore, firms which were innovative, proactive, competitive-aggressive and future-oriented would be able to benefit from it. Further, significant positive influences of innovativeness, proactiveness, competitive-aggressiveness and futurity orientations on CR were also consistent with past research which found positive significant performance effect of each innovativeness, proactiveness, competitive-aggressiveness, and futurity orientations (e.g., Aktan & Bulut, 2008; Alarape, 2013; Belgacem, 2015; Chow, 2006; Jalali et al., 2014; Jantunen et al., 2008; Keh,

Nguyen, & Ng, 2007; Linyiru et al., 2015; Lumpkin & Dess, 1996; Palalic & Busatlic, 2015; Rtanam, 2015; Tsai & Yang, 2014).

Objectively, the statistical result of the insignificant association between risk-taking orientation and CR means that the risk-taking orientation does not have effect on CR during recessionary disruptions. This insignificant relationship may suggest two assumptions. It could imply that the Malaysian manufacturing firms could have been inaction about taking risky action during such duress time. In other words, the firms probably did not consider taking risk at all, or that they did not perceive risk-taking as a relevant act in such period of impaired business environment.

Secondly, the insignificant result may also possibly imply that the manufacturing firms did indeed take risk, but so low the intensity so that the risky actions did not yield significant impact alone, but instead a small proportion barely enough to coexist positively with other EO dimensions to produce positive performance impact. This second assumption was postulated based on the results of the significant and positive influence of the overall EO and other EO dimensions on CR, as well as the fact that risk-taking orientation was positively correlated with all other EO dimensions.

In the context of Malaysian firms, one possible reason that risk-taking was not a significant predictor of firm performance (CR) during recessionary times was that, the Malaysian firms have more reserved behavior towards taking risk during explicitly risky period. Such reserved behavior may partly due to the fact that majority of the SMEs in Malaysia are founded on the family-business basis, which are built on their hard-earned personal saving and assets. As a family firm, the firm itself is a long-accumulated family wealth, which also directly affects the assurance

of well-being of their future generation (Schulze, Lubatkin, & Dino, 2002). Aiming at securing family wealth for future generation, family firms therefore hold high importance for long-term orientation, and perceived risk differently. They take risk cautiously when they face threat of losing the firms (Gomez-Mejia et al., 2007). While their emotional attachment to the firm could have held them back from taking risk in what they perceived as highly volatile and uncalculated, past studies did indeed show that excessively hostile environment could discourage risk-taking behavior (Zahra & Garvis, 2000).

In addition, past studies had shown that family firms tended to be more conservative and risk averse (Craig et al., 2014; Schulze, Lubatkin, & Dino, 2002; Naldi et al., 2007). In fact, past studies revealed that when family firms did take risk, they took risk to a lesser extent, and that their risk-taking action was found associated with lower firm performance (Craig et al., 2014; Naldi et al., 2007; Zahra, 2005; Zellweger & Sieger, 2012). Take an instance. The study of Naldi et al. (2007) while revealed positive associations between family firm performance and orientations such as innovativeness and proactiveness, the study however had to conclude that, risk-taking orientation was negatively related to firm performance. Still, some other studies concluded the risk-taking-firm performance association as less obvious (Rauch et al., 2004; Wiklund & Shepherd, 2005). Further, past studies also revealed cases where the positive association between risk taking and performance was indeed significantly smaller than other dimensions (Rauch et al., 2004). The unwillingness among firms to take risk in perceivably risky situation due to the unknowns is also consistent with Prospect Theory, which asserts that people

tend to avoid risk when dealing with new things. Though entrepreneurial firms are inherently risk-taker, they however take calculated risk within their resource ability.

Lastly, the insignificant risk taking-CR relationship could also possibly related to the empirical perspective that the EO-performance relationship is largely context-specific (Ireland, Hitt, Camp, & Sexton, 2001; Lumpkin & Dess, 1996; Walter, Auer, & Ritter, 2006), and that certain factors may become less salient or non-significant across different context.

Above all, it is noteworthy that the examination of EO-performance relationship of medium-sized manufacturing firms in the current study was distinct from the previous line of EO-performance studies. Essentially, the EO-performance relationship in the current study was scrutinized upon a recessionary backdrop, a setting which had distinguished impacts on business operating environment as opposed to ones of the normal business days. Particularly, the examination of both overall EO and each EO's dimension with CR in the current study contributed nascent theoretical gaps, considering that the firm performance measure was a newly proposed surrogate.

5.3.3 The Mediating Role of Improvisational Competence (Research Objective 3)

Research question 3 gives rise to the potential mediating role of improvisational competence (IC). The corresponding research objective for Research Question 3 is "To determine the mediating effect of IC on the relationship between BCS and CR among the Malaysian medium-sized manufacturing enterprises during recessionary disruptions". Improvisation refers to the convergence of the planning and the implementation stage (Moorman & Miner, 1998b). It denotes "the deliberate and

substantive fusion of the design and execution of a novel production" (Miner et al., 2001, p.314). In this study, improvisational competence (IC) was defined as the ability of a firm to converge the planning stage (design/composition) and the implementation stage (execution) of business planning process (Moorman & Miner, 1998b).

The mediation effect of IC on the relationship between BCS and CR was corresponded by hypothesis H3. The PLS SEM findings provided evidence to claim the existence of a significant mediating effect of IC on the relationship between BCS and CR. Both partial paths of BCS-IC and IC-CR were also found in concomitant significance. The significant mediation effect found in this study is consistent with Chaos Theory, as to the advantage of speed in disorder situation. The theory heightens the importance of immediacy in response action during disorder situations, as disorder situations are believed to be potential of fluctuating small changes in the initial stage into unexpected large changes or impact (Stacey, 1993). The essence and the practicality of improvisation in the theoretical view of Chaos Theory are observable in literature demonstrating the dynamism of improvisation practice in helping establish prompt and speedy order in various situations of emergency such as the rescue team's fire-fighting, the handling of strikes, organizational urgency, agile project management, and natural disaster (Kendra & Wachtendorf, 2003, 2006, 2008; Leybourne & Sadler-Smith, 2006; Mendonca, Cunha, Kaivo-oja & Ruff, 2004; Mendonca & Wallace, 2004; Zumel, Franco, & Beutler, 2008). This speed-hastening quality of improvisation alone directly taps into the very central of addressing immediacy in the fast-paced recessionary disruptions.

Further, the significant mediation results in this study is also consistent with past empirical works which demonstrated the positive correlations of organizational behavior–speed relationship (Calantone et al., 2003; Sisodiya & Johnson, 2014) and speed-organizational outcome relationship (e.g., Atuahene-Gima & Murray, 2004; Baum & Wally, 2003; Bourgeois & Eisenhardt, 1988; Cankurtaran et al., 2013; Chen et al., 2005; Eisenhardt, 1989; Judge & Miller, 1991) in separate past studies.

For instance, the study of Sisodiya and Johnson (2014) found a significant positive relationship between resource augmentation and product development speed. In their study, while project speed and cost were the measures used to capture new product outcomes, resource augmentation was the process of enhancing a resource base through assembling additional resources and building on the existing ones. Resource augmentation allows managers to monitor and check the stocks available, and increase the resource base prior to time it is needed.

As to the latter, the study of Chen et al. (2005) found that speed-to-market (STM) was positively correlated with new product success (NPS) in a market characterized by uncertainty. Speed-to-market was examined as a firm-level variable. Instead, Chen et al.'s study also found a significant moderating effect of market uncertainty on the STM-NPS relationship. This result implied that speed-to-market became more salient to new product success while the market uncertainty was high. Other scholarly supports which confluence on the same notion included the attested positive link between decision speed and firm performance in high-velocity environment (Eisenhardt, 1989; Judge & Miller, 1991), and the positive moderating effect of implementation speed on the association between strategy-related variable and firm performance (Atuahene-Gima & Murray, 2004). Likewise, other

researchers such as Baum and Wally (2003) found rapid decision-making predicted the subsequent growth and profitability of firms. Specifically, fast decision making was found to mediate the relationships between such predictors as environmental dynamism, munificence, centralization, and formalization with firm performance.

In addition, support was also evident in past studies which found the positive association between improvisation and organizational outcome variables (Arshad, 2013; Abu Bakar et al., 2015; Vera & Crossan, 2005). For instance, the study of Arshad (2013) found a positive significant relationship between organizational improvisation and firm performance among the 128 technology-based firms in Malaysia. The study further found that the relationship had indeed become stronger when the competitive turbulence was stronger. In another more recent study, Abu Bakar et al. (2015) also found a similar result, in that a strategic improvisation was found to have significant positive influence on the performance of SMEs in Malaysia.

Above all, the examination of the mediating effect of IC on the reationship between BCS and CR in this research was the very first empirical effort of its kind. IC was a newly introduced mediator. This new role of IC per se had neither received noticeable attention of literature study, nor had it been empirically postulated by any past study as to its theoretical potentials which give rise to the association between business-level strategy and firm performance.

5.4 Implications of Research

The research implications of this study are recognized in its theoretical (empirical) and practical contributions.

5.4.1 Theoretical Contributions

Generally, the findings in this study are expected to contribute to the body of knowledge by corroborating previous findings and extending literatures pertaining to the understudied variables as well as the concomitant methodological concerns that address the specific context of this study. Specifically, this study is hopeful to shed lights on the business coping strategy and entrepreneurial orientation of medium-sized manufacturing enterprises during recessionary disruptions, as well as filling in the void in the scant literature. Several specific theoretical contributions are as per discussed below.

The first theoretical contribution is pertinent to the examination of firm performance during recessionary disruptions. The very first theoretical contribution springs from the examination of firm performance during the course of recessionary disruptions, which its unique setting has been largely ignored in previous studies. Most previous research of firm performance only examine performance during common business circumstances which do not specify the particular type of environment in which performance is deemed affected. Along this view, this current research reckons that this previous line of studies measures firm performance in an open, unspecified environment. In cases where external environmental factors are included in a study, they are examined as moderating variables under various manifestations like environmental complexity, dynamism, and munificence.

The current study is distinct from this above line of studies inasmuch as the current study takes the external environment as inherent, which is a situation where the researcher's interference resonant with the contrived setting endorsed by Sekaran (2003). At this juncture, the particular kind of external environment intended to be studied is already inherent within the context from which the main issue of this study is cast. Therefore, firm performance as the dependent variable is studied within this very confined pre-determined environment.

In fact, the importance of this type of study setting has been highlighted by previous researchers. In this essence, Russell and Faulkner (2004) have criticized the long-standing reductionist models for their simplified assumptions that allow the premise of "all things remain equal", which is a rather lackadaisical lens to approach studies given the contemporary fast changing business context today. As Russell and Faulkner (2004) contend, "an approach which is more sensitive to the entrepreneurial factor requires a holistic framework where change is inherent and deviations from the norm are not assumed away as "noise" or attributed to externalities".

Secondly, the current study has introduced CR to operationalize and measure firm performance. The implication of this contribution is two-fold. In one lens, it would proffer a new perspective to look at firm performance. In another, it contributes an alternative measurement for firm performance. As thus far, literature review demonstrates that although CR has been considerably discussed in previous research centered around turbulent, dynamic, and highly contingent environments, none empirical work so far has demonstrated empirical attempt to operationalize crisis readiness as a potential surrogate to measure firm performance in entrepreneurial

business-related studies generally, and in recessionary disruptive environment specifically.

Basically, crisis readiness is brought into this study to operationalize and measure firm performance largely due to the methodological concern to ensure that firm performance is captured with the essence of recessionary disruptions in mind. When data collection is carried out while the intended-studied exceptional circumstance does not present anymore, it requests methodological caution to put in place an appropriately operationalized variable that renders proper measurement. As noted by Sekaran (2003), Cavana, Delahaye, and Sekaran (2001) that, every situation is unique, and that research needs to take into consideration the relevant variables applicable to each unique situation. Cavana et al. (2001) claim that a good theoretical framework identifies and labels the important variables in the situation that are relevant to the problem defined.

Among the scant previous studies which examine firm performance during exceptional business circumstances like those of the recessions, economic downturns, and natural disasters, firm performance is mostly gauged by using objective financial measurement like profitability (Cheugsuvadee, 2006), which is debatable in term of bias if data collection is not done within the duress period intended to be studied. The importance of introducing the new performance measure in this study is also implicit in the contemplation by McGuire, Sundgren, and Schneeweis (1988, as attached in Gay & Dielh, 1996). The researchers endorse that "… the choice of performance variables can have substantive implication for the result of research and that researchers must carefully choose performance measures that are appropriate to the particular research question they are investigating"

(McGuire et al., 1988, as attached in Gay & Dielh, 1996, p.337). Towards this end, this study provides a prudent alternative to fuel this need.

In so-doing, this study provides a foundational stance to bring in the literature and theories of emergency and crisis into entrepreneurship studies generally, and broadens the lens of extant literature on firm performance and their measurements particularly. Further, having introduced crisis readiness to operationalize and measure firm performance, this study not only brings to attention a different perspective to examine and capture firm performance, it also essentially alerts the need to cautiously deal with the measurability of firm performance in the course of rare and irreversible past events.

The third theoretical contribution of this study comes amid the empirical effort of conceptualizing and validating the BCS construct. BCS is a newly defined construct. As a new construct, it advances scholarly knowledge in the area of firm-level strategy, empirically and theoretically. Such contribution is in line with the notion of what considered as empirical contributions as heightened by Summer (2001), that is, the investigation of the psychometric properties of an important scale in a research. The literature review and theorization made in reconceptualizing BCS also, to certain extent, provides a foundation for further works related to strategies in recessionary times.

Fourthly, the current research has also developed and validated the network bricolage scale. On the one hand, the discussion on the importance of implanting the element of network into the bricolage scale had contributed to the body of knowledge in the areas of bricolage, network, and strategy in the particular realm of entrepreneurship. On the other hand, the development of the new scale of network

bricolage while a psychometric contribution in this study, it most importantly allows this construct to be further examined in the future.

Fifthly, the current study has introduced improvisational competence as a mediator, which has not been examined before, to the knowledge of the researcher. The discussion as to how IC works as a mechanism to facilitate the translation of the capability of BCS into CR is a theoretical contribution related to the potential mediation effect of IC. The introduction of IC as a mediator, to the knowledge of researcher, is the very first attempt of its kind. The role of IC per se as mediator had not been examined previously, either in the general case or in the specific case of relationship between business-level strategies and the SME performance. In fact, the literature on improvisation is still a comparatively less-studied topic in the entrepreneurship field as well as other management mainstream studies. Improvisation is a subject rooted in the field related to organizational resilience. Being rarely examined in entrepreneurship studies, the introduction of improvisational competence as mediator in this study contributed significantly to the existing body of knowledge in the entrepreneurship areas in general.

In the theorization of IC's mediating effect, Chaos Theory, a less commonly used theory for entrepreneurship studies is applied. The application of this theory contributed to the expansion of knowledge in the entrepreneurship field. Particularly, the theorization enriched the literature of scarce resource in entrepreneurial firm, in conjunction with the timeliness concern during disruptive events. Examining IC as a mediating variable would also offer a fresh angle to understand further the strategy-performance relationship in general, and coping strategy-performance relationship during recessionary disruptive period specifically.

The introduction and understanding of the mediator unearthed the implicit mechanism behind. Such kind of contribution is consistent with the assertion that "determining the degree to which a variable mediates the relationship between two constructs" (p. 408) is a valid and sound theoretical contribution in an empirical research (Summers, 2001).

Sixthly, theoretical contributions also come from the work of revising and validating improvisational competence scale. The eight-item IC scale (as measured upon the likert-type five-point scale) used in this study was a result of revision from the initial three-item scale measured on a seven-point semantic scale. The revision expanded beyond item adaptation, as empirical discussions were put forth to induce new items. The scale had been carefully validated. This IC scale is comparatively more extensive, and thus it offers a broader perspective to capture the essence of improvisation as a competence. As improvisation had not been conceptualized as a competence before, the literature discussions put forth for this purpose had also contributed to the literature of improvisation. Then, the construct validation done in this study is also hopeful to allow further examination of this construct in the future.

Seventhly, the current study has also contributed theoretical insights through the nascent examinations of the relationships between the predictors and the newly proposed performance surrogate measure. "Testing the theoretical linkage between two constructs that has not previously been tested" (p. 408) is a vivid theoretical contribution (Summer, 2001). While this theoretical notion applies, three nascent relationships had been examined in this study. There were: i) the relationship between BCS and CR, ii) the relationship between EO and CR, and finally iii) the relationship between IC and CR. While BCS, IC, and CR involved revision and

examination of psychometric properties, CR itself had been a newly proposed performance surrogate. The ultimate results and the empirical discussions of each of these relationships constituted vivid theoretical gaps. Along the positivist view, these theoretical gaps may invite further future research.

Next, the current research has also introduced the use of vignette into entrepreneurship study. The use of vignette was particularly important in this study (a retrospective study) as it worked to avoid retrospective bias. Vignette was applied to build-in the scenario inherent in the recessionary disruption in order to ensure that data collection was carried out with the notion of recessionary disruption borne in mind. Or in other word, it was to ensure that data collection was carried out with respondents made cautious about the inherent scenario with which their answer must comply. The use of vignettes has been invariably confined to certain areas of experimental social psychological research (Alexander & Becker, 1978), therefore the use of vignette in this entrepreneurship study is still an embryonic effort.

Finally, the RBV theory is used in a less or non-deliberate context. Resource-based view (RBV) has dominated much of the research and thinking in the field of strategic management. However, RBV in most cases of previous studies are applied in a more deliberate strategic context, presenting resources and capabilities as essentials to gain sustained competitive advantage which in turn leads to long term superior firm performance. This study however applies RBV in a less-deliberate and more emergent context. Indeed, the specific context of this study has provided a platform on which the researcher may see the nuances between two resource-related theories, namely the RBV and resource-dependence theory (RDT), in terms of their applicability in resource-scarce environment.

5.4.2 Practical Contributions

This study is destined to contribute to the thus-far-still-neglected issue of the lack of practical guidance during recessionary duress business time which calls for further empirical research. The need for making further research to provide more comprehensive information regarding practical guidance resembles the still unattended-to call of Pearce and Michael's (2006) as is direly implicit in the claim that "… despite the damage done during each recessionary period, little in the ways of diagnosis, prescription, or prophylaxis has been systematically identified to guide managerial action" (p. 202).

In addition, the focus on firm-level variables and the close implication attached to the industry-level pragmatism make this research practically useful, because the interpretation of the research findings is made simplified that it renders direct use to practitioners. In sum, aside from contributing to the entrepreneurship research, this research renders meaningful implications for entrepreneurs and policy makers.

Particular to the entrepreneurs or SMEs, the findings on the BCS, EO, and IC provide practical guidance to entrepreneurs as to "what to do" and "how" to go about in order to out-perform, survive, or sustain resilience during distress circumstances caused by recessionary disruptions. The guidance which gives the inklings of the appropriate strategy posits SMEs in calculated risks in their remedial or corrective response. With this, SMEs are in a better position to minimize the potential loss and cost incurred during the unfavorable periods, which in turn help SMEs to enhance their survivability. For instance, the BCS provides entrepreneurs information at three levels of abstraction. At the attribute level, managers may get understandings of the direct actions firm could consider while strategizing to cope.

The second level of abstraction offers managers information of identifiable areas for attention, and that firm resource could be allocated in accordance to the importance of each area in firms. With the areas identified, this second layer of abstraction allows more focused effort in areas perceived as important to a firm. The highest level of abstraction allows managers to develop an overall understanding of the possible challenges in strategizing to cope.

As to the government and policy maker, the government could understand the level of coping strategy, the level of entrepreneurial orientation, and the level of crisis readiness among the Malaysian SMEs. Specifically, government could gain some understandings of how SMEs cope and the type of orientations which better-position SMEs during such distressed time. With this understanding, the government or the policy makers could develop policy that would better-fabricate assistance channeled to SMEs, such that the assistance could better facilitate SMEs in their remedial efforts. For instance, government may make new or adjust policies to ones that go in tandem with what SMEs need when coping or undertaking corrective response in disruptive settings alike.

5.5 Limitations of the Study

Being a research in the realm of social science, there were several worth-noting limitations in this study. The first limitation is related to the selection criteria used to define the population of interest. As the current research was meant to examine the Malaysian manufacturing SMEs during the course of recessionary disruptions, two inclusive criteria had been put forth to define the population of interest. The first

criterion was the manufacturing firms of medium size, with 51 to 150 employees; the second, manufacturing firms which had operated for at least two years.

These self-justified criteria were employed due to the absence of an exact official definition or standard by which we could clearly recognize a manufacturing enterprise as being affected by recessionary disruptions. During the course of this research, no consensus was reported regarding such benchmark, either from amongst the industrial practitioners or academics. Indeed, the inconsistency in the criteria used was observable across various past studies which examined recessionary disruptions. For example, some studies employed the definition of survival to choose the respondents, whilst survival itself was differently defined in different studies. Similarly, some firms used years of existence, which the extent of existence also varied across studies. Likewise, some drew sample according to the frequency of experience with disruptive events or recessionary period (Kambil, 2008).

In particular, the first criterion (medium-sized manufacturing firms) was largely related to the issue from which the study was cast, that was, the difficulty of SMEs in obtaining financial assistance from banks or financial institutions amid the cash flow struggle during many duress periods alike (Chin, 2006; Zainal Abidin & Rasiah, 2009; Audretsch et al., 2009; Brune-Jensen, 2009; UEAPME Study Unit, European SME Finance Survey, 2009). This phenomenon was notably more threatening to the medium-sized enterprises, because approximately 43.9% of these firms made use of financial institutions as their prime source of financing (Mohd Aris, DOSM, 2007). Further, medium-sized SMEs were chosen because adequate firm size had important implication to render answerable for such variable related to firm's strategy, orientation, and performance.

On the other hand, the use of the second criterion (two-year-existence benchmark) was chosen on the precautionary basis that the sample used should have experienced at least one overtly evident recessionary period in the country. Respondents with such experience would provide more accurate answers than those who had not. It was also to caution so as not to include firms which were still too-young or still struggling within the transitional periods of start-up. This concern is important because the ability to perform and the survivability between infant and established firms essentially differ.

Though justifications for the criteria used are established on the basis of empirics, however given the absence of mutually agreeable standard on what constitutes an SMEs being in the state of affected by recessionary disruption in Malaysia, other researchers may caution the state-of-the-art of the criteria used in the current research .

Next, the second limitation is related to the interpretation of mediation in this cross-sectional study. The datasets used in this study were collected in a cross-sectional nature, with a specific focus on medium-sized manufacturing. Thus, caution should be exercised when drawing inference from the findings. In particular, the findings related to mediation in such cross-sectional study should not necessarily be interpreted as evidence of underlying causal relationships.

The third limitation is stemmed from the use of cross-sectional design which could limit the capture of full materialization of BCS and EO. The short time framework in a cross-sectional design may not give adequate time for coping strategy and entrepreneurial action to materialize their full effects, and hence also jeopardizing their corresponding impact on the performance measure. This

limitation also directly points to future research which could be conducted in a longer time horizon to allow fuller examination of the CR impact of BCS and EO. Longitudinal data offers advantages of tracking changes over time (Cooper & Schindler, 2014), and therefore renders better capture for the constructs understudied. In fact, the core of this advantage is also of heightened concern for entrepreneurship studies, as Davidsson (2008) puts it, "entrepreneurship are behaviors in the processes of discovery and exploitation, and that cross-sectional designs do not capture processes very well" (p. 51).

The fourth limitation is related to the sample size. The current study was only able to test the research model with a comparatively smaller sample of empirical data. This is due to the difficulty of collecting data from firms in Malaysia. Though the power analysis has lent certain degree of comfort regarding the statistical power, this study reckons that the validation of measures (given the new measures) should be conducted on a larger sample basis for both EFA and CFA. This study only afforded 145 and 150 datasets for both respectively. Therefore, with the smaller sample size used in this study, the findings herein should be treated as indicative rather than conclusive. Note that, though PLS-SEM is capable of and suitable for dealing with small sample sizes, PLS SEM produces better estimation in line with consistency at large (Henseler et al., 2009).

