CONTINGENCY FACTORS AND STRATEGIC MANAGEMENT ACCOUNTING USAGE IN THE ALGERIAN MEDIUM-SIZED ENTERPRISES

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ABSTRACT

This study aims to examine the effect of the selected contingent factors (e.g. perceived environmental uncertainty, market orientation and, technology) on the practice of strategic management accounting usage in medium-sized manufacturing companies in Algerian. The research framework is based on contingency theory. This study uses a survey method, and questionnaires are distributed to the top management of medium-sized manufacturing companies in Algeria to provide some evidence supporting the effect of contingent factors on the adoption of strategic management accounting techniques. To analyse the data collected, the Smart-PLS 3 used to test the hypotheses in this study. The results found that the factors from the contingent factors that have a positive and significant effect on strategic management accounting usage are perceived environmental uncertainty and market orientation, while, technology is not significant to strategic management accounting usage. The results provide implication to theoretical and practical. The findings contribute to the body of knowledge in strategic management accounting and contingency theory. The results provide evidence to top management in terms of the important factors that influence strategic management accounting usage.

Keywords: Contingency Theory, Perceived Environmental Uncertainty, Market Orientation, Technology, Strategic Management Accounting, Small and Medium Enterprises (SMEs), Algeria.

ABSTRAK

Kajian ini bertujuan untuk mengkaji kesan faktor kontingensi (misalnya, ketakpastian persekitaran tanggapan, orientasi pasaran dan teknologi) terhadap amalan penggunaan perakaunan pengurusan strategik di syarikat pembuatan bersaiz sederhana di Algeria. Kerangka kajian yang digunakan dalam kajian ini dibuat berlandaskan teori kontingensi. Kajian ini menggunakan instrumen soal selidik yang diedarkan kepada pihak pengurusan atasan syarikat pembuatan bersaiz sederhana di Algeria untuk memperlihatkan kesan faktor kontigensi terhadap penerimagunaan perakaunan pengurusan strategik. Perisian Smart-PLS 3 digunakan untuk menguji hipotesis kajian. Dapatan kajian menunjukkan bahawa faktor ketakpastian persekitaran tanggapan dan orientasi pasaran memberikan kesan yang positif dan signifikan terhadap penggunaan perakaunan pengurusan strategik, manakala teknologi tidak memberikan kesan yang signifikan. Dapatan kajian juga mempunyai implikasi teoretikal dan praktikal. Dapatan kajian menambah kosa ilmu sedia ada dalam perakaunan pengurusan strategik dan teori kontigensi. Selain itu, dapatan kajian juga mengetengahkan bukti tentang faktor penting yang mempengaruhi penggunaan perakaunan pengurusan strategik kepada pihak pengurusan atasan.

Kata kunci: Teori kontingensi, Ketakpastian persekitaran tanggapan, Orientasi pasaran, Teknologi, Perakaunan pengurusan strategik, Perusahaan Kecil dan Sederhana (SME), Algeria.

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LIST OF ABBREVIATIONS

SMA	Strategic Management Accounting
SMEs	Small and Medium-sized enterprises
MISMEPI	Ministry of Industry, Small and Medium-sized Enterprises and Promotion of Investments
EU	European Union
IT	Information Technology
NOS	National Office of Statistic
ICTs	Information and Communication Technology

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

In the 21st century, business activity is the main source of income generation for every country in this world. The small and medium-sized enterprises or known as Small and Medium Enterprises (SMEs) is the most popular business entity in every country. SMEs has been recognizing as the main business contributors in most of the countries across the globe. Besides that, SMEs has been representing an important influence in this era of modern information-based economies. According to Mitchell and Reid (2000), it is necessary to pay attention on SMEs because SMEs are really suitable for new economic opportunities. SMEs have the capability to become an important economic key to improve every nation's economy. Since these SMEs have a positive contribution and capacity. Policy makers have been considering SMEs as a main economic key to boost economic growth. SMEs have its own capability and capacity to run their business but to improve overall of the SMEs performances there were numerous projects have been issued. For example, according to SME Annual Report (2007), SMEs have involved in the effort to improve management and business methods especially in production, quality improvement, marketing and accounting skills.

Mosbah and Debili (2014) stated that SMEs have been facing some challenges to sustain their business due to several reasons. The reasons are changing market conditions, insufficient of capital, improper management skills and poor usage of basic business and management practices. The management practices are really

necessary for any business organization because it will provide information to the entire organization. After that the provided information could lead to the business organization to achieve or become spractices in the organization is Strategic Management Accounting (SMA). It is considered as an important strategy, and this SMA should be practiced by all SMEs. Baumal (2015) mentioned that business goals among SMEs are varied and business practices as well. On the other hand, Ahmad (2012) concludes that new SMEs formation could accept SMA without many difficulties.

Hopper, Koga and Goto (1999) had done research regarding the Japanese SMEs and state that these SMEs have been lacked to adopt important business practice such as management practice compare to other large business scale entities. This is the main factor on SMEs failure to achieve success because they are profit oriented and neglected management accounting. Reid and Smith (2002) had argued that well-organized information is the main contributor for small size business entity's achievement.

It is believed that SMA has been playing an important role regarding planning, observing and controlling of SMEs. Hopper, Koga, and Goto (1999) have been said that SMA was always connected to large scale business entities only. Fortunately, latest SMEs show interest to accept SMA because it can improve business performances.

Furthermore based on previous studies regarding financial accounting information it could be concluded that there are numerous SMEs business entities that have been paying attention to old financial accounting system in decision making process. Basically, the purpose of traditional financial accounting information is used for decision making by paying attention to elements such as quality, operational efficiency, cost reduction and etc. It is proven that quality, operational efficiency, cost reduction and etc. were difficult and had affected the process of decision making. Thus, this traditional financial accounting is considered as a system that could not give much positive implication for the business entities in order to improve business performances. According to Aziz (2012), any information that has been provided by traditional financial accounting was not systematic and had limited functions.

Still, there is involvement of the knowledge about SMA because academicians and researchers have been finding the best methods to utilize certain strategy and business organizations performances that could give positive implication of SMA on existing SMEs. According to Woods, Taylor and Ge Fang (2012), SMA is still considered by academic accountants but then the evidence through empirical studies is less.

The SMEs could use SMA tools like cost management approach, for example: value chain analysis, cost driver analysis and competitive advantage analysis, As a result, the use of these tools will help the whole organization of SME to understand and evaluate the strategy implementation (Shank & Govindarajan, 1988, 1989 & 1992;

Shank, 1996). There is another part of management accounting studies which has a relationship to the elements like the balanced scorecard (Kaplan & Norton, 1992, 1996 & 2001), interactive management controls (Simons, 1995), context includes life-cycle based strategic accounting (Wilson, 1995), quality costing (Tayles at al., 1996) and Kaizen costing (Cooper & Slagmulder, 1997) and activity-based management systems (Kaplan &Cooper, 1998). Besides that there were other elements also such as quality costing (Tayles at al., 1996), inter-organisational cost management (Cooper & Slagmulder, 2004), customer accounting (Donelan & Kaplan, 1998; Foster & Gupta, 1994; Ryals & Payne, 2001; Ryals & Knox, 2004; Ryals, 2008) and customer life-value accounting (Jain & Singh, 2002; Gupta & Lehman, 2003; Vogel et al., 2008; Ambler & Roberts, 2005).

Pratt (2004) and Miles (2003) have highlighted that contingency literature consists the requirement for the organization so that the business entity could absorb internal and external factors and craft them to compete with other business entities in the market. A significant organizational action in this planned constrain and the goal of challenging favorably in the marketplace is useful decision making. Ojra (2014) had mentioned that for an effective decision making, SMA is still important but more enhancement of understanding of the contingency is required. Overall the final report of the European Commission on Upgrading Program of Algerian SMEs (2007) has classified certain inner problems among SMEs. The problem includes enterprise, macro level, supporting institutions and the professional groups. Every element has some difficulties in term of finance, management, human resource production, technology, commercial and marketing.

From the perspective of contingency, researchers have been studied factors that influence the implementation of the SMA strategies by attempting to find the answer to the question on how environmental uncertainty (e.g., Hoque, 2004; Shank, & Govindarajan, 1992; Hope & Hope, 1995; Leftesi, 2008; Foster & Gupta, 1994; Simons, 1990; Libby & Waterhouse, 1996; Guilding & McManus, 2002; Hwang, 2005), organizational technology (e.g., Granlund, 2011; Hald & Mouritsen, 2013; Dechow& Mouritsen, 2005; Haldma & Lääts, 2002), market orientation (e.g., Leftesi, 2008; Chenhall, 2007; Cinquini & Tenucci, 2010; Cadez & Guilding, 2008; Hwang, 2005; Jusoh, 2010; McManus, 2012) that might execute the importance and use of SMA usage.

Scholars and researchers have been highlighted the necessary to study SMA modus, the process, and the effectiveness through the attention on market orientation. Basically it is really required to explain on how the external and internal dynamics of a business entities would create the importance and use of SMA (e.g., Leftesi, 2008; Chenhall, 2007; Cinquini & Tenucci, 2010; Cadez & Guilding, 2008; Hwang, 2005; Jusoh, 2010; McManus, 2012). Hence, this study attempts to examine the relationship of contingency factors (perceived environment uncertainty, market orientation, technology) on the SMA practices in SMEs in Algeria.

The main objective of this study is to examine if business entity able to cope up with these contingency dynamics to be a better fit for SMA usage.

1.2 Background of Small and Medium Enterprises in Algeria

Algeria is one of the developing countries in the African continent. It has economic features such as small size of economic structure. Basically, this country's economies have been performing by the industries like hydrocarbon sectors, and the non-oil exporters still remain as a minor group, because it generates only three per cent of total exports, and this country's economic performances solely depend on oil price volatility. In addition, in Algeria, oil sectors have been generating approximately 70% of the revenues and have been contributing about 45% of GDP (Atil, 2009).

Since Algeria understood that SMEs could play a major role in Algerian economies, Algerian government attention turns to the private sector where it could create vast job markets for natives. After the Algerian economies started focusing on SMEs and the progressive of the economy in the 1990s had increased the number of SMEs. According to Algerian Ministry of Industry, SMEs and Investment Promotion statistics that number of SMEs with economic structure had improved nationally. As a support statement, it mentioned that in 2013 the total number of SMEs in Algeria is 748, 000. National Office of Statistic (NOS) defines SMEs as an entity of business to produce goods and services and also believes SMEs could create new jobs opportunities (Atil, 2009).

The total number of SMEs has increased, in 2001 is about 245, 348 of SMEs then improved to 687, 386 in 2012 (Ministry of Industry, SMEs, and promotion of Investment, 2012). Currently, SMEs represent about 94 % of the national business

and produce about 52% of the total generation of non-oil (private sector). As a consequence SMEs number have improved and their contribution to Algerian GDP increase but still have not achieved main targets.

In 2001, Algeria had signed up a partnership with European Union (EU). The main objective of this deal is to accept a new law as guidance for SMEs operations from EU 1996. It says that SMEs business is able to produce goods and services with 1 to 250 employees. Moreover, the annual turnover must not more than 2 billion Algerian Dinar (DZD) or total balance sheet not exceeding 500 million Algerian Dinar (DZD). It is clear that criteria like micro, small and medium have four main keys such as a number of employees, total turnover, total balance sheet, and independence (see Table 1.1). According to Mosbah and Debili (2014), the independence means that there will be not more than 25% of the capital rights can be held by another organization or conjointly held with a few organizations.

Table 1.1: Definition of Small and Medium Enterprises in Algeria

Business Size	Number of Employees	Turnover (annual sales) (DZD)	Balance Sheet (DZD)
Micro	1 - 9	≤ 20 million	≤ 10 million
Small	10 - 49	≤ 200 million	≤ 100 million
Medium	50 - 250	100 million - 2 billion	100- 500 million

Sorce: Ministry of Industry, Small and Medium Enterprises and Promotion of Investment (MISMEPI). (2012).

Bouazza (2015) had concluded that SMEs in Algeria has a few specific criteria that could differentiate from other large firms, usually these SMEs have been dominated by the private business tycoons in Algeria. This statement has supported by Algerian Ministry of Industry, SME and investment promotion that about 99.92 per cent of SMEs were belong to private companies. This is clearly telling us that job and income generation is solely depends on to private sectors in Algeria. According to Bouazza (2015), North Algeria is the main focus of SMEs and the existence of disparity (spatial distribution), the spatial distribution in the north Algeria is high, medium in highlands and it is poor in the south of Algeria. Beside that, SMEs have been concentrating on various sectors such as service sector and construction sector. Algerian SMEs have a good reputation in service sector especially in transportation and followed by building, construction, and hydraulic sectors. Overall, the manufacturing has been covered about 16.07% from entire SMEs and agriculture is 1.09 % and energy is 0.49% (Bouazza, 2015).

In 2010, the Algerian government had announced 5 years plans which is from 2010 to 2014. It says that nearly 200,000 of SMEs will be created and might generate 1.5 million of job chances and about 20,000 of existing SMEs will be upgraded. MISMEPI (2012) the improvement through various plans will eliminate obstacles which are related to formations for new SMEs and improve business climates, in 2011 there was new measurements such as consultations which involved debt rescheduling and loan subsidies for SMEs (Mosbah & Debili, 2014).

1.3 Problem Statement

The knowledge regard SMA is evolving in academics and management practitioners in order to search for ways to make sure the maximization of strategic and organizational performance impact to SMA. Woods et al (2012) comment that while SMA continues to be of considerable interest to academic accountants, it still suffers from a relative dearth of empirically based research. An important outcome with regard to SMA knowledge in the majority of previous studies reflected Western world contexts. Moreover, the SMA knowledge regarding less developed countries is just less in context (e.g., Alrawi & Thomas, 2007; Leftesi, 2008; Tuan Mat, 2010; Islam & Hu, 2012).

Simmonds (1981) concluded that SMA is the main method to achieve current challenges among modern companies. By comparing the modern companies with companies those had operated a few decades ago, the modern companies are towards dynamic and competitive. Each new modern company has been trying to improve their manufacturing, services, and quality in order to produce better outputs. Bromwich and Bhimani (1989) mentioned that SMA just pays attention to internal orientation is extremely quantitative and has not been able to make possible strategic decision making and develop organizational competitive advantages.

Guilding, Cravens and Tayles (2000) said that this SMA could create important value by giving sufficient information for organizations to achieve success. Roslender and Hart (2002) said that SMA definitely can aid any company to improve

their profit and efficiency that had shown when Kaplan introduced activity based costing (ABC) and activity based management (ABM).

Algeria is the one country that has hydrocarbon based economy which is oil-gas, and as an alternative, Algeria has tried to improve economies which base on other sources. The SMEs have been receiving grow recognition with support. Since it becomes important, new laws have been taking place and new projects and fund allocation. It has been expected that with overall efforts, the main objective can be achieved such to make SMEs as a reliable alternate instead depend on to hydrocarbon sector. It has been assumed that SMEs could lead Algerian economies and could able to compete among other markets across the globe with overall supports but then this SMEs reputation still under at poor level and face huge failure (Mosbah & Debili,2014).

This small scale business entities have been playing an important role in a lot of countries. These SMEs have the capacity to add a contribution to native communities and economies but then it still being comparatively untouched context for management accounting literature. In addition, SMEs have recorded with a high number of failure rates compare to the large scale of business and it has been suggested that management accounting practices required for SMEs. So that SMEs can improve their performances and improve their survival rates (Ng, Harrison & Akroyd, 2013).

