# THE RELATIONSHIP BETWEEN CONTINGENCY AND INSTITUTIONAL FACTORS, AND ORGANISATIONAL PERFORMANCE THROUGH THE PERFORMANCE MEASURES OF LIBYAN COMMERCIAL BANKS

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**By**

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## ABSTRACT

Organisational performance has a significant impact on the development and economic growth in any country. Libyan commercial banks suffer from poor performance that affects their contribution to Gross Domestic Product (GDP). Therefore, this study was conducted to examine the factors that influence organisational performance. Specifically, it investigated the relationships between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and organisational performance. This study also examined the mediating effects of performance measures on the relationship between contingency and institutional factors, and organisational performance in Libyan commercial banks. To achieve these objectives, sixteen hypotheses were formulated based on previous studies and two theories were adopted: the contingency theory as the underpinning theory and institutional theory as supportive theory. In order to examine these hypotheses, data was collected from branch managers in Libyan commercial banks that constituted the population of this study. While the initial sample size of the study was 217, only 154 questionnaires were usable, and the data was subjected to tests of variance, descriptive statistics, factor analysis, correlations, and multiple regression analysis. The results revealed that business strategy, organisational structure and coercive pressures have a positive influence on organisational performance in Libyan commercial banks. The results also showed that competition and normative pressures have a negative influence on organisational performance. This study is expected to make useful contributions by providing insight into performance measures in Libyan commercial banks, and into factors that affect their performance. More importantly, this study opened the possibilities for further research on performance of Libyan banks, and in other developing countries, and worldwide.



Keywords: Contingency factors, institutional factors, performance measures, organisational performance, Libyan commercial banks.

## ABSTRAK

Prestasi organisasi mempunyai impak yang signifikan ke atas perkembangan dan pertumbuhan ekonomi di sesebuah negara. Bank-bank komersial di Libya mengalami prestasi yang buruk yang memberikan kesan ke atas sumbangan mereka kepada Keluaran Dalam Negara Kasar. Oleh itu, kajian ini dijalankan untuk mengkaji faktor yang mempengaruhi prestasi organisasi. Secara khusus, kajian ini meneliti hubungan di antara faktor luar jangka (strategi perniagaan, struktur organisasi, dan persaingan), faktor institusi (tekanan paksaan dan tekanan normatif), dan prestasi organisasi. Kajian ini turut menyelidik kesan pengukuran prestasi dalam hubungan di antara faktor luar jangka dan institusi, serta prestasi organisasi bank-bank perdagangan di Libya. Untuk mencapai objektif berkenaaan, enam belas hipotesis telah dirumuskan berdasarkan kajian terdahulu, manakala teori kontigensi digunakan sebagai teori asas dan teori institusi sebagai teori sokongan. Dalam usaha untuk menguji hipotesis, data telah dikumpulkan daripada pengurus-pengurus cawangan bank perdagangan di Libya yang telah membentuk populasi kajian. Saiz sampel kajian yang asal ialah sebanyak 217, namun hanya 154 sampel yang boleh digunakan dan data telah dibuat ujian varians, deskriptif statistik, analisis faktor, korelasi, dan analisis regresi berganda. Hasil kajian menunjukkan bahawa strategi perniagaan, struktur organisasi dan tekanan paksaan mempunyai pengaruh yang positif ke atas prestasi organisasi bank-bank perdagangan di Libya. Hasil kajian juga menunjukkan bahawa persaingan dan tekanan normatif mempunyai pengaruh negatif terhadap prestasi organisasi. Kajian ini telah memberikan sumbangan yang berguna dengan memberikan lebih banyak penjelasan mengenai pengukuran prestasi, dan juga mengenai faktor-faktor yang mempengaruhi prestasi organisasi bank-bank perdagangan di Libya. Lebih penting lagi, hasil kajian ini juga telah membuka peluang untuk penyelidikan masa hadapan mengenai prestasi bank di Libya dan di negara-negara membangun yang lain serta di seluruh dunia.



**Kata Kunci:** Faktor luar jangka, faktor institusi, pengukuran prestasi, prestasi organisasi, bank perdagangan Libya.


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| | |
|---|---|
| B | Beta Coefficients |
| BS | Business Strategy |
| BSC | Balanced Scorecard |
| C | Competition |
| CBL | Central Bank of Libya |
| CP | Coercive Pressures |
| F | Statistical Significance of the Model |
| GDP | Gross Domestic Product |
| KMO | Kaiser-Meyer-Olkin |
| MAS | Management Accounting System |
| MCS | Management Control System |
| NP | Normative Pressures |
| OP | Organisational Performance |
| PhD | Doctor of Philosophy |
| PM | Performance Measures |
| PMS | Performance Measurement System |
| $R^2$ | R-squared values |
| Sig | Significant |
| SPSS | Statistical Package for the Social Sciences |
| UK | United Kingdom |
| USA | United States of America |
| UUM | Universiti Utara Malaysia |
| VIF | Variance Inflation Factor |

# CHAPTER ONE
# INTRODUCTION

## 1.1 Background of the Study

The globalisation of financial markets has led banks in developing countries to improve customer service quality, reduce operating costs, and enhance profitability performance (Randle, 1995), as such indicators represent banking performance. Generally, organisational performance refers to the organisational effectiveness to achieve the its objectives (Henri, 2004). In other words, organisational performance represents the results of the organisation's activities and it focuses on the achievement of objectives. Furthermore, organisational performance is viewed differently by different organisations, and there are various approaches used to for its measurement, as some view performance from a financial perspective (objective measures), while others view it from a non-financial perspective (subjective measures).

Many factors have an effect on organisational performance, and these include contingency factors (business strategy, organisational structure, and competition), and institutional factors (coercive and normative pressures) (Hoque, 2004; Hussain & Hoque, 2002; Lee & Yang, 2011; Van der Stede, Chow & Lin, 2006). First, among the contingency factors, business strategy is one of the important variables in the contingency studies (Chong & Chong, 1997). The organisational literature suggests that improved business performance requires a management style that is related to a specific firm strategy and organisational structure (e.g., Venkatraman, Henderson

&Oldach, 1993). The types of the business strategy in this study include prospector, defender, and analyser. Second, organisational structure is one of the important factors that affect management accounting practices (Lorenzo, 2008) and third, competition is one potential determinant of the use of performance measures and it has a significant impact on organisational performance (Agha, Alrubaiee & Jamhour, 2011; Majeed, 2011). Fourth, coercive pressures are one of the most important institutional factors that facilitates improved organisational performance (Zhu & Sarkis, 2007). In this regard, the central bank's regulatory control is the most influential factor in coercive pressure and it has an influence on normal functions and operations of banks as well as their performance measures (Hussain & Hoque, 2002). Fifth, normative pressures affect decisions of managers, and consequently, they are used as performance measures in organisations (Hussain & Hoque, 2002).

In this study, performance measures are considered as the mediator variable of the relationship between the contingency and institutional factors, and organisational performance and as such, it is employed to explain the indirect relationship between contingency and institutional factors, and organisational performance. Accordingly, this study focuses on four perspectives of the Balanced Scorecard (BSC) (financial, customer satisfaction, internal business process, and innovation and learning) that represent performance measures. The increased attention on the measures of performance evaluation by academics and consultants reflects the increased pressure to improve organisational performance (Hoque, 2004; Nanni, Dixon & Vollmann, 1992). Several studies have found significant relations between business strategy, organisational structure, competition, coercive and normative pressures,and

performance measures (Abernethy & Guthrie, 1994; Gosselin, 2005; Govindarajan & Gupta, 1985; Hoque & Hopper, 1997; Hoque & James, 2000; Lee & Yang, 2011).

This study is conducted in Libyan banking sector. Specifically, on Libyan commercial banks and their branches. The next section highlights the Libyan banking environment.

### 1.2 Libyan Banking Environment

In order to obtain a better knowledge regarding accounting systems in any country, the economic environment should be taken into account. The banking sector is one of the most important sectors in the economy through which it achieves a number of important functions, such as the allocation of credit, and facilitation of the flow of payments. Further, at the individual level, it provides modern technological banking services to meet customers' requirements, such as deposits, funds transfer, and bill payment (Fakhri, 2010).

The Libyan banking sector is divided into two parts, where the first part introduces the CBL and the second part is the Libyan banking structure. In 1955, the CBL was founded by Law No. (30) under the Libyan National Bank. However, in 1970 Law No. (63) was renamed as the CBL. The CBL is completely state-owned and is regarded as the financial power in Libya (CBL, 2012). The headquarters of the CBL is in Tripoli. In order to make its services more accessible for banks that are too far from the headquarters, it established three branches located in the east, middle, and south of Libya. The highest decision-making body of the CBL is the board of

directors, which includes a chairman, vice-chairman as well as five members, who are responsible for the general administration of the affairs and business of the bank. The main objectives of the CBL are to maintain monetary stability, encourage the continuing growth of the economy in accordance with the general economic policy of Libya, and supervise the commercial banks (CBL, 2012).

The second part of the structure of the Libyan banking sector consists of banking organisations, and the legislation and regulations that govern these banks. The Libyan banking sector consists of 20 banks, which includes five specialised banks (Libyan Foreign Bank, Agricultural Bank, Saving and Real-Estate Investment Bank, Development Bank, and Alrefi Bank) and 15 commercial banks (CBL, 2012).

Commercial banks are essential in emerging countries in that they make credit available to debtors because the capital markets are not strong and they lack the capability of making credit available to investors (Saci, Giorgioni & Holden, 2009). The commercial banks may be described as the institutions that receive customers' deposits, make loans available to the customers for commercial purposes, and offer relevant services where necessary (CBL, 2012). The fifteen Libyan commercial banks could be grouped into three categories namely, private, public, and foreign.

The commercial banks in Libya are classified into three types according to the participation rate in ownership of the bank. First, the public commercial banks that are owned by the state. They were nationalised at the beginning of the 1970's (participation rate between 54% to 85%). Examples of public commercial banks are

National Commercial bank, Al-Jomhuriya bank, Wahda Bank, and Sahara Bank and they own 85% of the total asset of the Libyan banking sector, attract 86% of the total deposit, and contribute 88% of the total loans and credit facilities (Bank of Commerce & Development, 2013). However, Arab Bank of Jordan owns 19% of the share of Wahda Bank, while Banque Nationale de Paris and Paribas owns 19% of the share of Sahara Bank and control over the operation of the bank. Second, the private banks are joint venture companies that are owned by individuals or institutions since their activities establishments. These banks include Aman Bank, Al-Wafa Bank, Alcjmaa Alarabi Bank, Mediterranean Bank, Alsaraya Trading, North African Bank, Bank of Commerce& Development, Al-Mutahed, and Al-Waha Bank. The Bank of Commerce& Development Bank is the biggest among the Libyan private banks, and 49% of its shares is owned by the Qatar National Bank. Finally, foreign banks, which are not Libyan owned are established in the Libyan market are only two namely the First Gulf Bank and Arab Commercial Bank. Based on economic database in the CBL, Figure 1.1 shows the current structure of the Libyan banking system.