Finally, the sample used in the current research is made up of the manufacturing SMEs operating in Malaysia. Therefore, caution is recommended should the findings be generalized into business environments in other national contexts.

5.6 Direction for Future Research

There are also several worth-noting avenues for further research. Firstly, it is the testing of the research model in a real turn of recessionary disruption. This study was only able to test the hypothesized relationships based on the effect of actualization provided by the vignette developed. Therefore an interesting extension of this research could be one that empirically attesting the research model during the real turn of recessionary disruption. Future research in the-like area may also consider situating a study across multiple recessionary periods, and not only a particular recessionary period (Latham, 2009).

Secondly, as has been noted in the research limitation section earlier, future research may also test the research model with different settings and larger sample. In this study, there were newly conceptualized-then-operationalized BCS scale and the considerably revised scales of IC and CR. Given the psychometrics newness inherent in these scales, it may possibly be quested that there is not yet any further saying whether the significant direct relationships and the mediating effect established in the current study are due to the true relationships theorized, or possibly due to other sample-specific reasons. For instance, the measure of BCS has only been tested once in the current study. Concern could possibly be raised that the underlying structure and dimensionality of BCS revealed in the current study may have not been fully resolved. There is an obvious need that this measure be further tested empirically. In this view, future study may test the measures of BCS, IC, and CR with different sample or setting. The study may replicate either the whole or the part of the research model into other settings to further verify such significant results

found. Essentially, entrepreneurship is context-dependent. In addition, future replication should pursue larger sample size.

Thirdly, future research may also attempt the potential mediating effect of EO on BCS-CR relationship. While the current study chose to examine EO in direct relationship with CR given the newness of EO-CR relationship in conjunction with the specific context of this study, future research may investigate the potentials of EO as a mediator for the relationship between BCS and CR. This is feasible as past studies had also proven EO as a significant mediator (Barrett & Weinstein, 1998; Bhuian, Richard, & Shamma, 2010; Han, Kim, & Srivastava, 1998).

Further, future research may also examine EO as a complementary mediator with IC within a parallel multiple mediator model, using larger sample. In this study, the direct effect after including the mediator (path *c'*) was found not significant. According to Rucker, Preacher, Tormala, and Petty (2011), a non-significant direct effect after including a mediator (*c'*) should not be viewed as a stopping rule to introduce an additional second mediator. Based on Rucker et al. (2011), as long as the relationship between an independent variable with the potential second mediator is stronger than the direct path including the first mediator (*c'*), then the introduction of a second mediator can be a doable move. This principle provides understanding as to how future research may confirm whether the introduction of EO as second potential mediator can be a viable move.

Fourthly and finally, investigating the potential moderating effect of IC on the BCS-CR relationship can be another opportunity for future research. Having empirically proven IC as the mechanism which facilitates the undertaking of BCS in pursuance of greater performance or CR in recessionary context, a deeper

understanding of IC could be obtained by further examining which between the the higher or lower level of IC that would enhance the BCS-CR relationship. This view is theoretically feasible because a mediator can also be a potential moderator, and vice-versa (Hayes, 2013; James & Brett, 1984, Sharma, Durand, & Gur-Arie, 1981). According to Hayes (2013), whether a variable should be a mediator or a moderator is dependent on how the phenomenon under investigation is conceptualized and tested. It also depends on the theory being tested (Frazier, Barron, & Tix, 2004).

5.7 Conclusion

This chapter discusses the implications of all the findings produced in Chapter Four. Specifically, an overview of the research has been put forth to recapitulate the gists of the thesis in correspondence to three research objectives investigated. Further, this chapter has also proffered theoretical and empirical evidence to interpret the findings of hypotheses testing reported in Chapter Four. Discussions of hypotheses testing are organized according to the flow of the three main research objectives.

Particular in the discussion of hypotheses testing, highlighted also are the points as to how the findings of the current research are different from those of the past, and hence the contribution to the body of knowledge. Seven out of the eight hypotheses tested were supported. This chapter also further discusses both theoretical and practical contributions of the study. While the discussion of theoretical contributions heightens several theoretical gaps explored, the discussion of practical contribution is cast in ways that directly link the findings to the manufacturing entrepreneurs and policy makers.

Practically, the manufacturing entrepreneurs may benefit from the practical guidance related the appropriate response strategy and decision making which would better-position them in recessionary situations. Likewise, the government and policy makers may also capitalize on these understandings to develop or to adjust policies which would better-fabricate assistance channeled to MMEs.

As far as theoretical gaps are concern, this chapter has clearly elaborated the role of CR as a new performance surrogate. Correspondingly, the examinations of CR with BCS, EO, and IC contributed nascent theoretical insights. Other theoretical gaps discussed include the development and validation of the BCS and bricolage scales, psychometric revisions of the CR and IC scales, and the incorporation of a vignette into the measurement to provide standardization as to the recessionary context understudied.

Towards the end, methodological limitations and potential avenues for future research were also identified.

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Appendix 3.1

Old and new definitions of SME

Table A

Old SME Definition of Malaysia, by Number of Employees and Annual Sales Turnover

Based On	Sector Size	Primary Agricultural	Manufacturing (including Agro-based) and MRS	Service Sector (Including ICT)
Number of Full-time Employees	Micro	Less than 5 employees	Less than 5 employees	Less than 5 employees
	Small	Between 5 and 19 employees	Between 5 and 50 employees	Between 5 and 19 employees
	Medium	Between 20 and 50 employees	Between 51 and 150 employees	Between 20 and 50 employees
Annual Sales Turnover	Micro	Less than RM200,000	Less than RM250,000	Less than RM200,000
	Small	Between RM 200,000 and less than RM1 million	Between RM250,000 and less than RM10 million	Between RM200,000 and less than RM1 million
	Medium	Between RM1 million and RM5million	Between RM10 million and RM25 million	Between RM1 million and RM5 million

Source: National SME Development Council (2005; as cited from Secretariat to National SME Development Council Bank Negara Malaysia)

Table B

New Definition of SME in Malaysia, by Size of Operation

Sector size	Manufacturing	Service & other sectors
Medium	Sales turnover from RM15 million to not exceeding RM50 million or, full-time employees from 75 to not exceeding 200	Sales turnover form RM3 million to not exceeding RM20 million or, full-time employees from 30 to not exceeding 75
Small	Sales turnover from RM 300,000 to less than RM15 million or, full-time employees from 5 to less than 75	Sales turnover from RM 300,000 to less than RM3 million or, full-time employees from 5 to less than 30
Micro	Microenterprises across all sectors: Sales turnover of less than RM300,000 or less than 5 full-time employees.	

Source: National SME Development Council (2014)

Appendix 3.2

Questionnaires

(English and Bahasa Melayu versions)

SURVEY OF SMALL AND MEDIUM SIZED FIRMS IN MALAYSIA

1 June 2012

Dear Sir/ Madam,

My name is Irene Yong, a doctoral candidate of College of Business, Universiti Utara Malaysia. My research interest is pertinent to the Malaysian manufacturing SMEs. This study is aimed at having a better understanding of how business-level coping strategies and entrepreneurial orientation can help to contribute to business performance in recessionary times. Specifically, this study is interested to find out the coping strategies amenable to manufacturing SMEs in the context of recession.

It will take about 15 - 20 minutes to complete this questionnaire. There are five sections to be filled in (**Section A, B, C, D, E**).

I highly appreciate your participation in this research. There is no right or wrong answer. Anonymity is assured. Should you have further enquiry about the survey, you may contact me at seokching66yahoo.com or 012 531 9465.

Thank you very much.

Sincerely yours,

Ph.D candidate
Irene Yong Seok Ching
Matric no.: s92115

Academic research supervisor
Professor Dr. Rosli Mahmood
College of Business
Universiti Utara Malaysia
Contact no.: 04-928-5074

SECTION A: DEMOGRAPHIC INFORMATION OF FIRM AND THE OWNER-MANAGER

I) DEMOGRAPHIC INFORMATION OF FIRM

Please fill in the blank or tick the appropriate boxes that correspond to your answer to each of the question below.

1. Please state the name of your firm. _____ (optional)

2. State : _____

3. The type of your business. Please tick (√)one of the following

	• Textile and clothes •footware
	• Food and Beverage
	• Agricultural products • Forestry and forestry products • Wood and wood products • Furniture and office equipment • Tobacco • Palm oil, palm kernel oil, coconut oil product
	• Chemicals and petrochemical products •Pharmaceutical product
	• Clay-based, sand-based & non-metallic product
	• Rubber and plastics
	• Transport equipment
	•Electrical and electronics •Metal product
	• Machinery, appliances and parts • Hand tools
	• Iron and steel products
	Others. Please state.

4. How long has your firm been established?

   Please state. _____ years.

5. Please check (√) on the following the number of full-time employees in your firm

   ☐ Less than 5 full-time employees

   ☐ Between 5 and 50 full-time employees

   ☐ Between 51 and 150 full-time employees

6. Excluding you, how many immediate family members are working in the firm?

   Please state. _____

7. Did your firm encounter a situation caused by external event that disrupts the operation of your firm to the extent of threatening the firm's survival?

☐ Yes

☐ No

II) YOUR PROFILE (OWNER'S PROFILE)

Please fill in or put a tick (√) in the appropriate box.

1) Your Gender: ☐ Male
☐ Female

2) Your age: ☐ Below 30 years old
☐ 31- 40
☐ 41-50
☐ 51-60
☐ 61 and above

3) Your ethnicity origin / race: ☐ Malay
☐ Chinese
☐ Indian
☐ Others. Please state. _____

4) Marital status: ☐ Single
☐ Married
☐ Divorced/ Widowed

5) Education background. Please tick (√) the highest level of your education.

	Primary school education
	Secondary school education
	Certificate level
	Diploma holder
	Degree holder
	Masters holder
	PhD holder
	Others. Please state.

6) Your firm's ownership structure. Please tick (√) only one.

	Sole proprietary
	Partnership
	Public limited company (Bhd.)
	Private limited company (Sdn. Bhd.)

SECTION B: CRISIS READINESS

Following are statements pertaining to your firm's crisis readiness. Considering only your firm, please indicate the extent to which your firm is prepared to cope with immediate and future crisis situations. Please circle the response that best describes your firm based on the scale of 1 (*strongly disagree*) to 5 (*strongly agree*).

Crisis means a situation caused by events external to firm which happens unexpectedly and might hamper the performance or survival (continuity) of a firm.

No	**Statements**	Strongly Disagree ---- Strongly Agree
1	My firm is prepared for different type of crisis.	1 2 3 4 5
2	The firm's preparation scope to cope with a crisis is good.	1 2 3 4 5
3	My firm knows which type of crisis it will be able to cope without severe damage.	1 2 3 4 5
4	My firm has good knowledge regarding the different stages of a crisis.	1 2 3 4 5
5	My firm knows what to do at every possible stage of a crisis.	1 2 3 4 5
6	In a crisis situation, my firm knows when it is right to be reactive or proactive.	1 2 3 4 5
7	My firm has high flexibility to implement fast decision.	1 2 3 4 5
8	My firm has high flexibility to react fast to crisis once it is diagnosed.	1 2 3 4 5
9	My firm would know how to diagnose the causes of a crisis.	1 2 3 4 5
10	My firm would know what resources and quantities to allocate in order to successfully cope with a crisis.	1 2 3 4 5
11	My firm is good at catching early warning signals of a potential crisis.	1 2 3 4 5
12	My firm closely monitors internal and external business environments from time to time.	1 2 3 4 5
13	My firm is good at making insightful sense of the business environment trend.	1 2 3 4 5
14	My firm sees that crisis management plan is important.	1 2 3 4 5
15	My firm thinks that it is important for us to have as crisis management plan.	1 2 3 4 5

SECTION C: IMPROVISATIONAL COMPETENCE

The following statements are pertaining to your firm's ability to improvise.

To improvise means to combine the planning stage and the implementation stage of the business process to benefit from the advantages of speed and flexibility.

Circle the extent to which your firm is best described by the statements below.

No	Statements	Strongly Disagree --- Strongly Agree
1	My firm has the ability to figure out action as we go along.	1 2 3 4 5
2	When new challenges come unexpectedly, my firm is able to improvise in searching for solutions.	1 2 3 4 5
3	When new opportunities come unexpectedly, my firm is able to improvise in searching for workable way to reach it.	1 2 3 4 5
4	When new problems come unexpectedly, my firm is able to improvise in searching for workable way to solve it.	1 2 3 4 5
5	My firm is able to respond to unexpected new challenges in spontaneous way.	1 2 3 4 5
6	My firm is able to act spontaneously to new opportunities that come unexpectedly.	1 2 3 4 5
7	My firm is able to respond to problems in spontaneous ways.	1 2 3 4 5
8	My firm is able to perform under time pressure.	1 2 3 4 5

SECTION D: BUSINESS COPING STRATEGY

This section attempts to examine the coping strategies of firm. Based on the scenario below, please rate on the scale of 1 (strongly disagree) to 5 (strongly agree), the extent to which you will respond by the following actions.
The scenario below is meant for this SECTION D and E.

The scenario:
Let say, an economic recession strikes. You face insufficient cash-flow to operate your business firm. However, you face difficulty to borrow from bank or other financial institutions for certain reasons; for example, the increase the lending interest rate, or the requirement of more collateral and etcetera.
In this situation, to what extent you will carry out the following actions?
Please circle one best response for each statement below.

I) Revenue-generation tactics

No.	**Statements**	Strongly Disagree --- Strongly Agree
1	My firm enhances advertising to attract more revenue.	1 2 3 4 5
2	My firm changes advertising style to attract customers.	1 2 3 4 5
3	My firm increases sales activity.	1 2 3 4 5
4	My firm improves marketing activities to promote our product.	1 2 3 4 5
5	My firm increases trade promotion.	1 2 3 4 5
6	My firm makes use of business networks for promotion activities.	1 2 3 4 5
7	My firm increases marketing budget to assist marketing activities.	1 2 3 4 5
8	My firm increases distribution channel.	1 2 3 4 5
9	My firm does distribution through discounters.	1 2 3 4 5
10	My firm offers discount to our product.	1 2 3 4 5
11	My firm increases discount rate.	1 2 3 4 5
12	My firm increases discount coupon.	1 2 3 4 5
13	My firm selectively offers discount to the most valuable customers.	1 2 3 4 5
14	My firm selectively offers discount to the most loyal customers.	1 2 3 4 5
15	My firm selectively offers discounts to the most satisfied customers.	1 2 3 4 5
16	My firm uses price-based competition to attract customers.	1 2 3 4 5
17	My firm reduces price.	1 2 3 4 5
18	My firm emphasizes high quality of product.	1 2 3 4 5
19	My firm offers higher quality product at the same price.	1 2 3 4 5
20	My firm introduces new product capabilities.	1 2 3 4 5
21	My firm improves aesthetic features of product.	1 2 3 4 5
22	My firm gives attention to after-sales service.	1 2 3 4 5
23	My firm improves the quality of our after-sales service.	1 2 3 4 5
24	My firm focuses on high-value-added segment of market	1 2 3 4 5
25	My firm seeks opportunities for market diversification.	1 2 3 4 5
26	My firm lowers price in price-sensitive market.	1 2 3 4 5
27	My firm targets on new market niches.	1 2 3 4 5
28	My firm withdraws from unprofitable market segments.	1 2 3 4 5

II) Cost-cutting tactics

No	Statements	Strongly Disagree ---- Strongly Agree
1.	My firm reduces working capital whenever possible.	1 2 3 4 5
2.	My firm reduces working hours.	1 2 3 4 5
3.	My firm reduces employment or cuts manpower.	1 2 3 4 5
4.	My firm cuts wages.	1 2 3 4 5
5.	My firm freezes worker's wage (pay freeze)	1 2 3 4 5
6.	My firm reduces overhead cost.	1 2 3 4 5
7.	My firm cuts transport cost.	1 2 3 4 5
8.	My firm reduces expenditure for R & D activities of manufacturing process.	1 2 3 4 5
9.	My firm cuts innovation activities.	1 2 3 4 5
10.	My firm does selective investment in product innovation.	1 2 3 4 5
11.	My firm reduces expenses on worker's training.	1 2 3 4 5
12.	My firm reduces investment in the factory and equipment.	1 2 3 4 5
13.	My firm postpones purchasing for manufacturing use.	1 2 3 4 5
14.	My firm cuts down the capacity of production.	1 2 3 4 5
15.	My firm reduces product range (or the number of product lines).	1 2 3 4 5
16.	My firm switches to production methods that save cost.	1 2 3 4 5
17.	My firm outsources to cut cost.	1 2 3 4 5
18.	My firm reduces the steps in production cycle.	1 2 3 4 5
19.	My firm streamlines production activities so that we become more efficient in the production process	1 2 3 4 5
20.	My firm is cautious on stock control to minimize level of unproductive stock.	1 2 3 4 5
21.	Improving operating efficiency is a top priority in my firm.	1 2 3 4 5
22.	Achieving economies of scale is important for my firm.	1 2 3 4 5
23.	Achieving economies of scope is important for my firm.	1 2 3 4 5
24.	Achieving cost advantage is very important to my firm.	1 2 3 4 5
25.	Cost is the most critical component in my firm's performance measures.	1 2 3 4 5
26.	Consideration of cost always comes first in the decision making process of my firm.	1 2 3 4 5
27.	My firm has a continuing overriding concern for operating cost reduction.	1 2 3 4 5
28.	My firm continuously seeks to improve production processes so that we can lower cost.	1 2 3 4 5
29.	My firm closely monitors the effectiveness of key business processes.	1 2 3 4 5

III) Financial Bootstrapping

No	**A. Customer-related bootstrapping**	Strongly Disagree			----	Strongly Agree
1	My firm offers discount on upfront payment.	1	2	3	4	5
2	My firm negotiates for advanced payment from customer.	1	2	3	4	5
3	My firm uses methods that speed up invoicing.	1	2	3	4	5
4	My firm uses interest on overdue payments	1	2	3	4	5
5	My firm ceases business with late payers	1	2	3	4	5
6	My firm chooses customer who pay quickly	1	2	3	4	5
	B. Delaying-payment- related bootstrapping					
7	My firm negotiates payment conditions with suppliers	1	2	3	4	5
8	My firm deliberately delays payments	1	2	3	4	5
9	My firm uses bartering for goods and services	1	2	3	4	5
10	My firm leases equipment instead of buying	1	2	3	4	5
11	My firm buys used equipment instead of the new one.	1	2	3	4	5
	C. Owner related Bootstrapping					
12	My firm withholds owner's salary	1	2	3	4	5
13	My firm uses owner's personal credit card	1	2	3	4	5
14	My firm obtains loans from family.	1	2	3	4	5
15	My firm obtains loans from friends	1	2	3	4	5
	D. Joint- utilization Bootstrapping					
16	My firm borrows equipment from other businesses.	1	2	3	4	5
17	My firm hires temporary employees.	1	2	3	4	5
18	My firm shares business space with another firm.	1	2	3	4	5
19	My firm shares employees with another firm.	1	2	3	4	5
20	My firm shares equipment with another firm.	1	2	3	4	5

IV) Bricolage tactics

No	Statements	Strongly Disagree ---- Strongly Agree
	I) Material bricolage	
1	Using only the existing resources of the firm, my firm is confident of our ability to find workable solutions to new challenges.	1 2 3 4 5
2	My firm gladly takes on a broader range of challenges than others with our resources would be able to.	1 2 3 4 5
3	When dealing with new problems, my firm takes action by assuming that we will find a workable solution.	1 2 3 4 5
4	When dealing with new opportunities, my firm takes action by assuming that we will find a workable solution.	1 2 3 4 5
5	When responding to a new challenge, my firm uses any existing resource that seems useful.	1 2 3 4 5
6	When responding to a new problem, my firm uses any existing resource that seems useful.	1 2 3 4 5
7	To respond to a new opportunity, my firm uses any existing resource that seems useful.	1 2 3 4 5
8	My firm deals with new challenges by applying a combination of our existing resources and other resources cheaply available to us.	1 2 3 4 5
9	By combining the existing resources, my firm takes on a surprising variety of new challenges.	1 2 3 4 5
10	When my firm faces new challenges, we put together workable solutions from our existing resources.	1 2 3 4 5
11	My firm combinds resources to accomplish new challenges that the resources weren't originally intended to accomplish.	1 2 3 4 5
	II) Network bricolage	
12	My firm views business network as an important resource.	1 2 3 4 5
13	When my firm faces new challenges, we generate workable solution from the existing business networks.	1 2 3 4 5
14	My firm uses existing business networks to help handling new problems.	1 2 3 4 5
15	My firm uses existing business networks to respond to new opportunity.	1 2 3 4 5
16	My firm uses existing business networks to deal with resource problem.	1 2 3 4 5
17	When my firm faces new challenges, we generate workable solutions by adjusting among several existing networks.	1 2 3 4 5
18	By combining existing business networks, my firm takes on a surprising variety of new challenges.	1 2 3 4 5

SECTION E: ENTREPRENEURIAL ORIENTATION

Following are statements pertaining to the way your firm's practice and decision-making are oriented. Please indicate the level of agreement with the following statements. Please circle the most appropriate statement that best describes your firm.
Note: Please refer to the scenario outlined in SECTION D

No	**Statements**	Strongly Disagree ----- Strongly Agree
	I) Risk-taking orientation	
1	My firm adopts a rather optimistic view when making major decisions.	1 2 3 4 5
2	New projects in my firm are approved based on "blanket approval" rather than the stage-by-stage basis.	1 2 3 4 5
3	My firm has the tendency to support projects even when the expected return is uncertain.	1 2 3 4 5
4	My firm's operations seldom follow the "tried and true" path.	1 2 3 4 5
5	In making strategic decisions, my firm tends to focus on investments that have high risk to favor for high return.	1 2 3 4 5
6	My firm searches for big opportunities, and favor large, bold decision despite the uncertainty of the outcome.	1 2 3 4 5
7	When confronted with decision making situations involving uncertainty, my firm adopts brave, aggressive posture.	1 2 3 4 5
	II) Innovativeness orientation	
8	My firm actively introduces improvement.	1 2 3 4 5
9	My firm actively introduces innovation.	1 2 3 4 5
10	My firm is creative in its methods of operation.	1 2 3 4 5
11	My firm seeks out new ways of doing things.	1 2 3 4 5
12	My firm has marketed many new lines of products	1 2 3 4 5
13	My firm has marketed many new lines of service	1 2 3 4 5
14	Many new lines of product have been marketed in the past five years.	1 2 3 4 5
15	Many new lines of service have been marketed in the past five years.	1 2 3 4 5
16	Changes in product lines have been mostly major in nature.	1 2 3 4 5
17	Changes in service lines have been mostly major in nature.	1 2 3 4 5
	III) Proactiveness orientation	
18	My firm is constantly seeking new opportunities related to present operation.	1 2 3 4 5
19	My firm is usually the first ones to introduce new products in the market.	1 2 3 4 5
20	My firm is constantly on the look-out for new opportunities	1 2 3 4 5
21	Whenever there is ambiguity in government regulation, my firm will move proactively to try to take a lead.	1 2 3 4 5
22	In making strategic decisions, my firm responds to signals of opportunities quickly.	1 2 3 4 5

	Statements	Strongly Disagree ----- Strongly Agree
	IV) Competitive-aggressiveness orientation	
23	My firm often sacrifices profitability to gain market share.	1 2 3 4 5
24	My firm often cuts price to increase market share.	1 2 3 4 5
25	My firm often sets price below competition.	1 2 3 4 5
26	My firm often seeks market share position by sacrificing cash flow.	1 2 3 4 5
27	My firm often seeks market share position by sacrificing profitability.	1 2 3 4 5
28	My firm typically adopts a very competitive "undo-the-competitors" posture	1 2 3 4 5
29	My firm is very aggressive and intensely competitive	1 2 3 4 5
	V) Futurity orientation	
30	My firm emphasizes research to provide us with future competitive edge.	1 2 3 4 5
31	Forecasting key indicators of operations is common in my firm.	1 2 3 4 5
32	Formal tracking of general trend is common in my firm.	1 2 3 4 5
33	My firm often conducts "what if" analysis of critical issues.	1 2 3 4 5
34	In making strategic decisions, my firm looks into the future to anticipate conditions.	1 2 3 4 5
35	My firm is willing to sacrifice short-term profitability for long-term goal.	1 2 3 4 5
36	My firm emphasizes investments that will provide us with a future competitive edge.	1 2 3 4 5

Thank you.