Richard (2000) had mentioned that there were various reasons for SMEs failure such as insufficient of capital, poor market selection and drastically changes in market conditions. Therefore, it is believed that SMA is one technique to encourage the positive performance of SMEs. SMA helps organizations obtain reliable management accounting information to make better decisions for their performance and competitiveness (Bromwich & Bhimani, 1989). Empirical research have found that SMA usage could influence firm performance (Chenhall, 2003; Cinquini & Tenucci, 2007; Guilding et al., 2001; Nordin, Zainuddin, & Tayles, 2009; Otley, 2001; Tillmann & Goddard, 2008). Baines and Langfi eld-Smith (2003) discovered the positive effects of SMA in enterprise manufacturing and production.

Aziz (2012) makes a study about SMEs in Iraq and he finds that one of the ways by which the SMEs could be revived is through the financial information which is provided through proper and systematic SMA information for effective decision makings. Therefore, SMEs must look for an alternative approach that would help them to improve their decision making, cost efficiency and operational efficiency and in turn, improve their performance. To achieve this, it is critical that firms re-evaluate their management practice of decision making and one of the ways of getting this information is through SMA system. Due to the fact that SMEs are also searching for financial information like the large firms, it becomes very crucial for them to implement SMA system. Therefore, SMA has now become important for SMEs that intend to improve performance (Aziz, 2012). Okpara and Wynn (2007) specifically pointed out that lack of financial management has been identified as the root cause for SMEs failures.

The SMEs in Algeria confront huge problems at the level of management, first of all, the Algerian SMEs still suffer from the lack of management and strategy due to the lack of information, weak innovation and the mangers are dynamic but they do not have strategies to apply in their companies. In the term of commercialization and market, SMEs in Algeria have a poor knowledge about the market, poor channels of distributions, poor relations with customers and weak promotion of products. Also, SMEs use old technology materials and equipment in the production process (Mosbah & Debili,2014).

Therefore, studies on this topic are very rare in the context of developing countries such as Libya, Iran, and Iraq (Aziz, 2012). There is a need for a study that would take into account the environment of the developing countries because developing countries are known to be prone to corruptions, embezzlement, lack of management accounting information, bad government policies and also have a high record of SMEs failures.

Basically, most accounting researchers have been examined the use of management accounting practices. The practice which is supports the internal decision making for the large scale of business. Usually, previous literature regard management accounting had examined the role of management accounting as a mechanism for performance improvement, coordination, and accountability. Unfortunately, literatures for small scale business summarized that management accounting practices and other information systems were informal. Ng, Harrison and Akroyd

(2013) stated that the main obstacles that a management facing is to get required information for managing production cost, quality and time related issues. According to Aziz (2012), management had built up and certain systems to acquire internal and external cost with market information because these are necessary to get good decision making results, planning and control to get a business organization improvement and sustain market competitiveness.

The contingency theory has been frequently occupied for research that related to management accounting and also field like strategic management (Henri, Boiral, & Roy, 2015; Lopez-Valeiras, Gomez-Conde, & Naranjo-Gil, 2015; Cadez & Guilding, 2012). Furthermore, Otley (1980) and Oates (2015) had mentioned that there is no other suitable management accounting system that could be used by any business organizations in any periods. It can define as a structure of management accounting system that has been practicing by any organizations supposed to tally with any circumstances and conditions in which the business entity is operating to improve their reputations. The objective of contingency theory is any business entity performance will be improved if good fit occurs between management accounting and control system and the contextual variables such as perceived environmental uncertainty, market orientation and technology.

According to Chenhall (2003), perceived environmental uncertainty considered as the heart of contingency theory and the most important factor affecting management accounting techniques. Furthermore, Ojra (2014) had explored five contingency factors in Palestinian companies, among these factors are perceived environmental

uncertainty and technology, this study concludes that the degree of environmental uncertainty that a company faces influences the nature and extent of SMA techniques, also, Ojra (2014) concludes that organizational technology is positively associated with SMA techniques. Thus, organizations that show high levels of information and communication technology show a high need for the use of the SMA techniques.

A core feature of the modern-day business environment is fast evolving customer demands (Cadez & Guilding, 2008). To survive in such circumstance, organisations must embrace market orientation. Organisations that do that will profitably satisfy customers (Roslender & Hart, 2003; Opute, 2009), consolidate competitive advantage (Perera, Harrison, & Poole. 1997), and achieve enhanced performance (Slater & Narver, 1994; Henri, 2006), and organisations must align their management accounting activities towards this target (Bromwich, 1990). Narver and Slater (1990) opined that marketing scholars had used market orientation as a middle of modern management and strategy. Meanwhile, Cadez and Guilding, 2008; Guilding and McManus (2002) said that the previous studies were not focused on market orientation and SMA usage, especially in SMEs. After that, this study should bring market orientation as a contingent factor since it has shown a significant relationship with the criteria of SMA. Another contingency factors that has never been done such investigations in Algeria is perceived environmental uncertainty and technology, the results from this study will be helpful to compare previous studies from other developing countries (Cadez & Guilding, 2008; Guilding & McManus, 2002).

These three contingent factors namely; perceived environmental uncertainty, market orientation and technology were chosen because of many reasons. First, perceived environmental uncertainty considered as the heart of contingency theory and the most important factor affecting management accounting techniques (Chenhall, 2003). Second, even though there are many variables have been considered as antecedents for management accounting system in the contingency-based studies, At the same time although, the marketing's academics considered market orientation as a central of modern management and strategy (Narver & Slater, 1990), the previous works on management accounting did not give enough attention for market orientation (Cadez & Guilding, 2008). Moreover, there are just a few studies have explored the relationship between market orientation and SMA (Cadez & Guilding, 2008; Guilding & McManus, 2002). Hence, it appears particularly appropriate to introduce market orientation as a contingent factor in the current study as it shows a close association with the characteristics of SMA (Roslender & Hart, 2003). Third, technology is changing continuously because of the dynamic environment, changes in technology have lead manufactures to consider it an important element in deriving information for decision making (Dechow, Granlund, & Mouritsen, 2007). Many companies have developed strategies, including investing heavily in technology to enhance performance (Tippins & Sohi, 2003). Tippins and Sohi (2003) showed that technology competency positive influences firm performance. Organizations whose information systems are not aligned with their strategic objectives are not successful (Zahra & Covin, 1993). Baines and Langfield-Smith (2003) and Chenhall (2003)

showed that firms facing a more competitive environment and technology advancement veer toward differentiation strategies, especially that this study is about the manufacturing companies in Algeria, which the technology is very important in the whole processes of the organization.

In addition to that, it seems useful to investigate such relationship (these contingent factors and SMA) in a new context which is in Algeria and confirm the result of previous studies in the context of developing countries (McManus & Guilding, 2008; Roslender & Hart, 2003).

Contingency theory studies postulate that organizational outcomes are the consequences of fit or match between two or more contingent factors (Islam & Hu, 2012). For the purpose of achieving the goals of this research, this study borrows from the insight in previous studies concerning the core variables in the contingency perspective. To avoid repetition, only the basic information concerning explored factors is specified, the relevant empirical factors for each factor would be pinpointed in the sectional review of respective variables.

To contribute to the understanding of SMA practices in Algerian companies and contingency factors, this study draws upon the three realms of contingency perspective mentioned above to conceptualize a framework that has been theoretically justified in chapter three, also this study aims to improve regards the understanding of the influence of the contingency factors which are: environmental

uncertainty, market orientation and technology on SMA technique practices and implementations among medium-sized companies in Algeria.

1.4 Research Questions

Based on the issue discussed in the problem statement in the context of contingency theory, specifically, for achieving the objectives of this study, there are three research questions are formed as follows:

1. What is the relationship between perceived environmental uncertainty and strategic management accounting practices among medium-sized enterprises in Algeria?
2. What is the relationship between market orientation and strategic management accounting practices among medium-sized enterprises in Algeria?
3. What is the relationship between technology and strategic management accounting practices among medium-sized enterprises in Algeria?

1.5 Research Objectives

There are three research objectives in this study, as follows:

1. To examine the relationship between perceived environmental uncertainty and strategic management accounting practices among medium-sized enterprises in Algeria.

3. To examine the relationship between market orientation and strategic management accounting practices among medium-sized enterprises in Algeria.

3. To examine the relationship between technology and strategic management accounting practices among medium-sized enterprises in Algeria?

1.6 Significance of the Study

1.6.1 Theoretical Contribution

In order to gain better knowledge regarding SMA, researchers had used a number of explanatory frameworks which it has contingency theory, agency theory and other related theories from previous studies. The main relevant of this study is occupying the contingency theory which posits about organizational structures and systems that have been functioned and firm specific factors (Chenhall, 2003; Gerdin, 2005; Haldma & Lääts, 2002; Cadez & Guilding, 2008).

The theoretical flow of this study is just on the surface level because this study has just tried to justify on the basis of the classification of the theoretical gaps in relative to the contingency factors that had influenced SMA usage in Algeria. Besides that, this study contributes new research to literature regards Algerian SMEs on SMA usage. The findings of this study increase the knowledge on contingency factors of SMA. Also, it presents the understanding of the usefulness of this SMA among SMEs workers such as managers, accountants and also owners those have been involving with daily usage of accounting information.

1.6.2 Practical Contribution

The findings from this study might give some useful effects for daily practice, and definitely contribute to SMA studies and might give empirical results regarding SMA usage. This study is really important as a research about SMA and SMEs in Algeria. There are few advantages of this practice such as improve awareness among SMEs managers and accountant practitioners regard the influence of SMA and maintain the competitive among other SMEs in the market.

Additionally, the findings of the study could help policy makers to identify the level of use of SMA among SMEs and reasons that have been influencing the usage of SMA. It is to make sure that any decision regards policy that will be made by the Algerian government, financial institutions, SMEs ministry and other groups with an interest in SMEs are evidence oriented.

1.7 Scope of Study

Overall of the study is focusing on medium-sized manufacturing companies that listed in SMEs manufacturing sectors in Algers- Algeria. The reason behind the chosen of the medium-sized manufacturing companies is that there is limited study cover the SMEs, in other hand, the performance of the medium-sized companies is weak due to the luck of practicing the SMA techniques, so, this study will help the top managers to understand the factors that influence the implementation of these techniques in their organization. Furthermore, the companies practice the SMA techniques in the manufacturing sector more compare to the other sectors. Also, the reason for chose the capital of Algeria which is Algiers as the main population of

this study is that there is a disparity existence in the spatial distribution of SMEs with a number of record in the north.

This study mainly aimed to examine the contingency factors which are: perceive environmental uncertainty, market orientation and technology and its role in affecting the use of SMA techniques in 2016, this study cover only 8 techniques which are: Activity based costing, Life-cycle costing, Quality costing, Target costing and, Value-chain costing, Benchmarking and, performance measurement, Customer profitability analysis. This study has combined two different types of contingency factors, external which are perceived environmental uncertainty and market orientation, and internal which is technology. This study regard medium manufacturing companies should help to get a better understanding about SMA usage.

1.8 Definition of Key Terms

Medium-sized Manufacturing Enterprises

Medium-sized manufacturing enterprises in this study direct to any firms that have been employing 50 to 250 workers that employees working for fulltime basis (MISMEPI, 2012).

Strategic Management Accounting

Simmonds (1981) had introduced SMA terms for management accounting analysis. It includes information about one business and their competitors. The main objective is to develop and monitor business and in this study SMA consists of the following:

Costing including; Activity based costing, Life-cycle costing, Quality costing, Target costing and, Value-chain costing (Cadez and Guilding 2008).

Planning, control and performance measurements including, Benchmarking and, performance measurement (Cadez and Guilding 2008).

Customers Accounting including Customer profitability analysis (Cadez and Guilding 2008).

Perceived Environment Uncertainty

The environment uncertainty is classified as a lack of information regarding the environmental factors associated with a given decision-making situation, not knowing the outcome of a specific decision (Fisher,1998). According to Daft, Sormunen and Parks (1988), perceived environmental uncertainty is the nonappearance of in order with regard to organizations, activities, and events in the environment.

Market orientation

Narver and Slater (1990) market orientation is a business culture that efficiently makes the superior value their customers. Authors had added that they see the concept as comprising three behavioral components and two decision criteria such as

customer orientation, competitor orientation, inter functional coordination, a long-term focus, and a profit-objective.

Technology

It is conceptualized as sort of software, hardware, telecommunication and in order management technologies, applications, and devices that are used to create, produce, analyze, process, package, distribute, retrieve, store and transform information. Therefore, Information and Communication Technologies (ICTs) are organized contact networks and data resource that gather, change, and broadcast information within and among organizations (Seyal, Rahman, & Rahim, 2000; Sharma and Bhagwat, 2006).

1.9 Organization of the Study

This study is segregated into five chapters. Chapter 1 presents the background of the study, problem statement, research questions, research objectives, the significance of the study, definition of key terms, and organization of the study. Chapter 2 discusses the literature review which is organized according to the major studies related to the problem statement. Chapter 3 gives details the research methodology used for this study. It includes theoretical framework, hypotheses, the justification for the application of specific research designs, a method of data collection which is through a questionnaire survey, and data analysis technique. Chapter 4 contains the data analysis. This chapter presents the information collected through the survey, analysis for each company, and analysis of variations between companies. Finally, chapter 5 provides the conclusion and contributions of the research. This chapter also

addresses the limitations of the study and presents the implications for future research.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The principal purpose of this chapter is to explain and analyses the impact of contingency factors on the SMA practices. To achieve this purpose, this chapter is containing an overview on the SMA, the contingent variables and the relationship between contingency factors and SMA, moreover, this chapter explains the contingency theory, and identifies the gap of this study.

2.2 Strategic Management Accounting

In earlier of 1980s researchers like Simmonds (1981) had brought key term like SMA in articles, after that there were several scholars had used SMA concept for their research purposes and it is because SMA has link to define with management accounting and marketing management (Guilding et al, 2000; Roslender & Hart, 2002; Dashtbayaz, Mohammadi, & Mohammadi, 2014).

Bromwich (1990) had summarized SMA as the main tool to analysis any companies' financial information. Usually, financial information consists of products, markets, competitor cost, structure cost and companies' strategies for certain time. Also, Bromwich (1990) added that SMA is work by collecting information regarding companies and their competitors to examine the business organizations value added. There was explanation of SMA by Guilding et al (2000) that SMA practice must have a few characteristics such external business environment, market orientation, other opponents focus and long-term goals.

2.2.1 Strategic Management Accounting Techniques

On the other hand, there is still imperfect compromise about what represents SMA Cadez and Guilding (2008). This irregularity in conceptualizing of SMA and what would be the insides of SMA has supported researchers to consider which management accounting techniques bring strategic orientation and therefore should be shown as the SMA practice. Guilding et al (2000) presented an original set of SMA techniques, which had mentioned that criterion for allowing for exacting accounting techniques as planned. It is renowned that a large amount of the conventional management accounting was stood for a one-year period and the meeting point tends to be prevailing. This eccentricity does not match with strategic orientations.

The main characteristics of SMA as a strategy involved a long-term future direction period and an externally focused viewpoint, These characteristics may well be a positive tool in determining accounting techniques fit for SMA, The methods should exemplify degrees of these two orientations of external business background which is outward-looking and forward-looking (Guilding et al, 2000).