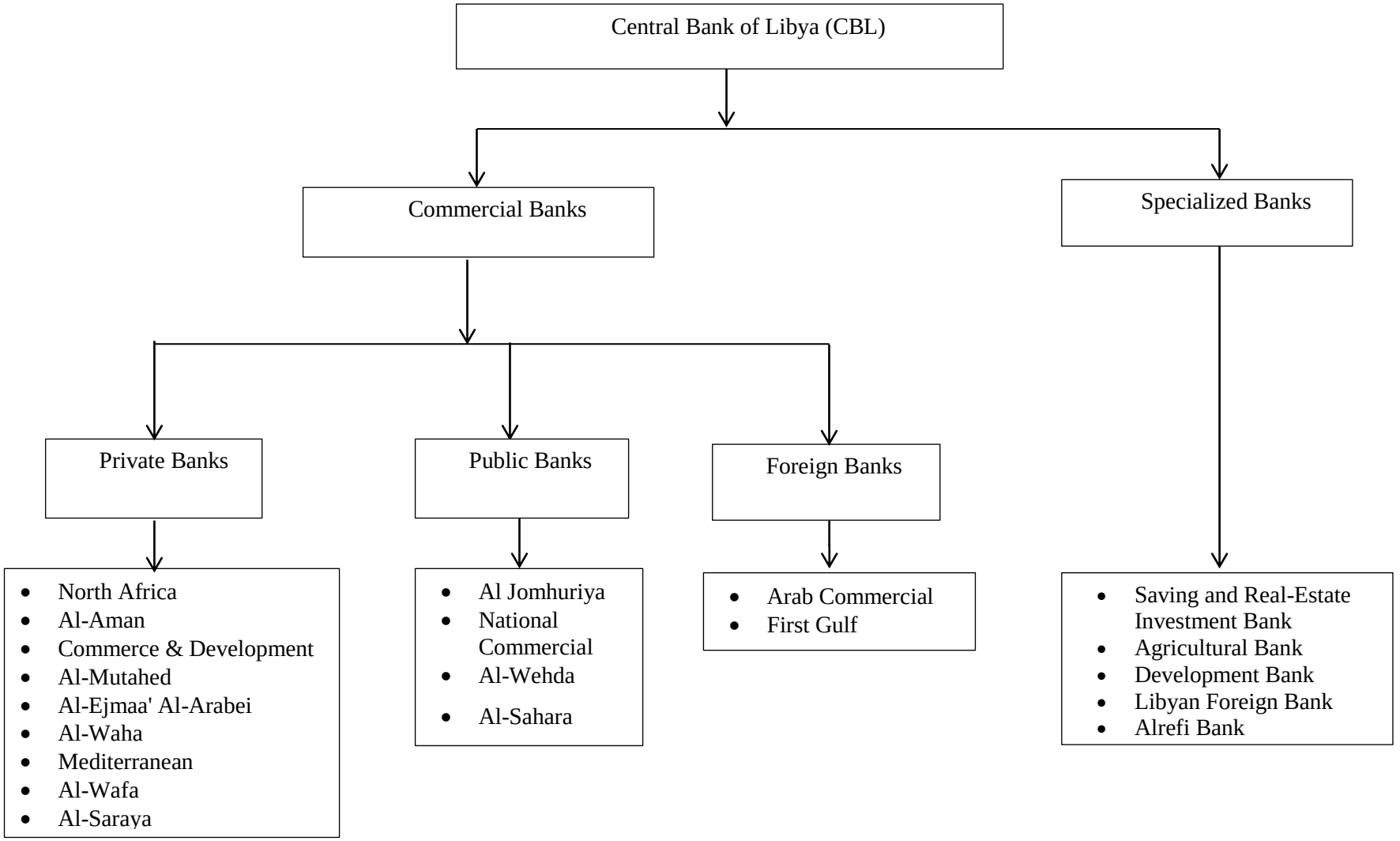


Figure 1.1
*The Libyan Banking System*
Source: CBL, (2012)

### 1.3 Problem Statement

Organisational performance is one of the most important constructs in achieving the goals of an organisation (Richard, Devinney, Yip & Johnson, 2009). It is an important variable in most studies investigating performance issues (Dess & Robinson, 2006). Continuous improvement of bank's functions and monitoring bank's financial condition lead to an increase in the performance in banks, which in turn, has a significant impact on the development and economic growth of any country (Levine, 2005; Paradi & Zhu, 2012). In regards to this, developing countries suffer from slower economic growth due to weak banking performance (Levine, 2005).

In Libya, the service sector is the second contributor in the Gross Domestic Product (GDP) after the oil sector (El-Shukri, 2007). Although the Libyan banking sector is the most important service sector, it suffers from obvious weaknesses (Ahmed, 2010). In particular,Libyan commercial banks that suffer from poor performance report a high level of non-performing loans and low revenues (CBL, 2012; Chamiea, Elfeturi & Abusneina, 1997; Gabgub, 2009). Furthermore, Libyan commercial banks offer limited financial products, and loans are often offered on personal connections' basis (Alrafadi, Kamaruddin & Yusuf, 2014). In addition, lack of adequate financing from bank acts as an obstacle in Libya's development (Maitah, Zedan & Shibani, 2012). Performance of Libyan banking is low when compared with other developing countries in Africa, like Egypt. The non-performing loans in Libya constitute 21% of total loans, while in Egypt, they only constitute 11% (Bank of Commerce & Development, 2013). Moreover, the volume of loans in relation to total deposits in

Libya is low (less than 25%), while in Egypt, it is equal to 60% (Bank of Commerce &Development, 2013) and generally, the banks' performance in Libya is not stable financially (Alrafadi & Md-Yusuf, 2014).

Although organisational performance is affected by multiple factors, contingency factors have been widely recognised as important factors that can affect it (Gosselin, 2005; Henri, 2006a; Hoque, 2004; Lee & Yang, 2011). Among the contingency factors, business strategy, organisational structure, and competition are considered to be the top factors affecting organisational performance based on contingency theory (Chong & Chong, 1997; Lee & Yang, 2011; Lorenzo, 2008). First, business strategy is one of the important variables in contingency studies (Chong & Chong, 1997). In organisational literature (e.g., Miles, Snow, Meyer & Coleman, 1978), it has been suggested that improved business performance requires an organisational structure and management style that are related to a specific-firm strategy. Business strategy is an important factor that affects the performance measures and organisational performance (Govindarajan & Gupta, 1985). Furthermore, the association between performance measures and organisational performance is dependent on business strategy (Hoque, 2004). In addition, firms would achieve higher performance if they align managerial practices to their strategic priorities (Venkatraman *et al.*, 1993).

Second, organisational structure is one of the important factors that affects management accounting practices (Lorenzo, 2008) and it has a significant positive impact on firm performance. According to Chenhall, (2003) organisational structure has an impact on many aspects in organisation's systems (the control systems,

information flows, and efficiency of work). Despite its importance, the literature of management accounting indicates that less attention has been paid to the influence of organisational structure on organisational performance (Child, 1972; Lee & Yang, 2011; Miles *et al.*, 1978).

Third, competition is a powerful contextual factor affecting performance (Lee & Yang, 2011) because banks, in the presence of strong competition, will have a better banking performance (Neely, 2005). Furthermore, competition has been found to have a significant effect on the use of management accounting practices in Libya (Alkizza, 2005). In addition, it also has a significant impact on organisational performance (Agha *et al.*, 2011).

Furthermore, added to the contingency factors, some institutional factors have been found to be significantly associated with organisational performance (Oliver, 1997). For instance, coercive pressure is an institutional factor that facilitates enhanced performance of organisations (Zhu & Sarkis, 2007). In the context of Libya, there is considerable government intervention, represented by legislations and regulations issued by CBL, which affects the efficient performance of Libyan commercial banks (Abdulla, 2010; Chamiea *et al.*, 1997). In particular, the Libyan government owns between 54% to 85% of the shares of four large banks (Bank of Commerce & Development, 2013). According to Hussain and Hoque (2002), the Central Bank's regulatory control is the most forceful factor in coercive pressures and the institutional factors that influence banks to implement particular performance measures. Furthermore, Alkizza (2005) pointed out that environmental factors, such

as the government regulations, have an important effect on management accounting practices used in Libya. In addition, the commercial banks are required to function within the regulations and guidelines of the CBL.

In addition to the coercive pressures, the normative pressures are considered as one of the important institutional factors that affect management accounting systems (e.g. Chong & Chong, 1997; DiMaggio & Powell, 1983). Institutional theory assumes that the normative pressures, represented by the professional bodies and formal education, can lead to changes to organisational practices (DiMaggio & Powell, 1983), which consequently affects organisational performance. In this study, the researcher excluded mimetic pressures due the fact that the Libyan banking environment is a stable environment brought about by predictability of events. Contrastingly, mimetic pressures apply to unstable environments, wherein uncertain circumstances exist (DiMaggio & Powell, 1983).

Literature reveals that the link between contingency factors and organisational performance was not only direct, but also indirect (Hoque & James, 2000; Lee & Yang, 2011; Verbeeten & Boons, 2009). Furthermore, several studies emphasised the need to use multiple performance measures in the service sector, including the banking sector (e.g. Hussain & Hoque, 2002; Kaplan & Norton, 2001; Lorenzo, 2008). In addition, other studies have provided empirical evidence concerning the positive impact of performance measures on the financial performance of organisations in terms of long-term profitability (Banker, Lee, Potter & Srinivasan, 2000; Van der Stede *et al.*, 2006). Moreover, contingency factors affect the use of performance

measures (Hoque, 2004; Hussain & Hoque, 2002; Lee & Yang, 2011; Van der Stede *et al.*, 2006) and so do institutional factors (Gimzauskiene & Kloviene, 2011; Hussain & Hoque, 2002; Munir, Perera & Baird, 2011). Hence, this study attempts to fill the major gaps in the literature by investigating the mediating effect of performance measures on the relationship between institutional factors and organisational performance.

Based on previous literature and in response to recommendations of prior studies, for example, Hussain and Gunasekaran (2002), Kaplan and Norton (2001), and Lorenzo (2008), this study attempts to examine the mediating effect of 'use of performance measures' on the relationship between the contingency and institutional factors, and organisational performance as one of the major objectives of this study is to further explain the relationship between contingency and institutional factors, and organisational performance.

To help explain the relationship between all factors, this study uses contingency theory as the underpinning theory to cover the main part of the framework. Contingency theory suggests that the fit between contextual factors (business strategy, organisational structure, and competition) and the design of management control systems is relevant to superior organisational performance (Chenhall, 2003; Langfield-Smith, 1997). This study also uses institutional theory as a supportive theory to explain the relationship between institutional forces, performance measures, and organisational performance. Institutional theory is based on the assumption that various internal and external factors that form the environment,

influence performance measurement in organisations (Gimzauskiene & Kloviene, 2011). In addition, this theory is used to deeply explain the influence of institutions factors on performance (Mizruchi & Fein, 1999). In sum, the use of contingency theory and institutional theory provides a complete understanding of the role of coordination and control practices in influencing performance measures (Scott, 1987).