SOAL-SELIDIK PERUSAHAAN KECIL-DAN-SEDERHANA MALAYSIA

1 Jun 2012

En. / Puan/ cik,

Saya Irene Yong, calon siswazah Kolej Perniagaan, Universiti Utara Malaysia. Kajian ini berkaitan dengan isu perusahaan pekilang kecil-dan-sederhana di Malaysia semasa kemelesetan ekonomi. Dengan sumbangan maklum-balas anda, diharapkan pemahaman yang lebih mendalam tentang bagaimana strategi penyesuaian pernigaaan dan orientasi keusahawanan semasa kemelesetan boleh diperolehi. Khususnya, kajian ini berminat untuk mengetahui strategi penyesuain yang sesuai dan pratikal khas untuk pekilang kecil-dan-sederhana dalam konteks kemelesetan ekonomi..

Anda memerlukan lebih kurang 15 hingga 20 minit untuk melengkapkan soal-selidik ini. Sila jawab semua LIMA bahagian (**Bahagian A, B, C, D, E**).

Penyertaan anda amat kami hargai. Tiada penilaian betul atau salah terhadap maklum balas anda. Jawapan sumbangan anda dijamin sulit. Jika ada sebarang kemusykilan tentang soal-selidik ini, anda boleh menghubungi kami di seokching66yahoo.com atau 012 531 9465.

Ribuan terima kasih.

Yang ikhlas,

Calon Ph.D
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BAHAGIAN A: MAKLUMAT DEMOGRAFI SYARIKAT DAN PENGURUS-PEMILIK

I) MAKLUMAT DEMOGRAFI SYARIKAT

Isi tempat kosong atau tandakan (√) pada ruangan yang bersesuaian.

1. Sila nyatakan nama syarikat: _____ (tidak wajib)

2. Negeri: _____

3. Tandakan (√) untuk jenis perniagaan anda.

	• Tekstil & pakaian • kasut
	• Makanan & Minuman
	• Produk asas pertanian • Perhutanan & produk asas perhutanan • Papan & produk papan • Perabot & perkakasan pejabat • Tembakau • Produk berasakan minyak kelapa sawit, minyak inti (*kernel*) sawit, minyak kelapa
	• Produk kimia & petrokimia •Produk farmasi & perubatan
	• Produk berasaskan tanah-liat, pasir & produk bukan-logam
	• Getah & plastic
	• Peralatan pengangkutan
	•Elektrik & elektronik • Produk logam
	• Mesin, perkakasan dan bahagian • Peralatan tangan
	• Besi & produk aloi (besi, karbon)
	Lain-lain. Nyatakan.

4. Berapa lamakah syarikat anda ditubuhkan?

   Sila nyatakan. _____ tahun.

5. Sila tandakan (√) untuk bilangan pekerja sepenuh-masa (full-time) dalam syarikat anda.

   ☐ Kurang daripada 5

   ☐ Antara 5 dan 50

   ☐ Antara 51 dan 150

6. Selain anda, berapa orang ahli keluarga bekerja dalam syarikat anda?
   Sila nyatakan. _____ orang.

7. Pernahkah anda mengalami suatu gangguan luaran yang menggugat keterusan perniagaan?

☐ Ya ☐ Tidak

II) PROFIL PEMILIK PERNIAGAAN

Sila tandakan (√) jawapan anda di petak-petak yang bersesuian.

1) Jantina: ☐ Lelaki
☐ Perempuan

2) Umur anda: ☐ Bawah 30 tahun
☐ 31- 40
☐ 41-50
☐ 51-60
☐ 61 and ke atas

3) Bangsa : ☐ Melayu
☐ Cina
☐ India
☐ Lain-lain. Sila nyatakan. _____

4) Status perkahwinan: ☐ Bujang
☐ Berkahwin
☐ Bercerai/janda/duda

5) Latar belakang pendidikan. Sila tandakan pada tahap tertinggi pendidikan.

	Pendidikan sekolah rendah
	Pendidikan sekolah menengah
	Tahap Sijil (*Certificate level*)
	Pemegang diploma
	Sarjana muda (*Degree holder*)
	Sarjana (*Masters holder*)
	Sarjana Kedoktoran (PhD)
	Lain-lain. Nyatakan.

6) Struktur pemilikan perniagaan. Tandakan (√) HANYA satu kategori.

	Milikan tunggal
	Perkongsian
	Syarikat Berhad (Bhd.)
	Syarikat Sendirian Berhad (Sdn. Bhd.)

BAHAGIAN B: KESEDIAAN KRISIS

Sejauh mana anda bersedia untuk menghadapi keadaan krisis?

Kenyataan berikut berkaitan dengan tahap kertersediaan syarikat anda untuk menghadapi keadaan krisis. Berdasarkan skala 1 (*sangat tidak setuju*) hingga 5 (*sangat setuju*), sila bulatkan sejauh mana kenyataan-kenyataan berikut menggambarkan keadaan syarikat anda,

Krisis bermaksud aktiviti tidak terjangka yang berlaku di persekitaran luaran perniagaan, di mana kesannya berpotensi untuk menjejaskan prestasi dan kelanjutan perniagaan

No	**Kenyataan**	Sangat Tidak Setuju ------- Sangat Setuju
1	Syarikat saya bersedia untuk menghadapi pelbagai jenis krisis.	1 2 3 4 5
2	Persediaan kami terhadap krisis meliputi lingkungan yang cukup munasabah.	1 2 3 4 5
3	Kami tahu tentang jenis-jenis krisis yang kami boleh atasi tanpa menanggung kerugian besar.	1 2 3 4 5
4	Syarikat saya… ... mempunyai pemahaman yang baik tentang tahap-tahap (keadaan) berbeza dalam krisis.	1 2 3 4 5
5	… tahu apa yang sebaiknya dilakukan untuk setiap tahap (keadaan) krisis.	1 2 3 4 5
6	... tahu bila sebaiknya masa untuk bertindak secara reaktif dan proaktif.	1 2 3 4 5
7	... sangat fleksibel dalam membuat keputusan cepat.	1 2 3 4 5
8	… sangat fleksibel untuk respon terus terhadap krisis sebaik saja ia dikesan.	1 2 3 4 5
9	Syarikat saya… … tahu mengenalpasti punca-punca berlakunya sesuatu krisis.	1 2 3 4 5
10	… tahu sumber apa dan kuantiti peruntukan yang diperlukan untuk mengatasi sesuatu krisis dengan jayanya.	1 2 3 4 5
11	… cekap untuk mengesan tanda-tanda amaran awal sesuatu krisis.	1 2 3 4 5
12	… membuat pemerhatian ketat ke atas keadaan dalaman dan persekitaran luar perniagaan dari semasa ke semasa.	1 2 3 4 5
13	… mahir dalam membuat penilaian sense tentang tren dalam persekitaran perniagaan.	1 2 3 4 5
14	… melihat pelan pengurusan krisis sebagai penting.	1 2 3 4 5
15	... mempunyai pelan pengurusan krisis.	1 2 3 4 5

BAHAGIAN C: KECEKAPAN IMPROVISI

Kenyataan-kenyataan berikut berkaitan dengan keupayaan syarikat anda dalam mengimprovisi.

Kecekapan improvisi ialah keupayaan untuk menggabung tahap perancangan dan tahap pelaksanaan dalam proses perancangan perniagaan untuk menikmati kelebihan ketangkasan dan fleksibiliti.

Sila tandakan sejauh mana kenyataan-kenyataan berikut menggambarkan syarikat anda.

No	Statements	Sangat Tidak --- Sangat Setuju
1	**Syarikat saya …** … dapat nenyelesaikan masalah yang timbul tanpa dijangka, dan masih boleh meneruskan kerja-kerja semasa.	1 2 3 4 5
2	... mampu merancang sambil melaksana apabila… • mencari penyelesaian untuk cabaran baru yang tidak dijangka.	1 2 3 4 5
3	• mencari jalan praktikal untuk merebut peluang baru yang muncul tiba-tiba.	1 2 3 4 5
4	• mencari jalan keluar untuk masalah yang timbul tanpa dijangka.	1 2 3 4 5
5	... berkebolehan untuk bertindak secara spontan (tanpa merancang terdahulu) untuk respon kepada • cabaran baru yang tidak dijangka.	1 2 3 4 5
6	• peluang baru yang muncul tiba-tiba.	1 2 3 4 5
7	• masalah baru.	1 2 3 4 5
8	… dapat bekerja di bawah tekanan masa.	1 2 3 4 5

BAHAGIAN D: STRATEGI PENYESUAIN PERNIAGAAN
Bahagian ini bertujuan untuk menyelami kandungan strategi penyesuaian yang diambil oleh syarikat dalam masa krisis. Bahagian ini adalah berdasarkan senario berikut.

Katakan, satu krisis ekonomi berlaku dengan tiba-tiba. Anda tidak mempunyai aliran tunai yang cukup untuk menjalankan operasi perniaggan. Pada masa yang sama, anda juga menghadapi masalah untuk meminjam dari bank atau institusi kewangan, atas sebab-sebab tertentu seperti peningkatan kadar bunga, atau lebih cagaran.

Berdasarkan skala 1 (sangat tidak setuju) hingga 5 (sangat setuju), sila bulatkan sejauh mana syarikat anda akan bertindak balas dengan taktik-taktik yang dinyatakan berikut.

I) Taktik Penjanaan Hasil

No	**Kenyataan** Syarikat saya akan…	Sangat Tidak Setuju ---- Sangat Setuju
1	… mempergiat usaha pengiklanan untuk menjana lebih untung.	1 2 3 4 5
2	… mengubah stail pengiklanan untuk menarik perhatian pelanggan.	1 2 3 4 5
3	… meningkatkan aktiviti jualan.	1 2 3 4 5
4	... mempergiat aktiviti pemasaran untuk mempromosikan produk syarikat.	1 2 3 4 5
5	…meningkatkan promosi dagangan (Contoh: mengikuti pameran dagangan).	1 2 3 4 5
6	…menggunakan "network" perniagaan untuk aktiviti promosi.	1 2 3 4 5
7	… meningkatkan bajet pemasaran untuk melancarkan aktiviti pemasaran.	1 2 3 4 5
8	… menambah saluran pengedaran.	1 2 3 4 5
9	…membuat pengedaran melalui pengedar berdiskaun.	1 2 3 4 5
10	… menawarkan diskaun untuk produk syarikat.	1 2 3 4 5
11	… meningkatkan kadar diskaun (%).	1 2 3 4 5
12	… menambah tawaran kupon diskaun.	1 2 3 4 5
13	… menawarkan diskaun kepada pelanggan yang paling menguntungkan.	1 2 3 4 5
14	… menawarkan diskaun kepada pelanggan yang paling setia.	1 2 3 4 5
15	… menawarkan diskaun kepada pelanggan yang paling puas hati dengan produk syarikat.	1 2 3 4 5
16	… bersaing dari segi "harga" untuk menarik perhatian pelanggan.	1 2 3 4 5
17	… menurunkan harga.	1 2 3 4 5
18	… bersaing dengan memastikan kualiti produk tetap tinggi.	1 2 3 4 5
19	… tawarkan produk pada kualiti yang lebih tinggi dengan harga yang sama.	1 2 3 4 5
20	… memperkenalkan kecekapan baru produk	1 2 3 4 5
21	… meningkatkan nilai estetik produk (kecantikan fizikal)	1 2 3 4 5
22	… beri perhatian kepada servis-lepas-jualan(after-sales service)	1 2 3 4 5
23	… meningkatkan kualiti servis-lepas-jualan	1 2 3 4 5
24	… memfokus pada segmen pasaran yang mempunyai nilai tambah tinggi	1 2 3 4 5
25	… mencari peluang untuk mempelbagaikan pasaran	1 2 3 4 5
26	… menurunkan harga dalam pasaran yang sensitif harga	1 2 3 4 5
27	… mensasar pada pasaran fokus baru	1 2 3 4 5
28	… menarik diri daripada segmen pasaran yang tidak menguntungkan	1 2 3 4 5

II) Taktik pemotongan kos

	Kenyataan **Syarikat saya akan…**	**Sangat Tidak --- Sangat Setuju**
1.	… mengurangkan "working capital" pada bila-bila masa ia bersesuain	1 2 3 4 5
2.	… mengurangkan bilangan jam kerja.	1 2 3 4 5
3.	… mengurangkan pekerja.	1 2 3 4 5
4.	… mengurangkan gaji pekerja.	1 2 3 4 5
5.	… membekukan sementara upah pekerja (bayar kemudian).	1 2 3 4 5
6.	… mengurang kos overhed (elektrik, air, dan lain-lain).	1 2 3 4 5
7.	... mengurangkan kos pengangkutan.	1 2 3 4 5
8.	… mengurangkan perbelanjaan untuk aktiviti R & D bagi proses pengeluaran (kilang).	1 2 3 4 5
9.	… mengurangkan kegiatan inovasi (kilang).	1 2 3 4 5
10.	… melabur secara terpilih untuk inovasi produk.	1 2 3 4 5
11.	… mengurangkanperbelanjaan untuk "training" pekerja.	1 2 3 4 5
12.	… mengurangkan pelaburan dalam kilang dan peralatan kilang.	1 2 3 4 5
13.	… menangguhkan sementara pembelian untuk kegunaan proses pengeluaran (kilang).	1 2 3 4 5
14.	… mengurangkan kapasiti (kuantiti) pengeluaran.	1 2 3 4 5
15.	… mengurangkan bilangan jenis produk.	1 2 3 4 5
16.	… bertukar kepada cara pengeluaran yang jimat kos.	1 2 3 4 5
17.	… mengkontrak (outsource) kepada syarikat lain untuk mengurangkan kos.	1 2 3 4 5
18.	… mengurangkan langkah-langkah dalam proses pengeluaran	1 2 3 4 5
19.	… menyelaras aktiviti/proses pengeluaran untuk meningkatkan kecekapan pengeluaran kilang	1 2 3 4 5
20.	… membuat kawalan stok dengan teliti untuk meminimumkan stok tidak produktif	1 2 3 4 5
21.	Meningkatkan kecekapan operasi kilang merupakankepentinagan utama	1 2 3 4 5
22.	Mencapai ekonomi skala dipandang penting oleh syarikat saya.	1 2 3 4 5
23.	Mencapai ekonomi skop dipandang penting oleh syarikat saya.	1 2 3 4 5
24.	Keupayaan untuk menguasai faedah dari segi kos dipandang penting oleh syarikat.	1 2 3 4 5
25.	Kos ialah komponen yang paling kritikal dalam pengukuran prestasi perniagaan saya	1 2 3 4 5
26.	Pertimbangan terhadap kos adalah paling penting dalam proses membuat keputusan.	1 2 3 4 5
27.	Syarikat saya sentiasa memberi keutamaan dominan untuk pengurangan kos operasi.	1 2 3 4 5
28.	Syarikat saya sentiasa berusaha untuk mempertingkatkan proses pengeluaran supaya kos dapat dikurangkan.	1 2 3 4 5
29.	Syarikat saya memantau teliti keberkesanan proses-proses penting dalam perniagaan	1 2 3 4 5

III) Taktik "Financial Bootstrapping"

No	**Kenyataan** **Syarikat saya akan…**	**Sangat Tidak Setuju --- Sangat Setuju**
	A. *Adjust* dengan pelanggan (customer)	
1	… menawarkan diskaun untuk pelanggan yang membayar terus	1 2 3 4 5
2	… berunding semula dengan pelanggan supaya mereka membayar lebih awal	1 2 3 4 5
3	… menggunakan taktik berkesan untuk mempercepat "invoicing"	1 2 3 4 5
4	… menggunakan kadar faedah untuk menampung bayaran tertunggak dari pelanggan yang bayar lewat	1 2 3 4 5
5	… tidak membuat urusniaga baru dengan pelanggan yang membayar Lewat	1 2 3 4 5
6	… memilih untuk berurusniaga dengan pelanggan yang dapat membayar cepat	1 2 3 4 5
	B. *Adjust* dengan pembekal (supplier)	
7	... merunding semula syarat bayaran dengan pembekal	1 2 3 4 5
8	… menundakan bayaran kepada pembekal	1 2 3 4 5
9	… menggunakan cara barter (pertukaran) untuk produk dan servis	1 2 3 4 5
10	… memilih untuk sewa-beli dan bukannya membeli	1 2 3 4 5
11	… membeli peralatan terpakai dan bukannya yang baru	1 2 3 4 5
	C. Pemilik *adjust* dengan sumber dalaman	
12	… melambatkan dahulu gaji untuk pemilik perniagaan sendiri	1 2 3 4 5
13	… pemilik perniagaan guna kad kredit sendiri	1 2 3 4 5
14	… pinjam daripada ahli keluarga, saudara-mara	1 2 3 4 5
15	… pinjam daripada kawan	1 2 3 4 5
	D. *Adjust* dengan berkongsi apabila dikekang oleh kekurangan	
16	… pinjam peralatan dari syarikat seperjuangan lain	1 2 3 4 5
17	… mengupah pekerja sementara (*part-time worker*)	1 2 3 4 5
18	… berkongsi ruang perniagaan dengan syarikat seperjuangan lain	1 2 3 4 5
19	… berkongsi pekerja dengan syarikat seperjuangan lain	1 2 3 4 5
20	… berkongsi peralatan dengan syarikat seperjuangan lain	1 2 3 4 5

IV) Taktik " Bricolage"

No	Kenyataan **A) "Material bricolage"**	**Sangat Tidak --- Sangat Setuju**
1	Walaupun hanya menggunakan sumber sedia ada dalam syarikat, syarikat saya yakin mampu mencari penyelesaian untuk cabaran baru.	1 2 3 4 5
2	Syarikat saya lebih berjaya daripada syarikat lain dalam menghadapi cabaran, walaupun hanya menggunakan sumber sedia ada dalam syarikat.	1 2 3 4 5
3	Syarikat saya bertindak atas keyakinan bahawa kami akan dapat mencari penyelesaian yang berkesan apabila… • berdepan dengan masalah baru	1 2 3 4 5
4	• terdapat peluang baru	1 2 3 4 5
5	Syarikat saya menggunakan sumber sedia ada dengan sebaik mungkin… • untuk menghadapi cabaran baru	1 2 3 4 5
6	• untuk menyelesaikan masalah baru	1 2 3 4 5
7	• untuk respon kepada peluang baru	1 2 3 4 5
8	Apabila berdepan dengan cabaran baru, syarikat saya mampu menggabung sumber-sumber sedia ada dalam syarikat dengan sumber lain (luar) yang dapat diperolehi dengan murah.	1 2 3 4 5
9	Gabungan baru yang kami atur dari sumber-sumber sedia ada dalam syarikat mampu memberi hasil yang berkesan untuk pelbagai cabaran baru.	1 2 3 4 5
10	Kami dapat mengumpulkan dan mengatur semua penyelesaian yang berpotensi daripada sumber sedia ada, apabila berdepan dengan cabaran baru.	1 2 3 4 5
11	Kami dapat menghasilkan gabungan sumber yang berkesan untuk cabaran baru, walaupun sumber tersebut asalnya bukan digunakan untuk tujuan tersebut.	1 2 3 4 5

B) "Network Bricolage"

12	Syarikat saya memandang "business network" sebagai satu sumber penting.	1 2 3 4 5
13	Apabila respon kepada cabaran baru, kami mampu menjana penyelesaian yang berkesan daripada *business network* yang sedia ada.	1 2 3 4 5
14	Syarikat saya menggunakan "business network" untuk … … mengatasi masalah baru.	1 2 3 4 5
15	… respon kepada peluang baru.	1 2 3 4 5
16	… menyelesaikan masalah kekurangan sumber (contoh: kewangan).	1 2 3 4 5
17	Syarikat saya dapat "adjust" antara beberapa *business network yang* kami ada untuk menjana penyelesaian.	1 2 3 4 5
18	Penyelesaian yang kami hasilkan daripada menggabung *business network* berpotensi untuk memberi keberkesanan untuk pelbagai cabaran baru.	1 2 3 4 5

BAHAGIAN E: ORIENTASI KEUSAHAWANAN

Kenyataan berikut ialah pendekatan berkaitan dengan amalan dan stail pembuatan keputusan syarikat anda. Sila bulatkan sejauh mana kenyataan berikut menggambarkan syarikat anda.

Peringatan: Sila rujuk balik kepada scenario di BAHAGIAN D.

No	**Kenyataan**	**Sangat Tidak Setuju --- Sangat Setuju**
	I) Pendekatan terhadap risiko	
1	Syarikat saya… …bersikap positif apabila membuat keputusan penting.	1 2 3 4 5
2	… tidak semestinya mengikut ketat langkah demi langkah untuk mempertimbangkan dan meluluskan projek baru.	1 2 3 4 5
3	… mempunyai kecenderungan untuk menyokong sesuatu projek walaupun pulangannya tidak pasti lagi.	1 2 3 4 5
4	… tidak semestinya hanya menggunakan penyelesaian lepas yang sudah dicuba dan dijamin hasilnya.	1 2 3 4 5
5	… cenderung untuk memfokus kepada pelaburan yang tinggi riskonya tetapi tinggi pulangannya.	1 2 3 4 5
6	… mensasar pada peluang besar, dan lebih suka keputusan yang berani walaupun pulangannya tidak pasti.	1 2 3 4 5
7	… bertindak secara berani and agresif apabila keputusan terpaksa dibuat dalam keadaan ketidakpastian.	1 2 3 4 5
	II) Pendekatan keinovatifan	
8	Syarikat saya… … aktif dalam melakukan aktiviti pembaikan (improvement).	1 2 3 4 5
9	… aktif dalam memperkenalkan inovasi (innovation).	1 2 3 4 5
10	… kreatif dalam cara beroperasi / mengusahakan perniagaan	1 2 3 4 5
11	… mencari cara-cara baru melakukan kerja/ beroperasi.	1 2 3 4 5
12	... telah memasarkan banyak produk baru.	1 2 3 4 5
13	… telah memasarkan banyak servis baru.	1 2 3 4 5
14	… telah memasarkan banyak produk baru dalam 5 tahun yang lepas.	1 2 3 4 5
15	… telah memasarkan banyak servis baru dalam 5 tahun yang lepas.	1 2 3 4 5
16	Perubahan yang dibuat dari satu produk ke produk baru berskala besar.	1 2 3 4 5
17	Perubahan yang dibuat dari satu servis ke servis baru berskala besar.	1 2 3 4 5
	III) Pendekatan keproaktifan	
18	Syarikat saya…. … berterusan mencari peluang baru yang selaras dengan operasi terkini perniagaan.	1 2 3 4 5
19	… biasanya merupakan syarikat pertama memperkenalkan produk baru ke dalam pasaran.	1 2 3 4 5
20	… mempunyai keprihatinan berterusan untuk meneroka peluang-peluang baru.	1 2 3 4 5
21	… bertindak secara proaktif dan merupakan syarikat yang pertama mengambil langkah untuk respon terhadap pembaharuan/peraturan baru yang diperkenalkan kerajaan.	1 2 3 4 5
22	… respon cepat terhadap petanda-petanda (signal) peluang.	1 2 3 4 5

	IV) Pendekatan saing-agresif	**Sangat Tidak --- Sangat Setuju**
23	Syarikat saya … … sentiasa sanggup mengorbankan keuntungan untuk menambah "market share".	1 2 3 4 5
24	… turunkan harga untuk meningkatkan "market share".	1 2 3 4 5
25	… sentiasa menetapkan harga pada paras lebih rendah daripada harga di pasaran.	1 2 3 4 5
26	… sentiasa berusaha meningkatkan kedudukan "market share" walaupun dengan… • mengorbankan aliran bebas tunai (cash flow).	1 2 3 4 5
27	• mengorbankan keuntungan.	1 2 3 4 5
28	… biasanya mengamalkan tindakan yang sangat kompetitif iaitu menghapuskan pesaing.	1 2 3 4 5
29	… sangat agresif dalam tindakan.	1 2 3 4 5
30	... mempunyai daya saing yang sangat tinggi.	1 2 3 4 5
	V) Pendekatan berorientasi nilai masa depan	
31	Syarikat saya… … mengutamakan kajian kerana ia menjadi asas untuk jaminan daya saing masa depan.	1 2 3 4 5
32	… biasa membuat ramalan tentang petunjuk utama prestasi perniagaan.	1 2 3 4 5
33	… biasa membuat pemerhatian terhadap tren umum pasaran.	1 2 3 4 5
34	… sentiasa membuat analisis "macamana...kalau terjadi" ("what if "analysis) untuk isu-isu yang kritikal.	1 2 3 4 5
35	... mengambil kira keperluan masa depan untuk membuat pertimbangan bagi keadaan semasa.	1 2 3 4 5
36	… sanggup melepaskan untung jangka pendek untuk kepentingan jangka panjang.	1 2 3 4 5
37	… mengutamakan pelaburan yang dapat memberi manfaat daya saingan masa depan.	1 2 3 4 5

Terima kasih

Appendix 3.3

Official letters seeking translators' interest for

back-to-back translation

&

Certificates of appreciation

A) Official letters seeking translators' interest in back-to-back translation

UNIVERSITI UTARA MALAYSIA

06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 604 - 928 4000

"KEDAH SEJAHTERA"

UUM College of Business

6 June 2011

To whom it may concern

Dear Sir/ Madam,

Seeking Professional Assistance: Translating from English to Bahasa Melayu

This letter is an official document to seek your professional assistance to translate the questionnaire items from English into Bahasa Melayu.