Guilding et al (2000) had collected twelve techniques of SMA literature. After that Cravens and Guilding (2001) managed to bring another three more SMA methods. The recent studies by cadez and guilding (2008) had plotted sixteen sma methods and they classified these techniques into five large categories with three categories

embodying themes of management accounting discussed in management accounting literature. The main important five categories are: firstly, costing including; activity based costing, life-cycle costing, quality costing, target costing and value-chain costing. Secondly, planning control and performance measurements including; benchmarking and performance measurement. Thirdly, strategic decision-making including strategic costing, strategic pricing and brand valuation. Fourthly, competitor accounting including competitor cost assessment, competitive position monitoring and competitor performance appraisal. Finally, customers accounting including customer profitability analysis, lifetime customer profitability analysis and valuation of customers as assets.

2.2.2 The Role of Strategic Management Accounting in Organization

SMA is a technique to encourage the positive performance of Organizations. SMA helps organizations obtain reliable management accounting information to make better decisions for their performance and competitiveness (Bromwich & Bhimani, 1989). SMA capabilities focus both on quantitative and qualitative aspects, are future-oriented, include external factors in the analysis (Bromwich & Bhimani, 1989), and create value through the effective use of resources (Kaplan & Norton, 1996). Empirical research have found that SMA usage could influence firm performance (Chenhall, 2003; Cinquini & Tenucci, 2007; Guilding et al., 2001; Nordin, Zainuddin, & Tayles, 2009; Otley, 2001; Tillmann & Goddard, 2008). Baines and Langfi eld-Smith (2003) discovered the positive effects of SMAs in enterprise manufacturing and production. ~~Robert S.~~ Kaplan (1990) indicated that JIT Just-in-Time

manufacturing systems have a dramatic effect on the expectations on fi rm logistics information system. R. S. Kaplan and Norton (1996) also indicate that using the BSC could improve business position and enhance performance.

Given the range of views expressed about the role of SMA in organizations, a summary of the main themes in the literature suggests that the following elements are important, first of all, collection of competitor information in order to compare the firm with competitors, information about competitors' pricing, costs and volume, and information to enable determination of market share would have to be collected. Another important elements are Exploitation of cost reduction opportunities, instead of merely meeting standards, there would be a focus on continuous improvements, These would include finding ways of reducing costs also enhancing differentiation by exploiting linkages in the value chain, increasing executional cost drivers and getting structural cost drivers to the optimal level, different and in some cases non-financial, performance measures may be employed to measure and monitor improvements in all these areas. Also, SMA has main role in matching of accounting emphasis with a strategic position. Depending on the strategic position chosen, firms would place different emphasis on elements of traditional management accounting. Product differentiators would attach high importance to marketing cost analysis. Flexible budgeting for manufacturing cost control and meeting budgets would be of moderate to low importance. As products may have to change frequently to meet market demand, little or no importance would be attached to detailed standard costing for performance assessment, using

product costs for pricing decisions and performing competitor cost analysis. Cost leaders, on the other hand, would attach high importance to standard costing for performance assessment, flexible budgeting for manufacturing cost control, meeting budgets, using product costs for pricing decisions, and competitor cost analysis. In these firms, little or no importance would be attached to marketing cost analysis.

To study the main role of management accounting in providing information, firstly, must find the required information by strategic management. Figure 2.1 shows the elements or key that a strategic management required. It has both financial and non-financial information.

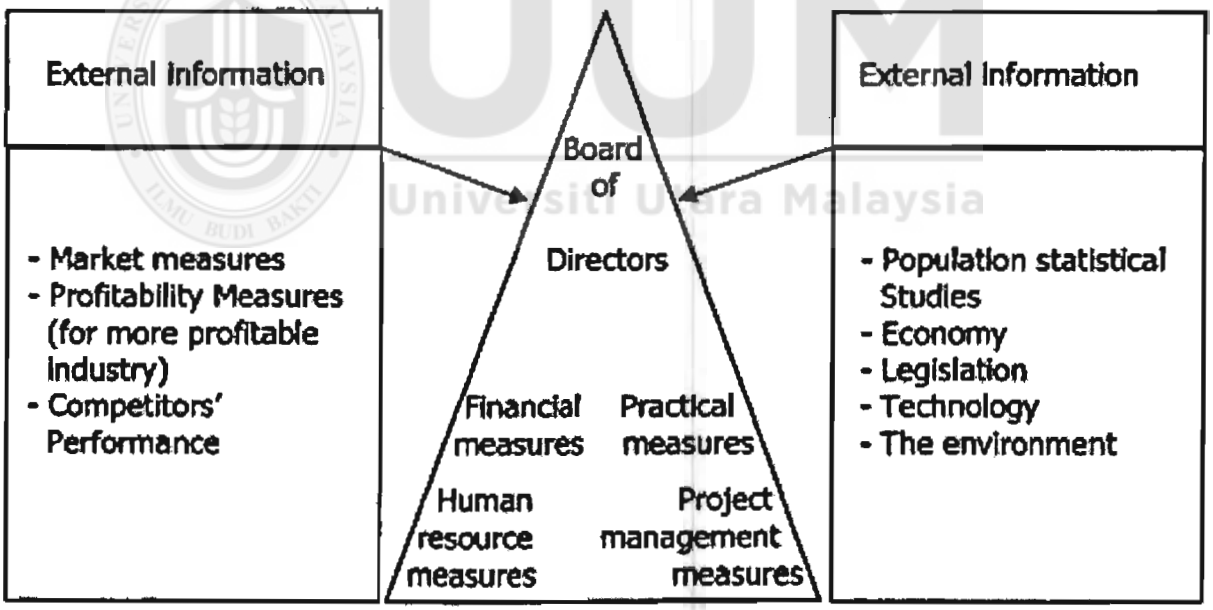

Figure 2. 1: Information Required by Strategic Management

Source: adapted from Abuo-Alfutouh (2004)

Arabi (1999) had stated that success could be achieving if companies have information regard analytical information, financial and non-financial, external and internal, and pre- and post-information. As a result, it requires the following information such as the preference of challenging alternative production technology patterns e.g. on the differences in the cost structure of the company using a certain production technology compared with the cost structures of competitors. Also competitors' costs, suppliers, customers' markets, customer profitability analysis, new products, and the moment in time consumed at each phase of the product's life cycle and the cost of each stage, the products essential for the market and determining the combination of products that achieves the highest profit in the market.

Subsequent to the argument and analysis of the properties and types of information obligatory by strategic management to achieve its goals, it is clear that traditional management accounting cannot fully meet the required information. According to Yazdifar (2003), the information supplied by traditional management accounting is unsuitable for strategic management for a few reasons. The first reason is the traditional management accounting system does not focus on strategic planning, unfortunately, centers on external information and inventory evaluation. This is not proper for the strategic management approach, which requires companies to put the strategic dimensions in accounting. After that, it focuses on the financial procedures and not the non-financial ones and also it focuses on the invention actions, not the sub-activities. Besides that, the traditional system disregards the relationships with suppliers and customers and also ignores the relationships with activities. The

conventional system ignores the costing position of competitors and focuses on the amount of creation as a sole cost driver. Traditional management accounting does not pay attention to submitting reports on excellence. The traditional system focuses on short-term decisions and does not pay attention to purchaser prosperity. It ignores investigating and measuring costs throughout the product's life cycle.

Furthermore, Narver and Slater (1990) designated that the traditional management accounting disregarded the features of produce which signify a key factor that generates value for customers. Although there has been raise in the consequence of intellectual assets, traditional management accounting remains to focus on corporal and financial assets and ignores most intellectual assets Zeghal and Maaloul (2010). The over disparity in nature and kind of in order needed by planned management and the inability of the traditional management accounting system to meet the information needs of strategic management guides to the appearance of the SMA move toward to complete the strategic management necessities.

2.2.3 Differences between Traditional Management Accounting and Strategic Management Accounting

Previously this study has been discussing the main concept of the strategic management and the definition. It is important to understand the difference between SMA and traditional management accounting.

Firstly, the traditional management accounting has concreted on inner focus. Traditional management accounting is paying attention to inner competencies and overlooking relationship with customers and suppliers. This is the main reason why many chances have been wasted instead win competitive advantageous and gain profits. According to Shank and Govindarajan (1992), the SMA has deep outer focus and it has been focusing on the various level of the value chain.

Secondly, the main reason for analyzing and collecting data for SMA is to generate the main principal data like quality, time, and customer satisfaction and cost improvement for the formulation, implementation, and realization of strategies. According to Roslender and Hart (2003), the main intention of data collection is to gain better decision lastly, the criteria of each data collection were different. Basically, the traditional management accounting just depends on a few important keys such as historical, internal, financial and post-information. Also, this SMA uses future, internal and external, pre-information, post-information, financial and non-financial data Simmonds (1981).

2.3 Overview of the Contingent Variables

The contingency research is responsible for elaborating on how the management accounting system has been influencing with contingent variables. There is a problem to find an exact set of contingent factors. Macintosh and Daft (1987) concluded that so far there is no sole study that had the right to use overall of contingent variables. Fisher (1995) had stated that there were only small numbers of previous studies in order to identify all contingent variables. So far there were two

main contingent variables had stated which is market orientation (Cadez & Guilding, 2008; Guilding & McManus, 2002) and perceive environmental uncertainty (Chenhall & Morris, 1986; Chong & Chong, 1997; Gordon & Narayanan, 1984; Gul & Chia, 1994; Mia, 1993).

The previous works have focused more on some of these factors, such as; Business Strategy, firm size and neglected the other important factors (Abernethy & Guthrie, 1994; Kim, Lee, Chun, & Benbasat, 2014).

2.3.1 Perceived Environmental Uncertainty

The perceived environmental uncertainty (PEU) is known as one of the main contingent variables in management accounting system literature. It is because PEU has made the planning and control for managers become more complicated and hard to forecast (Chenchall & Moriss 1986). Furthermore, the management accounting studies demonstrated the management accounting systems plan used by an organization is determined based on the business environment (Gordon & Narayanan,1984).

2.3.2 Market Orientation

Cadez and Guilding (2008) identified a new contingent variable as a very important forerunner of SMA usage which is a market orientation. The market orientation has three important behavioral components such as customer orientation, competitor

orientation and inter-functional coordination. The first component customer orientation is all about necessary understanding of someone's target buyers to be enabled to make better values from them non-stop (Levit,1980). This process to understand the buyer's demand it is not about today or tomorrow but it will evolve over time subject to internal and market dynamics. Secondly, it is about the competitor orientation, it has a definition that a seller understands regard the short-term weakness and strengths and also regards long term strategies and capabilities of these two current key and the potential key competitors (Aaker 1988; Day & Wensley 1988; Porter 1980, 1985). Corresponding buyers' analysis shows that the analysis of principal current and potential competitors must contain the complete set of technologies competent of satisfying the current and predictable needs of the seller's target buyers (Narver & Slater, 1990). The final component is inter-functional coordination. It defines as the maximization of one company's resources in order to produce superior value for target customers. The buyer's value chain manages to pays for an opportunity for a seller to generate value for the buyer firm. According to Narver and Slater (1990), any individual in every job in a seller firm can potentially supply to the creation of value for buyers.

Market orientation consists of three behavioral components: customer orientation, competitor orientation, and interfunctional coordination; Specifically, customer orientation is the sufficient understanding of one's target buyers to be able to create superior value for them continuously (or, per Levitt (1980), to create continuously an "augmented product"). A customer orientation requires that a seller understands a buyer's entire value chain (Day & Wensley 1988), not only as it is today but also as

it will evolve over time subject to internal and market dynamics. When Competitor orientation means that a seller under- stands the short-term strengths and weaknesses and long-term capabilities and strategies of both the key current and the key potential competitors (Aaker 1988; Day & Wensley 1988; Porter 1980, 1985). Paralleling customer analysis, the analysis of principal current and potential competitors must include the entire set of technologies capable of satisfying the current and expected needs of the seller's target buyers (Narver, & Slater. 1990). The third of the three behavioral components is interfunctional coordination-the coordinated utilization of company resources in creating superior value for target customers. Any point in the buyer's value chain affords an opportunity for a seller to create value for the buyer firm. Therefore, any individual in any function in a seller firm can potentially contribute to the creation of value for buyers (Narver, & Slater. 1990).

2.3.3 Technology

It is challenging to adopt the technology by SMEs in the modern era. It has understood that SMEs growth is the main contributor to each nation's economy. If the SMEs could accept technology it will improve each company's productivity flaws, operational efficiency, stay connected with other SMEs more quickly through nationally and internationally. Even though SMEs acceptance of ICTs increase there are various issues will make a certain number of SMEs to avoid ICT in their business progress.

The issues could arise from financial, human capital, improper business plan, security, trust and technology tools. Ongori and Migiro (2010) summarized that overall SMEs upper coordinator such as owners and managers do not fully get the advantage of tech adoption due to lack of legal framework. Sohal, Perry and Pratt (1998) had done a research in Australia regard the effect of information technology on 530 business entities, the result showed that there is positive associate between information technology consumption and organizational performance.

The progress of technology has been giving implication on business operation. First of all, the technology has been improving every industry structure and designs. Secondly, technology has been leading the competitiveness for the business improvement. Thirdly, technology has been giving implication on each business operations. So that overall of the SMEs business nature requires the adoption of technology to maintain and improve their business performances. The technology adoption is work better by giving an access, process and execute a large amount of data with necessary information reach good decisions. Moreover, it is needed for SMEs to practice the progress of technologies so that SMEs could cope up with international markets. And remain as competitive although challenges occur from globalization, liberation and technologies improvement. Ongori and Migiro (2010) stated that it has forced to use technology among SMEs for their business progress so that to be more competitive with other large and multinational companies.

2.4 Perceived Environmental Uncertainty and Strategic Management Accounting

There were numerous empirical studies regarding the relationship between PEU and management accounting techniques. Gordon and Miller (1976) and Khandwalla (1972) had argued that the organizations require additional sophisticated accounting information systems to offer more non-financial and external information under the circumstance of high environment uncertainty.

Gordon and Narayanan (1984) originated hat as PEU increases, organizations be apt to seek external, non-financial and ex-ante information. Uncertain environments directors need strategic information that is not only presented on demand and also provides quick criticism on decisions. Even though it is normal but managers also need information which is related to the outside situation. Brownell (1987) illustrated that there was a positive relationship between accounting presentation capacity and perceived environmental uncertainty. Ezzamel (1990) mentioned that PEU has positively effect on budget system characteristics. After that connection between management accounting information and PEU has supported by sveral management accounting researchers (Mia, 1993; Gul & Chia, 1994; Mia & Chenhall, 1994; Chong & Chong, 1997). According to Chenhall (2003), management accounting research has confirmed that PEU has been associated with a need for a more open, externally focused and future style of management accounting systems.

In the background of the present study, it seems that a better practice of SMA exists in companies operating in environments that are extra uncertainty. Executives that

recognize their environment to be extremely uncertainty require not only more information but also more planned information to manage the uncertainty. SMA information can be predictable to assist managers in their decision making and help out managers to survive with the difficulty of their external environment.

2.5 Market Orientation and Strategic Management Accounting

Cadez and Guilding (2008) had examined the relationship between market orientation and SMA usage. The finding shows that there was a positive relationship between market orientation and SMA practice. Dreher (1994) stated that there is an acceptance of market orientation definition among marketing scholars. This assemble has been definite in terms of a business viewpoint (Sharp, 1991) marketing effectiveness (Kotler, 1977) corporate behavior (Norburn, Birley, Dunn & Payne, 1990) and business culture (Narver & Slater, 1990).