In relation to this, Wu, Mahajanand Balasubramanian (2003) recommended that research efforts must adequately consider a mix of factors drawn from contingency and institutional perspectives of the firm to correspond with organisational performance. Accordingly, this study attempts to combine both important contingency and institutional factors simultaneously. Such factors are important factors based on the broad range of contingency and institutional theory, and management accounting literature and their effect on organisational performance, as well as their appropriate employment on the banking environment in developing countries. In particular, to the best of the researcher`s knowledge, relatively few studies have looked into the influence of both contingency and institutional factors on organisational performance. Hence, this is one of the major gaps in literature that the present study is attempting to minimise. Additionally, a comprehensive review of literature indicates that most of the studies on organisational performance have been carried out in the manufacturing sector (Beal, 2000; Hoque, 2004; Rodríguez & Ventura, 2003; Van der Stede *et al.*, 2006; Verbeeten & Boons, 2009), thereby neglecting the service sector, particularly the banking industry.

Moreover, extant empirical studies on organisational performance were primarily conducted in developed countries such as the United States of America (USA),United Kingdom (UK), and emerging economies in Asia, such as Malaysia and Singapore (Jusoh, Ibrahim & Zainuddin, 2008; Lee & Yu, 2004; Van der Stede *et al.*, 2006; Walker & Boyne, 2006). However, there is a paucity of studies on organisational performance in the developing countries, particularly in the context of Libya, and thus highlighting another gap in literature.

Based on the aforementioned paragraphs highlighting the practical issues and existing theoretical gaps, this empirical study investigates the relationships between contingency factors (business strategy, competition, and organisational structure), institutional factors (coercive and normative pressures), and organisational performance. In addition, this study examines the mediating effects of performance measures on the relationship between contingency and institutional factors, and organisational performance among Libyan commercial banks.

### 1.4 Research Questions

The following questions are based on the issues discussed in the research problem by investigating the relationships between the contingency factors (business strategy, organisational structure, and competition), institutional factors (coerciveand normative pressures), and organisational performance. It also examines theuse of performance measures as a mediator between them. These research questions are designed to obtain a feedback from the branch managers of Libyan commercial banks. The research questions of this study are as follows:

1. What is the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and use of performance measures of Libyan commercial banks?

2. What is the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and organisational performance of Libyan commercial banks?

3. What is the relationship between use of performance measures and organisational performance of Libyan commercial banks?

4. Does use of performance measures positively mediate the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks?

### 1.5 Research Objectives

The main research objective is to investigate the effect of contingency and institutional factors on the organisational performance and use the performance measures as a mediator within Libyan commercial banks. The research objectives of this study are listed as follows:

1. To determine the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and use of performance measures of Libyan commercial banks.

2. To determine the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and organisational performance of Libyan commercial banks.

3. To determine the relationship between use of performance measures and organisational performance of Libyan commercial banks.

4. To determine whether use of performance measures positively mediate the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and organisational performance of Libyan commercial banks.

### 1.6 Significance of the Study

This study investigates the effect of the contingency and institutional factors on the organisational performance through performance measures in Libyan commercial banks. Through that investigation, this study attempts to contribute to theoretical, methodological, and practical aspects.This study contributes in the theoretical sense

by determining the most important factors affecting the performance in Libya, which would lead to opening up of exchange of ideas between Libya and other countries concerning these factors. Consequently, it would lead to improvement in banking performance in these countries.

Second, this study attempts to combine both contingency factors (business strategy, structure organisational, and competition) and institutional factors (coercive and normative pressures) on organisational performance, as recommended by Wu *et al.*(2003) by combining contingency and institutional theories. Hence, this study provides integrated insights about the impact of these factors combined, and the difference between them. This is one of the major gaps in the literature.

Third, this study demonstrates the mediating strength of performance measures on the contingency and institutional factors, and organisational performance, as a response to earlier studies (Hussain & Gunasekaran, 2002; Kaplan & Norton, 2001; Lorenzo, 2008). Therefore, the enhancement of the performance measures in turn leads to improved performance. Furthermore, studies in literature concerning the use of performance measures as a mediator in the relationship between the institutional factors (coercive and normative pressures) and organisational performance are scarce and as such, this study hopes to fill this major gap.

This study contributes in methodological sense by adapting instruments from various sources to measure coercive and normative pressures to suit the research settings in the banking sector. These instruments of variables were validated by conducting a

reliability test. Consequently, it can be used for future studies in other contexts. Literature shows that majority of previous studies related to institutional factors used the case study approach; however, in this study a survey questionnaire was conducted.

Finally, this study contributes in the practical sense by; first, most studies in this area have been conducted in developed countries (e.g., Hoque, 2004; Verbeeten & Boons, 2009), whereas this study is conducted in a developing country, i.e. Libya.

Furthermore, developing countries have huge natural resources, and about 70% of the world's population is in developing countries. Thus, the study contributes to an facilitating exchange of ideas between Libya and other countries on issues related to the performance, which could lead to improving the cooperation with these countries and consequently improves their institutions' performance. In other words, the present study fills the gap by using the survey method.

Moreover, studies in this area have been conducted in the manufacturing sector (Beal, 2000; Hoque, 2004; Rodríguez & Ventura, 2003; Van der Stede *et al.*, 2006; Verbeeten & Boons, 2009), while other studies emphasised the need to apply this type of research in the service sectors, such as the banking sector (Hussain & Gunasekaran, 2002). The banking sector is one of the most important sectors in Libya, and at the same time, one of the structural constituents of the economy of any country. Thus, this study discusses the factors affecting the performance in Libyan banking sector.

Third, this study provides practical contribution in terms of highlighting factors that enhance performance of Libyan banks. Consequently, it helps the branch managers in decision making to improve branches' performance. Furthermore, it helps the Libyan central bank to provide the suitable environment to increase the performance of Libyan banks.

### 1.7 Scope of the Study

This study investigates the effect of contingency factors (business strategy, organisational structure, and competition) and institutional factors (coercive and normative pressures) on organisational performance, through performance measures as mediator in Libyan commercial banks.

Organisational performance is viewed differently by different organisations, and there are various approaches used to measure performance. This study focuses on performance from both a financial perspective (objective measures) and a non-financial perspective (subjective measures), while the factors affecting organization performance consist of first business strategy. This study adopted a strategy typology by Miles *et al.*(1978), which is widely used in accounting studies, and is used appropriately to classify strategies over a broad spectrum of sectors (Shortell & Zajac, 1990). Therefore, this study focuses on three strategies classifications namely prospector, defender, and analyser as stable forms of banks, and excluded the fourth type called the reactor (as this is only examined in unstable forms of organisations), resulting from inconsistencies among the firm's strategy, structure, technology, and process (Miles *et al.,* 1978).

The present study makes use of multiple performance measures relating to the four perspectives of the BSC (financial, customer satisfaction, internal business process, innovation and learning). It also employs both the contingency and institutional theory to help explain the relationship between contingency and institutional factors, performance measures, and organisational performance.

The banking sector in Libya consists of 20 banks,which are divided into 5 specialised banks, and 15 commercial banks (2 foreign banks and 13 commercial banks). This study focuses only on 13 Libyan commercial banks, which have 485 branches (CBL, 2012), and excluded foreign banks that are just small agencies representing the main bank in Libya. They do not represent a branch, in terms of activities and services they provide. This study uses a quantitative approach, through the distribution of questionnaires tothe respondents of branch managers of the Libyan commercial banks. This study is based on 154 usable questionnaires.

### 1.8 Organisation of the Study

This thesis is organised into five chapters. Chapter One provides an introduction to the research. This is followed by Chapter Two that discusses the literature review related to organisational performance, contingency and institutional factors and performance measures. Then, Chapter Three describes the research framework of this study, the hypotheses development, the methodology, and the research design. Subsequently, Chapter Four explains the findings of the data analysis, which include descriptive statistics and multiple regression analysis to test the hypotheses, and

discussion of results. In Chapter Five, the final chapter, bringing to light the most important results, implications, main contributions of study, limitations that faced the study, and directions for future studies.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 Introduction

In this chapter, the relevant literatures on the previous studies are reviewed. This chapter deals with organisational performance initially, then it presents the review of the literature concerning the factors influencing organisational performance (business strategy, organisational structure, competition, coercive pressures, and normative pressures) and, finally, performance measures relating to the current study.

## 2.2 Organisational Performance (Dependent Variable)

Organisational performance refers to how effectively an organisation is executing an appropriate strategy (Otley, 1999). The organisational performance can also mean how effective the organisation is and can be represented by the outcomes of the activities or attention paid to the realisation of its targeted objectives or goals (Henri, 2004). Furthermore, organisational performance is one of the most important constructs in achieving the goals of the organisation (Richard *et al.*, 2009). Successful selling of products and services rendered in the market determines the performance of the organisation. In addition, the effective way by which the organisation organise and transform labour and capital inputs into products and services that are marketable determines its performance (Nickell, 1996). Additionally, according to Lee and Yang (2011), performance ought to include any comprehensive study of contingency. Although it is an important variable for most studies, unfortunately it is difficult to define the term clearly (Dess & Robinson, 2006) because organisational performance is viewed differently by different

organisations. In this context, organisational performance includes three specific areas of firm outcomes: First, financial performance (profits, return on assets, return on investment,andshareholder return), and second, product market performance (sales, market share, and shareholder return). Finally, shareholder return (Richard *et al.*, 2009).

Various approaches are used to measure performance. Some view performance from objective measures (financial), while others from subjective measures (non-financial). Objective measures (financial) use a set of volume measures or financial ratios, with the most common indicators being yearly profit, return on investment and revenue growth (Henri, 2006a; Hoque & James, 2000; Kaplan & Norton, 1996). However, the use of accounting measures are important in performance measures, although there are some limitations such as the fact that they are financially oriented, they focus on inputs, there are no outputs, and is too rooted in history (Kaplan & Norton, 1996).

On the other hand, subjective measurements, which are non-financial, are often employed to cover a broader business performance concept that the static financial measurement does not cover (Hussin, 1998). The non-financial performance measure involves employees, who have high skills and motivation, employees who are productive, service with high quality, and customer satisfaction (Hoque & James, 2000; Kaplan & Norton, 1996; Lee & Yang, 2011). The emergence of non-financial measurements are due to the pressure from competition, changes in the roles of the organisation, information technology power, external demand variations and finally

due to the limitations of traditional financial performance measure (Neely, 1999). According to Hussain and Gunasekaram (2002), the non-financial performance measures are essential measurements that motivate financial performance in the future, and positively affect the long-term profitability of the organisation.

This study focuses on the objective and subjective measures of organisational performance and adopts the instrument developed by Hoque and James (2000); Henri (2006a); Lee and Yang (2011). The measurements include return on investment, employee productivity, customer satisfaction, gross profit, revenue growth, and service quality. By combining the set of financial measurements as well as non-financial measurements, the improved performance of the organisation is realized (Banker *et al.*, 2000; Hoque & James, 2000). Several factors relating to contingency as well as institutional factors, (e.g., business strategy, organisational structure, competition, coercive pressures, and normative pressures), influence organisational performance. Literature dedicated to organisation suggests that for an improvement in the performance of a business, there is a need for an organisational structure as well as management style that are both related with the specific strategy of a firm (e.g., Miles *et al.*, 1978). For this reason, higher performance will be realised by firms if managerial practices are designed in line with strategic organisational priorities (Venkatraman *et al.*, 1993).