2. This task is a part of the back-to-back translation process aimed at producing a comparable version of questionnaire in the Bahasa Melayu language. Attending to your professional assistance is crucial to ensure the least possible translation errors in the development of the Bahasa Melayu version.

3. I am glad to come for further discussion any time at your convenience. Your cooperation and assistance are highly appreciated.

Thank you.

Faithfully yours,

Irene Yong (Matric no.: s92115)
PhD Candidate
College of Business
Universiti Utara Malaysia.
06010, Sintok, Kedah.
Contact no.: 012-531-9465

ISO 9001 • STATUS MSC • ISO 9001 • STATUS MSC • ISO 9001

QUALITY SYSTEM SIRIM MS ISO 9001 : 2008 REG. NO. AR 2471 UKAS 074 MSC MALAYSIA Status Institution

UNIVERSITI UTARA MALAYSIA

06010 UUM Sintok, Kedah Darul Aman, Malaysia. Tel: 604 - 928 4000

"KEDAH SEJAHTERA"

UUM College of Business

4 July 2011

To whom it may concern

Dear Sir/ Madam,

Seeking Professional Assistance: Translating from Bahasa Melayu to English

This letter is an official document to seek your professional assistance to translate the questionnaire items from Bahasa Melayu into English.

2. This task is a part of the back-to-back translation process aimed at producing a comparable version of questionnaire in the English language. Attending to your professional assistance is crucial to ensure the least possible translation errors.

3. I am glad to come for further discussion at any time at your convenience. Your cooperation and assistance are highly appreciated. I can be contacted at 012 531 9465.

I look forward to hearing from you soon. Thank you.

Faithfully yours,

Irene Yong Seok Ching (Matric no.: s92115)
PhD Candidate
College of Business
Universiti Utara Malaysia.
06010, Sintok, Kedah.

QUALITY SYSTEM SIRIM MS ISO 9001 : 2008 REG. NO. AR 2471 UKAS 074 MSC MALAYSIA Status Institution

B) Certificates of Appreciation

Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia

Certificate of Appreciation

Anis Mohd Saad
740129-07-5366

has contributed in the

BACK-TO-BACK TRANSLATION OF RESEARCH INSTRUMENT

July 2011

Prof. Dr. Rosli Mahmood
Professor
OYA Graduate School of Business
Universiti Utara Malaysia

Prof. Dr. Noor Azizi Ismail
Dean
OYA Graduate School of Business
Universiti Utara Malaysia

Othman Yeop Abdullah
Graduate School of Business
Universiti Utara Malaysia

Certificate of Appreciation

Sharidah Md Zain
621009-02-5880

has contributed in the

BACK-TO-BACK TRANSLATION OF RESEARCH INSTRUMENT

July 2011

Prof. Dr. Rosli Mahmood
Professor
OYA Graduate School of Business
Universiti Utara Malaysia

Prof. Dr. Noor Azizi Ismail
Dean
OYA Graduate School of Business
Universiti Utara Malaysia

Appendix 4.1

Results of missing value detection and assessment of the extent of missing and missing pattern (EFA stage, *n* = 145)

Case Processing Summary (Crisis Readiness)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PCr1	145	100.0%	0	.0%	145	100.0%
PCr2	145	100.0%	0	.0%	145	100.0%
PCr3	145	100.0%	0	.0%	145	100.0%
PCr4	145	100.0%	0	.0%	145	100.0%
PCr5	145	100.0%	0	.0%	145	100.0%
PCr6	145	100.0%	0	.0%	145	100.0%
PCr7	145	100.0%	0	.0%	145	100.0%
PCr8	145	100.0%	0	.0%	145	100.0%
ProsCr1	145	100.0%	0	.0%	145	100.0%
ProsCr2	145	100.0%	0	.0%	145	100.0%
ProsCr3	145	100.0%	0	.0%	145	100.0%
ProsCr4	145	100.0%	0	.0%	145	100.0%
ProsCr5	145	100.0%	0	.0%	145	100.0%
ProsCr6	145	100.0%	0	.0%	145	100.0%
ProsCr7	145	100.0%	0	.0%	145	100.0%

Case Processing Summary (Improvisational Competence)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
IC1	143	98.6%	2	1.4%	145	100.0%
IC2	145	100.0%	0	.0%	145	100.0%
IC3	145	100.0%	0	.0%	145	100.0%
IC4	145	100.0%	0	.0%	145	100.0%
IC5	145	100.0%	0	.0%	145	100.0%
IC6	145	100.0%	0	.0%	145	100.0%
IC7	145	100.0%	0	.0%	145	100.0%
IC8	145	100.0%	0	.0%	145	100.0%

Case Processing Summary (Entrepreneurial Orientation)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Risk1	144	99.3%	1	.7%	145	100.0%
Risk2	145	100.0%	0	.0%	145	100.0%
Risk3	145	100.0%	0	.0%	145	100.0%
Risk4	145	100.0%	0	.0%	145	100.0%
Risk5	145	100.0%	0	.0%	145	100.0%
Risk6	145	100.0%	0	.0%	145	100.0%
Risk7	145	100.0%	0	.0%	145	100.0%
Inno1	145	100.0%	0	.0%	145	100.0%
Inno2	145	100.0%	0	.0%	145	100.0%
Inno3	145	100.0%	0	.0%	145	100.0%
Inno4	144	99.3%	1	.7%	145	100.0%
Inno5	145	100.0%	0	.0%	145	100.0%
Inno6	144	99.3%	1	.7%	145	100.0%
Inno7	145	100.0%	0	.0%	145	100.0%
Inno8	145	100.0%	0	.0%	145	100.0%
Inno9	145	100.0%	0	.0%	145	100.0%
Inno10	145	100.0%	0	.0%	145	100.0%
Pro1	145	100.0%	0	.0%	145	100.0%
Pro2	145	100.0%	0	.0%	145	100.0%
Pro3	145	100.0%	0	.0%	145	100.0%
Pro4	144	99.3%	1	.7%	145	100.0%
Pro5	145	100.0%	0	.0%	145	100.0%
ComAg1	145	100.0%	0	.0%	145	100.0%
ComAg2	145	100.0%	0	.0%	145	100.0%
ComAg3	145	100.0%	0	.0%	145	100.0%
ComAg4	145	100.0%	0	.0%	145	100.0%
ComAg5	145	100.0%	0	.0%	145	100.0%
ComAg6	145	100.0%	0	.0%	145	100.0%
ComAg7	145	100.0%	0	.0%	145	100.0%
ComAg8	145	100.0%	0	.0%	145	100.0%
Fut1	145	100.0%	0	.0%	145	100.0%
Fut2	145	100.0%	0	.0%	145	100.0%
Fut3	144	99.3%	1	.7%	145	100.0%
Fut4	145	100.0%	0	.0%	145	100.0%
Fut5	145	100.0%	0	.0%	145	100.0%
Fut6	145	100.0%	0	.0%	145	100.0%
Fut7	145	100.0%	0	.0%	145	100.0%

Case Processing Summary (Revenue Generation Tactics)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
RG1	145	100.0%	0	.0%	145	100.0%
RG2	145	100.0%	0	.0%	145	100.0%
RG3	144	99.3%	1	.7%	145	100.0%
RG4	145	100.0%	0	.0%	145	100.0%
RG5	145	100.0%	0	.0%	145	100.0%
RG6	145	100.0%	0	.0%	145	100.0%
RG7	145	100.0%	0	.0%	145	100.0%
RG8	145	100.0%	0	.0%	145	100.0%
RG9	144	99.3%	1	.7%	145	100.0%
RG10	145	100.0%	0	.0%	145	100.0%
RG11	145	100.0%	0	.0%	145	100.0%
RG12	144	99.3%	1	.7%	145	100.0%
RG13	145	100.0%	0	.0%	145	100.0%
RG14	145	100.0%	0	.0%	145	100.0%
RG15	145	100.0%	0	.0%	145	100.0%
RG16	145	100.0%	0	.0%	145	100.0%
RG17	145	100.0%	0	.0%	145	100.0%
RG18	144	99.3%	1	.7%	145	100.0%
RG19	145	100.0%	0	.0%	145	100.0%
RG20	145	100.0%	0	.0%	145	100.0%
RG21	145	100.0%	0	.0%	145	100.0%
RG22	145	100.0%	0	.0%	145	100.0%
RG23	145	100.0%	0	.0%	145	100.0%
RG24	145	100.0%	0	.0%	145	100.0%
RG25	145	100.0%	0	.0%	145	100.0%
RG26	145	100.0%	0	.0%	145	100.0%
RG27	145	100.0%	0	.0%	145	100.0%
RG28	145	100.0%	0	.0%	145	100.0%

Case Processing Summary (Cost-cutting Tactics)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
CC1	145	100.0%	0	.0%	145	100.0%
CC2	145	100.0%	0	.0%	145	100.0%
CC3	145	100.0%	0	.0%	145	100.0%
CC4	143	98.6%	2	1.4%	145	100.0%
CC5	145	100.0%	0	.0%	145	100.0%
CC6	145	100.0%	0	.0%	145	100.0%
CC7	145	100.0%	0	.0%	145	100.0%
CC8	145	100.0%	0	.0%	145	100.0%
CC9	145	100.0%	0	.0%	145	100.0%
CC10	145	100.0%	0	.0%	145	100.0%
CC11	145	100.0%	0	.0%	145	100.0%
CC12	145	100.0%	0	.0%	145	100.0%
CC13	145	100.0%	0	.0%	145	100.0%
CC14	145	100.0%	0	.0%	145	100.0%
CC15	145	100.0%	0	.0%	145	100.0%
CC16	145	100.0%	0	.0%	145	100.0%
CC17	145	100.0%	0	.0%	145	100.0%
CC18	145	100.0%	0	.0%	145	100.0%
CC19	145	100.0%	0	.0%	145	100.0%
CC20	145	100.0%	0	.0%	145	100.0%

Case Processing Summary (Bricolage Tactics)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
MB1	145	100.0%	0	.0%	145	100.0%
MB2	145	100.0%	0	.0%	145	100.0%
MB3	145	100.0%	0	.0%	145	100.0%
MB4	145	100.0%	0	.0%	145	100.0%
MB5	145	100.0%	0	.0%	145	100.0%
MB6	144	99.3%	1	.7%	145	100.0%
MB7	145	100.0%	0	.0%	145	100.0%
MB8	145	100.0%	0	.0%	145	100.0%
MB9	145	100.0%	0	.0%	145	100.0%
MB10	145	100.0%	0	.0%	145	100.0%
MB11	145	100.0%	0	.0%	145	100.0%
NB1	145	100.0%	0	.0%	145	100.0%
NB2	145	100.0%	0	.0%	145	100.0%
NB3	145	100.0%	0	.0%	145	100.0%
NB4	145	100.0%	0	.0%	145	100.0%
NB5	145	100.0%	0	.0%	145	100.0%
NB6	145	100.0%	0	.0%	145	100.0%
NB7	145	100.0%	0	.0%	145	100.0%

Case Processing Summary (Financial Bootstrapping Tactics)

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
AC1	145	100.0%	0	.0%	145	100.0%
AC2	145	100.0%	0	.0%	145	100.0%
AC3	145	100.0%	0	.0%	145	100.0%
AC4	145	100.0%	0	.0%	145	100.0%
AC5	145	100.0%	0	.0%	145	100.0%
AC6	145	100.0%	0	.0%	145	100.0%
AS1	145	100.0%	0	.0%	145	100.0%
AS2	145	100.0%	0	.0%	145	100.0%
AS3	145	100.0%	0	.0%	145	100.0%
AS4	145	100.0%	0	.0%	145	100.0%
AS5	145	100.0%	0	.0%	145	100.0%
AO1	145	100.0%	0	.0%	145	100.0%
AO2	145	100.0%	0	.0%	145	100.0%
AO3	145	100.0%	0	.0%	145	100.0%
AO4	145	100.0%	0	.0%	145	100.0%
ASh1	145	100.0%	0	.0%	145	100.0%
ASh2	145	100.0%	0	.0%	145	100.0%
ASh3	145	100.0%	0	.0%	145	100.0%
ASh4	145	100.0%	0	.0%	145	100.0%
ASh5	145	100.0%	0	.0%	145	100.0%

Appendix 4.2

Summary of detected missing values and replacement (EFA stage, *n* = 145)

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
IC1	143	98.6%	2	1.4%	145	100.0%
RG3	144	99.3%	1	.7%	145	100.0%
RG9	144	99.3%	1	.7%	145	100.0%
RG12	144	99.3%	1	.7%	145	100.0%
RG18	144	99.3%	1	.7%	145	100.0%
CC4	143	98.6%	2	1.4%	145	100.0%
MB6	144	99.3%	1	.7%	145	100.0%
Risk1	144	99.3%	1	.7%	145	100.0%
Inno4	144	99.3%	1	.7%	145	100.0%
Inno6	144	99.3%	1	.7%	145	100.0%
Pro4	144	99.3%	1	.7%	145	100.0%
Fut3	144	99.3%	1	.7%	145	100.0%

Missing Value Replacement

	Result Variable	N of Replaced Missing Values	Case Number of Non-Missing Values		N of Valid Cases	Creating Function
			First	Last		
1	IC1_1	2	1	145	145	SMEAN(IC1)
2	RG3_1	1	1	145	145	SMEAN(RG3)
3	RG9_1	1	1	145	145	SMEAN(RG9)
4	RG12_1	1	1	145	145	SMEAN(RG12)
5	RG18_1	1	1	145	145	SMEAN(RG18)
6	CC4_1	2	1	145	145	SMEAN(CC4)
7	MB6_1	1	1	145	145	SMEAN(MB6)
8	Risk1_1	1	1	145	145	SMEAN(Risk1)
9	Inno4_1	1	1	145	145	SMEAN(Inno4)
10	Inno6_1	1	1	145	145	SMEAN(Inno6)
11	Pro4_1	1	1	145	145	SMEAN(Pro4)
12	Fut3_1	1	1	145	145	SMEAN(Fut3)

Appendix 4.3

Results of mean replacement for missing data (EFA stage, *n* = 145)

Table A

Results of Pair-sample T-test

Paired Samples Statistics (Exclude cases analysis by analysis)

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	IC1	4.09(a)	143	.604	.051
	SMEAN(IC1)	4.09(a)	143	.604	.051
Pair 2	RG3	4.09(a)	144	.728	.061
	SMEAN(RG3)	4.09(a)	144	.728	.061
Pair 3	RG9	4.10(a)	144	.732	.061
	SMEAN(RG9)	4.10(a)	144	.732	.061
Pair 4	RG12	2.78(a)	144	1.078	.090
	SMEAN(RG12)	2.78(a)	144	1.078	.090
Pair 5	RG18	4.39(a)	144	.581	.048
	SMEAN(RG18)	4.39(a)	144	.581	.048
Pair 6	CC4	2.50(a)	143	.926	.077
	SMEAN(CC4)	2.50(a)	143	.926	.077
Pair 7	MB6	3.88(a)	144	.698	.058
	SMEAN(MB6)	3.88(a)	144	.698	.058
Pair 8	Risk1	4.42(a)	144	.535	.045
	SMEAN(Risk1)	4.42(a)	144	.535	.045
Pair 9	Inno4	4.24(a)	144	.594	.050
	SMEAN(Inno4)	4.24(a)	144	.594	.050
Pair 10	Inno6	3.42(a)	144	.832	.069
	SMEAN(Inno6)	3.42(a)	144	.832	.069
Pair 11	Pro4	3.85(a)	144	.703	.059
	SMEAN(Pro4)	3.85(a)	144	.703	.059
Pair 12	Fut3	4.15(a)	144	.595	.050
	SMEAN(Fut3)	4.15(a)	144	.595	.050

a The correlation and t cannot be computed because the standard error of the difference is 0.

Table B

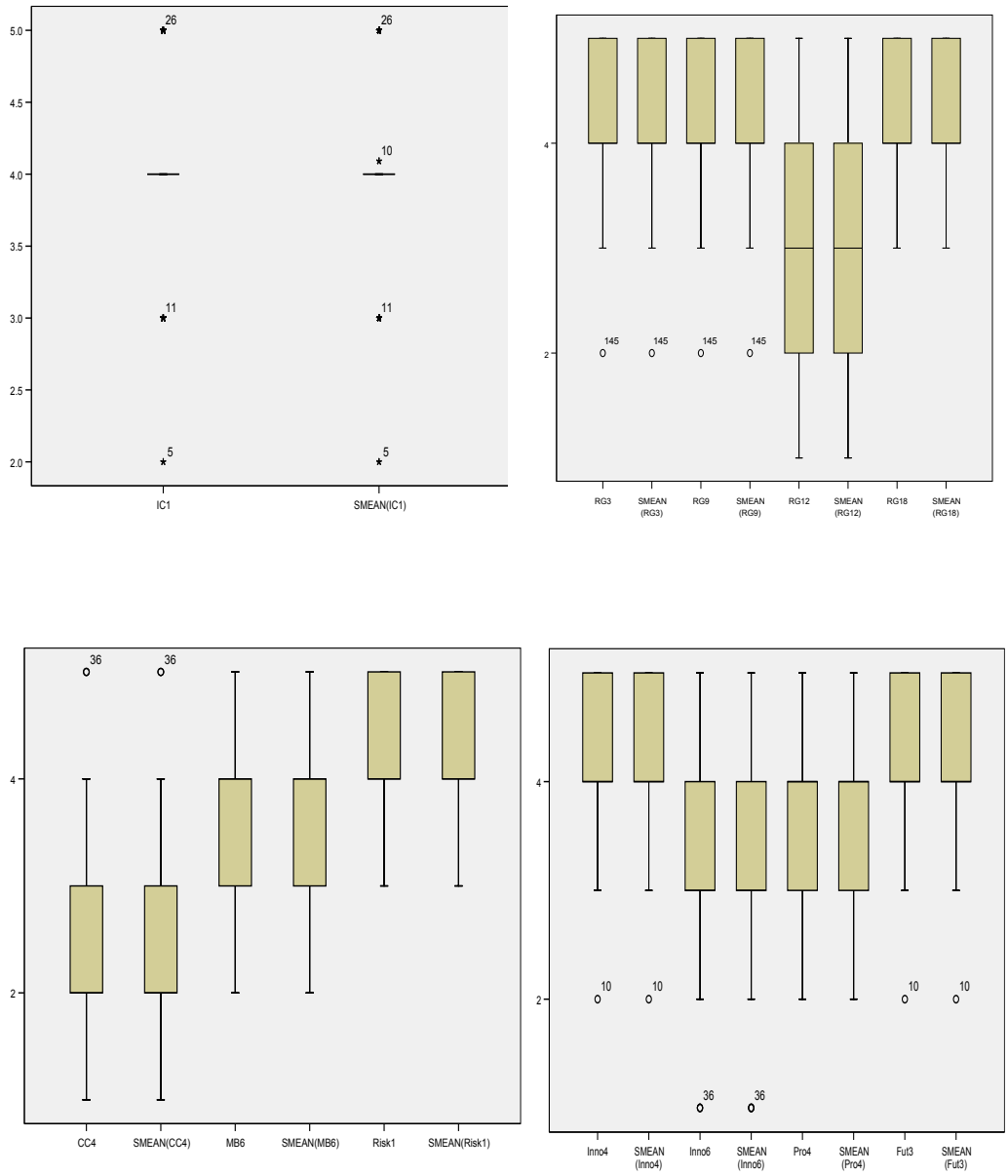
Results of Wilcoxon Signed-rank Test

		N	Mean Rank	Sum of Ranks
SMEAN(IC1) - IC1	Negative Ranks	0(a)	.00	.00
	Positive Ranks	0(b)	.00	.00
	Ties	143(c)		
	Total	143		
SMEAN(RG3) - RG3	Negative Ranks	0(d)	.00	.00
	Positive Ranks	0(e)	.00	.00
	Ties	144(f)		
	Total	144		
SMEAN(RG9) - RG9	Negative Ranks	0(g)	.00	.00
	Positive Ranks	0(h)	.00	.00
	Ties	144(i)		
	Total	144		
SMEAN(RG12) - RG12	Negative Ranks	0(j)	.00	.00
	Positive Ranks	0(k)	.00	.00
	Ties	144(l)		
	Total	144		
SMEAN(RG18) - RG18	Negative Ranks	0(m)	.00	.00
	Positive Ranks	0(n)	.00	.00
	Ties	144(o)		
	Total	144		
SMEAN(CC4) - CC4	Negative Ranks	0(p)	.00	.00
	Positive Ranks	0(q)	.00	.00
	Ties	143(r)		
	Total	143		
SMEAN(MB6) - MB6	Negative Ranks	0(s)	.00	.00
	Positive Ranks	0(t)	.00	.00
	Ties	144(u)		
	Total	144		
SMEAN(Risk1) - Risk1	Negative Ranks	0(v)	.00	.00
	Positive Ranks	0(w)	.00	.00
	Ties	144(x)		
	Total	144		
SMEAN(Inno4) - Inno4	Negative Ranks	0(y)	.00	.00
	Positive Ranks	0(z)	.00	.00
	Ties	144(aa)		
	Total	144		
SMEAN(Inno6) - Inno6	Negative Ranks	0(bb)	.00	.00
	Positive Ranks	0(cc)	.00	.00
	Ties	144(dd)		
	Total	144		
SMEAN(Pro4) - Pro4	Negative Ranks	0(ee)	.00	.00
	Positive Ranks	0(ff)	.00	.00
	Ties	144(gg)		
	Total	144		
SMEAN(Fut3) - Fut3	Negative Ranks	0(hh)	.00	.00
	Positive Ranks	0(ii)	.00	.00
	Ties	144(jj)		
	Total	144		

a SMEAN(IC1) < IC1
b SMEAN(IC1) > IC1
c SMEAN(IC1) = IC1
d SMEAN(RG3) < RG3
e SMEAN(RG3) > RG3
f SMEAN(RG3) = RG3
g SMEAN(RG9) < RG9
h SMEAN(RG9) > RG9
i SMEAN(RG9) = RG9
j SMEAN(RG12) < RG12
k SMEAN(RG12) > RG12
l SMEAN(RG12) = RG12
m SMEAN(RG18) < RG18
n SMEAN(RG18) > RG18
o SMEAN(RG18) = RG18
p SMEAN(CC4) < CC4
q SMEAN(CC4) > CC4
r SMEAN(CC4) = CC4
s SMEAN(MB6) < MB6
t SMEAN(MB6) > MB6
u SMEAN(MB6) = MB6
v SMEAN(Risk1) < Risk1
w SMEAN(Risk1) > Risk1
x SMEAN(Risk1) = Risk1
y SMEAN(Inno4) < Inno4
z SMEAN(Inno4) > Inno4
aa SMEAN(Inno4) = Inno4
bb SMEAN(Inno6) < Inno6
cc SMEAN(Inno6) > Inno6
dd SMEAN(Inno6) = Inno6
ee SMEAN(Pro4) < Pro4
ff SMEAN(Pro4) > Pro4
gg SMEAN(Pro4) = Pro4
hh SMEAN(Fut3) < Fut3
ii SMEAN(Fut3) > Fut3
jj SMEAN(Fut3) = Fut3