The main purpose of this study is that it should accept that market orientation has conceptualized as a business culture which is expected to efficiently add up customers values (Narver and Slater, 1990). Slater and Narver (1994) opined that those SMEs with concrete market orientation will be attaining high market orientation information. According to Kotler (1998), any business organizations that has focused highly market orientation might has strong outer focus. After that, any business organization that more focuses on market orientation also require high tendency to get more empathize on external information like SMA information. Meanwhile, Drury (2007) had commented that the conventional management accounting systems are more to a lot of internal orientations. Guilding and McManus

(2002) SMA with highly concerning external focus is more likely to be used by market orientation organizations.

2.6 Technology and Strategic Management Accounting

The number of previous studies that is related to the relationship between SMA practice and IT was limited. Dechow, Granlund, and Mouritsen (2007) had studied the relationship between management accounting and information technology, The result indicates that this management accounting could be easily traced to be relying on information technology. Baines and Langfield-Smith (2003) had highlighted that technology that has been used by firms to improve performances suppose to have more relevant SMA techniques.

After that Baines and Langfield-Smith (2003) stated that IT is a formation to create better knowledge and it could be effectively used to handle information among the business entities. It has believed that the IT is enabling SMEs to step forward to become more competitive, possess and integrate with IT components. The IT components are software, hardware and IT personnel. Just number of previous studies had examined the associate between information technology and SMA usages. But then the capability of It is still able to affect the SMA practice cause of the degree of SMA which include some of the technology capability (Dechow et al., 2007; Tippins & Sohi, 2003; Zahra & Covin, 1993).

2.7 Contingency Theory

The contingency perspective of management accounting studies is a very significant field for the research purpose (Harrison, 1992, 1993; O'Connor, 1995; Taylor, 1996; Chenhall, 2006; Islam & Hu, 2012), it is followed in this study by SMA practices in Algerian companies.

Hofstede's (1967), introduces the first contingency approach in management accounting research. Basically, the contingency theory and the relationship were concerning accounting structure and organizational control. All these have been increasing the researchers' interest to find more regard SMA since the 70s (e.g., Waterhouse & Tiessen, 1978; Gordon & Miller, 1976; Watson, 1975; Dik, 2011).

Waterhouse and Tiessen (1978) develop an important model for comprehensive analysis for an organization to get to know more regard organization control mechanism that aligned with management accounting system designs. Meanwhile, Widener (2004) and Gerdin and Greeve (2004) combining transaction cost economics and contingency theory, explored forms of contingency fit in management accounting research. Hartmann and Moers (2003) examines contingency hypotheses in budgetary research using moderated regression analysis.

From the SMA point of view, the contingency method is based on the business organizations that there is no other generally proper accounting system that could fit any business entity (Otley, 1980; Emmanuel et al., 1990; Islam & Hu, 2012). So far there generally there is no other control system which known as best rather a proper

control system that is determined by any situations (Waterhouse & Tiessen, 1978; Fisher, 1995; Alrawi & Thomas, 2007). So that the prefer proposition of contingency theory (Horngren, 1982) suggests about the association between control system used and an organizations context (Selto et al., 1995; Alrawi & Thomas, 2007; Islam & Hu, 2012).

So, as mentioned in contingency theory, organizations structures and systems are consider as a function of environmental and firm-specific factors (Anderson & Lanen, 1999; Chenhall, 2003; Gerdin, 2005; Gerdin & Greve, 2004; Haldma & Laats, 2002, Cadez & Guilding, 2008; Hwang,2005; Dik, 2011; Islam & Hu, 2012). But then, according to Dik (2011), the basic contingency perspective is based on the organizational concept that an organization maximizes its efficiency by matching between structure and the environment.

2.8 Research Gap

Based on the literature review, major studies related to contingency research have stressed the importance of external and internal factors as explanatory variables when examining the SMA. For example Haldma and Laats (2002) view contingent variables as external and internal factors. External factors indicate the features of external environment at the level of business and accounting that shape internal systems, while internal contingencies are determined as technology, organizational aspects and strategy. The external environment is a key variable in contingency-based management accounting research. With the majority of previous studies

supporting the notion that environmental uncertainty and market competition does affect the use of SMA. Apart from external factors, the contingency variable of production technology has also been employed in examining the impact of Advanced Manufacturing Technologies (AMTs) on management accounting systems.

Macintosh and Daft (1987) concluded that so far there is no sole study that could right to use overall of contingent variables. Fisher (1995) had stated that there were only small numbers of previous studies in order to identify all contingent variables, based on this statement, this study examines the both contingency factors; the external factors such as perceived environmental uncertainty and market orientation, also the internal factors such as technology. This study showings interest to focus on the medium manufacturing companies in Algiers which is the capital of Algeria, So that, this study is interested in studying the contribution of contingency factors among medium manufacturing companies in Algeria to give positive implications to the business organization to understand the importance of SMA usage among SMEs in term of profit generation. So, this SMA usage will help the SMEs to survive in the market. This is considered as a very important literature gap because the study is focusing on three important independent variables (perceived environmental uncertainty, market orientation and technology) against SMA usage among medium-sized manufacturing business organizations.

2.9 Chapter Conclusion

As a conclusion, this chapter has given a full point of view about literature that connect to important contingency variables that this study will focus. every variable

has been explained regard relevant foundations for this study. Besides that, this chapter has reviewed literature regard SMA techniques which used in the modern business entities. Furthermore, this chapter has expanded the literature about the perception of perceived environmental uncertainty (PEU) where scholars have summarized to bring market turbulence and competitive intensity for the focus purposes. Literature have elaborated regard on how a market orientation of any business organizations could shape the importance and the use of SMA. Besides that technology is one of the important internal business entities reason that needs to be studied in a relation to strategy management accounting practice.

CHAPTER THREE: THEORETICAL FRAMEWORK AND METHODOLOGY

3.1 Introduction

This chapter presents a particular step and methods used in writing the analysis and gathering the information for this research. This chapter describes the research methodology, i.e., survey research. The theoretical framework (research model) is explained in Section 3.2; Hypotheses development provided in section 3.3; The research design in Section 3.4; Population and Sampling Technique in Section 3.5; Definition and Measurement of Variables in Section 3.6; Questionnaire and Data collection in section 3.7; and finally, Method of Data Analysis in Section 3.8.

3.2 Theoretical Framework

Figure 3.1 indicates the theoretical framework for this study. Based on the contingency theory, this theoretical framework has been suggesting the contingency factors to be studied against the SMA usage among SMEs in Algeria. The dependent variable is SMA usage and the independent variable is contingency factors such as perceived environmental uncertainty, market orientation and technology.

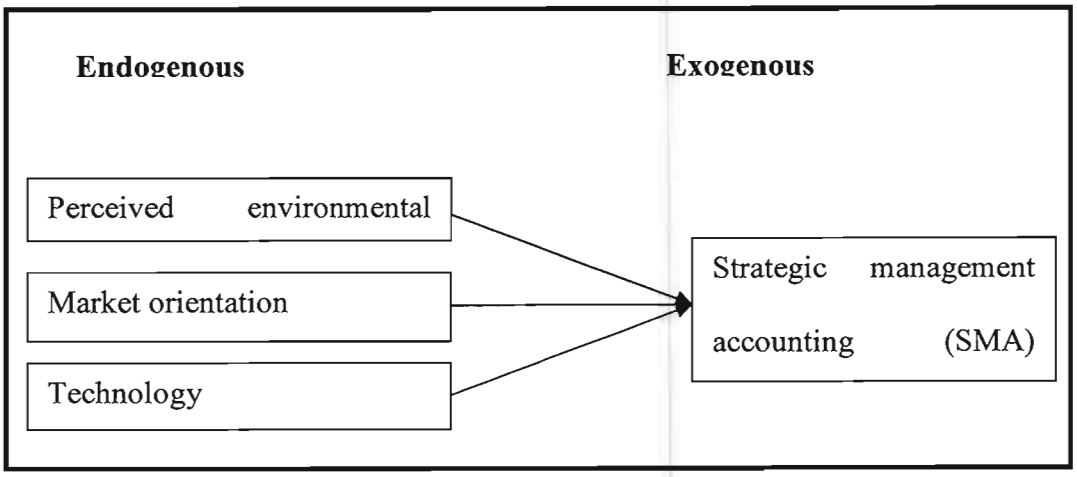

Figure 3. 1: Theoretical Framework

3.3 Hypotheses Development

3.3.1 Relationship between Perceived Environmental Uncertainty And Strategic Management Accounting Usage

Any transformation in the environment and the changes are considered to improve the management accounting in one business organization (Anastas, 1997; Cooper, 1996; Gordon & Miller, 1976). Chenhall and Morris (1986) have stated that perceived environmental uncertainty (PEU) has a significant implication on each company's SMA. After those upper level, workers such as managers required information which is has linked to the external environment. Romanelli and Tushman (1986) stated that environment is the suitable variable to determine any organizations behavior in term of SMA usage.

In addition, Brownell (1987) illustrated that there was a positive relationship between accounting presentation capacity and perceived environmental uncertainty. There is still a lot of studies require getting to know regard the influence of external environmental factors on SMA usages (Kattan, Pike, & Tayles 2007; Kholeif, Abdel-Kader, & Sherer 2007). Meanwhile, there were various studies that had argued any small volatility by environmental factors definitely will lead to changes in management accounting and control systems (Burns & Vaivio, 2001; Kattan et al., 2007; Cadez & Guilding, 2008; Cinquini & Tenucci, 2010; McManus, 2012). Chenhall and Morris (1986) acknowledged PEU as have a cause on a company's information needs. In particular, they experiment a positive relationship between environmental uncertainty and MAS. Whenever the existence of environment uncertainty is getting high, the use of SMA is expected to produce proper information to meet business goals. Based on the framework of this study, and coupled with the logic in the literature review, the following hypothesis is formulated;

Hypothesis 1: There is a positive relationship between perceived environmental uncertainty and strategic management accounting practices among medium-sized enterprises in Algeria.

3.3.2 Relationship between Market Orientation and Strategic Management Accounting Usage

Currently, researchers from management accounting filed have been investigating more contingent variables as a significant antecedent of SMA usage like market orientation (Cadez & Guilding, 2008; Guilding & McManus, 2002). Guilding and McManus (2002) had provided empirical support regard the significant relationship between SMA usage and market orientation. Cadez and Guilding (2008) have explored the association between market orientation and SMA usage, overall the finding gives proof to support market orientation as an antecedent of SMA usage.

Kotler (1998) those companies that oriented to market would require not only more information but also tend to give more emphasis on SMA information. Thus, as organizations with high market orientation focus can generate highly usage of SMA systems (Guilding & McManus, 2002). By referring to the previous studies this study would like to use market orientation as a contingent factor of SMA usage. Based on this argument, the following hypothesis is formulated as follows:

Hypothesis 2: There is a positive relationship between market orientation and strategic management accounting practices among medium-sized enterprises in Algeria.

3.3.3 Relationship between Technology and Strategic Management Accounting Usage

Basically, this contingency studies had been conclude that a technology is one of the variables that have relationship with the SMA that could suit any organization (Khandwalla, 1977; Merchant, 1984; Dunk, 1992; Tuan Mat, 2010; Cadez & Guilding, 2008; Haldma & Lääts, 2002: Huang, Tayles, & Luther., 2010; Baines & Langfield-Smith, 2003; Libby & Waterhouse, 1996; Waweru, Hoque, & Uliana, 2004). Meanwhile, Mahmood and Mann (1993) suggested that variable like technology must be studied to get know more regard strategic management context.

According to Hyvonen (2008), this technology could help any firms to improve SMA system. Certain business entities have been encountering trouble to integrate information technology into accounting usage (Olsen & Cooney, 2000). Scholars had discussed the linkage between management accounting systems and information technology (Chapman & Chua 2000, Ittner & Larcker 2001, Chenhall, 2003). According to Otley (1980), production technique and compilation of the flaws in the process of production impact the internal cost for accounting and information system. Contrary, The evolution of information and communication technology (ICT) is the main agenda of technology development in the financial sector and also in modern marketplace structure (Grabski, Leech & Sangster, 2009).

Choe (2004) had studied the manufacturing companies in Korea, the result is that there was a positive link between manufacturing technology and level of information

that designed by management accounting information system. So that overall, it is expected the third results as follow.

Hypothesis 3: There is a positive relationship between technology and strategic management accounting practices among medium-sized enterprises in Algeria.

3.4 Research Design

The research design is the main part of this study. It has a proper methodology as an essential part to explain related steps or stages that will take place toward the completion. Basically, this study is based on the quantitative method and its data will be generating from questionnaires. The scientific method will be used for data collection in order to perform empirical analysis for this study. Usually, the quantitative analysis always has been trying to full filling questions such as what', 'how' and 'how many'. Also, this quantitative approach includes other parts like collecting numerical data that can be tabulated, charted, graphed and analyzed using suited statistical methods

Quantitative method is a way to give observations of a sample of the population regard the study matter. The set of questionnaires includes questions regard this research and variables so that a regression can be done and identify the relationship between independent and dependent variables. The process includes hypotheses test that derived from the determinant theories on the basis of comparative and statistic analysis. According to Sekaran (2003), quantitative method is a deductive model

because the tendency to start from general theory and finish with small observations is high.

3.5 Population and Sampling Technique

The population for this study included Algerian medium size companies in SMEs manufacturing sectors in Algiers- Algeria. In line with the main objective of this study which is to determine the role of contingency factors in enhancing SMA usage. The unit of analysis for this study is an organization which comprises the CEO, accountants or managers, these individuals are the most suitable to provide information about the dimensions of this study due to their knowledge of all policies adopted by the company that related to SMA.

The current research has used G*Power analysis technique for calculating sample size, which is a most popular technique in social science (Cohen, 1992). Power analysis is a statistical procedure for determining an appropriate sample size for a research study (Bruin, 2006). Hence, to determine the minimum sample for this study, an a priori power analysis was conducted using G*Power 3.1 software (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). Using the following parameters: Power (1-β err prob; 0.95), an alpha significance level (α err prob; 0.05), medium effect size f^2 (0.15) and three main predictor variables which is the is independent variables (i.e., perceive environment, market orientation, and technology), a minimum sample of 74 would be required to test a regression based models (Figure 1; Cohen, 1992; Faul et al., 2009; Faul et al.,2007).

The total sample size of observation for this study is about 74 medium manufacturing companies in Algeria from the main population which is 175 medium manufacturing companies.