In life insurance in Japan, organisational structure and firm performance are positively and significantly related (Lai & Limpaphayom, 2003). In addition, managers who possess information about the cause-and-effect association contribute

immensely to the general performance in the organic organisations compared with the mechanistic structures since they possess greater authority for decision making in the former organisation type (Lee & Yang, 2011).

Added to the above, competition plays a prominent role as a factor influencing the design and performance of an organisation (Lee & Yang, 2011). The organisations that face greater competition have a likelihood of utilising multiple performance measurements (Lynch & Cross, 1992). Firms have better performance than their rivals in case of having differences in cost, such as low cost of manufacturing of products sold, and where low prices are the practice compared to their rivals (Neely, 2005). In addition, the banks that face greater competition and are more aware of improving financial performance as well as the performance measure by using all techniques and systems, will improve performance (Hussain & Hoque, 2002).

In relation to this, Olive (1997) established that institutional factors (coercive and normative pressures) were significantly related to performance. In addition, Zhu and Sarkis (2007), found that organisations were affected by coercive pressures to improve their performance. However, many other studies report empirical results indicated that non-financial performance measures have a positive effect on the long term financial performance of the organisation (Anderson & Lanen, 1999; Fakhri, Menacere & Pegum, 2009).

## 2.3 Contingency and Institutional Factors (Independent Variables)

There are many classifications and synonymous terms of both types of factors in the literature review, and perhaps one of the most prominent definition was provided by Chenhall (2003) who defined contingency factors as those including external environment (competition), technology, size, organisational structure, business strategy, and national culture while the institutional factors are classified into three categories, namely: coercive pressures, normative pressures, and mimetic pressures.

### 2.3.1 Contingency Factors

There are many contingency factors affecting on organisational performance, but the business strategy, organisational structure, and competition are considered as the top contingency factors based on contingency theory and their effect on organisational performance and performance measures (Chong & Chong, 1997; Hoque, 2004; Lee & Yang, 2011; Lorenzo, 2008), andthese factors are appropriate for the banking environment in developing countries.

#### 2.3.1.1 Business Strategy

It is the means whereby managers can influence the nature of the external environment, technologies of the organisation, structural arrangements and the control culture, and the Management Control System (MCS) (Chenhall, 2003). The strategic perspectives that are relevant to profit-oriented organisations most often include financial, customers, internal processes and innovation (Verbeeten & Boons, 2009).

Studies have classified business strategy in many ways. The two prominent strategy types generally adopted by researchers in accounting are those put forward by Miles *et al.* (1978); Porter (1980). According to Porter (1980), there are three overall strategies namely focus, cost leadership, and differentiation. The widely accepted categorization of strategic types propounded by Miles *et al.* (1978) identifies four strategic forms of organisations in line with the changing rate of their products and markets. The strategic types include prospector, defender, analyser, and reactor. The prospector type has a continuous development of new markets or products by stressing that its technology as well as its structure should be flexible. On the other hand, in the defender type, the domain of the product market is rather narrow. It has a technology that is cost efficient and a specialised structure that is also formalised. Between the prospector and defender type, stands the analyser strategy. The analyser strategic type shares the features of the two types (prospector and defender) of strategy. The last strategic type is the reactor whose consistency of its strategy is lacking.

Moreover, the most generally used strategy typology in accounting studies is that of by Miles *et al.* (1978), which has been found to be very helpful in categorizing generic strategies over a broad spectrum of sectors (Shortell & Zajac, 1990). Miles *et al.*'s (1978) typology is based on the notion that proper implementation of strategic types (e.g., prospector, defender and analyser), can result in effective organisational performance. The prospectors within this context tend to pay attention to non-financial measurements relating to products, employees quality and customers. On the other hand, financial measurements, like variances, are emphasised by the

defenders (Gosselin, 2005). It is notable that this study focuses essentially on three strategic types of organisational strategic types that are prospector, defender, and analyser. These three are stable forms of organisations, while the fourth type namely the reactor is excluded because it addresses unstable forms of organisations stemming from inconsistencies existing among its strategy, structure, technology, and process (Miles *et al.*, 1978).

Firms adopting the prospector type of strategy always have their products and services continuously changed with the addition of others by trying to emerge as first in the market. The firms are innovators with their exhibition of flexibility and entrepreneurial skill in their frequent undertaking of the development of new products and markets (Miles *et al.*, 1978). Such a strategy needs informal, and open MCS which has the features of more subjective long term controls and the employment of budgets which pay attention to informal communications (Chenhall, 2003).

On the other hand, defender pays attention to the maintenance of the market share and carries out its operation in areas where products are stable. The market share is sustained via cost leadership, and quality of service, and through the combination of the defender and the prospector's strengths (Miles *et al.*, 1978). The categorisation of the firm's defender type of strategy depends on the product of the firm, firm's market, its technology, and the system of the firm's administrative strategies. The defender strategy type is related to the formal performance of the systems of

measurement, which include targeted performance objectives of the budget as distinct from the prospector strategy type (Chenhall, 2003).

According to Miles *et al.*(1978), the organisational literature suggests that the improved business performance requires an organisational structure, information system and management style that are related to a specific-firm strategy. Furthermore, the traditional organisational model suggests that connections between organisational structure, strategy, technology, environment, and MCS are very important (Chenhall, 2003; Langfield-Smith, 1997). In every organisation, erformance measurements perform a fundamental function in transforming the strategy of an organisation into behaviour and results that are desirable (Chenhall & Langfield-Smith, 1998; Kaplan & Norton, 2001). For this reason, the nature of Performance Measurement System (PMS) relies on the form of business strategy chosen in the organisation. For instance, non-financial performance measurements are employed with the objective of realising a long-term advantage of competition, which relies on the managerial goals and strategies (Hussain & Gunasekaran, 2002; Lorenzo, 2008). The choice of performance measurements and strategy in the evaluation of performance is essential for the improvement of organisational performance (Govindarajan & Gupta, 1985; Ittner, Larcker & Rajan, 1997; Simons, 1995).

Such connections between strategy and measurements have been stressed in the literature pertaining to PMS (Ittner, Larcker & Meyer, 2003; Kaplan & Norton, 2001; Otley, 1999). The significant association of the type of performance measures

(such as financial and non-financial) and the factors associated with contingency (such as strategy, decentralisation, and environmental uncertainty) has been reported in previous studies (Gosselin, 2005). To this end, there are differences in the nature of PMS depending on the business strategy type chosen (Lorenzo, 2008). The prospectors choose to link their systems of performance measure to their strategy. For this reason, attention is paid to non-financial measurements with respect to customers, products, employees and quality. On the other hand, defenders choose to focus more on financial measurements like variance (Gosselin, 2005). As reported by Ittner *et al.* (1997), relative weight is attached to non-financial measurements in firms that adopt an innovative oriented strategy (prospector) more than in the firms who adopt a strategy (defender).

#### 2.3.1.2 Organisational Structure

Organisational structure is a formal control framework that covers reporting relationships interactions between information flows, employees, and the distribution of authority with regard to implementing activities within the organisation (Germain, 1996). It also encompasses the formal setting of various functions or tasks for the member of the organisation or group members in order to make sure that the organisation's activities are executed (Chenhall, 2003). The essential way in which the results of the structure and the structural mechanisms differ lies in the definition of organisational structure. Structural arrangement affects work efficiency, the individuals' motivation, flow of information, and the system of control to the extent of assisting in shaping the organisation's future (Chenhall, 2003).

Organisational structure has been described in various ways by many scholars and researchers. For example, Lawrence and Lorsch (1967) described structure as the differentiation and integration of the organisation where such differentiation entails the decentralisation of the authority and the integration encompasses the rules, procedures for operation, and committees. Meanwhile, Perrow (1967) described structure with respect to bureaucratic and non-bureaucratic approaches, and Burns and Stalker (1961) defined it generically with respect to mechanistic and organic approaches.

In relation to this, Damanpour (1991) noted that in line with the mechanistic and organic categories, organisational structure affects an organisation's ability to adopt and execute innovation effectively. Mechanistic organisations have a tendency to possess more organisational levels, greater centralisation, more formal rules, a narrow range of control, and are more dependent on vertical communication instruction. Conversely, organic structures have fewer levels of hierarchy, greater decentralisation, less formal rules, a broader range of control, and a horizontal communication mode of instruction (Hage, 1980; Nahm, Vonderembse & Koufteros, 2003).

Also, mechanistic organisations have lower exposure to initiation and discretion from the individual and have a lower tendency toward innovation compared to organic organisations (Burns & Stalker, 1961). There are two main characteristics of organic structures: one that has an organic structure which is adaptive and flexible in addressing new problems (French & Bell, 1973) and one that employs decentralised

authority and control for the promotion of communication spread in the firm. In order to have proper coordination, communication and control at lower levels, the characteristics of the structures create the process of information needed (Gordon & Narayanan, 1984). Furthermore, Lee and Yang (2011) indicated the development of the PMS is more dependent upon the firms having a greater organic structure, and they suggested that the influence of an integrated PMS process of execution on performance in organic organisation requires further investigation. A variation in organisational structure results in more reliance upon the information of non-financial management accounting (Langfield, 1997). In this regard, little research has examined the fit between organic structure and MCS (Fakhri*et al.*, 2009).

More than the above discussed is generally presumed as literature shows that the association of organisational structure with small firm performance is very important and complex (Meijaard, Brand & Mosselman, 2005). Decentralisation refers to the authority given to individuals in the organisation at the various managerial levels within the wider scope of activities of the organisation (Waterhouse & Tiessen, 1978). Furthermore, decentralisation is one type of organisational structure that indicates decisions taken within the organisation and the level of autonomy that is delegated to managers for their decision-making (Chia, 1995). The decentralisation system facilitates decision-making at the lower levels of the hierarchy of the organisation. Significant associations of the measurements' type with the contextual factors, such as decentralisation and strategy, have been reported. In addition, Waterhouse and Tiessen (1978) asserted that decentralisation is a good response to change environments where wider scope, and non-financial information is required.

One of the relevant variables affecting the design of management accounting systems is the organisational structure (Laitinen, 2006; Lorenzo, 2008). In relation to this, Chenhall (2003) found that organisational structure is the core variable for understanding MCS design. To understand the control process in an organisation, issues relating to authority and the distribution of power are essential (Waterhouse & Tiessen, 1978). In respect of research based on contingency, it has been suggested that the formal organisational structure influences the design of the MCS (Gosselin, 2005; Swenson & Foster, 1997). Along the same line of discussion, an integral part of an organisation is its PMS, which interacts with the structure of the organisation to improve control. Furthermore, Anthony and Govindarajan (2007) noted that financial measurements are essential at the upper levels of the hierarchy, while non-financial measurements are very important at the lower levels of the hierarchy such as the work centres.