Figure A

Boxplots



Appendix 4.4

Results of outliers detection (EFA stage, *n* = 145)

Table A

Chi-square (χ^2) = 215.149

No	case id	MAH	D^2/df
1	49	141.3918	0.918129
2	102	138.9575	0.902321
3	100	131.6658	0.854973
4	105	139.0827	0.903134
5	60	133.9198	0.869609
6	142	141.2328	0.917096
7	13	135.956	0.882831
8	2	139.8386	0.908043
9	29	133.374	0.866065
10	46	137.4649	0.892629
11	68	136.5847	0.886913
12	76	137.3685	0.892003
13	121	139.8978	0.908427
14	123	139.6091	0.906553
15	125	130.7796	0.849218
16	137	135.5473	0.880177
17	112	138.1005	0.896756
18	138	131.5542	0.854248
19	145	139.7882	0.907715
20	36	141.2761	0.917377
21	50	135.8683	0.882261
22	21	136.6731	0.887488
23	39	141.6601	0.919871
24	108	140.4078	0.911739
25	57	139.8264	0.907964
26	5	131.7667	0.855628
27	58	134.4844	0.873275
28	10	140.8607	0.91468
29	18	126.7568	0.823096
30	40	139.9934	0.909048
31	64	128.6002	0.835066
32	70	133.9404	0.869743
33	79	135.6554	0.880879
34	84	137.9267	0.895628

No	case id	MAH	D^2/df
35	85	133.9529	0.869824
36	134	136.8338	0.888531
37	141	139.1298	0.90344
38	65	138.3193	0.898177
39	75	130.5285	0.847588
40	101	141.0169	0.915694
41	127	137.1806	0.890783
42	82	134.6796	0.874543
43	95	134.0897	0.870712
44	107	139.4617	0.905595
45	55	139.871	0.908253
46	72	136.5483	0.886677
47	73	127.4687	0.827719
48	89	131.8987	0.856485
49	97	134.753	0.875019
50	106	129.2179	0.839077
51	116	140.4761	0.912183
52	120	134.6469	0.874331
53	124	127.0375	0.824919
54	129	132.8934	0.862944
55	132	132.9713	0.86345
56	139	138.742	0.900922
57	140	141.787	0.920695
58	143	132.9609	0.863383
59	144	132.5795	0.860906
60	22	136.441	0.88598
61	31	134.2744	0.871911
62	32	134.7982	0.875313
63	34	125.1309	0.812539
64	35	134.9699	0.876428
65	43	138.644	0.900286
66	45	126.1273	0.819009
67	61	132.0663	0.857573
68	62	132.9503	0.863313

No	case id	MAH	D^2/df
69	66	127.6592	0.828956
70	74	137.6692	0.893956
71	90	133.1553	0.864645
72	91	130.5466	0.847705
73	92	134.1429	0.871058
74	109	131.8506	0.856173
75	111	134.8915	0.875919
76	114	137.3561	0.891922
77	122	133.2402	0.865196
78	126	136.2244	0.884574
79	128	117.9215	0.765724
80	135	132.9047	0.863018
81	136	123.5484	0.802262
82	20	139.8123	0.907872
83	98	141.849	0.921097
84	119	133.2698	0.865388
85	6	139.846	0.908091
86	15	135.2801	0.878442
87	86	136.9368	0.8892
88	87	136.889	0.88889
89	93	135.3789	0.879084
90	117	137.6259	0.893674
91	118	135.3442	0.878859
92	3	137.1194	0.890386
93	37	134.144	0.871065
94	71	129.7043	0.842236
95	113	126.3472	0.820436
96	131	139.1794	0.903763
97	133	133.5051	0.866916
98	25	137.7249	0.894318
99	1	137.2927	0.891511
100	78	135.1339	0.877493
101	80	134.4527	0.873069
102	81	132.1334	0.858009
103	53	126.7504	0.823055
104	69	133.5515	0.867218
105	17	139.8321	0.908
106	8	136.192	0.884363
107	23	129.7363	0.842443

No	case id	MAH	D^2/df
108	44	135.7814	0.881698
109	77	133.0166	0.863744
110	83	135.5554	0.88023
111	94	128.5445	0.834704
112	7	136.9484	0.889275
113	11	120.6775	0.78362
114	47	133.6619	0.867935
115	54	137.4897	0.89279
116	96	115.5616	0.7504
117	103	136.0478	0.883427
118	130	133.8291	0.86902
119	9	133.5615	0.867283
120	28	134.4633	0.873138
121	51	139.1894	0.903827
122	110	135.6246	0.880679
123	88	135.8916	0.882413
124	115	134.6133	0.874113
125	12	139.2019	0.903909
126	16	137.9402	0.895716
127	27	139.8055	0.907828
128	33	134.4341	0.872949
129	38	135.8527	0.88216
130	63	136.6404	0.887275
131	67	139.9425	0.908718
132	30	142.9436	0.928205
133	52	139.4732	0.90567
134	42	128.7162	0.83582
135	4	137.6246	0.893666
136	104	138.6308	0.9002
137	41	136.9109	0.889032
138	14	139.4115	0.905269
139	24	137.2227	0.891057
140	26	141.0236	0.915738
141	48	139.6763	0.906989
142	56	135.4497	0.879543
143	59	140.6553	0.913346
144	99	129.3316	0.839816
145	19	124.2568	0.806862

Table B -1

Extreme Values

			Case Number	Value
Mahalanobis Distance	Highest	1	132	142.94360
		2	83	141.84900
		3	57	141.78703
		4	23	141.66014
		5	1	141.39182
	Lowest	1	116	115.56156
		2	79	117.92153
		3	113	120.67748
		4	81	123.54841
		5	145	124.25676

Table B -2

Descriptives

			Statistic	Std. Error
Mahalanobis Distance	Mean		135.0621	.39664914
	95% Confidence Interval for Mean	Lower Bound	134.2781	
		Upper Bound	135.8461	
	5% Trimmed Mean		135.4160	
	Median		135.6554	
	Variance		22.813	
	Std. Deviation		4.776288	
	Minimum		115.56156	
	Maximum		142.94360	
	Range		27.38204	
	Interquartile Range		5.69899	
	Skewness		-1.256	.201
	Kurtosis		2.356	.400

Table C

Univariate outliers detection using Z-score

Case id	ZPcr1	ZPcr2	ZPcr3	ZPcr4	ZPcr5	ZPcr6	ZPcr7	ZPcr8	ZPros Cr1	ZPros Cr2	ZPros Cr3	ZPros Cr4	ZPros Cr5	ZPros Cr6	ZPros Cr7
1	1.49	0.42	0.54	0.58	0.48	1.74	1.74	1.78	0.54	1.81	0.59	1.52	0.39	1.36	0.63
2	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	1.52	1.89	0.00	0.63
3	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
4	-1.08	-2.36	-2.16	-0.92	0.48	-1.34	0.21	0.19	-1.00	-1.24	-0.77	0.14	-1.11	-1.36	-1.57
5	-1.08	0.42	0.54	0.58	-1.08	-1.34	-2.86	-2.99	0.54	0.28	0.59	-1.24	0.39	1.36	-0.47
6	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	-1.11	0.00	-1.57
7	0.20	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	0.19	0.54	0.28	0.59	0.14	0.39	-1.36	-0.47
8	1.49	0.42	1.89	0.58	0.48	1.74	1.74	1.78	0.54	0.28	0.59	1.52	1.89	0.00	0.63
9	-2.36	-2.36	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	0.00	-1.57
10	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	0.21	0.19	-2.53	-1.24	-0.77	0.14	0.39	-2.72	-0.47
11	0.20	0.42	0.54	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	-0.47
12	0.20	0.42	-0.81	-0.92	0.48	0.20	0.21	0.19	-1.00	0.28	0.59	0.14	0.39	0.00	-0.47
13	1.49	0.42	0.54	0.58	0.48	1.74	1.74	0.19	0.54	1.81	0.59	1.52	0.39	1.36	1.73
14	1.49	0.42	1.89	0.58	-1.08	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-0.47
15	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	-0.77	-1.24	0.39	1.36	-1.57
16	0.20	0.42	1.89	0.58	0.48	1.74	0.21	0.19	0.54	0.28	-0.77	0.14	-1.11	1.36	1.73
17	0.20	-0.97	1.89	0.58	0.48	0.20	1.74	1.78	0.54	1.81	0.59	0.14	0.39	1.36	-0.47
18	0.20	0.42	-0.81	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	-0.77	0.14	0.39	0.00	0.63
19	-1.08	-0.97	-0.81	0.58	-1.08	-1.34	0.21	-1.40	-1.00	0.28	-0.77	-1.24	-1.11	0.00	-1.57
20	0.20	0.42	0.54	0.58	0.48	-1.34	0.21	0.19	-1.00	0.28	0.59	0.14	0.39	0.00	0.63
21	1.49	0.42	-0.81	0.58	0.48	0.20	-1.32	0.19	0.54	0.28	-0.77	-1.24	-1.11	-1.36	-0.47
22	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	-0.47
23	1.49	1.81	1.89	2.07	2.05	1.74	1.74	1.78	2.08	1.81	1.95	1.52	1.89	1.36	1.73
24	0.20	1.81	0.54	0.58	2.05	0.20	-1.32	0.19	-1.00	0.28	1.95	1.52	1.89	1.36	0.63
25	-3.65	1.81	0.54	-2.41	-2.64	0.20	0.21	0.19	0.54	-2.76	-2.13	-2.62	-2.61	-2.72	-1.57
26	-1.08	-0.97	-0.81	-0.92	0.48	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-2.72	-1.57
27	-2.36	0.42	-0.81	-0.92	-1.08	-1.34	0.21	0.19	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-1.57
28	-3.65	-2.36	-2.16	-0.92	-1.08	-1.34	-2.86	-2.99	-1.00	-2.76	-3.49	-4.00	-2.61	1.36	-2.66
29	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
30	0.20	0.42	0.54	0.58	0.48	0.20	-1.32	-1.40	0.54	0.28	-0.77	0.14	0.39	0.00	0.63
31	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
32	0.20	0.42	0.54	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
33	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	-0.47
34	0.20	0.42	0.54	-0.92	-1.08	0.20	-1.32	-1.40	-1.00	0.28	-0.77	0.14	0.39	0.00	0.63
35	-1.08	-0.97	0.54	0.58	0.48	0.20	0.21	0.19	-1.00	0.28	0.59	0.14	0.39	-1.36	-1.57
36	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	0.63
37	0.20	0.42	-0.81	0.58	-1.08	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	1.36	1.73
38	-1.08	0.42	-0.81	-0.92	-1.08	-1.34	0.21	0.19	0.54	0.28	-0.77	0.14	-1.11	-1.36	-0.47
39	0.20	-0.97	-0.81	0.58	0.48	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-0.47
40	0.20	-0.97	-0.81	-0.92	0.48	-1.34	0.21	0.19	-1.00	0.28	0.59	-1.24	-1.11	-1.36	-0.47
41	0.20	0.42	-0.81	-0.92	0.48	0.20	-1.32	0.19	-1.00	0.28	-0.77	-1.24	-1.11	0.00	-1.57
42	1.49	1.81	1.89	2.07	0.48	0.20	1.74	1.78	0.54	0.28	0.59	0.14	0.39	0.00	0.63
43	-1.08	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	-0.77	0.14	-1.11	0.00	0.63
44	0.20	0.42	0.54	0.58	-1.08	0.20	0.21	0.19	-1.00	-1.24	-0.77	0.14	0.39	0.00	-0.47
45	1.49	1.81	1.89	2.07	2.05	1.74	1.74	1.78	2.08	0.28	0.59	0.14	0.39	1.36	1.73
46	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	-1.32	-1.40	-1.00	0.28	-0.77	0.14	-1.11	0.00	-0.47
47	0.20	0.42	0.54	0.58	0.48	1.74	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	-0.47
48	-1.08	0.42	0.54	0.58	-1.08	0.20	0.21	1.78	-1.00	0.28	0.59	0.14	-1.11	0.00	-0.47
49	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	-0.77	0.14	-1.11	0.00	-0.47
50	-1.08	-0.97	-0.81	0.58	-1.08	-1.34	0.21	0.19	-1.00	0.28	-0.77	-1.24	0.39	0.00	-0.47
51	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
52	1.49	1.81	0.54	0.58	0.48	0.20	0.21	0.19	2.08	1.81	1.95	1.52	1.89	0.00	0.63
53	0.20	0.42	0.54	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	-0.47
54	0.20	0.42	-0.81	0.58	0.48	1.74	1.74	1.78	0.54	0.28	0.59	1.52	1.89	1.36	1.73
55	1.49	1.81	-0.81	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-0.47
56	0.20	0.42	-0.81	-0.92	0.48	1.74	1.74	0.19	-1.00	-1.24	-0.77	0.14	0.39	0.00	-0.47

57	0.20	-0.97	0.54	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	0.59	1.52	0.39	1.36	-0.47
58	0.20	-0.97	0.54	0.58	0.48	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	-1.36	-0.47
59	0.20	0.42	-0.81	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	0.59	-1.24	-1.11	0.00	-0.47
60	0.20	0.42	0.54	0.58	0.48	0.20	0.21	-1.40	0.54	0.28	-0.77	0.14	-1.11	0.00	0.63
61	1.49	0.42	-3.51	-2.41	-1.08	-1.34	-2.86	-2.99	-1.00	-4.29	-2.13	-2.62	-1.11	0.00	-2.66
62	-1.08	-0.97	-0.81	-2.41	-4.20	-2.88	-2.86	-1.40	-2.53	-2.76	-2.13	-1.24	-1.11	-2.72	-1.57
63	0.20	0.42	1.89	0.58	2.05	1.74	0.21	0.19	0.54	1.81	0.59	1.52	1.89	1.36	0.63
64	0.20	0.42	-0.81	0.58	0.48	0.20	0.21	0.19	-1.00	-1.24	0.59	-1.24	-1.11	1.36	0.63
65	0.20	0.42	-0.81	0.58	-1.08	-1.34	-1.32	0.19	0.54	0.28	-0.77	0.14	0.39	-1.36	-0.47
66	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
67	0.20	0.42	-0.81	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
68	1.49	0.42	0.54	0.58	0.48	1.74	0.21	0.19	0.54	0.28	0.59	0.14	0.39	1.36	0.63
69	0.20	0.42	0.54	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	-0.77	0.14	0.39	0.00	0.63
70	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	1.52	0.39	0.00	-0.47
71	0.20	0.42	-0.81	0.58	0.48	-1.34	0.21	-1.40	0.54	0.28	0.59	0.14	-1.11	0.00	0.63
72	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	-1.32	0.19	-1.00	0.28	-0.77	0.14	-1.11	0.00	-1.57
73	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	0.19	-1.00	0.28	-0.77	0.14	-1.11	0.00	-1.57
74	1.49	0.42	1.89	2.07	0.48	1.74	1.74	1.78	2.08	0.28	0.59	0.14	0.39	1.36	0.63
75	0.20	-0.97	1.89	0.58	0.48	0.20	1.74	0.19	2.08	1.81	1.95	0.14	0.39	1.36	0.63
76	0.20	0.42	0.54	0.58	0.48	0.20	0.21	-1.40	0.54	0.28	-0.77	0.14	0.39	0.00	0.63
77	0.20	-0.97	-0.81	-0.92	0.48	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	-1.11	1.36	-2.66
78	0.20	-0.97	0.54	0.58	0.48	1.74	1.74	0.19	0.54	0.28	1.95	0.14	1.89	0.00	0.63
79	0.20	-0.97	-0.81	-0.92	0.48	-1.34	0.21	0.19	-1.00	0.28	-0.77	0.14	-1.11	0.00	-0.47
80	0.20	-0.97	-0.81	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-0.47
81	0.20	0.42	0.54	0.58	0.48	1.74	1.74	1.78	0.54	0.28	0.59	0.14	0.39	0.00	0.63
82	0.20	0.42	0.54	-0.92	-1.08	0.20	0.21	0.19	-1.00	-1.24	-0.77	0.14	-1.11	-1.36	-1.57
83	-1.08	0.42	0.54	0.58	0.48	0.20	-1.32	-1.40	-1.00	0.28	0.59	0.14	0.39	1.36	1.73
84	0.20	-0.97	0.54	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-1.57
85	1.49	-0.97	0.54	0.58	0.48	1.74	1.74	1.78	2.08	0.28	1.95	1.52	0.39	1.36	1.73
86	0.20	0.42	-0.81	0.58	0.48	0.20	-1.32	-1.40	0.54	0.28	0.59	1.52	1.89	0.00	0.63
87	-1.08	0.42	0.54	-0.92	-1.08	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
88	0.20	0.42	1.89	-0.92	0.48	-1.34	-1.32	-1.40	-1.00	0.28	-0.77	-1.24	-1.11	0.00	-1.57
89	0.20	0.42	0.54	-0.92	-1.08	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
90	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
91	1.49	0.42	-0.81	0.58	0.48	1.74	0.21	0.19	0.54	1.81	0.59	0.14	0.39	0.00	-0.47
92	1.49	0.42	-0.81	-0.92	0.48	0.20	0.21	0.19	-1.00	-1.24	-2.13	1.52	0.39	0.00	-0.47
93	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	1.95	0.14	0.39	1.36	0.63
94	0.20	0.42	0.54	-0.92	-1.08	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
95	0.20	0.42	0.54	0.58	0.48	-1.34	-1.32	-1.40	0.54	0.28	0.59	0.14	1.89	0.00	-0.47
96	-1.08	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	-1.24	-0.77	1.52	1.89	1.36	-0.47
97	1.49	0.42	-0.81	2.07	0.48	1.74	1.74	1.78	0.54	0.28	0.59	1.52	0.39	1.36	1.73
98	1.49	1.81	0.54	2.07	-1.08	0.20	0.21	0.19	-1.00	0.28	0.59	-1.24	0.39	-1.36	0.63
99	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	1.73
100	0.20	1.81	-0.81	0.58	2.05	0.20	0.21	1.78	0.54	0.28	1.95	1.52	0.39	0.00	0.63
101	0.20	-0.97	-0.81	0.58	0.48	0.20	0.21	0.19	0.54	0.28	-0.77	0.14	-1.11	0.00	0.63
102	0.20	-0.97	0.54	-0.92	0.48	0.20	0.21	0.19	0.54	0.28	-0.77	0.14	0.39	0.00	-0.47
103	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
104	0.20	1.81	1.89	2.07	2.05	0.20	0.21	0.19	0.54	0.28	0.59	1.52	0.39	1.36	1.73
105	0.20	-0.97	-2.16	-0.92	-1.08	-1.34	0.21	0.19	-1.00	-1.24	-0.77	-1.24	-1.11	0.00	0.63
106	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
107	0.20	0.42	-0.81	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
108	-1.08	-0.97	0.54	-0.92	-1.08	0.20	0.21	0.19	0.54	-1.24	-0.77	-1.24	-1.11	-1.36	0.63
109	0.20	0.42	0.54	2.07	2.05	0.20	0.21	0.19	2.08	0.28	1.95	0.14	1.89	1.36	0.63
110	-1.08	-0.97	0.54	-0.92	0.48	0.20	0.21	0.19	-1.00	0.28	0.59	0.14	-1.11	0.00	-0.47
111	-1.08	-0.97	0.54	0.58	0.48	0.20	0.21	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-0.47
112	0.20	0.42	0.54	0.58	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	0.14	0.39	0.00	0.63
113	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
114	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
115	0.20	0.42	-0.81	0.58	-1.08	-1.34	0.21	-1.40	-1.00	0.28	0.59	-1.24	-1.11	-1.36	-0.47
116	0.20	0.42	0.54	-0.92	-1.08	0.20	0.21	0.19	-1.00	0.28	0.59	0.14	0.39	0.00	0.63
117	1.49	1.81	1.89	2.07	2.05	1.74	1.74	1.78	2.08	1.81	1.95	1.52	1.89	1.36	1.73
118	-1.08	-0.97	-0.81	-0.92	-1.08	0.20	-1.32	0.19	-1.00	0.28	-0.77	0.14	0.39	0.00	-1.57
119	0.20	-0.97	-0.81	-0.92	0.48	0.20	-1.32	-1.40	0.54	0.28	-0.77	-1.24	0.39	-1.36	-0.47

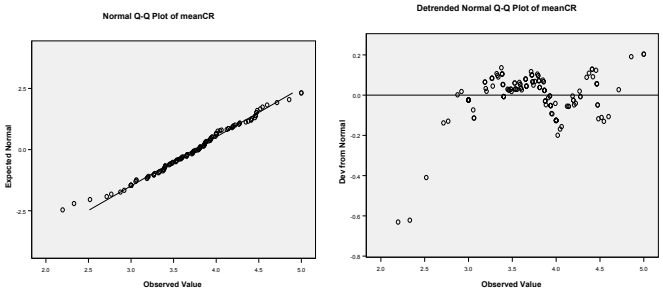
120	0.20	-0.97	-0.81	0.58	0.48	0.20	0.21	0.19	-1.00	-1.24	-0.77	0.14	0.39	0.00	-0.47
121	-1.08	-0.97	-0.81	-2.41	0.48	0.20	0.21	-1.40	0.54	-1.24	-0.77	0.14	0.39	0.00	0.63
122	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
123	-1.08	-0.97	-0.81	0.58	0.48	0.20	-1.32	0.19	-1.00	0.28	-0.77	-1.24	-1.11	-1.36	-0.47
124	0.20	0.42	-0.81	0.58	0.48	0.20	0.21	-1.40	0.54	0.28	0.59	0.14	0.39	1.36	0.63
125	0.20	-0.97	-0.81	0.58	0.48	-1.34	0.21	0.19	-1.00	-1.24	0.59	0.14	0.39	-1.36	0.63
126	0.20	0.42	-0.81	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
127	1.49	-0.97	0.54	0.58	0.48	1.74	0.21	0.19	2.08	1.81	0.59	1.52	-1.11	1.36	0.63
128	0.20	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	0.19	0.54	-1.24	-0.77	0.14	-1.11	-1.36	-0.47
129	0.20	0.42	0.54	2.07	2.05	0.20	0.21	1.78	0.54	0.28	1.95	-1.24	-1.11	0.00	-0.47
130	0.20	0.42	0.54	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
131	0.20	0.42	0.54	0.58	-1.08	-1.34	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
132	-2.36	-2.36	-2.16	-0.92	-1.08	-2.88	0.21	0.19	0.54	1.81	0.59	1.52	-1.11	0.00	0.63
133	-1.08	-2.36	-0.81	-0.92	0.48	0.20	-1.32	-1.40	-1.00	-1.24	-0.77	-2.62	0.39	-1.36	-0.47
134	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	-0.47
135	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
136	0.20	0.42	0.54	0.58	0.48	0.20	0.21	0.19	0.54	0.28	0.59	0.14	0.39	0.00	0.63
137	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-2.76	-2.13	-1.24	-2.61	-1.36	-1.57
138	1.49	1.81	-0.81	-0.92	-1.08	-1.34	0.21	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	1.36	0.63
139	1.49	1.81	-0.81	-0.92	0.48	0.20	0.21	0.19	2.08	-1.24	-0.77	0.14	-1.11	1.36	-0.47
140	1.49	1.81	1.89	2.07	2.05	1.74	1.74	1.78	2.08	0.28	1.95	1.52	1.89	1.36	0.63
141	1.49	-2.36	0.54	-0.92	0.48	0.20	0.21	1.78	0.54	0.28	0.59	1.52	1.89	1.36	1.73
142	-1.08	-0.97	-0.81	0.58	0.48	0.20	0.21	0.19	0.54	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47
143	1.49	1.81	1.89	0.58	0.48	0.20	1.74	1.78	2.08	1.81	-0.77	1.52	0.39	1.36	1.73
144	0.20	1.81	0.54	0.58	0.48	0.20	0.21	0.19	0.54	1.81	1.95	1.52	0.39	1.36	1.73
145	-1.08	-0.97	-0.81	-0.92	-1.08	-1.34	-1.32	-1.40	-1.00	-1.24	-0.77	-1.24	-1.11	-1.36	-0.47