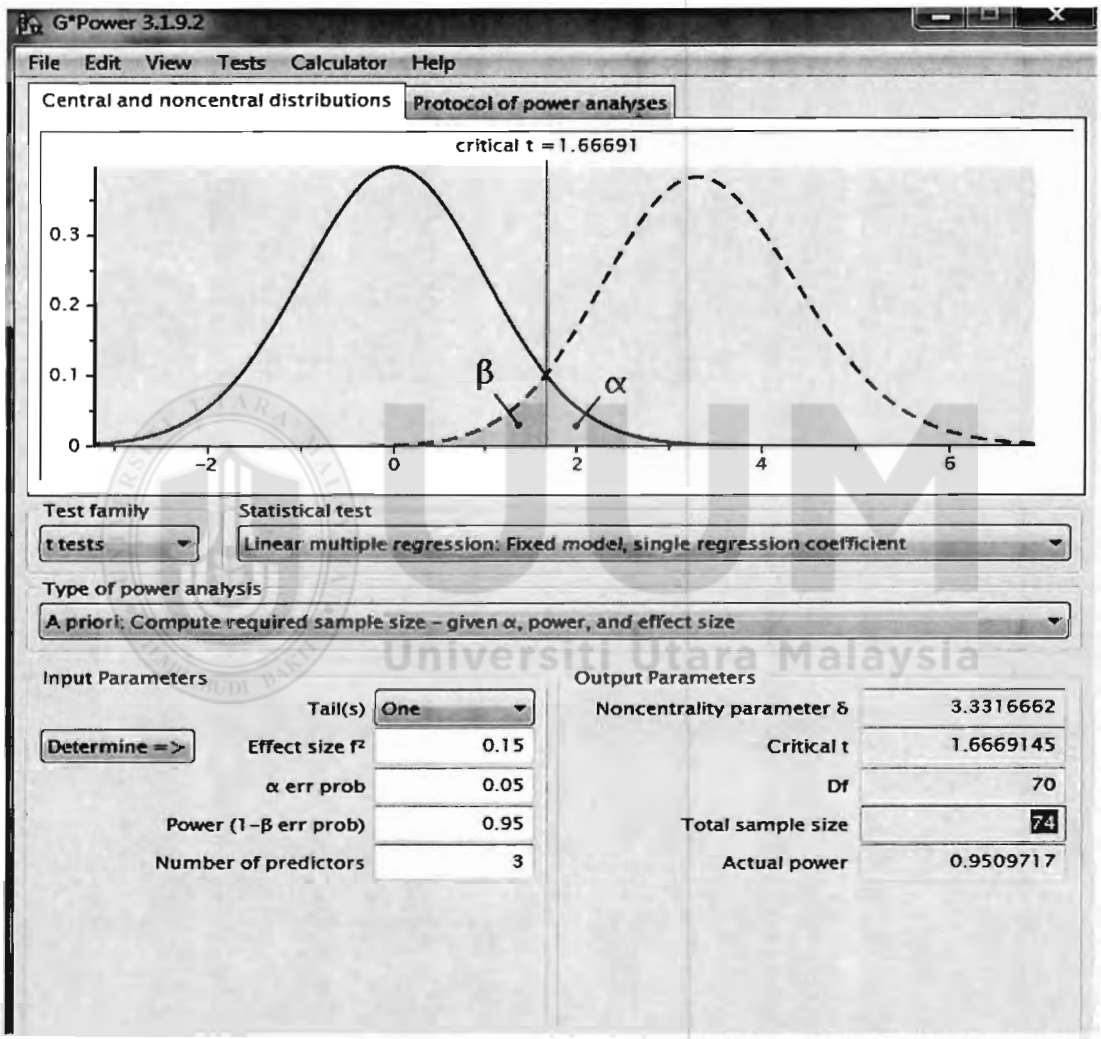

Figure 3. 2: Calculation of G*power Analysis

Overall, a convenient sampling technique has been occupied for this study to examine about 74 medium manufacturing companies from the total population due to insufficient of information and statistics regard SMEs companies in Algeria, this sampling technique is suited for this study. Zikmund (2003) mentioned that sampling technique has an ability to gain extensive information fastest and more effective. Also, Sakaran (2000) mentioned that non-probability simple is used as the research select sampling units that are conveniently accessible. After that, it is considered as convenient sampling techniques for getting access to the respondent who is very hard to find under same situations (Bhattacherjee, 2012; Bryman and bell, 2011). Finally, all the questionnaires were e-mailed to the respective SMEs' CEO, accountants or managers.

3.6 Definition and Measurement of Variables

3.6.1 Strategic Management Accounting Usage

The extent of SMA technique usage was measured using the same instrument that used by previous studies (Cravens & Guilding; 2001; Guilding& McManus, 2002; Cadez & Guilding; 2008). This study measured eight SMA techniques instead of sixteen SMA techniques, and listed with a five-Likert-type scale ranging from "1" (not at all), to "5" (to a great extent), The respondents were asked to indicate to what extent does their organization used the following techniques:

1. **Activity based costing** (Is a costing methodology that identifies activities in an organization and assigns the cost of each activity with resources to all products and services according to the actual consumption by each).

2. **Life-cycle costing** (Is an economic analysis used in the selection of alternatives that impact both present and future costs).

3. **Quality costing** (Tools and techniques, which can assist companies with improving the quality of product and service and reducing the level of quality costs).

4. **Target costing** (Is an approach to determine a product's life-cycle cost which should be sufficient to develop specified functionality and quality).

5. **Value-chain costing** (A costing model that takes into account all aspects of the chain of production, from design to after-sales).

6. **Benchmarking** (Identify the best practices in other companies and apply those practices to their own processes).

7. **Performance measurement** (Process of collecting, analyzing and/or reporting information regarding the **performance** of an individual, group, organization).

8. **Customer profitability analysis** (Analysis of the revenue streams and service costs associated with specific customers or customer groups).

Table 3.1: Measurement of Strategic Management Accounting Usage

S/N	Variables	No of Items	Sources	Modification
1	SMA usage	8	Cravens and Guilding; (2001); Guilding and McManus, (2002); Cadez and Guilding; (2008)	Choose and define only 8 techniques from 16 Use a five-Likert-type scale instead of 7

3.6.2 Perceived Environmental Uncertainty

Perceived environmental uncertainty was measured by using the same instrument adapted from Khandwalla (1972,1977) and Gordon and Narayanan (1984), designed on a five-point scale ranging from ''1" (strongly disagree) to ''5" (strongly agree), were respondent asked about to what extent they agree with the following statements:

1. During the past 5 years, new products and/or services have been marketed in your industry.

2. During the past 5 years, your firms facing dynamic external environment (economic and technological).

3. During the past 5 years, the market activities of your competitors becoming less predictable.

4. During the past 5 years, the tastes and preferences of your customers have become much harder to predict.

5. During the past 5 years, the legal, political and economic constraints surrounding your firm have increased.

Table 3.2: Measurement of Perceived Environmental Uncertainty

S/N	Variables	No of Items	Sources	Modification
2	Perceived Environmental Uncertainty	5	Khandwalla (1972,1977) Gordon and Narayanan (1984)	Use a five-Likert-type scale instead of 7

3.6.3 Market Orientation

The market orientation was measured by using tools that have been applied by Cravens and Guilding (2000) and Guilding and McManus (2002). Using a five-point scale ranging from "1" (strongly disagree) to "5" to a (strongly agree), all the respondents were asked to identify to what extent that they have agreed with the following statements:

1. My company has a strong understanding of our customers.
2. My company works closely together to create superior value for our customers.
3. My company thinks in terms of serving the needs and wants of well-defined markets chosen for their long-term growth and profit potential for the company, and
4. My company has a strong market orientation.

Table 3.3: Measurement of Market Orientation

S/N	Variables	No of Items	Sources	Modification
3	Market orientation	4	Guilding (2000) and Guilding and McManus (2002)	Use a five-Likert-type scale instead of 7

3.6.4 Technology

The technology is examined by using four main items where adopted by used on the insights attain from the previous literature (e.g., Verdu et al., 2012; M McChlery, Godfrey & Meechan, 2005; Dik, 2011). A five-point Likert scale, was used in this study, These measures were applied on a scale range of "1" (strongly disagree) to

"5" (strongly agree) and then respondents were asked to what their perceived understanding of the level of technology in their business organizations and then till what extent have they agreed with the following statements:

1. Technology is a core element of the operating system of this organization.

2. Our production/services techniques are technology based.

3. Our accounting information system is computer based, and

4. Our organization invest in software packages to aid our accounting and other operational system.

Table 3.4: Measurement of Technology

S/N	Variables	No of Items	Sources	Modification
4	Organizational Technology	4	Verdu et al., (2012); McChlery et al., (2005); Dik, (2011)	Use a five-Likert-type scale instead of 7

3.7 Questionnaire and Data Collection

The questionnaire is divided into two parts. Part (1) is about company demographic information, such as a firm category, number of employees, firm ownership, structure, and type of industry. Part (2) is about contingency factors and SMAs usage, which contain four sections: Section A examines the SMA usage and is measured based on a five-point Likert scale ranging from 1 (not at all) to 5 (great extent).

Section B examines the environment uncertainty and is measured based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Section C examines the market orientation and is measured based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) Finally, the section D examines the technology and is measured based on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The questionnaire for this study is directed to the CEO, accountants or managers of the SMEs. The main reason that the questionnaires direct to mentioned people because they have better and in-depth knowledge on how SMA is used within their business organizations. Consequently, it was a self-administered questionnaire. Shehab (2008) says that for this study of nature, the survey seems better due to the fact that it involves people and the examination of the data collected from the respondent. As a result, it does not need illustration observation of the respondents.

The total number of the sample size in this study was 74 medium manufacturing companies in Algiers-Algeria, after distributed 74 questionnaires to the companies, the number of respondents was 70, which is high rate and cover 94 % of the sample size.

3.8 Method of Data Analysis

With respect to analysis technique, several analysis techniques were applied in analyzing the data collected from the potential respondents of this study.

This study used Statistical Package for Social Science (SPSS 2.0) to summarize the particulars and demographic or profile of the respondents such as age, type of company, sector, experience etc. in this section, also the general situation of environment uncertainty, market orientation, technology and SMA usage. As depicted in Table 4.3, the mean, standard deviation, maximum and minimum of the constructs were reported.

Another tool used in this study is Partial Least Squares Structural Equation Modelling (PLS-SEM) path modelling due to the advantages provided and they are not available in other techniques and it is the most suitable technique in this study for several reasons: First, even though PLS path modelling is similar to conventional regression technique, it has the advantage of estimating the relationships between constructs (structural model) and relationships between indicators and their corresponding latent constructs (measurement model) simultaneously (Chin, Marcolin, & Newsted,2003; Duarte & Raposo, 2010; Gerlach, Kowalski, & Wold, 1979; Lohmoeller, 1989).

Smart PLS 2.0 M3 software used to ascertained the measurement model, individual item reliabilities, internal consistency reliabilities, convergent validity and discriminant validity were calculated (Hair, Ringle., & Sarstedt, 2011; Henseler, Ringle, & Sinkovics, 2009). Also, for evaluating the significance and relevance of each indicator to test the hypotheses of study, the bootstrapping was conducted to determine the level of significance of each indicator weight. Bootstrapping is a

resampling technique that draws a large number of subsamples from the original data and estimates models for each subsample (Hair, Sarstedt, Hopkins & .Kuppelwieser, 2014). The structural model of PLS was then performed to test the hypotheses of the study.

CHAPTER FOUR: RESULTS

4.1 Introduction

The results of the study are presented in this chapter. By using SPSS program, the demographic background of the respondents was described to examine how the respondents are dissimilar with regards to the job title, type of company, a number of employees, sectors, type of SMA information used, experience, academic qualification, age, and gender. Similarly, this study employed the Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess the outer measurement model as a prerequisite for the inner structure model assessment. The structural and measurement models were used for the hypothesis testing.

4.2 Data Cleaning and Screening

In the current study, the data was screened for any errors in coding. The results indicated that there were no errors in data entry. There was no extreme minimum or maximum value exceeding the range and the mean was also within the specified range. Thus, it can be considered that the data was clean. Further, using a missing value analysis provided by SPSS program, it was found that no missing values. Table 4.1 shows case processing summary of the overall items.

Table 4.1: Case Processing Summary

		N	%
Cases	Valid	70	100
	Exclude	0	0
	Total	70	100

also, five items or questions are deleted due to the values of the cross loading are less than the acceptance value which is 0.7 which is explained in section of cross loading, after the elimination of these items in this model, the cross loading of total constructs are above acceptance value with suitable reliability, and the data are cleaned for run the analysis.

4.3 Demographic Profile of the Respondents

This study has a total number of 70 respondents. The results in Table 4.2 shows that 60% of the respondents were male (42 respondents) and 40% were female (28 respondents). In terms of the age of respondents, (40%) were from 35 to 45 years old, 14 respondents (20%) were from 18 to 25 years old, 12 respondents (17.1%) were from 26 to 35 years old, 10 respondents (14.3%) were above 56 years old, 6 respondents (8.6%) were from 46 to 55 years old.

Table 4.2: Respondent Profile

Demographic Variables	Category	(N = 70) Frequency	Percentage %
Job title	CEO	17	24.3
	Accountant	19	27.1
	Manager	23	32.9
	Others	11	15.7
Company ownership	A limited liability company	23	32.9
	A limited liability company with a sole owner	19	27.1
	Partnership	17	24.3
	Solidarity Company	11	15.7
Number of employees	50-100	28	40
	101-150	13	18.6
	151-200	13	18.6
	201-250	16	22.9
Sectors	Electrical & electronics	6	8.6
	Chemical including Petroleum	5	7.1
	pharmaceutical industry	6	8.6
	Food & beverage	19	27.1
	Handicraft	11	15.7
	Fabricated Metal	6	8.6
	plastics industry	7	10
	Others	10	14.3
Type of SMA	Computerized	56	80
	Manual	14	20
Experience	1-5 years	14	20
	6-10 years	23	32.9
	11-15 years	23	32.9
	More than 15 years	10	14.3
Academic qualification	Degree	23	32.9
	Master	19	27.1
	Others	28	40
Age	18-25 years	14	20
	26-35 years	12	17.1
	36-45 years	28	40
	46-55 years	6	8.6
	Above 56 years	10	14.3
Gender	Male	42	60
	Female	28	40
	Total	70	100%

In terms of the current academic qualification at this study, 23 respondents (32.9%) were undergraduate degree holders, 19 respondents (27.1%) were master, and 28 respondents (40%) were holding other certificates. In terms of the current position, 17 respondents holding the position of CEO (24.3%). 17 respondents holding the position of accountant (27.1%), 23 respondents holding the position of manager (32.9%), 11 respondents (15.7%) holding the other positions. Therefore, it shows that most of the respondents are male (60%) with most of the age range at 36-45 years old (40%) and most of them are holding other certificates (40%) compared to degree, master and Ph.D. qualification. Besides, most of the respondent are managers (32.9%) compared to CEO, accountants and others.

In the term of company ownership, there are 23 respondents work at limited liability company (32.9%), 19 respondents working at limited liability company with a sole owner (27.1%), 17 respondents working as partnership (24.3%), 11 respondents working at solidarity company (15.7%). In terms of a number of employees, 28 respondents were from 50-100 (40%), 16 respondents were from 201-250 employees (22.9%), 13 respondents were from 101-150 employees (18.6%), 13 respondents were from 151-200 employees (18.6%). In addition to that, 19 respondents were from food and beverage sector (27.1%), 11 respondents were from handicraft sector (15.7%), 10 respondents were from the other sectors (14.3%), 7 respondents were from plastics industry (10%), 6 respondents were from electrical and electronics sector (8.6%), also, 6 respondents were from pharmaceutical industry sector (8.6%), and 5 respondents were from chemical including petroleum sector (7.1%). In terms of the type of SMA, 56 respondents are using computerized (80%), while, 14

respondents are using manual (20%). Finally, 23 respondents had worked from 6 to 10 years (32.9%), similarly, 23 respondents (32.9%) had worked for 11-15 years. While 14 respondents (20%) had worked for 1-5 years, and 10 respondents (14.3%) had worked more than 15 years. Therefore, it shows that most of the respondents work at limited liability company (32.9%) and the number of employees in the companies that the respondents work is mostly in the range of 50-100 (40%) and the majority sector that the companies operate are from food and beverage secor (27.1%). Also in term of SMA, the companies are mostly using computerized (80%), and the majority of respondents have working experience of 6-10 years (32.9%) and 11-15 years (32.9%).

4.4 Adoption of Strategic Management Accounting Techniques

Table 4.3 presents the percentages of adopting the SMA techniques in the medium-sized companies in Algeria.