The literature of management accounting suggests important links between organisational structure and performance measurement, which have been argued to be two of the most important design decisions made by managers (Langfield-Smith, 1997; Luft & Shields, 2003). It is noted that managers, who have information with regard to the cause-and-effect relationships, make a greater contribution to overall performance in organic organisations than in mechanistic structures because they have more authority to make decisions in such organisations (Lee & Yang, 2011).

#### 2.3.1.3 Competition

Competition is the degree that the bank is affected by competitors in the banking sector (Zhu, Kraemer, Xu & Dedrick, 2004). Competition is where every seller tries to get what other sellers are seeking at the same time. It can be done through sales, market share, and profit, by offering the best practicable combination of price, quality, and service, where the competition plays a regulatory function in balancing demand and supply. According to Simons (1990), greater competition causes an increase in the utilisation of management control processes. The type of competition can vary from service competition, marketing competition, and price competition. Fakhri (2010) found that competition influences the use of management controls in banks.

Global competition leads to the evaluation of processes by the organisations so as to have greater competitive power in the global economy (Galbraith & Lawler, 1993). The utilisation of multiple performance measurement is determined in the marketplace by the firm's competition. Prior studies suggested that the power of market competition is positively associated with the use of the management accounting system (e.g., Hill, 2000; Libby & Waterhouse, 1996). Furthermore, Lynch and Koshland (1991) pointed out that organisations that face greater competition have a likelihood of utilising multiple performance measurements. On the other hand, integration of financial and non-financial measures provides feedback for performance evaluation, and thus leads organisations to deal with competition (Kaplan & Norton, 1996; Otley, 1999). Sandra, Francis, and O'Connor (2008) and Hoque, Mia and Alam (2001) noted that the new competitive environment is caused

by motivation for change in the practices of management accounting like the PMS. Moreover, empirical evidence has shown that the desirability in business organisations to have the right practices of management accounting in coping with the increasing competition could lead to a new competitive environment (Laitinen, 2006).

Furthermore, competition is a unique factor influencing the performance (Lee & Yang, 2011). Banks that face greater competition are more aware of improving financial performance as well as the measurements of performance (Hussain & Hoque, 2002). As noted by Sandra*et al.* (2008), change in the practices of management accounting such as PMS causes motivation, which leads to a new competitive environment. Hussain and Hoque (2002) found competition to be an important influencing factor on PMS implementation. Furthermore, Hoque (2005) also noted that competition is the factor responsible for the use of non-financial performance measurements by an organisation. In addition, Scott and Tiessen (1999) suggested that multiple performance measures provide a set of complete information, which is necessary for making decisions and to peform while facing growing competition.

### 2.3.2 Institutional Factors

Coercive and normative pressures constitute one important institutional factor that bring about organizations improved performance (Zhu & Sarkis, 2007). In this study, mimetic pressures are excluded due to their application to the unstable environment in order to face uncertain circumstances (DiMaggio & Powell, 1983).

Libyan banking environment is a stable environment as the Central Bank of Libya controls the banking activities of commercial banks through legislation and regulations issued from it. In addition, Libyan state owns the major banks and currently, Libyan banking sector is still virtually closed to foreign investment**.**

#### 2.3.2.1 Coercive Pressures

Institutional pressures refer to the pressures that are issued from the institutional environments and can prompt firms to adopt shared standards and routines (DiMaggio & Powell, 1983). Institutional pressures have significant implications on both the relative balance between the different dimensions of performance, and on the performance measures (Hussain & Gunasekaran, 2002). Among the institutional factors (coercive pressures, normative pressures, and the mimetic pressures), coercive pressures assist in identifying the organisation's reaction and environment (Gimzauskiene & Kloviene, 2011). According to institutional theory, some institutional factors (coercive pressures) contain powerful environmental agents imposing structural forms or practices on subordinate organisational units (DiMaggio & Powell, 1983). Among such factors, coercive pressures refer to the pressures on the firm to conform to the practices and rules that are considered important in its industry (Hussain & Hoque, 2002). The coercive pressures as a variable have the following contents: regulatory control by the central bank, the accounting standards legislation, or financial legislation and pressures from socioeconomic and political institutions (DiMaggio & Powell, 1983).

The advent of banking crises have placed enormous pressure on national governments to intervene in the banking sector (Hryckiewicz, 2014). Therefore, the coercive pressures are the one of important pressures on the banking sector. Coercive pressures can be exerted on the target organisation by the institutional environments formally through rules or laws, or informally through certain cultural expectations (Teo, Wei & Benbasat, 2003), as the nature of the banking industry is different from other industries (Hussain & Gunasekaran, 2002).

The central bank is one of the most important institutional environments whose duties include the supervision of operations and practicesof the banks (specialised and commercial banks). Therefore, this study focuses on the role of central bank and its effect on banking operations. The central bank has a positive effect on economic performance, particularly in achieving lower inflation rates, cushioning the impact of the political cycles on economic cycles, boosting fiscal discipline without any additional costs or sacrifices in terms of reduced economic growth (Laurens, 2005). These objectives are realised by the central bank via its influence on commercial and specialised banks. Hussain and Hoque (2002) noted that the regulatory control exercised by the central bank is a forceful means entrenched in coercive pressures, which have an impact on the commercial and specialised banks.In that sense, banks are required to function within the regulations and guidelines of central banks (Munir *et al.*, 2011). CBL examines and analyses the financial positions of commercial banks as well as issues the guidelines and laws governing the operations of commercial banks. Failure of the banks to abide and adhere to the regulations and guidelines of the central bank will necessitate financial penalties or withdrawal of the

banking license and eventually affects their performance (Hussain & Gunasekaran, 2002).

Additionally, accounting standards and financial legislation of financial accounting may affect the use of a performance measures. Accounting bodies such as the International Accounting Standard Board in the UK and the Financial Accounting Standard Board in the US prescribed accounting standards, such as the International Accounting Standards and Generally Accepted Accounting Principles, which have an impact on cost calculation and performance measurement (Hussain & Hoque, 2002). Central banks require banks to follow the accounting standards and International Statements of Auditing. This has forced banks to transform their procedures and existing systems to accommodate the financial information requirements. These transformations are designed to improve the informational quality of statements so that they accurately represent the true bank performance (Munir *et al.,* 2011).

Generally, organizations, either voluntarily or obligatorily, have to follow international organisational standards/quality measurement, such as the International Standards Organisationand the World Trade Organisation, and environmental conditions. These bodies pressure firms to change their management accounting practices to make them consistent with the standards (Hussain & Gunasekaran, 2002). The effect of these socioeconomic and political institutions on performance measure usage is considered relevant for the focal banks (Hussain & Hoque, 2002).

The coercive pressures and performance are significantly related (Oliver, 1997) and the coercive pressures affect organisations to the extent of improving their environmental performance (Zhu & Sarkis, 2007). By their very nature, the operation of banks is guided by the principles and guidelines laid down by the central bank, which influences them in the realisation of their main business decisions, such as pricing and planning for the long term (DiMaggio & Powell, 1991). Hence, this influences the revenue of the banks, and, consequently, their performance.

Verbeeten and Boons (2009) reported that the institutional factors seem to influence the utilisation of particular measures of performance. In choosing the performance measure, the role of the coercive pressures is central. Specifically, the study expressed further that coercive forces exert more pressure within the industry on the banks to place attention on financial measures (Tapanya, 2004).The nature of the organization service is the reason for the difficulty of management to measure non-financial performance, such as quality. Therefore, banks need to improve their performance measurement to be in accordance with the standards set by the central bank and Basel Accord[1]. This pressure will lead to an improvement in performance measurement over the next few years after the implementation of Basel Accord (Munir *et al.,* 2011). This is particularly true with the banks operating under the principles of the central bank (DiMaggio & Powell, 1983), as the obligations and requirements from the central bank impact the management's planning and

1) Basel Accord 1 was started in 1988 that was later replaced with Basel Accord 2 in 2004. The Basel Accord rested on three points: minimum capital requirements, new information disclosure standards for banks, and guidelines on regulatory intervention to supervisors. In a reaction to the global financial .crisis, in 2012 the Basel Committee has drafted Basel Accord 3 to replace Basel Accord 2

establishment of a long-term strategy to improve and measure non-financial performance (Hussain & Hoque, 2002).

#### 2.3.2.2 Normative Pressures

The institutional pressures have significant implications on both the relative balance between the different dimensions of performance and the performance measures (Hussain & Gunasekaran, 2002). Normative pressures are often the result of professionals, top management and the organisational culture prevailing in a bank (Munir *et al.,* 2011). The normative pressures are one of the important institutional factors that affect the accounting literature (DiMaggio & Powell, 1983). The normative pressure stems primarily from pressures of professionals (DiMaggio & Powell, 1991). The professionals significantly impact organisations that want to use of performance measures (Hussain & Hoque, 2002). Professionalism is gained through active participation in a wide array of events (e.g., workshops, conferences, educational programs, professional trainingorganised by trade, professional networks, management seminars and workshops conducted by local universities) and all of these activities establish the norms of behavior reflected in the management of institutions (DiMaggio & Powell 1991). Professional networks such as associations of accountants are known as an important source of isomorphism (DiMaggio & Powell, 1991; Scapens, 1994).

The professionals in a banking context, including bankers' professional associations, credit rating agencies, and banks' training institutions reinforce normative expectations and impose standards, values, and rules on banks (Munir *et al.,* 2011)

instances of these institutions and associations include the Economic Development Institute and Institute of International Bankers.

In Libya, the Libyan Central Bank organised many conferences about Libyan banking sector. In addition, the Bankers Association of Libya provides consultations to Libyan government, and commercial banks provide courses to their employees. These courses and conferences could influence the decisions of managers relating to the adoption of new management practices.

According to DiMaggio and Powell (1983), institutional theory proposed that normative pressures that represent the professional bodies and formal education could lead to changes to organisational practices, and professional behavior. The experience of professionals such as managers may also influence the use and design of a PMS (Hussain & Haque, 2002). Professionals have the most dominant influence on organisational practices (DiMaggio & Powell 1991) and a such, they affect organisational performance.

### 2.4 Performance Measurement System

The performance measurement system (PMS) is described as a mechanism that deals with the allocation of responsibility and rights for decision making, setting targets for performance, and provides rewards for the realisation of targets (Merchant & Van der Stede, 2007). PMS is one component of the MCS and is considered to be an essential function of management accounting, which is operated for controlling,

assessing and enhancing processes through the comparison of the performance achieved by each level of the organisation (Drury, 2004).

The PMS helps managers to follow the progress or development of the execution of business strategy through the comparison of actual outcomes with the goals and objectives of the strategy (Simons, 1987). In addition, it assists in evaluating and communicating the progress of strategic goals, allocating resources and assessing the managerial performance (Ittner *et al.*, 2003). The measurement diversity is a wide concept having a relationship with different dimensions, such as subjective versus objective measures, driver versus outcome measures, internal versus external measures, financial versus non-financial measures, and aggregate versus specific (Ittner *et al.*, 2003; Kaplan & Norton, 1996). The measurement diversity particularly describes the degree to which managers gather and make use of information connected with the wide set of financial and non-financial measures (Henri, 2006b). The designation of PMS is for the provision of financial and non-financial measures to the managers.