Appendix 4.5

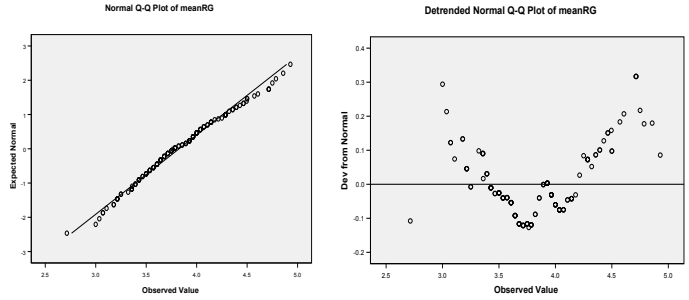
Results of normality assessment (EFA stage, *n* = 145)

Normal Q-Q and Detrended Q-Q plots

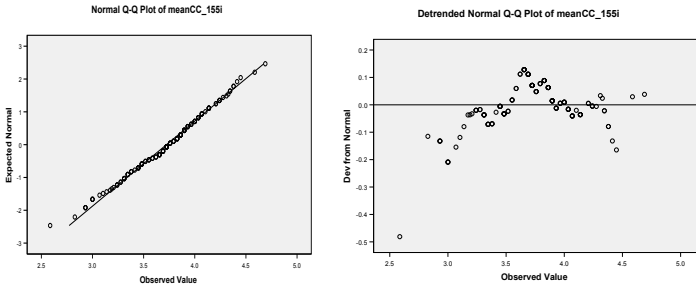
i) Crisis readiness (CR)



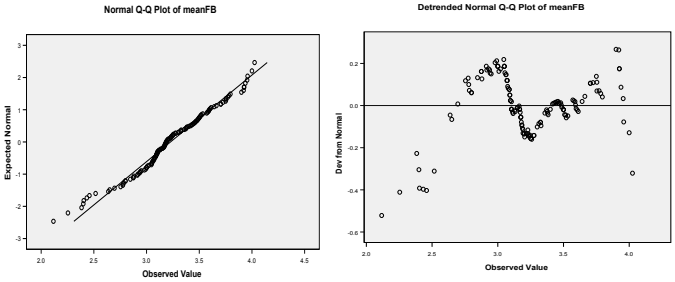
ii) Revenue generation tactics (RG)



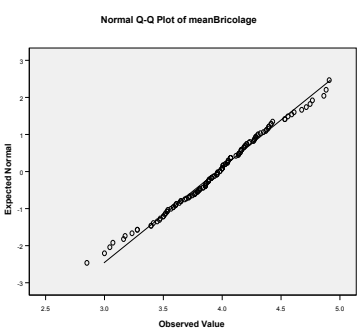
iii) Cost-cutting tactics (CC)

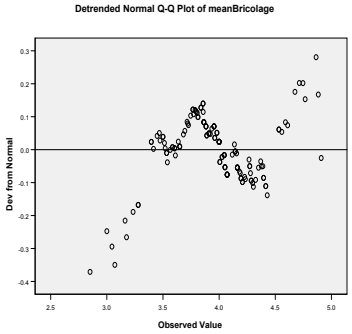


iv) Financial bootstrapping tactics (FB)

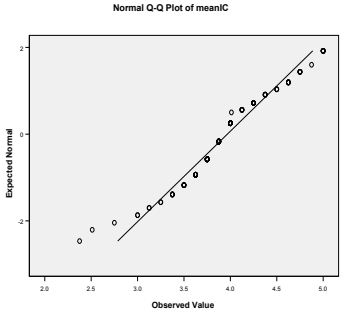


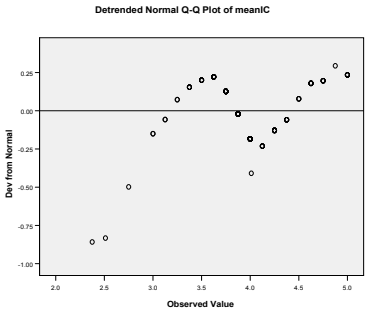
v) Bricolage tactics (Bri)



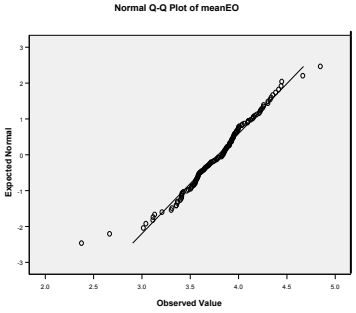


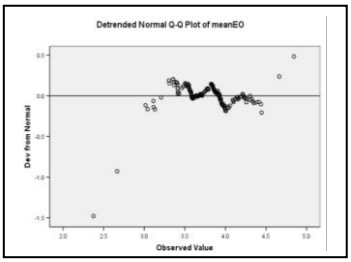
vi) Improvisational competence (IC)



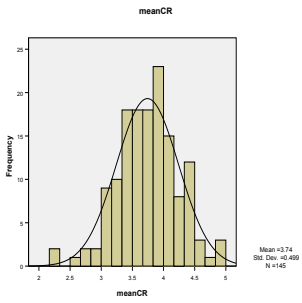


vii) Entrepreneurial orientation (EO)

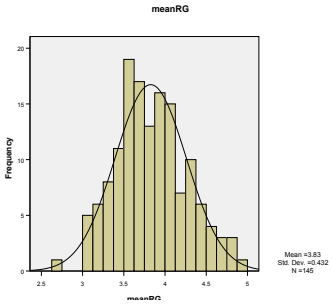




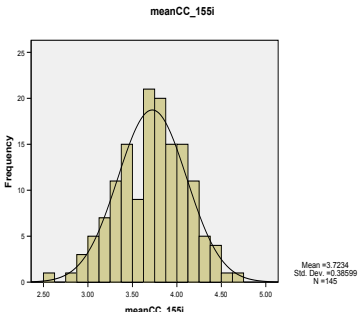
Histograms



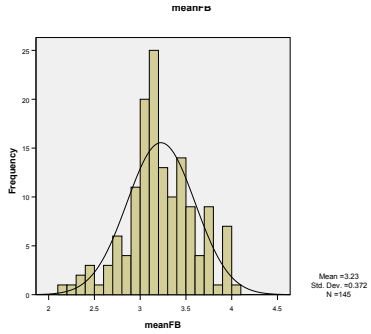
Crisis readiness (CR)



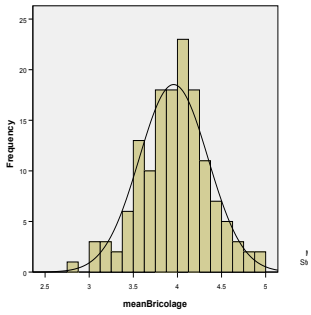
Revenue-generation tactics (RG)



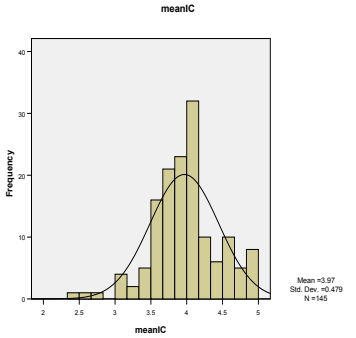
Cost-cutting tactics (CC)



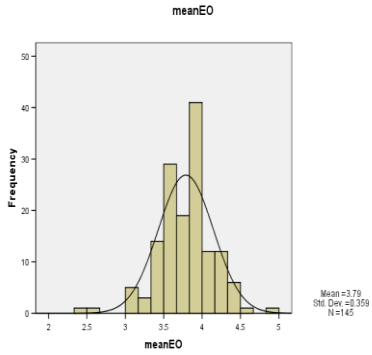
Financial bootstrapping tactics (FB)



Bricolage tactics (Bri)



Improvisational competence (IC)



Entrepreneurial orientation (EO)

Table A

Univariate Skewness and Kurtosis Statistics

Std. error skewness: 0.201
Std error kurtosis : 0.400

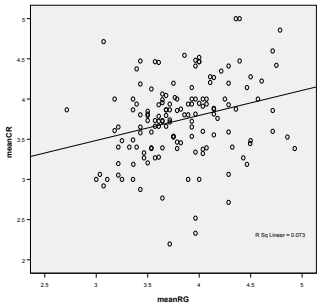
	N	Min	Max	Mean	Std. Deviation	Skewness (statistics)	Kurtosis (statistics)	Z skewness	Z kurtosis
PCr1	145	1	5	3.8414	0.7789	-0.6983	1.4223	-3.4681	3.5548
PCr2	145	2	5	3.6966	0.7200	-0.1508	-0.1585	-0.7489	-0.3962
PCr3	145	1	5	3.6000	0.7397	-0.0376	0.3016	-0.1866	0.7537
PCr4	145	2	5	3.6138	0.6686	0.0692	-0.2485	0.3435	-0.6211
PCr5	145	1	5	3.6897	0.6403	-0.4212	1.3324	-2.0920	3.3301
PCr6	145	2	5	3.8690	0.6482	-0.1780	0.0983	-0.8842	0.2456
PCr7	145	2	5	3.8621	0.6521	-0.4641	0.7341	-2.3047	1.8347
PCr8	145	2	5	3.8828	0.6292	-0.4160	0.7878	-2.0660	1.9691
ProsCr1	145	2	5	3.6483	0.6512	0.1974	-0.3922	0.9803	-0.9801
ProsCr2	145	1	5	3.8138	0.6560	-0.9838	2.5870	-4.8858	6.4660
ProsCr3	145	1	5	3.5655	0.7342	-0.0698	0.3518	-0.3467	0.8792
ProsCr4	145	1	5	3.8966	0.7238	-0.6206	1.3225	-3.0820	3.3055
ProsCr5	145	2	5	3.7379	0.6669	-0.0722	-0.1447	-0.3585	-0.3617
ProsCr6	145	2	5	4.0000	0.7360	-0.4239	0.0456	-2.1053	0.1140
ProsCr7	145	1	5	3.4276	0.9109	-0.2852	-0.1359	-1.4163	-0.3396
SMEAN(IC1)	145	2	5	4.0909	0.5999	-0.4319	1.3666	-2.1449	3.4156
IC2	145	2	5	4.0207	0.6177	-0.1916	0.2885	-0.9514	0.7211
IC3	145	3	5	4.1241	0.5879	-0.0281	-0.1680	-0.1396	-0.4199
IC4	145	2	5	3.9172	0.6509	-0.2240	0.1869	-1.1124	0.4672
IC5	145	1	5	3.8207	0.7328	-0.8867	2.2422	-4.4036	5.6041
IC6	145	2	5	3.9862	0.6235	-0.5138	1.2952	-2.5519	3.2373
IC7	145	2	5	3.7034	0.6468	-0.0941	-0.0941	-0.4676	-0.2352
IC8	145	2	5	4.0759	0.6245	-0.4002	0.8987	-1.9877	2.2463
RG1	145	1	5	3.5310	0.8902	-0.1847	-0.1385	-0.9173	-0.3462
RG2	145	1	5	3.7586	0.8017	-0.5185	0.4333	-2.5750	1.0831
SMEAN(RG3)	145	2	5	4.0903	0.7257	-0.2514	-0.7081	-1.2485	-1.7699
RG4	145	3	5	4.1034	0.6532	-0.1069	-0.6466	-0.5308	-1.6162
RG5	145	2	5	3.8345	0.8581	-0.2752	-0.6048	-1.3668	-1.5117
RG6	145	1	5	4.2000	0.6831	-0.8058	2.1833	-4.0017	5.4568
RG7	145	2	5	3.6207	0.7823	-0.0116	-0.4215	-0.0578	-1.0535
RG8	145	1	5	3.7655	0.8417	-0.3821	0.0163	-1.8975	0.0408
SMEAN(RG9)	145	2	5	4.0972	0.7295	-0.2627	-0.7306	-1.3047	-1.8260
RG10	145	1	5	3.5655	0.8483	-0.1388	-0.2180	-0.6894	-0.5448
RG11	145	1	5	3.2069	0.8490	0.2105	0.0572	1.0454	0.1428
SMEAN(RG12)	145	1	5	2.7847	1.0747	0.1353	-0.6379	0.6720	-1.5943
RG13	145	1	5	4.0828	0.7950	-1.0746	2.2590	-5.3371	5.6462
RG14	145	1	5	4.0138	0.7904	-0.7945	1.5538	-3.9457	3.8836
RG15	145	1	5	4.0138	0.7452	-0.9410	2.5457	-4.6735	6.3628
RG16	145	1	5	3.3793	0.9433	-0.2745	0.0181	-1.3634	0.0452
RG17	145	1	5	2.7931	0.8652	0.0238	-0.0678	0.1183	-0.1694
SMEAN(RG18)	145	3	5	4.3889	0.5787	-0.3172	-0.7054	-1.5751	-1.7630
RG19	145	2	5	3.9793	0.7019	-0.4602	0.4254	-2.2854	1.0633
RG20	145	3	5	4.1310	0.6796	-0.1676	-0.8229	-0.8324	-2.0568
RG21	145	2	5	3.9586	0.7442	-0.2407	-0.3999	-1.1955	-0.9995
RG22	145	2	5	4.2966	0.6468	-0.6864	0.8814	-3.4091	2.2029
RG23	145	1	5	4.2828	0.6842	-1.0874	3.0713	-5.4004	7.6765
RG24	145	2	5	4.0690	0.6837	-0.2198	-0.3853	-1.0914	-0.9629
RG25	145	3	5	4.1379	0.6731	-0.1703	-0.7861	-0.8459	-1.9648
RG26	145	1	5	3.3379	0.8098	0.1016	-0.0667	0.5044	-0.1667
RG27	145	3	5	4.1448	0.6559	-0.1587	-0.6849	-0.7881	-1.7119

RG28	145	1	5	3.5655	0.8645	-0.1397	0.0164	-0.6938	0.0411
CC1	145	1	5	4.0069	0.7773	-0.8218	1.3104	-4.0813	3.2752
CC2	145	1	5	3.2897	0.9348	-0.1454	-0.2459	-0.7222	-0.6147
CC3	145	1	5	3.0552	0.8958	0.0671	0.2235	0.3332	0.5585
SMEAN(CC4)	145	1	5	2.4965	0.9195	0.2006	-0.3062	0.9965	-0.7654
CC5	145	1	5	2.5379	1.1057	0.4029	-0.4582	2.0008	-1.1453
CC6	145	1	5	4.1793	0.8051	-1.2285	2.5395	-6.1012	6.3472
CC7	145	1	5	4.0690	0.6938	-0.8517	2.4104	-4.2296	6.0245
CC8	145	1	5	3.2414	0.8521	-0.3500	0.0355	-1.7381	0.0887
CC9	145	1	5	3.2276	0.9185	-0.5239	0.2253	-2.6019	0.5632
CC10	145	1	5	3.9379	0.7190	-0.8166	1.8827	-4.0555	4.7056
CC11	145	1	5	3.3241	0.9345	-0.2263	-0.0060	-1.1240	-0.0150
CC12	145	1	5	3.4690	0.9358	-0.6562	0.4089	-3.2591	1.0220
CC13	145	1	5	3.3379	0.9221	-0.4556	0.1988	-2.2625	0.4969
CC14	145	1	5	3.0690	0.9765	-0.3211	-0.3739	-1.5945	-0.9344
CC15	145	1	5	2.8759	0.9638	0.0637	0.0208	0.3161	0.0521
CC16	145	1	5	4.1034	0.7793	-1.3436	3.7827	-6.6728	9.4545
CC17	145	1	5	3.6138	0.9219	-0.5561	0.3820	-2.7616	0.9548
CC18	145	1	5	3.3241	0.8489	-0.0557	-0.0761	-0.2768	-0.1902
CC19	145	2	5	4.0483	0.6490	-0.5100	1.0151	-2.5327	2.5372
CC20	145	1	5	4.2483	0.7595	-1.1265	2.1225	-5.5947	5.3050
CC21	145	3	5	4.4621	0.6126	-0.6805	-0.4817	-3.3795	-1.2040
CC22	145	3	5	4.2414	0.6267	-0.2286	-0.6012	-1.1354	-1.5027
CC23	145	3	5	4.2276	0.6744	-0.3082	-0.8066	-1.5305	-2.0159
CC24	145	3	5	4.2966	0.6468	-0.3742	-0.7000	-1.8584	-1.7495
CC25	145	2	5	4.2966	0.6575	-0.5491	0.0097	-2.7268	0.0241
CC26	145	3	5	4.3034	0.6382	-0.3642	-0.6768	-1.8085	-1.6915
CC27	145	2	5	4.1241	0.6223	-0.2643	0.2820	-1.3126	0.7049
CC28	145	3	5	4.3034	0.6047	-0.2542	-0.6063	-1.2623	-1.5154
CC29	145	3	5	4.2690	0.5683	-0.0518	-0.4606	-0.2573	-1.1513
AC1	145	1	5	2.9379	1.2089	0.0487	-0.8493	0.2419	-2.1228
AC2	145	3	5	4.1793	0.5853	-0.0483	-0.2685	-0.2400	-0.6712
AC3	145	2	5	4.1862	0.6453	-0.3521	0.0402	-1.7485	0.1005
AC4	145	1	5	2.7724	0.9982	0.2597	-0.2096	1.2895	-0.5238
AC5	145	1	5	3.5034	0.8985	-0.5929	0.6014	-2.9448	1.5031
AC6	145	1	5	4.4069	0.7500	-1.3294	2.2959	-6.6021	5.7383
AS1	145	3	5	4.2759	0.5949	-0.1746	-0.5406	-0.8674	-1.3511
AS2	145	1	5	3.3724	0.8245	-0.6389	0.9082	-3.1731	2.2700
AS3	145	1	5	3.2000	0.8466	-0.0474	0.3656	-0.2352	0.9137
AS4	145	1	5	3.4345	0.8565	-0.4996	0.8340	-2.4811	2.0845
AS5	145	1	5	3.4966	0.8176	-0.5300	0.6717	-2.6321	1.6790
AO1	145	1	5	3.3172	1.0846	-0.5290	-0.1243	-2.6271	-0.3106
AO2	145	1	5	2.6000	0.9958	0.3183	-0.3202	1.5808	-0.8004
AO3	145	1	5	2.6000	0.9747	-0.0803	-0.5922	-0.3988	-1.4802
AO4	145	1	4	2.3724	0.9424	-0.0536	-0.9682	-0.2663	-2.4199
ASh1	145	1	5	2.9586	0.8730	-0.4272	0.0048	-2.1215	0.0121
ASh2	145	1	5	2.7862	1.0013	0.0632	-0.2198	0.3140	-0.5495
ASh3	145	1	5	2.6000	0.8851	0.1487	-0.2386	0.7385	-0.5963
ASh4	145	1	5	2.5862	0.9471	-0.0777	-0.4585	-0.3859	-1.1460
ASh5	145	1	5	2.8552	0.9500	-0.1979	-0.2313	-0.9828	-0.5782
MB1	145	1	5	4.0690	0.6525	-0.8296	3.0581	-4.1203	7.6435
MB2	145	1	5	3.6966	0.6905	-0.4162	0.9896	-2.0670	2.4733
MB3	145	1	5	3.9103	0.6762	-0.5738	1.7436	-2.8495	4.3580
MB4	145	2	5	3.9793	0.6063	-0.1805	0.3859	-0.8963	0.9646
MB5	145	3	5	4.0552	0.6431	-0.0498	-0.5527	-0.2475	-1.3814
SMEAN(MB6)	145	2	5	3.8750	0.6960	0.0509	-0.6367	0.2529	-1.5914
MB7	145	2	5	4.0552	0.6431	-0.2087	0.0112	-1.0363	0.0280
MB8	145	2	5	3.8690	0.6693	-0.2657	0.1969	-1.3196	0.4922
MB9	145	3	5	3.7586	0.6155	0.1976	-0.5536	0.9812	-1.3835
MB10	145	2	5	3.9310	0.6418	-0.2579	0.3350	-1.2808	0.8374

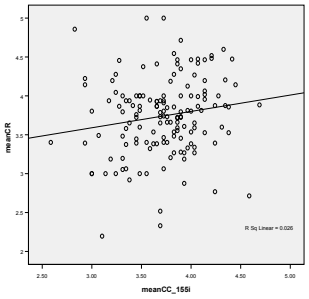
MB11	145	2	5	3.7724	0.6208	-0.1591	0.0787	-0.7901	0.1966
NB1	145	3	5	4.5448	0.5890	-0.8996	-0.1678	-4.4677	-0.4195
NB2	145	3	5	4.0828	0.5952	-0.0249	-0.1700	-0.1237	-0.4250
NB3	145	2	5	3.8345	0.6125	-0.2609	0.4015	-1.2957	1.0036
NB4	145	3	5	4.0138	0.5650	0.0038	0.1999	0.0189	0.4997
NB5	145	2	5	3.8207	0.6632	-0.3643	0.4095	-1.8093	1.0235
NB6	145	2	5	3.9448	0.5625	-0.2546	0.9686	-1.2645	2.4209
NB7	145	3	5	3.8138	0.6453	0.1949	-0.6472	0.9678	-1.6177
SMEAN(Risk1)	145	3	5	4.4167	0.5336	-0.0772	-1.1229	-0.3836	-2.8067
Risk2	145	1	5	3.7862	0.6581	-0.4836	1.5228	-2.4018	3.8062
Risk3	145	1	5	3.3379	0.8012	-0.4424	0.7917	-2.1969	1.9789
Risk4	145	1	5	3.7931	0.6335	-0.6327	2.0598	-3.1420	5.1484
Risk5	145	1	5	3.3448	0.7672	-0.2125	0.4112	-1.0553	1.0277
Risk6	145	1	5	3.3586	0.7789	-0.1888	0.3671	-0.9375	0.9176
Risk7	145	1	5	3.7379	0.7362	-0.9184	1.9800	-4.5608	4.9489
Inno1	145	2	5	4.0483	0.5931	-0.4169	1.4214	-2.0702	3.5526
Inno2	145	2	5	3.7931	0.7159	0.0976	-0.6101	0.4849	-1.5249
Inno3	145	2	5	4.1172	0.6181	-0.6138	1.8032	-3.0485	4.5070
SMEAN(Inno4)	145	2	5	4.2431	0.5922	-0.3352	0.5997	-1.6649	1.4988
Inno5	145	2	5	3.5793	0.7136	0.0068	-0.2394	0.0340	-0.5984
SMEAN(Inno6)	145	1	5	3.4167	0.8292	-0.1750	0.4924	-0.8691	1.2306
Inno7	145	1	5	3.5034	0.8090	-0.3704	0.3579	-1.8393	0.8946
Inno8	145	1	5	3.2828	0.8474	-0.1620	0.0855	-0.8043	0.2138
Inno9	145	1	5	3.2828	0.7611	0.2391	0.3274	1.1876	0.8182
Inno10	145	1	5	3.1379	0.8133	0.2122	0.2156	1.0538	0.5390
Pro1	145	3	5	4.4621	0.5530	-0.3479	-0.9417	-1.7275	-2.3536
Pro2	145	1	5	3.5310	0.9209	-0.5523	0.4700	-2.7429	1.1748
Pro3	145	1	5	4.3517	0.6618	-1.1141	3.2967	-5.5327	8.2397
SMEAN(Pro4)	145	2	5	3.8472	0.7004	0.1002	-0.6862	0.4977	-1.7151
Pro5	145	2	5	4.1724	0.6598	-0.4944	0.5120	-2.4555	1.2798
ComAg1	145	2	5	3.7172	0.7042	0.0978	-0.4342	0.4858	-1.0851
ComAg2	145	1	5	3.2690	0.7661	0.1564	0.1907	0.7769	0.4767
ComAg3	145	1	5	2.9724	0.8245	-0.0992	-0.0448	-0.4926	-0.1119
ComAg4	145	1	5	3.3034	0.8277	-0.7682	0.8140	-3.8150	2.0346
ComAg5	145	1	5	3.2759	0.8538	-0.4969	0.3114	-2.4675	0.7784
ComAg6	145	1	5	3.2138	0.8990	-0.6693	0.1938	-3.3241	0.4845
ComAg7	145	1	5	3.6069	0.8105	-0.5904	0.6217	-2.9319	1.5538
ComAg8	145	2	5	3.9172	0.6181	-0.4850	1.1216	-2.4086	2.8033
Fut1	145	1	5	4.1241	0.7060	-0.9007	2.3488	-4.4733	5.8706
Fut2	145	2	5	3.9724	0.6967	-0.2127	-0.2189	-1.0563	-0.5471
SMEAN(Fut3)	145	2	5	4.1528	0.5930	-0.2608	0.6570	-1.2951	1.6421
Fut4	145	1	5	3.8483	0.7104	-0.5976	1.3559	-2.9679	3.3889
Fut5	145	3	5	4.3379	0.6479	-0.4628	-0.6861	-2.2982	-1.7148
Fut6	145	3	5	4.2483	0.6184	-0.2153	-0.5745	-1.0694	-1.4360
Fut7	145	3	5	4.2621	0.5776	-0.0870	-0.4607	-0.4320	-1.1515