Table 4.3: Percentages of Adopting the Strategic Management Accounting Techniques (N=70)

Items	Techniques	Not at all	Slight extent	Moderate extent	Great extent	Very great extent	Total (%)
SMA 1	Activity based costing	0	22.9	15.7	24.3	37.1	100
SMA2	Life-cycle costing	7.1	24.3	2.9	42.9	22.9	100
SMA 3	Quality costing	8.6	14.3	18.6	34.3	24.3	100
SMA 4	Target costing	8.6	22.9	18.6	40	10	100
SMA 5	Value-chain costing	7.1	15.7	15.7	40	21.4	100
SMA 6	Benchmarking	1.4	7.1	2.9	18.6	70	100

As we can see from the table, the most technique that the companies practice is benchmarking with the percentage of 70%, while the percentage of companies that do not adopt life-cycle costing, quality costing, target costing, value-chain costing and benchmarking are 7.1%, 8.6%, 8.6%, 7.1% and 1.4% respectively. Moreover, the techniques that the companies adopt with very great extend are activity based costing, life-cycle costing, quality costing, target costing, value-chain costing and benchmarking with the percentage of 37.1%, 22.9%, 24.3%, 10%, 21.4% and 70% respectively. As we can see from the table also, 100% of the companies adopt activity based costing with different extent levels.

4.5 Descriptive Statistics

Descriptive analysis was conducted to describe the general situation of, environment uncertainty, market orientation, technology and SMA usage. As depicted in Table 4.4, the mean, standard deviation, maximum and minimum of the constructs were reported.

Table 4. 4: Descriptive Statistics of the Constructs (N=70)

Constructs	Minimum	Maximum	Mean	Std. Deviation
SMA1	2	5	3.76	1.185
SMA2	1	5	3.5	1.283
SMA3	1	5	3.51	1.248
SMA4	1	5	3.2	1.162
SMA5	1	5	3.53	1.201
SMA6	1	5	4.49	0.959
PEU2	1	5	3.36	1.192
PEU3	2	5	3.43	1.015
MarOri1	2	5	4.27	1.062
MarOri2	2	5	4.01	0.893
MarOri3	2	5	3.9	0.95
MarOri4	2	5	3.83	0.851
Tech1	1	5	3.77	1.395
Tech2	1	5	3.93	1.278
Tech3	1	5	2.89	1.21
Tech4	1	5	2.79	1.307

The average ranging of all the constructs from 2.79 to 4.49, only a few constructs which are Tech4 and Tech3 have a lower mean of 2.79, 2.89 respectively. In addition, the standard deviation ranges from 0.851 to 1.395.

Also, the descriptive statistics for the latent variables used in the present study presented in Table 4.5, descriptive statistics in the form of the mean and standard deviations for the latent variables were computed. All the latent variables used in the present study were measured using a five-point scale anchored by 1 (strongly disagree) to 5 (strongly agree). The five-point scale used in the present study was classified intothree categories namely: low, moderate and high. The results are presented in Tables 4.5 for easier interpretation.

Table 4. 5: Descriptive Statistics for Latent Variables (N=70)

Latent Constructs	Number of Items	Mean	Std. Deviation
Strategic management Accounting	6	3.6286	.83486
Perceived Environment Uncertainty	2	3.1771	.72755
Market Orientation	4	4.0036	.71029
Technology	4	3.3429	1.12463

Table 4.5 shows the overall mean and standard deviation for the latent variables. In particular, the mean and standard deviation for the SMA were 3.6286 and .83486, respectively. This suggests that respondents tended to have a moderate level of SMA. Table 4.5 also indicates that the mean for the perceived environment uncertainty was 3.1771, with a standard deviation of .72755, suggesting that the respondents perceived the level of Environment Uncertainty as moderate. Further, the results show a moderate score for the market orientation with the mean of 4.0036 and the standard deviation of .71029, lastly, the descriptive statistics also show a moderate score for the technology with the mean and standard deviation of 3.3429 and 1.12463 respectively.

4.6 The Research Model Analysis

4.6.1 The Measurement Model

The first step in analysing the research model is to assess the measurement model or outer model through PLS-SEM technique. To do so, this study followed the two

4.6.2.1 The Content Validity

Content validity refers to the suitability of the questions on the concept. It ensures that measures are adequate and represent the concept to be tested (Hair et al., 2014). This is where the panel of experts contributes. It is also the extent to which the items generated to measure a construct can appropriately measure the concept they are developed to measure (Hair et al., 2010). This is ensured by the comprehensive review of the literature to generate the items that already have been established and tested in the previous studies. From the analysis conducted in factor analysis, items were correctly assigned to their constructs as shown in Table 4.6, the items show high loading on their respective constructs when compared to other constructs. In addition, the items loadings are above than 0.7, mean that they are confirmed significantly the content validity of the measures that have been used in this study which acceptable at the value of 0.7 and above.

In this model, five items or questions are deleted due to the values of the cross loading are less than the acceptance value which is 0.7 (three items of perceived environment uncertainty; number 1,4 and 5, and two items of SMA techniques: number 7 and 8). And sixteen items are above 0.7, after the elimination of these items in this model, the cross loading of total constructs are above acceptance value and have suitable reliability.

steps approach which convergent validity and discriminant validity (Hair et al., 2014). Figure 4.1 shows the research model of the study

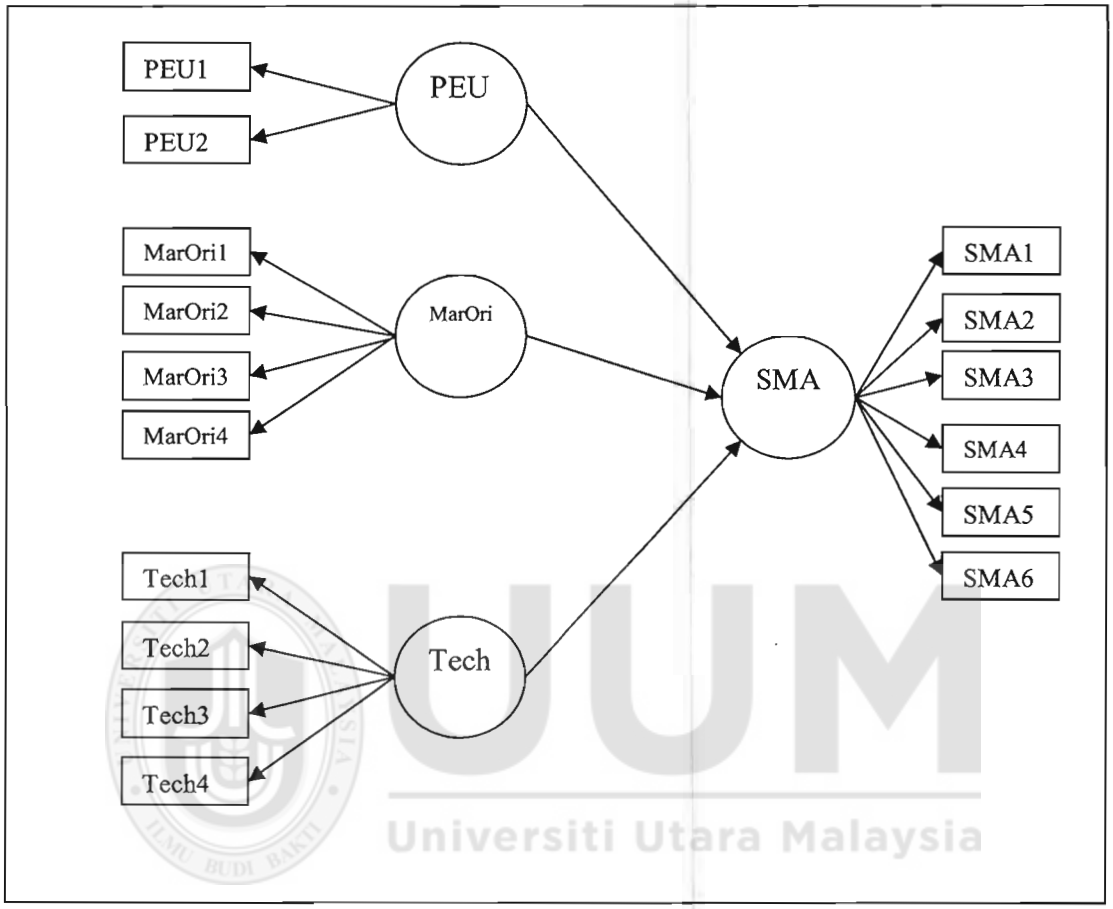

Figure 4. 1: The Research Model

4.6.2 The Construct Validity

The construct validity can be established by the content validity, convergent validity and discriminant validity (Hair et al., 2014).

Table 4.6: Cross Loading Factors

Constructs	MarOri	PEU	SMA	Tech
MarOri1	**0.73372**	0.55062	0.24847	0.49498
MarOri2	**0.72601**	0.11364	0.26258	0.2918
MarOri3	**0.79393**	0.23981	0.43716	0.30056
MarOri4	**0.72642**	0.22429	0.18988	0.58114
PEU2	0.54714	**0.92046**	0.2895	0.52692
PEU3	0.00092	**0.82744**	0.20149	0.40454
SMA1	0.30391	0.2021	**0.78208**	0.23548
SMA2	0.3698	0.25755	**0.73332**	0.15724
SMA3	0.26353	0.14416	**0.86598**	0.12456
SMA4	0.27242	0.115	**0.7191**	0.17715
SMA5	0.38893	0.33755	**0.86162**	0.227
SMA6	0.32428	0.21959	**0.76941**	0.10199
Tech1	0.61841	0.54738	0.22915	**0.95459**
Tech2	0.54445	0.46223	0.2188	**0.85066**
Tech3	0.22932	0.4106	0.13696	**0.83253**
Tech4	0.21541	0.41284	0.12934	**0.79916**

4.6.2.2 The Convergent Validity of the Measures

The convergent validity is the degree to which multiple items measure the same concepts in agreement. To establish the convergent validity, many criteria, namely the factor loadings, composite reliability (CR) and average variance extracted (AVE) were used simultaneously to assess convergence validity as proposed by Hair et al. (2010). The first step is using composite reliability to evaluate the construct measures' internal consistency reliability (Hair et al., 2014). From this, composite reliability provides a more appropriate measure of internal consistency reliability. By using composite reliability, PLS-SEM is able to accommodate different indicator reliabilities (Hair et al., 2014). To this end, the item loadings were examined and all

the items had loadings more than 0.7 which is the acceptable level suggested in the multivariate analysis literature (Hair et al., 2010). Table 4.7 shows item loadings.

Table 4.7: The Convergent Validity Analysis

Constructs	Items	Loadings	AVE	CR	Cronbachs Alpha
Market orientation	MarOri1	0.734	0.556	0.833	0.753
	MarOri2	0.726			
	MarOri3	0.794			
	MarOri4	0.726			
Perceived environment uncertainty	PEU2	0.920	0.766	0.867	0.703
	PEU3	0.827			
SMA usage	SMA1	0.782	0.625	0.909	0.880
	SMA2	0.733			
	SMA3	0.866			
	SMA4	0.719			
	SMA5	0.862			
	SMA6	0.769			
Technology	Tech1	0.955	0.742	0.920	0.888
	Tech2	0.851			
	Tech3	0.833			
	Tech4	0.799			

In this study, validity is examined by evaluating a construct's convergent validity and discriminant validity. Support is provided for convergent validity when each item has outer loadings above 0.5 and when each construct's average variance extracted (AVE) is 0.5 or higher (Hair et al., 2010; Khozaei, Ramayah, Sanusi Hassan & Surienty, 2012). The composite reliability values range from 0.833 to 0.920 which exceeds the recommended value of 0.7 (Hair et al., 2010; Khozaei et al.,

2012). From this, these result confirms the convergent validity of the measurements model as shown in Table 4.7.

The values of AVE were examined. The (AVE) average variances extracted, reflects the overall amount of variance in the indicators accounted for by the latent construct, were in the range of 0.556 and 0.766, as depicted in Table 4.7, which exceeded the recommended value of 0.5 (Hair et al., 2010). For this, the values are all above the cut off values then the measures have sufficient convergent validity.

4.6.2.3 The Discriminant Validity

Discriminant validity is the extent to which items differentiate among variables or measure distinct concepts by assessing the correlations between the measures of potentially overlapping variables. Items should load more strongly on their own constructs in the model, and the AVE shared between each construct and its measures should be greater than the variance shared between the construct and other constructs (Fornell & Larcker, 1981; Khozaei et al., 2012). From this, discriminant validity was tested by comparing the correlations between the constructs of study and the square root of the AVE for a given construct (Hair et al., 2014). This means, squared AVE is higher than the off-diagonal elements in the responding row and column to provide good evidence of discriminant validity as illustrated in Table 4.8, the measurement model demonstrated the adequate convergent validity and discriminant validity.

Table 4.8: The Discriminant Validity Analysis

Constructs	MarOri	PEU	SMA	Tech
MarOri	**0.746**			
PEU	0.366	**0.875**		
SMA	0.417	0.287	**0.791**	
Tech	0.514	0.540	0.218	**0.861**

4.7 Assessment of Significance of the Structural Model

4.7.1 Assessment of R-square

R-squared value is defined as the coefficient of determination (Hair et al.,2011; Hair et al., 2012; Henseler et al., 2009). The R-squared value shows the proportion of variation in the dependent variable that can be explained by one or more predictor variable (Elliott & Woodward, 2007; Hair et al., 2010; Hair, Black, Babin, Anderson & Tatham.,2006). Table 4.9 presents the R-squared values of the endogenous latent variable.

Table 4.9: Variance Explained in the Endogenous Latent Variables

Latent Variables	R-square
Strategic management accounting usage	0.2

According to Falk and Miller (1992), the minimum level accepted for the endogenous latent variable R^2 is 0.10. The tested model showed that R^2 value was 0.20.

4.7.2 Assessment of Effect Size (f^2)

Effect size indicates the relative effect of a particular exogenous latent variable on an endogenous latent variable(s) by means of changes in the R-squared (Chin, 1998). It is calculated as the increase in R-squared of the latent variable to which the path is connected, relative to the latent variable's proportion of unexplained variance (Chin,1998). Cohen (1988) describes f^2 values of 0.02, 0.15 and 0.35 as having weak, moderate, strong effects respectively. Table 4.10 shows the respective effect sizes of the latent variables of the structural model.

Table 4.10: Effect Sizes of the Latent Variables

R-squared	f-square	Effect size
Perceived environmental uncertainty	0.03	Weak
Market orientation	0.14	Moderate
Technology	0.01	None

As indicated in Table 4.10, the effect sizes for the perceived environmental uncertainty, Market orientation and Technology were 0.03, 0.14, and 0.01, respectively. Hence, following Cohen's (1988) guideline, the effects sizes of these three exogenous latent variables on interpersonal deviance can be considered as weak, moderate and none respectively.

4.8 The Structural Model

The second stage is the structural model testing. In this stage, this study evaluates the significance and relevance of each indicator to test the hypotheses. To do so, the bootstrapping was conducted to determine the level of significance of each indicator weight. Bootstrapping is a resampling technique that draws a large number of subsamples from the original data and estimates models for each subsample (Hair et al., 2014). The structural model of PLS was then performed to test the hypotheses of the study. This is, after running the PLS-SEM algorithm, path coefficients represent the hypothesized relationship among the constructs as shown in Figure 4.2. To determine whether the coefficients are statistically significant or not bootstrapping was conducted where a large number of subsamples (5000) are taken from the original sample to give t-value for significance test (Hair et al., 2011). After running the bootstrapping procedure, Table 4.11, and Figure 4.3 have shown the standardized path coefficient (β), standard error, t-values, p-values and the decision taken.