Several classifications have been proposed in the literature based on the combination of performance measures, which is one of the important classifications. To begin with, the BSC is developed by Kaplan and Norton (1996) and it includes three areas of performance that have been added to the traditional financial dimension, namely: customers, internal business process, as well as innovation and learning (non-financial). The basic framework of the current study makes use of four dimensions of the BSC to define the dimension of measurement diversity.

The motivation of this choice is that BSC adoption has been increased in organisations and its usage in recent empirical studies has also extended (Hoque, 2004; Hoque & James, 2000; Ittner *et al.,* 2003; Lee & Yang, 2011; Van der Stede *et al.,* 2006).

### 2.4.1 Use of Performance Measures (Mediating Variable)

Performance measures are a set of financial and non-financial measures that are applied to achieve multiple purposes to evaluate, control, improve and compare the performance of different organisations, branches, and to assess employees of organisations in achieving their objectives (Ghalayini & Noble, 1996). The performance measures are useful for managing the tension between growth opportunities and financial performance. They play a key role in developing strategic plans, evaluating the achievement of organisational objectives and compensating managers (Verbeeten & Boons, 2009). Performance measures have been a significant issue among academicians and practitioners since the early 1990s. Among them, Kaplan and Norton (1992) declared that performance measures in multiple forms ought to be multidimensional to cover the financial and non-financial measures. Therefore, multiple performance measures, as defined in accordance with BSC framework, cover four perspectives including financial and non-financial (customer satisfaction, internal business process, and learning and growth). Following the financial crisis, which occurred in 2008, banks took steps to improve their PMScapabilities in light of the change in economic and market conditions and new management needs.

According to Gosselin (2005), managers should design new PMS that include financial and non-financial measures. As suggested in literature, organisations should make use of non-financial measurements in addition to financial measurements in order to furnish managers with sufficient information regarding the overall performance of the organisation (Banker *et al.*, 2000; Kaplan & Norton, 2001). In addition, to develop an innovative PMS, the simplest method is to utilise the integration of the set of financial and non-financial measurements (Ittner *et al.*, 2003). Proponents of the method have argued that it could lead to superior firm performance (Banker *et al.*, 2000; Hoque & James, 2000). Many researchers (Hussain & Hoque, 2002; Kaplan & Norton, 2001; Lorenzo, 2008) have stressed that in the service sector, like the banking industry, it is necessary to make use of multi-dimensional performance measurements. Moreover, previous empirical studies in developing countries, like Libya, that have investigated the use of financial and non-financial measurements for measuring performance in the banking sector have been very few (Fakhri*et al.*, 2009).

On the other hand, financial performance measures are useful in furnishing financial information to managers and other users for the assessment of the organisation's efficiency and effectiveness. Financial performance measures include branch profit, revenue growth, and return on net assets (Ittner *et al.*, 2003). In performance measurement, the use of financial performance measures is very significant, even though the financial performance measures have some limitations in that it is historical, too financially oriented, focuses on inputs rather than outputs, short term oriented, and internal looking (Kaplan & Norton, 1996).

Non-financial performance measures are a better predictor of a firm's long-run performance. They assist the managers to oversee and evaluate the progress of their firm with respect to the goals and objectives of their strategy (Kaplan & Norton, 2001). According to Neely (1999), the non-financial measures emerged because of: (1) the limitations encountered by traditional financial performance measurements; (2) the pressure from competition; (3) the power of information technology; (4) changing external demands; and (5) the changing roles of the organisation.

Moreover, non-financial measures provide timely information pertaining to the causes and drivers of success to managers, which may be employed for the designation of integrated systems of evaluation (Banker *et al.,* 2000; Kaplan & Norton, 1996). Furthermore, Hussain and Hoque (2002) pointed out that the management wishes to measure non-financial measures to satisfy customers through: increased quality, delivery on time, and prompt service. In addition, researchers have contended that non-financial measures could assist managers to be aware of the business environmental changes, determine and evaluate the progress of business objectives, and confirm the realisation of the performance goals.

The non-financial measures incorporate the values of the intangible as well as the intellectual assets of the company. These can be summarised asthe highly motivated and skilled employees, product quality, responsive and predictable processes, and satisfied and loyal customers. Those factors is found to have influence on the competitive environment (Kaplan & Atkinson, 1998). For this reason, it has necessary to study management accounting practices in respect of the financial

measurement of the service sector (Hussain & Gunasekaran, 2002). To this end, the utilisation of non-financial measurements is essential in organisational performance (Hoque, 2004). As pointed out by Kaplan and Norton (1996), the performance measures are a reflection of the changing business environment of the organisation as well as the realisation of its objectives.

Continuing in this line of discussion, the performance measurement process has recently given attention to the management intangible assets rather than tangible assets, and both are non-financial and financial in nature (Kaplan & Norton, 2001). The recent performance measurement literature suggests that organisations should focus on non-financial measures in evaluation of performance. In addition, the non-financial measures have been frequently used compared to the financial measures in PMS because non-financial measures drives future financial performance better and affects long-term profitability positively (Hussain & Gunasekaran, 2002). This implies that the performance of the organisation is not clearly shown by the financial measures alone (Bourne, Neely, Platts & Mills, 2002). Many studies have reported an increased use of non-financial measures by organisations for the assessment of performance in previous years (Ittner *et al.*,1997; Kaplan & Norton, 1996).

### 2.5 Review of Previous Related Literature

This section deals with the review of literature concerning the association between contingency factors (such as business strategy, organisational structure, and competition), institutional factors (such as coercive and normative pressures) and organisational performance, and the use of performance measures as a mediator variable.

### 2.5.1 Contingency and Institutional Factors with Use of Performance Measures

#### 2.5.1.1 Contingency Factors (Business Strategy, Organisational Structure, and Competition) with Use of Performance Measures

##### 2.5.1.1.1 Business Strategy and Use of Performance Measures

In order to have a better insight into the performance measures, there is a need for more studies to examine both the institutional and contingency factors (Tapanya, 2004). Furthermore, not much has been said on the issue of factors influencing the design and use of PMS in the service sector, such as the banking sector. Moreover, the connection between strategy and measures has been stressed in the PMS literature (Ittner *et al.*, 2003; Kaplan & Norton, 2001; Otley, 1999). Also, Nanni *et al.* (1992) pointed out that firms ought to raise their level of competence in performance measurement and rely upon the fit of the strategy with the design of the PMS.

Generally speaking, prospectors tend to pay attention to non-financial measurements relating to products, employees quality, and customers whereas the defenders tend to pay attention to financial measurements (Gosselin, 2005). In addition, Ittner *et al.* (1997) reported that the relative weight attached to non-financial measurements is more in firms that adopt an innovative oriented strategy, (prospector) than in firms that adopt a strategy (defender).

Many researchers reported the existence of a significant association of the organisation's strategy with the PMS (e.g., Abernethy & Guthrie, 1994;

Govindarajan & Gupta, 1985). In addition, Hoque (2004) found that strategy is positively significant in influencing the use of non-financial measures for the evaluation of performance by the management. In addition, a significant association has been found between the type of performance measurement (financial and non-financial) and contingency factors (e.g., strategy, decentralisation and environmental uncertainty) (Gosselin, 2005). Furthermore, Van der Stede *et al.* (2006) studied the relationship between business strategy and the type of performance measure used by Belgian and US managers. They found that there is a positive relationship between business strategy and the extent use of non-financial performance measures. In a related study, Fakhri *et al.* (2009), in their study reported that defenders have a negative association with the non-financial performance measures. Boons (2009) suggested the necessity for more empirical studies to investigate further on the performance measures that could be used with various strategies.

Further clarification entails viewing PMS varying with respect to the type of business strategy chosen (Lorenzo, 2008). The effect of contingency factors were investigated on the use of financial and non-financial performance measures by Fakhri *et al.* (2009) and the results reveald that prospectors are positively related to performance measures. In addition, Ittner*et al.* (1997) reported that organisations that adopt prospector strategies use more non-financial measures.

#### 2.5.1.1.2 Organisational Structure and Use of Performance Measures

Organisational structure is considered essential as a variable in gaining insight into MCS design (Chenhall, 2003). According to Cobb *et al.*(1995), organisational

structure (centralisation or decentralisation) is an essential factor that affects the design of management accounting systems. The type of measure is significantly associated with contextual factors, such as strategy and decentralisation. In recent times, Lee and Yang (2011) investigated the influence of organisational structure on the design of PMS and looked into their joint influence on performance. They found that organisational structure and the design of PMS are significantly associated. In addition, Gosselin (2005) explored the manufacturing firms in Canada by examining the influence of contingency factors on performance measures and found that the type of performance measure (financial and non-financial) is significantly associated with the contingency factors like strategy and decentralisation. Also, Fakhri *et al*.(2009) investigated the effect of the contingent factors on the use of financial and non-financial measures and results revealed that organisational structure positively affected the use of performance measures.

**2.5.1.1.3 Competition and Use of Performance Measures**

Hussain and Hoque (2002) noted that increased competition among banks leads to increased attention on the non-financial measures. In addition, Fakhri *et al.* (2009) investigated the influence of contingent factors on the use of financial and non-financial performance measurements and found that competition positively affects the use of performance measures. Recently, Lee and Yang (2011) reported that when there is more competition among various firms, this leads to a positive association between the developmental stages of PMS and organisational performance.

#### 2.5.1.2 Institutional Factors (Coercive and Normative Pressures) with Use of Performance Measures

##### 2.5.1.2.1 Coercive Pressures and Use of Performance Measures

According to Tapanya (2004), managers should have insight on the factors that are likely to affect their practices of performance measures. Institutional factors affect the performance measures in commercial banks as confirmed by Hussain and Haque (2002). In addition, institutional factors have a significant effect on the performance measures (Hussain & Gunasekaran, 2002). More specifically, coercive pressures have a strong influence on performance measurement practices (DiMaggio & Powell, 1983; Munir *et al.*, 2011). In addition, Hussain and Hoque (2002) conducted a case study of banks to understand and explain the factors influencing the design and use of non-financial performance measures. Their findings suggested that the regulatory control of the central bank is one of the essential factors. In addition, the central bank's control and regulations over the banks influence their normal function and operations to the extent of influencing their performance measures (Hussain & Gunasekaran, 2002).

##### 2.5.1.2.2 Normative Pressures and Use of Performance Measures

The normative pressure stems primarily from pressures from professionals and in this context, the professional is an important factor in the adoption of new management practices (Hussain & Hoque, 2002). Furthermore, Hussain and Hoque (2002) argued that the experience of professionals, such as managers, have influence on the design and use of PMS. Conversely, DiMaggio and Powell (1991) found that normative pressures have no significant impact on the use of performance measures in banks.