Appendix 4.6

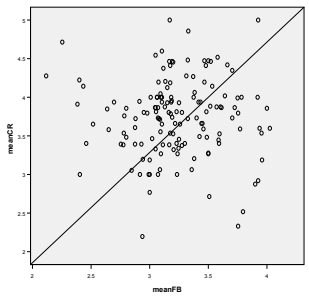
Results of linearity assessment (EFA stage, *n* = 145)



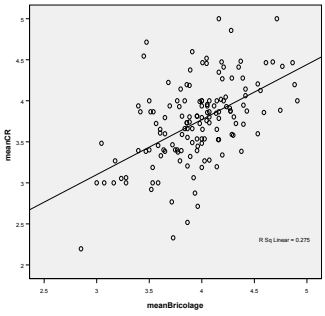
Revenue-generation tactics (RG)



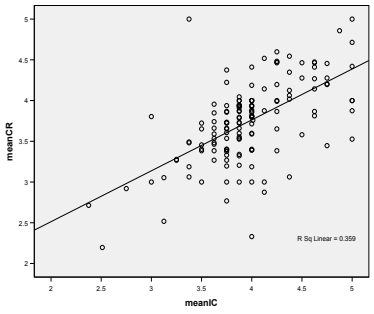
Cost-cutting tactics (CC)



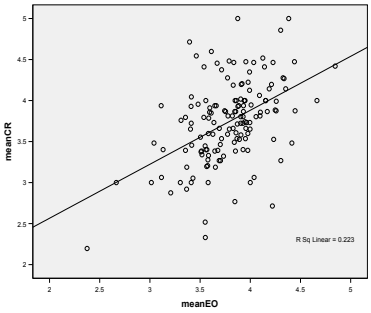
Financial bootstrapping tactics (FB)



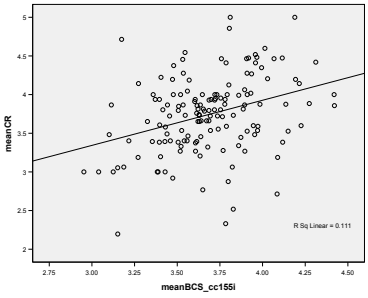
Bricolage tactics (Bri)



Improvisational competence (IC)

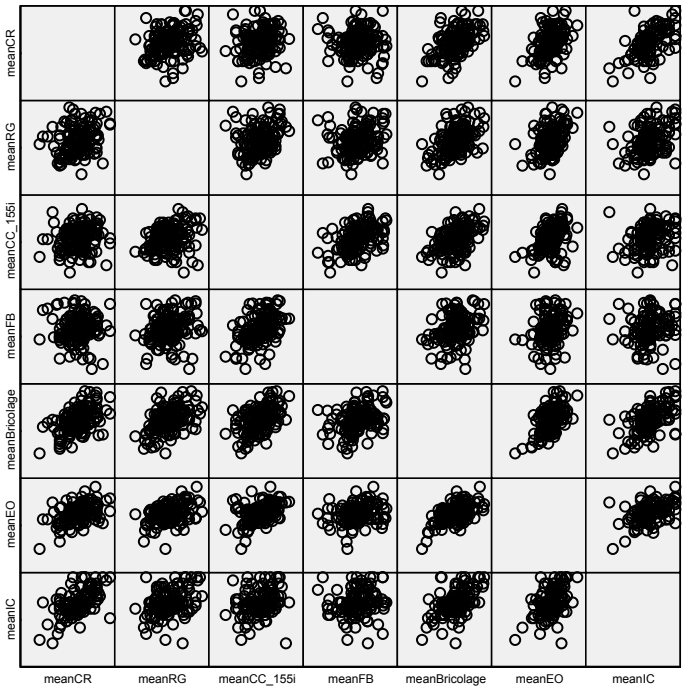


Entrepreneurial orientations (EO)



Business coping strategy (BCS)

Scatterplot matrix



Appendix 4.7

Results of outliers detection (CFA stage, *n* =150)

Multivariate outliers detection-Mahalanobis Distance test (*n* =150)

Table A

Chi-square value: 162.788

case id	MAH	case id	MAH	case id	MAH	case id	MAH
1	117.6044	41	127.7449	81	90.51276	121	87.75709
2	114.8925	42	132.0342	82	90.37578	122	100.7022
3	119.5555	43	118.1999	83	105.2601	123	102.9188
4	123.2761	44	113.5192	84	105.4228	124	92.76858
5	111.8027	45	126.2128	85	130.5067	125	105.9547
6	103.4112	46	110.9534	86	116.5357	126	108.4567
7	101.5881	47	120.7037	87	112.291	127	112.0853
8	113.9205	48	119.3775	88	125.0126	128	117.1954
9	135.0911	49	126.326	89	101.0855	129	121.1709
10	61.58641	50	104.201	90	110.5679	130	95.13222
11	124.5688	51	116.4932	91	93.70147	131	114.4211
12	114.389	52	116.5889	92	92.99034	132	99.56975
13	111.9058	53	95.2536	93	107.8024	133	108.8273
14	127.6906	54	114.5648	94	110.0422	134	103.3983
15	112.228	55	99.37911	95	111.3054	135	109.788
16	92.41307	56	101.927	96	102.0003	136	113.4084
17	91.26561	57	100.9758	97	116.0384	137	108.8139
18	111.0388	58	115.7178	98	104.1666	138	114.7796
19	113.1799	59	74.04049	99	107.599	139	113.6951
20	62.03373	60	115.5464	100	101.8108	140	110.7338
21	124.2673	61	108.977	101	111.1297	141	99.5758
22	133.0088	62	105.2772	102	98.3559	142	124.7002
23	130.0119	63	103.9753	103	105.1715	143	106.9037
24	103.932	64	85.15056	104	119.7403	144	119.1227
25	107.6685	65	94.76197	105	119.9733	145	115.0751
26	133.6065	66	111.3907	106	111.5985	146	113.1451
27	97.46739	67	109.8668	107	114.7029	147	99.81343
28	105.8933	68	115.9969	108	107.1708	148	106.9215
29	123.6403	69	93.41394	109	106.7738	149	97.60829
30	111.694	70	91.86018	110	101.8499	150	103.7384
31	135.1784	71	96.96136	111	104.5406		
32	105.8293	72	110.5935	112	107.7101		
33	125.7588	73	119.8664	113	106.0933		
34	102.5771	74	116.7925	114	83.37986		
35	104.4194	75	99.29527	115	110.9619		
36	129.1221	76	95.29718	116	106.4255		
37	99.4817	77	90.96264	117	109.2501		
38	97.7101	78	114.7936	118	116.326		
39	109.2154	79	91.1859	119	103.6946		
40	97.07543	80	91.53178	120	94.23278		

Table B

Extreme value table for multivariate outlier detection (n =150)

Extreme Values

			Case Number	firm id	Value
Mahalanobis Distance	Highest	1	31	31	135.17837
		2	9	9	135.09110
		3	26	26	133.60653
		4	22	22	133.00877
		5	42	42	132.03421
	Lowest	1	10	10	61.58641
		2	20	20	62.03373
		3	59	59	74.04049
		4	114	114	83.37986
		5	64	64	85.15056

Table C

Z-score for univariate outliers detection

case id	ZPCr4	ZPCr5	ZPCr6	ZPCr7	ZPCr8	ZProsCr1	ZProsCr2	ZProsCr3	ZProsCr4	ZProsCr5	ZProsCr7
1	-0.958	-1.103	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	1.672
2	0.621	0.519	1.766	1.712	1.893	0.556	0.297	0.620	1.500	1.969	0.605
3	-0.958	0.519	0.208	0.210	0.232	-1.017	-1.295	-2.199	1.500	0.398	-0.462
4	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
5	-0.958	0.519	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-1.530
6	0.621	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	0.094	0.398	0.605
7	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-0.462
8	-0.958	0.519	0.208	-1.292	-1.428	0.556	0.297	-0.790	-1.313	0.398	-0.462
9	-0.958	-1.103	-1.351	-2.793	-3.088	-1.017	-2.887	-3.609	-4.125	-2.744	-2.597
10	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
11	0.621	0.519	-1.351	0.210	0.232	-1.017	-1.295	0.620	0.094	0.398	0.605
12	-0.958	-1.103	-1.351	-1.292	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
13	0.621	0.519	0.208	-1.292	-1.428	0.556	0.297	0.620	1.500	1.969	0.605
14	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
15	-0.958	-1.103	-1.351	0.210	0.232	-1.017	-1.295	-0.790	-1.313	-1.173	0.605
16	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-0.462
17	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-0.462
18	-0.958	-1.103	-1.351	0.210	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
19	0.621	0.519	0.208	0.210	-1.428	0.556	0.297	-0.790	0.094	-1.173	0.605
20	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
21	-0.958	0.519	0.208	0.210	0.232	2.128	-1.295	-0.790	0.094	-1.173	-0.462
22	2.199	2.141	1.766	1.712	1.893	2.128	0.297	2.030	1.500	1.969	0.605
23	0.621	0.519	1.766	0.210	0.232	2.128	1.889	0.620	1.500	-1.173	0.605
24	0.621	0.519	0.208	0.210	0.232	-1.017	-1.295	-0.790	0.094	0.398	-0.462
25	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-1.530
26	-0.958	-1.103	-2.909	0.210	0.232	0.556	1.889	0.620	1.500	-1.173	0.605

27	-2.536	-1.103	-1.351	-2.793	-3.088	-1.017	-4.479	-2.199	-2.719	-1.173	-2.597
28	-2.536	-4.347	-2.909	-2.793	-1.428	-2.589	-2.887	-2.199	-1.313	-1.173	-1.530
29	-0.958	-1.103	-1.351	-1.292	0.232	0.556	-1.295	-0.790	0.094	-1.173	-0.462
30	0.621	0.519	0.208	0.210	0.232	-1.017	-1.295	0.620	-1.313	-1.173	0.605
31	0.621	0.519	-1.351	0.210	0.232	-1.017	0.297	0.620	0.094	0.398	0.605
32	0.621	0.519	0.208	0.210	0.232	0.556	0.297	2.030	0.094	0.398	0.605
33	2.199	2.141	1.766	1.712	1.893	2.128	1.889	2.030	1.500	1.969	1.672
34	0.621	0.519	0.208	-1.292	-1.428	0.556	0.297	-0.790	0.094	0.398	0.605
35	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
36	0.621	-1.103	-1.351	-1.292	0.232	0.556	0.297	-0.790	0.094	0.398	-0.462
37	-0.958	-1.103	0.208	0.210	0.232	0.556	-1.295	-0.790	-1.313	-1.173	0.605
38	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
39	-0.958	-1.103	0.208	0.210	0.232	-2.589	-1.295	-0.790	0.094	0.398	-0.462
40	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-0.462
41	-0.958	0.519	0.208	0.210	1.893	0.556	0.297	0.620	1.500	1.969	1.672
42	0.621	0.519	1.766	1.712	1.893	0.556	1.889	0.620	1.500	0.398	0.605
43	0.621	0.519	0.208	-1.292	0.232	0.556	0.297	-0.790	-1.313	-1.173	-0.462
44	-2.536	0.519	0.208	0.210	-1.428	0.556	-1.295	-0.790	0.094	0.398	0.605
45	-0.958	0.519	0.208	-1.292	-1.428	-1.017	-1.295	-0.790	-2.719	0.398	-0.462
46	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-0.462
47	2.199	2.141	1.766	1.712	1.893	2.128	0.297	0.620	0.094	0.398	1.672
48	0.621	0.519	0.208	0.210	0.232	0.556	-1.295	-0.790	-1.313	-1.173	-0.462
49	-2.536	-2.725	0.208	0.210	0.232	0.556	-2.887	-2.199	-2.719	-2.744	-1.530
50	-0.958	-1.103	-1.351	0.210	0.232	-1.017	-1.295	-0.790	-1.313	-1.173	-1.530
51	0.621	0.519	0.208	1.712	1.893	2.128	1.889	-0.790	1.500	0.398	1.672
52	0.621	-1.103	-1.351	-2.793	-3.088	0.556	0.297	0.620	-1.313	0.398	-0.462
53	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
54	0.621	0.519	1.766	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
55	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	-1.313	-1.173	-0.462
56	-0.958	-1.103	-1.351	0.210	0.232	0.556	0.297	-0.790	0.094	-1.173	-0.462
57	-0.958	0.519	0.208	0.210	0.232	0.556	0.297	-0.790	0.094	0.398	0.605
58	0.621	-1.103	-1.351	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
59	-0.958	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
60	2.199	2.141	0.208	0.210	0.232	0.556	0.297	0.620	1.500	0.398	1.672
61	-0.958	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
62	-0.958	-1.103	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
63	0.621	0.519	1.766	0.210	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
64	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	1.500	0.398	-0.462
65	0.621	0.519	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	-0.462
66	-0.958	0.519	0.208	0.210	0.232	-1.017	0.297	0.620	0.094	0.398	-0.462
67	2.199	2.141	0.208	0.210	0.232	2.128	0.297	2.030	0.094	1.969	0.605
68	0.621	2.141	0.208	0.210	1.893	0.556	0.297	2.030	1.500	0.398	0.605
69	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
70	-0.958	0.519	0.208	0.210	0.232	0.556	0.297	-0.790	0.094	0.398	-0.462
71	2.199	0.519	0.208	1.712	1.893	0.556	0.297	0.620	0.094	0.398	0.605
72	-0.958	0.519	0.208	0.210	0.232	-1.017	0.297	0.620	0.094	-1.173	-0.462
73	-0.958	-1.103	0.208	-1.292	-1.428	-1.017	0.297	-0.790	0.094	0.398	0.605
74	0.621	0.519	0.208	0.210	0.232	-1.017	0.297	0.620	0.094	0.398	-1.530
75	-0.958	-1.103	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
76	-0.958	0.519	-1.351	-1.292	-1.428	-1.017	0.297	-0.790	-1.313	-1.173	-1.530
77	0.621	0.519	0.208	-1.292	0.232	-1.017	0.297	-0.790	-1.313	-1.173	-0.462

78	0.621	-1.103	0.208	0.210	1.893	-1.017	0.297	0.620	0.094	-1.173	-0.462
79	0.621	0.519	-1.351	0.210	-1.428	0.556	0.297	0.620	0.094	-1.173	0.605
80	-0.958	-1.103	0.208	-1.292	0.232	-1.017	0.297	-0.790	0.094	-1.173	-1.530
81	-0.958	-1.103	-1.351	-1.292	0.232	-1.017	0.297	-0.790	0.094	-1.173	-1.530
82	0.621	0.519	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	-0.462
83	0.621	0.519	0.208	0.210	0.232	0.556	0.297	-0.790	0.094	-1.173	0.605
84	0.621	0.519	0.208	0.210	0.232	0.556	0.297	-0.790	0.094	-1.173	-0.462
85	0.621	0.519	0.208	-1.292	-1.428	-1.017	0.297	0.620	0.094	0.398	1.672
86	0.621	0.519	0.208	0.210	0.232	0.556	1.889	2.030	1.500	0.398	1.672
87	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
88	-0.958	0.519	-1.351	0.210	0.232	-1.017	0.297	0.620	-1.313	-1.173	-0.462
89	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	1.500	1.969	0.605
90	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
91	-0.958	0.519	-1.351	0.210	0.232	-1.017	-1.295	-0.790	0.094	-1.173	-1.530
92	0.621	-1.103	-1.351	0.210	0.232	-1.017	0.297	-0.790	-1.313	0.398	-0.462
93	0.621	-1.103	0.208	0.210	0.232	-1.017	-1.295	-0.790	0.094	0.398	-0.462
94	0.621	2.141	0.208	-1.292	0.232	-1.017	0.297	2.030	1.500	1.969	0.605
95	2.199	0.519	1.766	1.712	1.893	2.128	0.297	0.620	0.094	0.398	0.605
96	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
97	0.621	0.519	0.208	1.712	0.232	2.128	1.889	2.030	0.094	0.398	0.605
98	0.621	0.519	0.208	1.712	1.893	0.556	1.889	0.620	0.094	0.398	-0.462
99	0.621	0.519	-1.351	-1.292	-1.428	0.556	0.297	0.620	0.094	1.969	-0.462
100	0.621	0.519	0.208	0.210	-1.428	0.556	0.297	-0.790	0.094	0.398	0.605
101	0.621	0.519	0.208	0.210	-1.428	0.556	0.297	0.620	0.094	0.398	0.605
102	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
103	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	0.605
104	0.621	0.519	1.766	0.210	0.232	0.556	1.889	0.620	0.094	0.398	-0.462
105	-0.958	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	-1.530
106	0.621	0.519	0.208	0.210	0.232	2.128	1.889	2.030	1.500	1.969	0.605
107	0.621	0.519	1.766	1.712	0.232	0.556	1.889	0.620	1.500	0.398	1.672
108	-0.958	0.519	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	-1.173	-2.597
109	0.621	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	-0.462
110	-0.958	0.519	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	-0.462
111	-0.958	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	-1.313	0.398	-1.530
112	0.621	0.519	1.766	1.712	0.232	0.556	0.297	2.030	0.094	1.969	0.605
113	-0.958	0.519	0.208	-1.292	0.232	-1.017	0.297	-0.790	-1.313	-1.173	-1.530
114	-0.958	0.519	-1.351	0.210	0.232	-1.017	0.297	-0.790	0.094	-1.173	-0.462
115	0.621	0.519	1.766	1.712	1.893	0.556	0.297	0.620	1.500	1.969	1.672
116	-0.958	-1.103	0.208	-1.292	0.232	-1.017	0.297	-0.790	0.094	0.398	-1.530
117	0.621	0.519	0.208	0.210	0.232	0.556	-1.295	-0.790	1.500	1.969	-0.462
118	-0.958	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	-0.462
119	2.199	0.519	1.766	1.712	1.893	0.556	0.297	0.620	1.500	0.398	1.672
120	0.621	0.519	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	0.605
121	-0.958	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	0.398	-0.462
122	0.621	0.519	1.766	1.712	1.893	0.556	0.297	0.620	0.094	0.398	0.605
123	0.621	0.519	1.766	0.210	0.232	0.556	0.297	-0.790	0.094	-1.173	1.672
124	-0.958	0.519	0.208	0.210	0.232	0.556	0.297	-0.790	0.094	0.398	0.605
125	-0.958	0.519	1.766	1.712	0.232	-1.017	-1.295	-0.790	0.094	0.398	-0.462
126	-0.958	-1.103	0.208	0.210	0.232	-1.017	0.297	0.620	1.500	0.398	-0.462
127	0.621	-1.103	0.208	0.210	0.232	0.556	0.297	0.620	0.094	0.398	1.672
128	-0.958	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	-1.173	-1.530

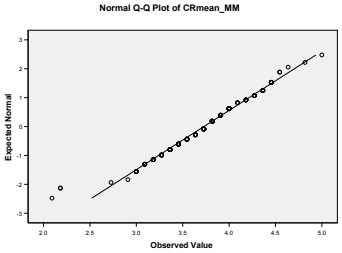
129	0.621	-1.103	-1.351	0.210	-1.428	-1.017	0.297	-0.790	-1.313	-1.173	-1.530
130	-0.958	-1.103	-1.351	-1.292	-1.428	-1.017	-1.295	-0.790	0.094	0.398	-1.530
131	-0.958	-1.103	0.208	0.210	-1.428	0.556	0.297	-0.790	0.094	-1.173	-1.530
132	-0.958	0.519	0.208	-1.292	0.232	-1.017	-1.295	0.620	-1.313	-1.173	-0.462
133	0.621	0.519	0.208	1.712	0.232	0.556	0.297	-0.790	0.094	0.398	-0.462
134	0.621	0.519	-1.351	0.210	0.232	-1.017	-1.295	0.620	0.094	0.398	0.605
135	-0.958	-1.103	-1.351	0.210	-1.428	-1.017	0.297	-0.790	-1.313	-1.173	-1.530
136	0.621	-1.103	0.208	0.210	0.232	-1.017	0.297	0.620	0.094	0.398	0.605
137	0.621	0.519	-1.351	0.210	0.232	0.556	0.297	0.620	0.094	-1.173	0.605
138	0.621	-1.103	-1.351	-1.292	0.232	0.556	-1.295	-0.790	-1.313	-1.173	-1.530
139	-0.958	0.519	0.208	1.712	0.232	2.128	0.297	0.620	1.500	1.969	0.605
140	0.621	0.519	0.208	0.210	0.232	0.556	0.297	0.620	1.500	0.398	1.672
141	0.621	0.519	1.766	1.712	0.232	0.556	0.297	0.620	1.500	-1.173	1.672
142	0.621	2.141	1.766	0.210	0.232	0.556	0.297	2.030	1.500	0.398	1.672
143	-0.958	0.519	0.208	-1.292	-1.428	-1.017	0.297	-0.790	-1.313	0.398	-0.462
144	0.621	-1.103	0.208	-1.292	-1.428	0.556	1.889	0.620	1.500	-1.173	0.605
145	0.621	0.519	0.208	1.712	0.232	0.556	0.297	0.620	0.094	0.398	1.672
146	-0.958	-1.103	1.766	0.210	0.232	-1.017	0.297	2.030	0.094	0.398	0.605
147	0.621	-1.103	0.208	0.210	0.232	-1.017	0.297	-0.790	0.094	-1.173	0.605
148	-0.958	-1.103	0.208	-1.292	0.232	-1.017	-1.295	-0.790	0.094	-1.173	-1.530
149	0.621	-1.103	0.208	0.210	-1.428	-1.017	0.297	-0.790	0.094	0.398	0.605
150	0.621	0.519	0.208	0.210	0.232	0.556	0.297	-0.790	0.094	0.398	-0.462