Table 4.11: Hypotheses Testing

Hypothesis	Relationship	Std. Beta	Std. Error	T-Value	P-Value	Decision
H1	MarOri -> SMA	0.392	0.132	2.972	0.00	Supported
H2	PEU -> SMA	0.190	0.114	1.663	0.05	Supported
H3	Tech -> SMA	-0.086	0.142	0.606	0.27	Not Supported

Table 4.11, Figure 4.2 and Figure 4.3, reveals the relationship between, perceived environmental uncertainty, market orientation, technology and SMA usage. From the results, the relationship between market orientation and SMA usage is strongly

supported at 0.01 level of significant (β= 0.392, t= 2.972, p= 0.00). Similarly, the relationship between perceived environmental uncertainty and SMA usage is supported at 0.05 level of significant (β= 0.190, t= 1.663, p= 0.05). While, the results found that the relationship between technology and SMA usage is not supported at 0.01 level of significant (β= -0.086, t= 0.606, p= 0.27).

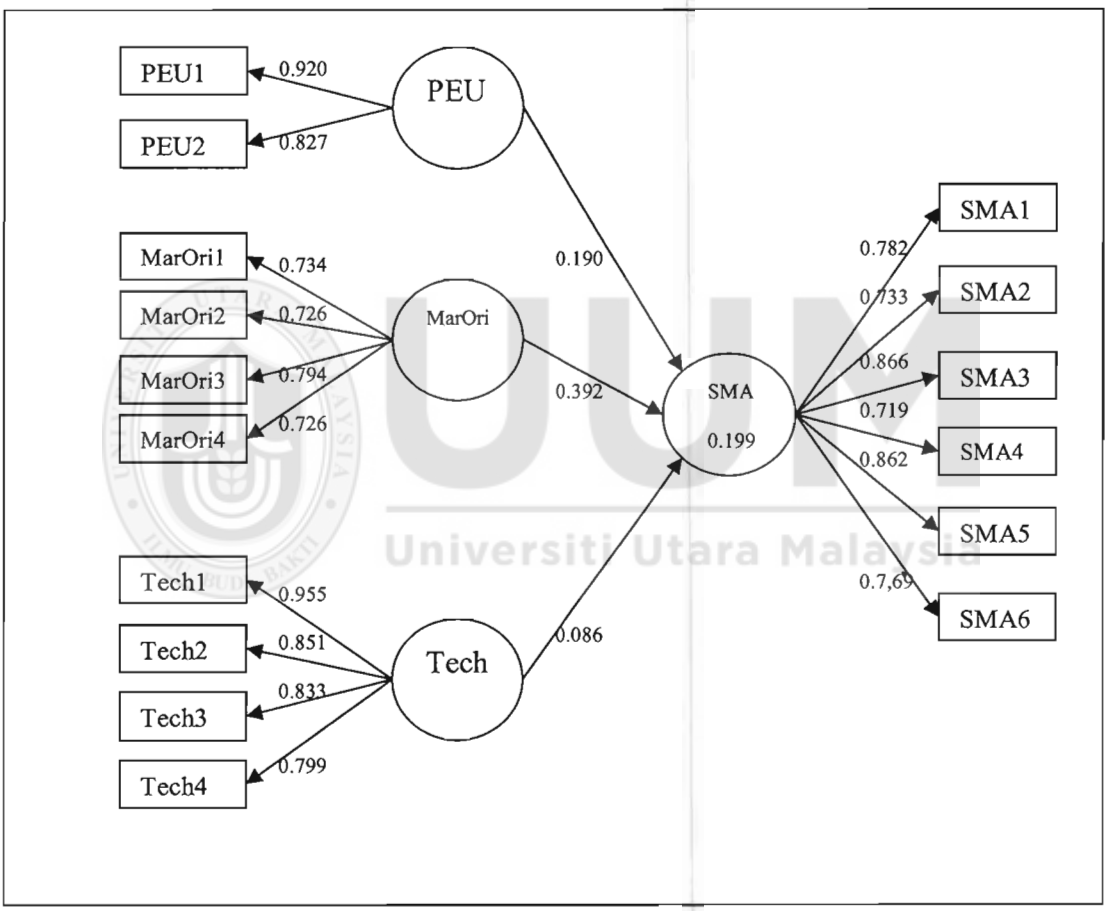

Figure 4. 2: PLS Algorithm Graph

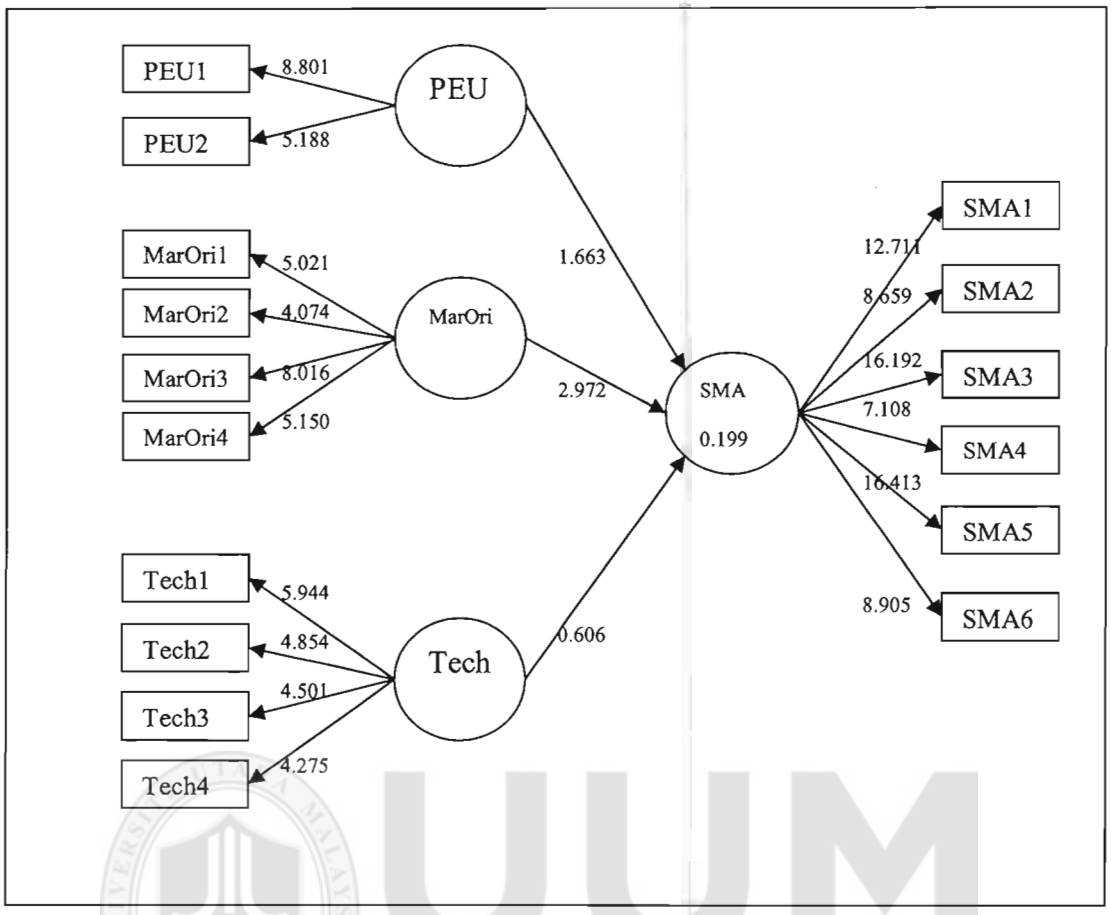

Figure 4. 3: PLS Bootstrap Result

This study has provided the evidence by using PLS technique in examining the relationship between, perceived environmental uncertainty, market orientation, technology and SMA usage. SPSS program also used to ensure the accuracy of the data entry. While PLS technique used to establish the reliability and validity of the outer model. Next step was to evaluate the hypothesized relationships within the inner model. Finally, the structural model was examined and reported in details as shown in Table 4.11. The next chapter focuses on discussion of the findings.

CHAPTER FIVE: DISCUSSION AND CONCLUSION

5.1 Introduction

This chapter discussed the research results, the chapter begins with the objectives of study to provide a clear understanding of, perceived environmental uncertainty, market orientation, technology and SMA usage. This chapter also provides the contributions of the study with the limitations and future research directions, finally, the conclusion of the study.

5.2 Summary of the Main Findings

The findings of this study show that the objectives of the research were achieved. The objectives of the current study were to investigate the relationship between, perceived environmental uncertainty, market orientation, technology and SMA usage in the Algerian SMEs. In other words, to determine the relationship between perceived environmental uncertainty, market orientation, technology and SMA usage. From the findings, the statistical results empirically support two hypotheses, while one hypothesis was not supported. More details were discussed in the next section.

5.3 Discussion of the Results

The study examined the overall relationships between perceived environmental uncertainty as an independent variable and SMA usage as a dependent variable. As well as, the relationship between market orientation as an independent variable and the SMA usage as a dependent variable. Finally, technology as an independent variable and SMA usage as a dependent variable. Moreover, from the SPSS program results, the study could examine how the respondents are dissimilar with regards to their characteristics. The following are the research objectives.

- To investigate the relationship between perceived environmental uncertainty and SMA usage among SMEs in Algeria.
- To investigate the relationship between market orientation and SMA usage among SMEs in Algeria.
- To investigate the relationship between technology and SMA usage among SMEs in Algeria.

5.3.1 Relationship between Perceived Environmental Uncertainty and Strategic Management Accounting

This study introduces a model for SMA usage in the Algerian SMEs by testing the role of perceived environmental uncertainty, market orientation and technology into SMA usage. Based on this, perceived environmental uncertainty was introduced as a lack of information regarding the environmental factors associated with a given decision making situation, and not knowing the outcome of a specific decision (Fisher, 1998).

Hypothesis H1 states that there is a positive relationship between perceived environmental uncertainty and SMA usage in the Algerian SMEs. As anticipated, H1 has a positive and significant impact on SMA usage as demonstrated in the Table 4.11. The empirical finding achieved was supported (β= 0.190, t= 1.663, p= 0.05). The current findings provided empirical support for the hypothesis, which is consistent with results provided by, Gordon and Miller (1976), and Khandwalla (1972), and Mia (1993), and Gul and Chia (1994), Mia and Chenhall (1994), and Chong and Chong (1997).

The findings of the current study confirmed that a greater usage of SMA exists in companies operating in environments that are more uncertain. Managers that perceive their environment to be highly uncertain require not only more information but also more strategic information to manage the uncertainty. this study showing that companies working under high environmental uncertainty may need more open, externally oriented, nonfinancial and sophisticated information, such as using more SMA tools to help them reduce uncertainty and improve managerial decision-making, managerial planning and control, this enables them to enhance their competitiveness and control the issues before they become increasingly difficult to manage, as opposed to SMEs that realize a lower level of environmental uncertainty.

5.3.2 Relationship between Market Orientation and Strategic Management Accounting

Hypothesis H2 in this study states that there is a positive relationship between market orientation and SMA usage in Algerian SMEs. as expected, Table 4.11 demonstrates that the relationship between market orientation and SMA usage in Algerian SMES is supported and achieved the highest score (β= 0.392, t= 2.972, p= 0.00) indicating that a strong market orientation will tend to attach a relatively high degree of importance to the acquisition of market-orientated information. Those companies that oriented to market would require not only more information but also tend to give more emphasis on SMA information. thus, as organizations with high market orientation focus can generate highly usage of SMA systems (Guilding & Mcmanus, 2002). This finding is similar to the previous studies that investigated market orientation in the context of management accounting. specifically, Guilding and Mcmanus (2002) provided evidence to support the positive linkage between market orientation and customer accounting (which is a part of SMA) usage. On the other hand, Cadez and Guilding (2008) provided mix result with regards to the association between market orientation and SMA usage.

Therefore, the findings of the current study confirmed that, for more market oriented focus, organisations must align their SMA activities towards this target. Organisations that do that will profitably satisfy customers (Roslender & Hart, 2003; Opute, 2009), consolidate competitive advantage (Perera et al., 1997), and achieve enhanced performance (Slater & Narver, 1994; Henri, 2006).

5.3.3 Relationship between Technology and Strategic Management Accounting

Technology is conceptualized in this study as a range of software, hardware, telecommunication and information management technologies, applications and devices that are used to create, produce, analyze, process, package, distribute, retrieve, store and transform information. From this, as shown in the Hypothesis H3, there is a positive relationship between technology and SMA usage in Algerian SMEs. Contrary to the expectation, the findings demonstrate that the relationship between technology and SMA usage in the Algerian SMEs is not significant and not supported (β= -0.086, t= 0.606, p= 0.27) as demonstrated in the Table 4.11.

This result was different from the other results of the previous studies where technology directly relates to SMA usage (Neils et al., 2007; Tippins & Sohi, 2003). From these result, medium-sized companies do not value and invest in technology to be the main determinant to SMA usage. This is because the respondent or the top managers do not satisfy with the component of IT in their companies such as software, hardware, and IT personnel, or due to the high expenses of using the technology, even though, IT could still influence the SMA usage because of the extent of SMA which include some of the technology capability.

5.4 Contributions of the Study

This study provides theoretical, methodological, and practical contributions. These contributions were made based on the findings and discussion of the results.

5.4.1 Theoretical Contribution

The current study contributes to the knowledge by providing insights and identifying the key characteristics that affect SMA usage in Algeria, also contributes in the context of the contingency theory regarding the positive relationship of perceived environment uncertainty and market orientation in enhancing the usage of SMA. Another contribution to the contingency theory is that technology in this study has no significant relationship with SMA usage, which contingency theory mention about the different between the organizations regarding the usage of SMA techniques in different circumstances. From the findings: perceived environmental uncertainty, market orientation and technology represent the ease of movement that will influence SMA usage. Further, the present study adds an extension to the existing body of knowledge in accounting field concerning SMA usage investigation, while utilizing Algerian SMEs as it is as a strategy that implies a long-term future orientation period and an externally focused perspective in this context.

The current study utilizes the new tool of analysis PLS-SEM to explain the structural relationships between the main constructs of perceived environmental uncertainty, market orientation, technology and SMA usage. Furthermore, the current study contributes to the literature of accounting field by providing more insights and perceptions that support literature, specially, the future research that can make especially in Algeria or generally in developing countries or Arab countries, as there the literature in those countries are limited, such as market orientation, which is selected as contingency factors recently.

The current work empirically suggests that perceived environmental uncertainty, market orientation and technology play roles in understanding the causes of SMA usage which in turn validated by using the bootstrapping approach as a new perspective for better future researches in this area.

5.4.2 Practical Contribution

The findings may shed light on how decision makers in Algerian SMEs could better understand their organization in terms of SMA usage. Therefore, it is vital for managers to understand the influencing factors that impact SMA usage to be effective. This suggests that managers should improve the role of SMA usage through creating changes in work environment, improve the performance, and compete in the market business.

In terms of competitive edge, Algerian SMEs would understand the factors that lead to the effectiveness. This will enhance the possibility to develop SMA usage to provide the principal information such as quality, time, and customer satisfaction and cost improvement for the formulation, implementation and realization of strategies.

This study could offer a valuable notion to foster SMA usage, SMEs in Algeria could use the findings of this study to achieve its mission and vision which is greatly impact the image and reputation of the organization to become a reliable alternate to the hydrocarbons sector. In addition to that, to compete in the continuing globalized market.