### 2.5.2 Contingency and Institutional Factors with Organisational Performance

#### 2.5.2.1 Contingency Factors (Business Strategy, Organisational Structure, and Competition) with Organisational Performance

##### 2.5.2.1.1 Business Strategy and Organisational Performance

By matching the environment of the organisation with strategy, internal structures and systems, it is likely to have high organisational performance (Govindarajan & Gupta, 1985). The study of organisational performance by Miles and Snow (1994) indicated that to have an improvement in business performance there is a need for a management style that is connected with a particular strategy of a firm. Higher performance will be realised by firms if managerial practices go along with the strategic preference of the organisation (Venkatraman *et al.,* 1993). In addition, Hoque (2004) pointed out that the most important factor for organisational performance is the strategy. In support of this argument, Van der Stede *et al.* (2006) reported a positive influence of the quality based manufacturing strategy on performance.

##### 2.5.2.1.2 Organisational Structure and Organisational Performance

The association of organisational structure with firm performance is very important and even more than is generally presumed (Meijaard *et al.,* 2005). Organisational structure has a significant positive effect on organisational performance (Lai & Limpaphayom, 2003). Through innovation, organisational structure directly enhances performance (Hao, Kasper & Muehlbacher, 2012). Therfore, a

decentralised structure of the firm has a relationship with organisational performance in that information is aggregated and integrated (Chenhall & Morris, 1986). In addition, managers who possess information about the cause and effect association do contribute immensely to the general performance in the organic organisations compared with the mechanistic structures. The reason is that they possess greater authority for decision making on those organisations (Lee & Yang, 2011). On the other hand, the relationship between the organisational structure and performance was found to be weak (Harash, Al-Timimi, Alsaad, Al-Badran & Ahmed, 2014).

#### 2.5.2.1.3 Competition and Organisational Performance

A company's competitive advantage has a relationship with its performance (Majeed, 2011), where the performance of firms in the presence of competition, such as low cost of manufacturing and low price of goods, is better (Neely, 2005). Furthermore, competition has an effect on the firm's overall performance (Hussain & Hoque, 2002). In addition, Agha, Alrubaiee and Jamhour (2011) conducted a study in United Arab Emirates and found that competitive advantage significantly affects organisational performance. On the other hand, the relationship between market competition and organisational performance is negatively and significantly associated (Lee & Yang, 2011). On other hand, the relationship between competition and performance was found to be very weak (Murayama & Elliot, 2012) and added to this, some studies (e.g., Uddin & Suzuki, 2014).

#### 2.5.2.2 Institutional Factors (Coercive and Normative Pressures) with Organisational Performance

##### 2.5.2.2.1 Coercive Pressures and Organisational Performance

Institutional pressure has significant implications for the balance between different performance dimensions (Hussain & Gunasekaran, 2002). In addition, Verbeeten and Boons (2009) reported that the institutional factors seem to influence the utilisation of particular measures of performance. There is a significant association between institutional factors and organisational performance (Oliver, 1997). Furthermore, the coercive pressure causes organisations to improve their environmental performance. Specifically, controls and regulations practised by the central bank on the banks, actually influence the banks' normal function, and hence influence their performance (Hussain & Gunasekaran, 2002). Banks have increasingly become subjected to immense pressure from their stakeholders and Central Bank to improve performance (Lapavitsas & Dos Santos, 2008). Furthermore, in the context of Libya, the CBL does not play its role properly as an advisor and controller on economic activities through legislations and regulations issued from it to banks and consequently, this negatively affectd the banks' performance in the financial sector (Abdulla, 2010).

##### 2.5.2.2.2 Normative Pressures and Organisational Performance

According to DiMaggio and Powell (1991), normative pressure stems primarily from pressures of professionals. The professionals have the most dominant influence on organisational practices, and in turn, the organisational performance (DiMaggio & Powell, 1991). On the other hand, the relationship between normative pressures (professional association) and organisational performance is significantly low (Oliver, 1997).

### 2.5.3 Use of Performance Measures and Organisational Performance

The increased attention of measures of performance evaluation by academics and consultants reflects the increased pressure to improve organisational performance (Hoque, 2004; Nanni *et al.*, 1992). Furthermore, Banker and Mashruwala (2007) found that the information of performance measures is significant in explaining performance ratings. Although performance measures have a positive effect on the revenue and profit of the organisation, they may not indicate immediate but rather long-term improvement (Hussain & Gunasekaran, 2002). To this end, in order to develop an innovative PMS, the simplest method is to utilise the integration of the set of financial and non-financial measurements (Ittner *et al.*, 2003).

The use of financial and non-financial measures leads to increased organisational performance (Banker *et al.*, 2000; Hoque & James, 2000). In this context, non-financial performance measures have been argued to be better measures, which lead to financial performance in the future and have a positive effect on the long-term profitability (Hussain & Gunasekaran, 2002). In fact, firms who make use of greater non-financial performance measures beyond the benchmark are considered to perform better financially (Verbeeten & Boons, 2009). In addition, many researchers have empirically reported that non-financial performance measures have a positive influence on the financial performance of the organisations in respect to long-term profitability (Banker *et al.*, 2000; Van der Stede *et al.*, 2006).

In a related study, Hoque and James (2000) noted that the greater use of BSC has a relationship with performance improvement. In addition, Fakhri *et al.* (2009) argued

that banks that possess a comprehensive system of performance measurement, especially non-financial measurements, could improve their performance. Furthermore, Likewise Schulz *et al.,* (2010) found that the manufacturing firms that used PMS with a high number of objective and subjective non-financial measures had higher performance. Also, Al-Enizi, Innes, Kouhy, and Al-Zufairi (2006) found that firms that have an extensive system of performance measurement are likely to have higher performance. In a similar way, improvement in organisational performance is likely to result from the non-financial measurements of performance (Hoque, 2005). Moreover, Ittner *et al.*(1997) found that there is a significant positive relationship between the non-financial measures of quality and customer satisfaction to the extent to affect financial performance. Finally, Banker *et al.* (2000) reported that non-financial measures (customer satisfaction) are positively associated with financial performance.

### 2.5.4 Contingency and Institutional Factors (IndependentVariables),Use of Performance Measures (Mediating Variable) with Organisational Performance (Dependent Variable)

According to contingency theory, the optimum design of PMS relies upon the strategy of the organisation (as well as other features of organisation), and better performance will be realised if they are aligned (Chenhall, 2003). In addition, Simons (1990) suggested that the MCS should be tailored to support the business strategy to lead to competitive advantage, thus resuting superior performance. The business strategy and the choice of performance measures in performance evaluation are essential to enhance organisational performance (Govindarajan & Gupta, 1985; Ittner *et al.,* 1997; Simons, 1995). In a survey conducted by Hoque (2004),

a significant and positive association was found between management strategic choice and organisational performance through management high use of non-financial measures for performance evaluation. In addition, Van der Stede *et al.* (2006) investigated the association of quality-based manufacturing strategy with the use of performance measures, and the combined impact on performance. The findings revealed that greater use of non-financial performance measurements had a positive impact on performance.

In the same line of study, Lee and Yang (2011) reported that the organisational structure and use of integrated performance measures have a positive relationship with organisational performance. In addition, Chia (1995) carried out a study to investigate the relationship between organisational structure and management accounting information system, which affected managerial performance. The findings of this study indicated that a higher degree of decentralisation has a positive influence on the complex system of management accounting with respect to scope, integration, timelines and the aggregation level on managerial performance. To this end, Lee and Yang (2011) suggested that in respect of organisational structure (organic), the impact of an integrated implementation process of PMS on performance should be investigated further.

In addition to structure, competition leads to an increase of the appeal of the use f non-financial performance measures, as these can be leading indicators of performance (Banker *et al.*, 2000). Furthermore, Banker and Mashruwala (2007) reported that there is a strong relationship between non-financial performance

information and financial performance in case of high competition. Recently, Lee and Yang (2011) investigated how the organisational structure and competition affect the PMS, and subsequently find their combined impact on performance. Their findings revealed that with high competition among the firms, the stages of PMS development and performance were positively related.

Several studies have been conducted to examine how the institutional factors are associated with organisational performance (Oliver, 1997; Zhu & Sarkis, 2007) while others have investigated how institutional factors are related to performance measures (Gimzauskiene & Kloviene, 2011; Hussain & Hoque, 2002; Munir *et al.*,2011). However, the use of performance measures to serve as a mediator between the association of the institutional factors (coercive and normative pressures) and the organisational performance remains as a major gap in literature.

Table 2.1 shows the summary of previous studies related to this study.

Table 2.1
*Summary of Previous Studies Related this Study*

| **Author** | **Location and Sample Used** | **Contingency and Institutional Factors** | **Performance Measures** | **Organisational Performance** | **Result** |
|---|---|---|---|---|---|
| Anderson, Fornell and Lehmann (1994) | Sweden | Competition (market share) | Non-financial measures (Customer satisfaction) | Organisational performance (profitability) | There is a positive impact of the quality on customer satisfaction, thus profitability. |
| Chia (1995) | 48 Singapore companies | Organisational structure | Management accounting system | | The organisational structure significantly moderates the level of theManagement Control System (MAS) information characteristics to affect managerial performance. |
| Oliver (1997) | Canada-building firms | Institutional pressures and task environment | | Organisational Performance | The institutional pressures did explain variance of productivity and profitability. |
| Gosselin (1997) | Canadian manufacturing firms | Organisation structure and strategy | | Activity-based costing | The organisational structure (centralisation) is positively associated with the adoption of activity-based costing over other forms of management accounting. |
| Hoque and James (2000) | 66Australian manufacturing companies | Competition | Balanced scorecard measures | Organisational performance | The position of firm's market has not been a significant relationship with greater BSC usage.<br>The paper suggests that great BSC usage is associated with improved performance, but this relationship does not depend significantly on market position of the organisation. |

Table 2.1 (Continued)

| Author | Location and Sample Used | Contingency and Institutional Factors | Performance Measures | Organisational Performance | Result |
|---|---|---|---|---|---|
| Hoque *et al.* (2001) | 71 New Zealand - manufacturing companies. | Competition | Use of performance measures | | That greater emphasis on multiple performance measures is associated with firms facing high competition. |
| Hussain and Gunasekaran (2002) | 4 Finnish financial institutions | Institutional factors | Non-financial measures | | Normative pressures are the important institutional factors that affect the non-financial measures |
| Hussain and Hoque (2002 ) | Japan, four banks | Coercive, normative and mimetic pressures, and economic factors | Non-financial performance measures | | The results indicated that several institutional forces influenced the implementation of PMS, particularly the central bank's regulatory control. |
| Lai and Limpaphayom (2003) | 24 Japanese insurance companies | Organisation structure | | Organisational performance | organisational structure appears have a significant positive impact on firm performance as measured by profitability |
| Hoque (2004) | Questionnaire survey data from 52 New Zealand manufacturers | Environmental uncertainty and Strategic priorities | Non-financial performance measures | Organisational Performance | the results revealed the existence of a significant and positive association betweenstrategy and performance through management's high use of non-financial measures for evaluating performance |
| Gosselin (2005) | Survey on 73 Canadian manufacturing firms | Organisational structure ,environmental uncertainty and Strategic | Financial and Non-financial performance measures | | There are some significant relationships between the types of measures and contigency factors like organisational structure and strategy |
| Hoque (2005) | New Zealand manufacturing organisations | | Non-financial performance measures | Organisational Performance | Suggested that greater reliance on non-financial performance measures is associated with increased performance, |