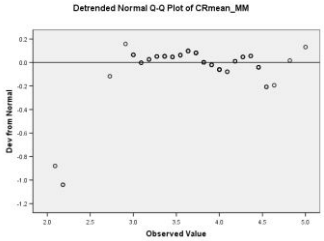
Appendix 4.8

Results of normality assessment (CFA, *n* = 150)

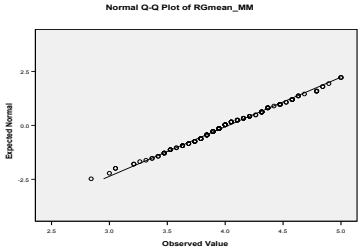
Normal Q-Q and Detrended Q-Q plots

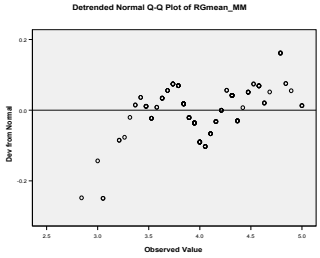
i) Crisis readiness (CR)



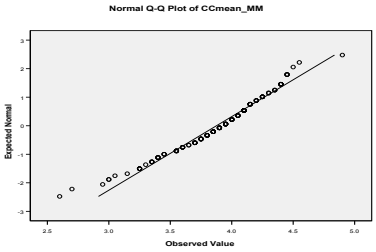


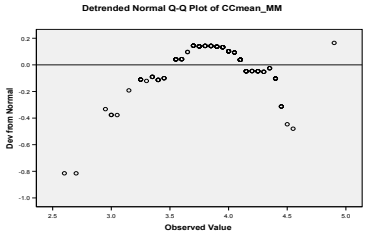
ii) Revenue-generation tactics (RG)



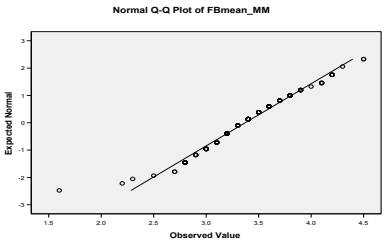


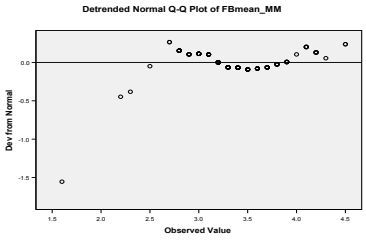
iii) Cost-cutting tactics (CC)



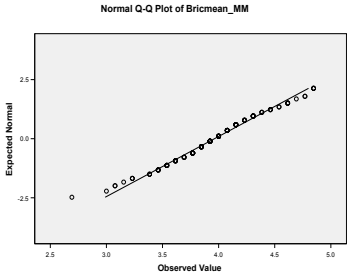


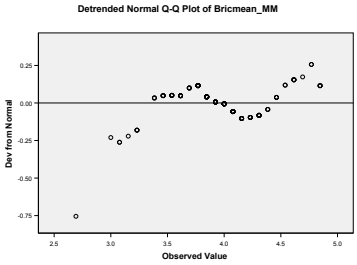
iv) Financial bootstrapping tactics (FB)



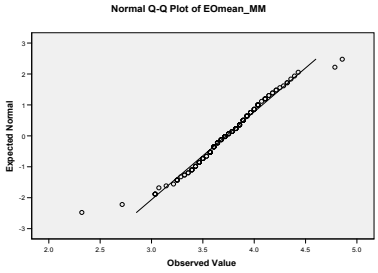


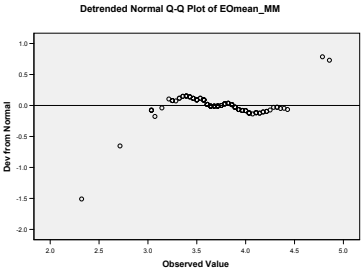
v) Bricolage tactics (Bri)



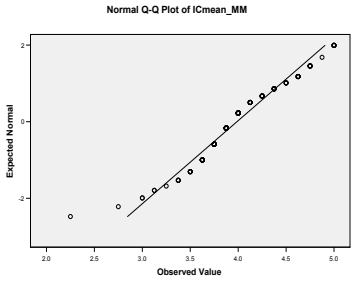


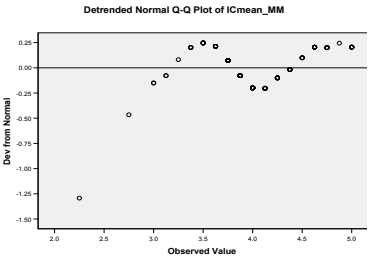
vi) Entrepreneurial orientations (EO)





vii) Improvisational competence (IC)





Appendix 4.8 (continued)

Results of normality assessment (CFA stage, *n* = 150)

Skewness, kurtosis, standard error (*n* = 150)

Std. error of skewness: 0.198

Std Error of kurtosis: 0.394

Items	Min	Max	Mean	Std. Deviation	Skewness Statistics	Kurtosis statistics	*Z* skewness	*Z* kurtosis
PCr4	2	5	3.607	0.633	-0.089	-0.168	-0.448	-0.427
PCr5	1	5	3.680	0.617	-0.543	1.565	-2.742	3.976
PCr6	2	5	3.867	0.642	-0.183	0.139	-0.925	0.354
PCr7	2	5	3.860	0.666	-0.388	0.484	-1.960	1.230
PCr8	2	5	3.860	0.602	-0.494	1.062	-2.496	2.699
ProsCr1	2	5	3.647	0.636	0.146	-0.359	0.735	-0.911
ProsCr2	1	5	3.813	0.628	-0.992	2.892	-5.007	7.347
ProsCr3	1	5	3.560	0.709	-0.043	0.453	-0.219	1.151
ProsCr4	1	5	3.933	0.711	-0.698	1.644	-3.524	4.177
ProsCr5	2	5	3.747	0.637	-0.044	-0.149	-0.223	-0.378
ProsCr7	1	5	3.433	0.937	-0.275	-0.306	-1.390	-0.778
IC1	2	5	4.093	0.595	-0.416	1.410	-2.103	3.584
IC2	2	5	4.020	0.629	-0.179	0.126	-0.903	0.320
IC3	3	5	4.160	0.580	-0.024	-0.186	-0.122	-0.472
IC4	2	5	3.900	0.673	-0.147	-0.123	-0.743	-0.313
IC5	1	5	3.867	0.682	-0.598	1.639	-3.020	4.165
IC6	2	5	4.047	0.583	-0.210	0.773	-1.058	1.965
IC7	2	5	3.700	0.632	0.178	-0.451	0.898	-1.146
IC8	3	5	4.113	0.574	0.003	-0.024	0.018	-0.062
RG2	1	5	3.733	0.791	-0.556	0.504	-2.805	1.281
RG3	2	5	4.033	0.727	-0.157	-0.773	-0.793	-1.965
RG4	3	5	4.073	0.636	-0.061	-0.504	-0.308	-1.281
RG5	2	5	3.800	0.819	-0.208	-0.512	-1.050	-1.302
RG6	1	5	4.207	0.658	-0.819	2.686	-4.136	6.825
RG7	2	5	3.640	0.788	-0.014	-0.454	-0.073	-1.153
RG8	1	5	3.793	0.822	-0.482	0.257	-2.434	0.653
RG13	1	5	4.127	0.780	-1.173	2.716	-5.921	6.900
RG14	1	5	3.973	0.785	-0.711	1.388	-3.592	3.526
RG15	1	5	4.033	0.727	-1.006	2.981	-5.077	7.573
RG18	3	5	4.427	0.583	-0.430	-0.704	-2.170	-1.788
RG19	2	5	3.993	0.671	-0.398	0.482	-2.012	1.224
RG20	3	5	4.113	0.681	-0.144	-0.828	-0.729	-2.104
RG21	2	5	3.940	0.726	-0.229	-0.284	-1.155	-0.721
RG22	2	5	4.260	0.629	-0.590	1.006	-2.981	2.557
RG23	1	5	4.220	0.664	-0.974	3.202	-4.921	8.136
RG24	2	5	4.040	0.644	-0.189	-0.028	-0.955	-0.070
RG25	3	5	4.027	0.685	-0.034	-0.843	-0.170	-2.141
RG27	3	5	4.107	0.615	-0.064	-0.365	-0.325	-0.928

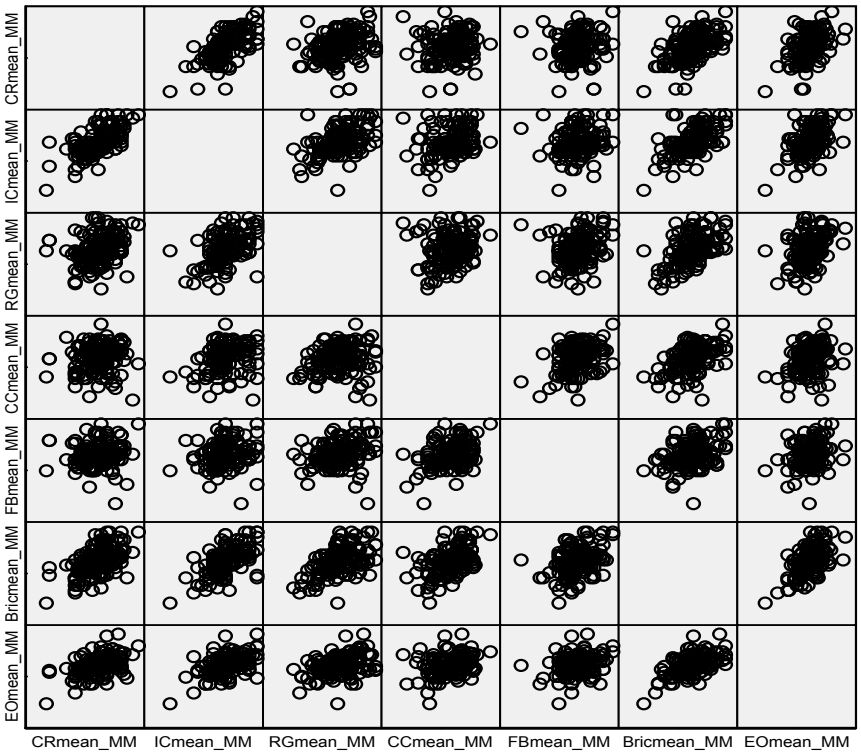
CC1	1	5	4.067	0.757	-0.959	1.881	-4.843	4.780
CC6	1	5	4.213	0.747	-1.055	2.100	-5.327	5.336
CC7	2	5	4.080	0.629	-0.389	0.779	-1.962	1.978
CC8	1	5	3.220	0.834	-0.293	0.147	-1.482	0.373
CC9	1	5	3.240	0.880	-0.610	0.276	-3.082	0.702
CC11	1	5	3.360	0.907	-0.341	0.181	-1.720	0.460
CC12	1	5	3.467	0.902	-0.732	0.648	-3.698	1.646
CC13	1	5	3.407	0.875	-0.531	0.493	-2.683	1.254
CC14	1	5	3.173	0.968	-0.536	-0.190	-2.704	-0.483
CC15	1	5	2.867	0.924	0.011	0.240	0.056	0.610
CC16	1	5	4.120	0.759	-1.418	4.356	-7.161	11.066
CC19	2	5	4.087	0.644	-0.539	1.134	-2.719	2.882
CC20	1	5	4.293	0.738	-1.138	2.265	-5.744	5.755
CC22	3	5	4.247	0.601	-0.160	-0.505	-0.808	-1.283
CC23	3	5	4.280	0.667	-0.389	-0.767	-1.962	-1.950
CC24	3	5	4.293	0.640	-0.351	-0.682	-1.772	-1.733
CC25	2	5	4.327	0.629	-0.547	0.224	-2.763	0.569
CC26	3	5	4.347	0.624	-0.408	-0.652	-2.058	-1.657
CC27	2	5	4.147	0.617	-0.273	0.315	-1.381	0.800
CC29	3	5	4.287	0.572	-0.087	-0.525	-0.440	-1.335
AC2	3	5	4.233	0.595	-0.125	-0.454	-0.633	-1.152
AC3	2	5	4.240	0.642	-0.418	0.066	-2.112	0.167
AC6	1	5	4.453	0.738	-1.461	2.735	-7.378	6.948
AS1	3	5	4.340	0.600	-0.303	-0.644	-1.530	-1.636
AO1	1	5	3.333	1.034	-0.559	0.001	-2.823	0.001
AO2	1	5	2.600	0.983	0.361	-0.289	1.822	-0.735
ASh1	1	5	2.847	0.888	-0.160	-0.383	-0.806	-0.973
ASh3	1	5	2.460	0.910	0.310	-0.236	1.566	-0.601
ASh4	1	5	2.440	0.986	0.084	-0.647	0.425	-1.643
ASh5	1	5	2.773	0.935	0.020	-0.288	0.099	-0.730
MB1	1	5	4.080	0.640	-0.849	3.355	-4.287	8.525
MB2	1	5	3.667	0.682	-0.367	0.911	-1.852	2.316
MB7	2	5	4.053	0.643	-0.202	-0.008	-1.018	-0.020
MB8	2	5	3.947	0.663	-0.221	0.072	-1.116	0.183
MB9	3	5	3.773	0.604	0.144	-0.478	0.729	-1.214
MB10	2	5	3.973	0.590	-0.193	0.577	-0.977	1.465
MB11	2	5	3.807	0.610	-0.054	-0.079	-0.271	-0.202
NB1	3	5	4.540	0.587	-0.865	-0.228	-4.368	-0.580
NB2	3	5	4.080	0.585	-0.011	-0.076	-0.056	-0.193
NB3	2	5	3.860	0.613	-0.267	0.457	-1.346	1.162
NB4	3	5	4.027	0.543	0.021	0.462	0.104	1.174
NB6	2	5	3.953	0.572	-0.225	0.816	-1.135	2.072
NB7	3	5	3.760	0.642	0.264	-0.666	1.333	-1.692
Risk3	1	5	3.360	0.788	-0.486	0.919	-2.453	2.336
Risk4	1	5	3.820	0.635	-0.627	2.091	-3.168	5.312
Risk5	1	5	3.367	0.737	-0.397	0.530	-2.004	1.347
Risk6	1	5	3.393	0.759	-0.239	0.520	-1.208	1.322
Risk7	1	5	3.793	0.708	-1.064	2.732	-5.375	6.940
Inno2	2	5	3.747	0.707	0.173	-0.598	0.873	-1.520
Inno5	2	5	3.607	0.713	-0.158	-0.151	-0.799	-0.384
Inno6	1	5	3.387	0.842	-0.150	0.310	-0.757	0.788
Inno7	1	5	3.533	0.800	-0.389	0.449	-1.966	1.140
Inno8	1	5	3.240	0.841	-0.068	0.108	-0.343	0.274
Inno9	1	5	3.253	0.716	0.362	0.773	1.827	1.965

Inno10	1	5	3.113	0.764	0.262	0.672	1.321	1.708
Pro1	3	5	4.460	0.551	-0.327	-0.967	-1.653	-2.458
Pro3	1	5	4.347	0.645	-1.083	3.577	-5.468	9.088
Pro4	2	5	3.867	0.692	0.059	-0.626	0.300	-1.591
Pro5	1	5	4.133	0.682	-0.945	2.879	-4.771	7.314
Risk1_Pro	3	5	4.393	0.530	0.025	-1.131	0.129	-2.873
ComAg2	1	5	3.260	0.746	0.127	0.252	0.640	0.641
ComAg4	1	5	3.280	0.778	-0.622	0.575	-3.140	1.461
ComAg5	1	5	3.320	0.797	-0.481	0.265	-2.427	0.673
ComAg6	1	5	3.200	0.851	-0.529	0.213	-2.672	0.542
ComAg7	1	5	3.593	0.787	-0.565	0.728	-2.854	1.850
Fut2	2	5	3.973	0.685	-0.220	-0.121	-1.112	-0.308
Fut3	2	5	4.187	0.584	-0.253	0.714	-1.279	1.813
Fut4	1	5	3.807	0.711	-0.495	1.077	-2.499	2.736
Fut5	3	5	4.373	0.640	-0.524	-0.642	-2.646	-1.632
Fut6	3	5	4.260	0.584	-0.113	-0.475	-0.570	-1.207
Fut7	3	5	4.280	0.557	-0.005	-0.487	-0.027	-1.239

Appendix 4.9

Results of linearity assessment (CFA stage, *n* = 150)

Scatterplots



Appendix 4.10

Results of common method bias assessment (CFA stage, *n* = 150)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	21.196	19.446	19.446	21.196	19.446	19.446
2	7.603	6.975	26.421	7.603	6.975	26.421
3	6.148	5.640	32.061	6.148	5.640	32.061
4	5.021	4.606	36.668	5.021	4.606	36.668
5	3.679	3.375	40.043	3.679	3.375	40.043
6	3.450	3.165	43.208	3.450	3.165	43.208
7	3.097	2.841	46.049	3.097	2.841	46.049
8	2.652	2.433	48.481	2.652	2.433	48.481
9	2.519	2.311	50.793	2.519	2.311	50.793
10	2.275	2.087	52.880	2.275	2.087	52.880
11	2.231	2.047	54.927	2.231	2.047	54.927
12	1.954	1.793	56.720	1.954	1.793	56.720
13	1.874	1.719	58.439	1.874	1.719	58.439
14	1.753	1.608	60.048	1.753	1.608	60.048
15	1.644	1.508	61.556	1.644	1.508	61.556
16	1.585	1.454	63.010	1.585	1.454	63.010
17	1.486	1.363	64.374	1.486	1.363	64.374
18	1.449	1.329	65.703	1.449	1.329	65.703
19	1.420	1.303	67.005	1.420	1.303	67.005
20	1.348	1.236	68.242	1.348	1.236	68.242
21	1.301	1.193	69.435	1.301	1.193	69.435
22	1.218	1.117	70.552	1.218	1.117	70.552
23	1.194	1.095	71.647	1.194	1.095	71.647
24	1.178	1.081	72.728	1.178	1.081	72.728
25	1.116	1.024	73.752	1.116	1.024	73.752
26	1.054	.967	74.719	1.054	.967	74.719
27	1.009	.926	75.644	1.009	.926	75.644
28	.984	.903	76.547			
29	.965	.886	77.433			
30	.895	.821	78.254			
31	.876	.804	79.057			
32	.853	.783	79.840			
33	.829	.760	80.601			
34	.789	.723	81.324			
35	.782	.717	82.042			
36	.729	.668	82.710			
37	.715	.656	83.366			
38	.693	.636	84.002			
39	.673	.618	84.620			
40	.647	.593	85.213			

41	.622	.571	85.784			
42	.607	.557	86.341			
43	.589	.541	86.882			
44	.579	.531	87.413			
45	.573	.526	87.939			
46	.558	.512	88.451			
47	.524	.481	88.932			
48	.514	.471	89.404			
49	.498	.457	89.861			
50	.482	.442	90.303			
51	.472	.433	90.736			
52	.451	.414	91.150			
53	.441	.405	91.555			
54	.419	.384	91.939			
55	.398	.365	92.304			
56	.389	.357	92.661			
57	.371	.341	93.002			
58	.364	.334	93.336			
59	.345	.316	93.652			
60	.338	.310	93.962			
61	.328	.301	94.263			
62	.319	.293	94.556			
63	.316	.290	94.846			
64	.288	.264	95.110			
65	.272	.250	95.360			
66	.270	.248	95.608			
67	.260	.239	95.847			
68	.254	.233	96.080			
69	.244	.224	96.303			
70	.237	.218	96.521			
71	.214	.196	96.718			
72	.207	.190	96.907			
73	.206	.189	97.097			
74	.196	.179	97.276			
75	.193	.177	97.453			
76	.188	.173	97.626			
77	.178	.163	97.789			
78	.165	.151	97.940			
79	.153	.140	98.080			
80	.151	.138	98.218			
81	.143	.131	98.349			
82	.137	.126	98.475			
83	.131	.120	98.596			
84	.127	.117	98.712			
85	.117	.107	98.820			
86	.112	.103	98.922			
87	.104	.095	99.018			
88	.101	.093	99.110			
89	.092	.084	99.195			
90	.086	.079	99.273			
91	.077	.071	99.344			
92	.074	.067	99.412			
93	.067	.061	99.473			

94	.062	.057	99.530			
95	.059	.054	99.584			
96	.056	.052	99.636			
97	.054	.050	99.686			
98	.046	.042	99.728			
99	.042	.039	99.767			
100	.040	.037	99.804			
101	.033	.031	99.834			
102	.031	.028	99.863			
103	.030	.028	99.891			
104	.026	.024	99.914			
105	.024	.022	99.937			
106	.022	.021	99.957			
107	.018	.016	99.974			
108	.017	.016	99.989			
109	.012	.011	100.000			

Extraction Method: Principal Component Analysis.

Appendix 4.11

Blindfolding procedure results: Cross-validated redundancy

Blindfolding procedure of CR				**Blindfolding procedure of IC**			
Total	SSO	SSE	1-SSE/SSO	Total	SSO	SSE	1-SSE/SSO
CR	1650	1244.666	0.2457	CR	1650	1245.956	0.2449
IC	1200	968.5814	0.1928	IC	1200	966.708	0.1944
Case 1	SSO	SSE	1-SSE/SSO	Case 1	SSO	SSE	1-SSE/SSO
CR	233.4799	176.0555	0.246	CR	233.4799	175.1855	0.2497
IC	156.8281	119.2838	0.2394	IC	156.8281	119.4453	0.2384
Case 2	SSO	SSE	1-SSE/SSO	Case 2	SSO	SSE	1-SSE/SSO
CR	225.1401	167.6028	0.2556	CR	225.1401	165.3071	0.2658
IC	181.6485	146.9002	0.1913	IC	181.6485	146.8023	0.1918
Case 3	SSO	SSE	1-SSE/SSO	Case 3	SSO	SSE	1-SSE/SSO
CR	242.9415	177.8073	0.2681	CR	242.9415	179.7135	0.2603
IC	165.5569	138.9651	0.1606	IC	165.5569	137.9506	0.1667
Case 4	SSO	SSE	1-SSE/SSO	Case 4	SSO	SSE	1-SSE/SSO
CR	211.4707	164.9638	0.2199	CR	211.4707	166.934	0.2106
IC	156.4874	110.505	0.2938	IC	156.4874	111.0726	0.2902
Case 5	SSO	SSE	1-SSE/SSO	Case 5	SSO	SSE	1-SSE/SSO
CR	253.1829	211.9201	0.163	CR	253.1829	211.741	0.1637
IC	186.2528	145.0815	0.2211	IC	186.2528	145.9634	0.2163
Case 6	SSO	SSE	1-SSE/SSO	Case 6	SSO	SSE	1-SSE/SSO
CR	247.0549	176.6027	0.2852	CR	247.0549	176.1761	0.2869
IC	183.1589	154.3059	0.1575	IC	183.1589	153.3211	0.1629
Case 7	SSO	SSE	1-SSE/SSO	Case 7	SSO	SSE	1-SSE/SSO
CR	236.73	169.7138	0.2831	CR	236.73	170.899	0.2781
IC	170.0674	153.5398	0.0972	IC	170.0674	152.1527	0.1053

Appendix 4.12

Mediation results produced using Kock's (2014) Sobel Spreadsheet

Inputs		
N	150	(Sample size)
A	0.5930	(Path coefficient calculated by WarpPLS)
B	0.5240	(Path coefficient calculated by WarpPLS)
Sa	0.0610	(Standard error calculated by WarpPLS)
Sb	0.0820	(Standard error calculated by WarpPLS)
Outputs		
Sab	0.0584	(Sobel's standard error for mediating effect)
Ab	0.3107	(Product path coefficient for mediating effect)
Tab	5.3203	(T value for mediating effect)
Pab	0.0000	(P value for mediating effect, one-tailed)
Pab'	0.0000	(P value for mediating effect, two-tailed)