5.5 Limitations of Study and Suggestions for Future Direction

The results of this study provide several implications for accounting research. This research was a useful first step in the research into SAM in Algeria. This study is an initiative for the research in Algeria. In evaluating this study, several limitations should be noted. However, the most of these limitations are the sample was taken only from the Algiers SMEs listed companies, not from all Algeria. Future research should examine larger sample size.

From this, the results would be more treasured if there were more relationships and variables or by including mediator or moderator variables. Further, more data can be collected in the future with the new scope to gather more information regarding SMA usage.

The future research should consider also covering all organizations in all sectors (manufacturing, services,) including medium-sized companies in industry. Similarly, a qualitative method or both qualitative and quantitative methods can be helpful in providing an in-depth understanding of this issue.

5.6 Conclusion

So far, this study has produced a valuable information and knowledge by identifying the SMA usage among SMEs in Algeria in the context of contingency theory. The result of the study tested the hypothesis of the impact of perceived environment uncertainty, market orientation and technology on SMA usage.

Finding of this study indicated that environment uncertainty, market orientation, appears to have an impact and significant on SMA usage, while, this study indicate that the relationship between technology and SMA usage is not significant and not supported. Thus, this study can be taken into account especially for those who are related to SMEs to include adaptability skills in their strategy in order to provide future human capitals that are highly adaptable in their career. This is because the study provides a clear understanding of the component of the study, which in turn contributed to the body of knowledge by answering the research question enhancing the perspective of SMA usage in the Algerian SMEs context.

The current results also were consistent with the previous findings in the field of accounting regarding the significant relationship with SMA usage. Similarly, this study validates the instruments that have been used to evaluate the constructs of study, which were utilized previously in another research.

By providing theoretical, methodological and implications this study could offer a valuable notion to foster SMA usage. In conclusion, SMEs in Algeria could use the finding of the study to achieve its mission and vision which is greatly impact the image and reputation of the organization to become a reliable alternate to the hydrocarbons sector. In addition to that, to compete in the continuing globalized market.

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APPENDIX A

QUESTIONNAIRE

The influence of the contingency factors on SMA usage in the Algerian SMEs

Dear Sir/madam

This research is undertaken to investigate, The influence of the contingency factors on SMA usage in the Algerian SMEs, and presenting this research as a part fulfillment of the requirement for the degree of Master of Science (International Accounting) at Universiti Utara Malaysia (UUM). For that this research can be made possible only through your cooperation. There is no right or wrong answers to the questions, all you need to do is to indicate the appropriate response which reflects your view based on your experience in firms.

All the information provided by you will be treated as confidential, and will used for the sole purpose of this research.

Thank you for your cooperation

Sincerely

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Tunku Putri Intan Shafinaz
School of Accountancy
Universiti Utara Malaysia
College of Business

Part 1: demographic data: respondent's profile & company.
Please tick (√) on your answer:

1) your job title is:

☐ Chief executive office
☐ Manager (please specify) .....
☐ Accountant
☐ Others (please specify) .....

2) your company is being incorporated as:

☐ A limited liability company
☐ A limited liability company with a sole owner
☐ Partnership
☐ Solidarity Company

3) the total numbers of employees in the organization are:

☐ Fewer than 50
☐ 50-100
☐ 101-150
☐ 151-200
☐ 201-250
☐ More than 250

4) the sector of your company's business is

☐ Electrical & electronics
☐ Chemical including Petroleum
☐ pharmaceutical industry
☐ Food & beverage
☐ handicraft
☐ Others: (please specific)
☐ Fabricated Metal
☐ plastics industry

.....

5) the type of strategic management accounting information is used at your company is

☐ Computerized
☐ Manual

6) Your working experience in this company is:

☐ 1-5 years
☐ 11-15 years
☐ 6-10 years
☐ more than 15 years

7) Your working experience in the industry is:

☐ 1-5 years
☐ 6-10 years
☐ 11-15 years
☐ more than 15 years

8) your highest education is

☐ Degree
☐ amster
☐ Phd
☐ other (.....)

9) Please state your age

☐ 18-25 years
☐ 36-45 years
☐ above 56 years
☐ 26-35 years
☐ 46-55 years

10) Your Gender is:

☐ male
☐ female

Part 2: GENERAL INSTRUCTION
For these sections below, please respond to the questions:

Section A: SMA usage

The following statements aim to assess the **Use of strategic management accounting Techniques** in your company.

(Please tick (√) the most appropriate number on the scale ranging)

1=not at all 2=slight extent 3=moderate extent 4=great extent 5=very large extent

what extent does your organization use the following techniques:						
	Costing	1	2	3	4	5
1	**Activity based costing** (is a costing methodology that identifies activities in an organization and assigns the cost of each activity with resources to all products and services according to the actual consumption by each)					
2	**Life-cycle costing** (is an economic analysis used in the selection of alternatives that impact both present and future costs.)					
3	**Quality costing** (tools and techniques, which can assist companies with improving quality of product and service and reducing the level of quality costs)					
4	**Target costing** (is an approach to determine a product's life-cycle cost which should be sufficient to develop specified functionality and quality					
5	**Value-chain costing** (a costing model that takes into account all aspects of the chain of production, from design to after-sales)					
	Planning, control and performance measurements					
6	**Benchmarking** (identify the best practices in other companies and apply those practices to their own processes)					
7	**performance measurement** (process of collecting, analyzing and/or reporting information regarding the **performance** of an individual, group, organization)					
	Customers Accounting					
8	**Customer profitability analysis** (Analysis of the revenue streams and service costs associated with specific customers or customer groups)					

Section B: Environment uncertainty

The following statements aim to assess the affect of **environment uncertainty** in your company.

(Please tick (√)the most appropriate number on the scale ranging)

1=strongly disagree 2= disagree 3=neutral 4= agree 5=strongly agree

	what extent you agree with the following statements:	1	2	3	4	5
1	during the past 5 yr, New products and/or services have been marketed your industry					
2	during the past 5 yr, your firms facing dynamic external environment (economic and technological)					
3	during the past 5 yr, the market activities of your competitors Becoming less predictable					
4	During the past 5 yr , the tastes and preferences of your customers have become Much harder to predict					
5	During the past 5 yr , the legal, political and economic constraints surrounding your firm have increased					

Section C: Market orientation

The following statements aim to assess the affect of **Market Orientation** in your company.

(Please tick (√) the most appropriate number on the scale ranging)

1=strongly disagree 2= disagree 3=neutral 4= agree 5=strongly agree

	what extent you agree with the following statements:	1	2	3	4	5
1	My company has a strong understanding of our customers					
2	my company work closely together to create superior value for our customers					
3	my company thinks in terms of serving the needs and wants of well-defined markets chosen for their long-term growth and profit potential for the company					
4	my company has a strong market orientation					

Section D: Technology

The following statements aim to assess the affect of **Technology** in your company.

(Please tick (√)the most appropriate number on the scale ranging)

1=strongly disagree 2= disagree 3=neutral 4= agree 5=strongly agree

	what extent you agree with the following statements:	1	2	3	4	5
1	Our Technology is a core element of the operating system in the organization					
2	Our production/services techniques are technology based					
3	Our accounting information system is computer based					
4	Our organization invest in software packages to aid our accounting and other operational system					

Thank you for your cooperation.

APPENDIX B

استبيان

العوامل المحتمل التي ترثر على استعمالات استراتيجية المحاسبة الادارية

الى السيد/السيدة:

انا طالب ماستر تخصص محاسبة دولية من جامعة اوتارا ماليزيا. ادعوكم في الدراسة التي اقوم بها والتي تبحث في موضوع العوامل المؤثرة على ممارسة تقنيات استراتيجية المحاسبة الادارية.

هذه الدعوة موجهة الى مدير الشركة, مدير المحاسبة, مدير الرقابة او المدير المالي في المؤسسات المشاركة, او اي شخص كفؤ لتعبئة الاستبيان.

رايكم يسعى بالكامل في تحقيق هدف هذه الدراسة, ونجاحها يعتمد على مشاركتكم في الاجابة على جميع الاسئلة,

اشكركم لتعاونكم على قراءة هذه الرسالة ولوقتكم الثمين لتعبئة الاستبيان.

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الجزء الأول: هذا الجزء يتضمن مجموعة من الاسئلة على الشركة التي تعمل بها وعلى نفسك

من فضلك اختر الجواب الملائم

1) منصب عملك هو:

☐ الرئيس التنفيذي ☐ محاسب
☐ مدير (حدد من فضلك) ☐ آخر (حدد من فضلك)
.....

2) نوع الشركة هو:

☐ شركة مساهمة محدودة شركة مساهة محدودة ذات الشخص الوحيد
☐ شركة ذات اسهم ☐ شركة تضامن
☐

3) اجمالي العمال في الشركة هو:

☐ اقل من 50 ☐ 100-50 ☐ 150-101
☐ 200-151 ☐ 250-201 ☐ اكثر من 250

4) قطاع الاعمال الخاص بالشركة هو:

☐ كهرباء والكترونيات ☐ كيميائيات وبترولية ☐ صناعة الادوية
☐ الاغذية والمشروبات ☐ صناعة حرفية ☐ آخر (حدد من فضلك)
☐ صناعة المعادن ☐ صناعة بلاستيكية

5) نوع المعلومات الاستراتيجية المحاسبية المستخدمة في شركتك هي:

☐ بواسطة الكمبيوتر ☐ يدوية

6) خبرتك العملية في هذه الشركة هي:

☐ 1-5 سنوات ☐ 6-10 سنوات
☐ 11-15 سنة ☐ اكثر من 15 سنة

7) خبرتك العملية في هذا القطاع هي:

☐ 1-5 سنوات ☐ 6-10 سنوات
☐ 11-15 سنة ☐ اكثر من 15 سنة

8) اعلى شهادة متحصل عليها هي:

☐ ليسانس ☐ ماستر
☐ دكتوراه ☐ شهادة اخرى :.....

9) يرجى تحديد سنك:

☐ 18-25 ☐ 26-35 ☐ 36-45
☐ 46-55 ☐ 56 فما وق

10) الجنس:

☐ ذكر ☐ انثى

الجزء الاول: تعليمات عامة
من فضلك أجب على الأسئلة التالية

القسم (أ): استخدام تقنيات استراتيجية المحاسبة الادارية

البيانات التالية تهدف الى قياس استعمال تقنيات المحاسبة الادارية في شركتك

(من فضلك اختر من فضلك ضع علامة في المربع الانسب على مقياس:

1= لا اوافق بشدة 2= لا اوافق 3 = متعادل 4= اوافق 5= اوافق بشدة)

	الى اي حد تطبق الموسسة التقنيات التالية:	1	2	3	4	5
	التكلفة					
1	**التكلفة حسب النشاط:** و نظام يهتم بعلاج مشكلة تحميل التكاليف غير المباشرة وتخصيصها على النتجات من خلال اعتبار ان النشاط هو موضوع التكلفة المراد قياسها أولا، وبعد تحديد تكلفة النشاط يتم تحديد تكلفة المنتجات بقدر ما تستهلكه من هذه الانشطة المختلفة					
2	**تكاليف دورة حياة المنتج:** خفض تكلفة المنتج عن طريق إدارة التكلفة خلال جميع مراحل دورة حياته دون التركيز على مرحلة الإنتاج فقط كما هو المعتاد في الممارسات التقليدية					
3	**تكاليف الجودة**: هي مجموع التكاليف التي يتم إنفاقها في المنشأة أو المنظمة الإنتاجية لضمان تقديم المنتج إلى المستهلك حسب متطلباته و رغباته					
4	التكاليف المستهدفة: تهدف إلى تخفيض تكلفة المنتج أثناء مرحلة التخطيط والتطوير والتصميم					
5	**تكلفة سلسلة القيمة**: هي عملية إدارة جميع التكاليف المتعلقة بجميع مراحل حياة المنتوج					
	التخطيط والرقابة وقياس الأداء					
6	**المقارنة بالافضل (الاداء المقارن):** وتدرس الممارسات المثلى والمتاحة للمنافسين ثم تقوم بعد ذلك بتنفيذها كمحاولة للمساواة او التفوق على هؤلاء المنافسين في الاداء					
7	**القياس المتوازن للاداء:** تحديد مهمة المنظمة ثم تحديد الاستراتيجيات التي ينبغي على المنظمة تنفيذها في ضوء هذه المهمة، ثم ترجمة هذه الاستراتيجيات الى مجموعة متوازنة من المقاييس التي تعطي ادارة المنظمة معلومات شاملة عن وضع المنظمة					
	محاسبة خاصة بالزبائن					
14	**تحليل الربح من المستهلك**: تحليل الربح المتحقق من زبون معين او مجموعة زبائن					

القسم (ب): عدم الاستقرار البيئي

البيانات التالية تهدف الى قياس **عدم الاستقرار البيئي** في شركتك

من فضلك ضع "علامة" في المربع الانسب على مقياس:

(1= لا اوافق بشدة 2= لا اوافق 3 = متعادل 4= اوافق 5= اوافق بشدة)

	الى اي حد تلتزم الموسسة بالامور التالية:	1	2	3	4	5
1	خلال الخمس (5) سنوات السابقة, شركتك قامت بتسويق منتجات او خدمات جديدة					
2	خلال الخمس (5) سنوات السابقة, واجهت شركتك بيئة خارجية ديناميكية اي بيئة عير ثابتة (في الاقتصاد و التكنولوجيا)					
3	خلال الخمس (5) سنوات السابقة, أصبحت الانشطة التسويقية للمنافسين أكثر صعوبة التنبؤ					
4	خلال الخمس (5) سنوات السابقة, أصبحت أذواق وتفضيلات الزبائن أكثر صعوبة التنبؤ					
5	خلال الخمس (5) سنوات السابقة, زادت القيود القانونية والسياسية والاقتصادية المحيطة بشركتك					

القسم (ج): توجه السوق

البيانات التالية تهدف الى قياس **توجه السوق** في شركتك

من فضلك ضع "علامة" في المربع الانسب على مقياس:

(1= لا اوافق بشدة 2= لا اوافق 3 = متعادل 4= اوافق 5= اوافق بشدة)

	الى اي حد تلتزم الموسسة بالامور التالية	1	2	3	4	5
1	الشركة التي أعمل بها تفهم جيدا زبائننا					
2	الشركة التي أعمل بها تهتم بشكل وثيق لخلق قيمة متفوقة لزبائننا					
3	الشركة التي أعمل بها تقوم على تلبية الاحتياجات والرغبات في السوق لتحقيق النمو والأرباح المحتملة على المدى الطويل للشركة					
4	الشركة التي أعمل بها لديها توجه قوي في السوق					

القسم (د): التكنولوجيا وتطبيقاتها

البيانات التالية تهدف الى قياس **التكنولوجيا وتطبيقاتها** في شركتك

من فضلك ضع "علامة" في المربع الانسب على مقياس:

(1= لا اوافق بشدة 2= لا اوافق 3 = متعادل 4= اوافق 5= اوافق بشدة)

	الى اي حد تلتزم الموسسة بالامور التالية	1	2	3	4	5
1	التكنولوجيا عنصر اساسي في نظام التشغيل لهذه المؤسسة					
2	منتجاتنا وخدماتنا تعتمد على التكنولوجيا بشكل كبير					
3	النظام المحاسبي للشركة يعتمد على البرامج المحاسبية الالكترونية					
4	نستثمر في حزم برمجية لدعم انظمة المحاسبة وانظمة التشغيل الاخرى					

شكرا جزيلا على

تعاونكم