Table 2.1 (Continued)

| Author | Location and Sample Used | Contingency and Institutional Factors | Performance Measures | Organisational Performance | Result |
|---|---|---|---|---|---|
| Meijaard*et al.* (2005) | 1411 Dutch small firms | Organisational structure | | Organisational Performance | Organisational structure should be included in studies aimed at a better understanding of small firm performance. |
| Van der Stede*et al.* (2006 ) | 128 manufacturing firms, from U.S. and European | Strategy | Financial and Non-financial performance measures | Organisational Performance | Firms emphasise the strategy in manufacturing use more of both financial and non-financial. |
| Banker and Mashruwala (2007) | 800 stores chain | Levels of competition. | Non-financial measures | Financial performance | The study underscores the importance of understanding the influence of contextual variables, such as competition, when validating the usefulness of non-financial measures in a reporting system. |
| Zhu and Sarkis (2007) | China, 341 Chinese manufacturer | Green supply chain management practices | Institutional Pressures (Moderators) | Organisational performance (Environmental Economic) | Existence of market (normative) and regulatory (coercive) pressures influences organisations to have improved environmental performance. |
| Fakhri *et al.* (2009) | 68 Libyan banks | Organisation structure Competition Strategy | Use of performance measures | | The use non-financial measurements can improve their performance. |
| Verbeeten and Boons (2009) | Dutch firms | Strategic priorities | Financial and Non-financial performance measures | Performance | Support for the claim that aligning the PMS to the strategic priorities of the firm positively affects performance. |

Table 2.1 (Continued)

| Author | Location and Sample Used | Contingency and Institutional Factors | Performance Measures | Organisational Performance | Result |
|---|---|---|---|---|---|
| Lee and Yang (2011) | 168 Taiwanese firms | Organisation structure and competition | Use of integrated measures related to the four perspectives of the BSC all in one factor | Organisational Performance | The results indicate that organisational structure is significantly associated with the design of PMSs. The findings also partly support the presence of joint effects on performance involving organisational structure, competition, and the use of PMSs. |
| Majeed (2011) | | Competitive Advantage | | Organisational performance | Almost in all organisations there is a good association between company's competitive advantage and its performance. |
| Munir *et al.*(2011) | Banking Sector | Coercive, normative and mimetic pressures, and environmental factors | Changes in performance measurement systems | | Institutional factors lead to changes in performance measurement practices in banks |
| Harash *et al.*(2014) | General Directorate of R&D in Iraq | Strategy, Organisational structure, | | Performance of research and development | Found a weak relation between the organisational structure and performance. |
| Mia and Winata (2014) | 92 general managers of Australian manufacturing organisations | Competition | | Organisational performance | Found a positive relationship between competition and financial performance |

Table 2.1 (Continued)

| Author | Location and Sample Used | Contingency and Institutional Factors | Performance Measures | Organisational Performance | Result |
|---|---|---|---|---|---|
| Uddin and Suzuki (2014) | Bangladesh banking sector data (1983–2011) and individual bank data (2001–2011). | Competition | | Organisational performance | Found a negative relationship between competition and bank performance |

## 2.6 Research Gap

Many researchers have examined how performance is influenced by contingency factors (Fakhri *et al.,* 2009; Hoque, 2004; Lee & Yang, 2011; Van der Stede *et al.,* 2006; Verbeeten & Boons, 2009), while few focused on the effect of institutional factors on performance (e.g., Oliver, 1997). However, previous studies focused their attention on those factors separately. In this regard, Wu, Mahajanand and Balasubramanian (2003) suggested that effort should be made by such studies to sufficiently combine the factors taken from the contingency as well as those taken from the institutional point of view of the firm. The current study combines contingency as well as institutional factors in order to improve the impact of organisational performance while attempting to close this gap.

With regards to institutional factors, many studies have been conducted to examine the relationship between the them and the performance measures (Gimzauskiene & Kloviene, 2011; Hussain & Hoque, 2002; Munir *et al.,* 2011), while other studies investigated how institutional factors are associated with organisational performance (Oliver, 1997; Zhu & Sarkis, 2007). For this reason, the current study employs performance measures to serve as mediator in examining the association between the institutional factors (coercive and normative pressures) an organisational performance. This remains a gap in the literature in this area of study that needs attention.

The literature review shows that majority of studies examining organisational performance focus on the manufacturing sector (Beal, 2000; Rodríguez & Ventura, 2003; Verbeeten & Boons, 2009), while others pay attention to hospitality (Cho *et al.*, 2006; Gray et al., 2000; Haynes & Fryer, 2000; Nickson*et al.*, 2002; Ogaard *et al.*, 2008) and insurance (Cummins & Weiss, 2001; Fiegenbaum & Thomas, 2006; Harris & Katz, 1989; Lai & Limpaphayom, 2003; Lee & Yu, 2004). However, these studies have largely neglected other sectors, such as the banking industry and a susch, this study focuses on the banking industry.

Furthermore, the extant empirical studies conducted on organisational performance were mostly carried out in developed countries like USA and UK and also in developing countries like Malaysia and Singapore (Jusoh *et al.*, 2008; Lee & Yu, 2004; Van der Stede *et al.*, 2006; Walker & Boyne, 2006). However, such studies in emerging economies such as Libya are lacking. Therefore, the current study attempts to minimise this literature gap by examining the mediating impact of employing multiple performance measures on the association between the factors of contingency and the institutional factors, and the organisational performance in the Libyan banking sector.

**2.7 Underlying Theories**

Contingency and institutional theories are the theoretical framework that is adopted in this study to help explain the relationships among the contingency factors (business strategy, organisational structure and competition), institutional factors (coercive and normative pressures), performance measures, and organisational

performance. Contingency and institutional factors are the independent variables, while organisational performance is the dependent variable. On the other hand, performance measures are the mediating factors whose effect is examined on the relationship between the independent variables and dependent variable.

Two theories are appropriate to be used in this study. The contingency theory, a theory that originated from organisational theories focuses on the influences of organisation's operating environment on an organization (Chang, 2007). Meanwhile, the institutional theory (New Institutional Sociology) stems from social theories that focuses on the influences of institutional pressures on an organization (Carpenter & Feroz, 2001). Therefore, the contingency theory explains the relationships among the contingent factors (business strategy, organisational structure and competition), performance measures, and organisational performance.This theory covers the main part of the framework (See Figure 2.1). In this regard, contingency theory could be considered as the underpinning theory. On the other hand, the researcher used the institutional theory to provide in-depth explanation about the relationships among the institutional factors (coercive and normative pressures),performance measures, and organisational performance. This theory covers the minor part of the framework. This latter theory is employed to serve as supportive theory, and both theories are utilized to explain the relationship between contingency and institutional factors, and organisational performance. The next sub-sections provides a detailed explanation of both theories.

### 2.7.1 Contingency Theory

Contingency theory is a class of behavioral theories that contends that there is no one way of the organizing, leading and leadership style (Fiedler, 1964). Contingency perspective is used from management accounting study to explain a range of contextual variables such as strategy (e.g., Govindarajan & Gupta, 1985; Simons, 1987), organisational structure (Chia, 1995; Gosselin, 2005), and competition (Banker & Mashruwala, 2007; Lee & Yang, 2011). Other streams of study pay attention to the use of contingency factors in analysing the association of improved organisational performance with the design of accounting information systems (Otley, 1980).

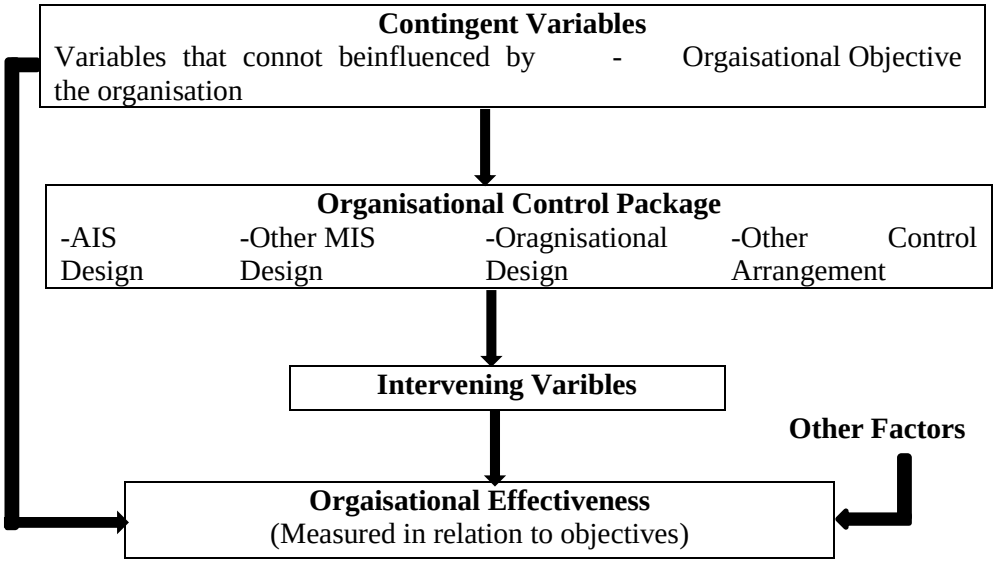


Figure 2.1
*Contingency Theory Framework*
Source: Otley (1980)

This framework explains how the contingent variables impact the organisational control (performance measures) either through those that are related to organisational

effectiveness (organisational performance) or through other factors. According to contingency theory, the fit between contextual factors (business strategy, organisational structure, and competition) and the MCS design is very important to have better organisational performance (Chenhall, 2003; Ittner *et al.* 1997; Langfield-Smith, 1997; Luft & Shields, 2003). The use of performance measures are derived from the MAS for performance evaluation (Kaplan & Norton, 1992), and contingent factors are most likely to be significant and have an effect on performance measures and organisational performance (Otley, 1980). In addition, contingency theory asserts that the optimum design of performance measure systems is dependent on the strategy of the organisation (it is also dependent on other features of the organisation), and that greater performance will be released on the condition that they are both aligned (Chenhall, 2003; Langfield, 1997).

In the review of literature on contingency theory, it is confirmed that the business environment in the area of an organisation ought to affect the particular form of management accounting practices including performance measures (Ittner *et al.*,2003; Otley, 1980). The contingency study is essential to the contribution of building up empirical literature associated with MCS. Specifically, the contingency theory assumes that the use of non-financial measurement for the evaluation of performance could perform an important role in the association between business strategy and organisational performance (Hoque, 2004). In addition, contingency theory directs researchers to find a fit between contextual factors (e.g., Structure, product life cycle stage) and innovative PMS, which then leads to improved performance (Chenhall, 2005; Hoque & James, 2000). Most of the empirical work in

the field of management accounting has been motivated by contingency theories by stressing the role of environment and strategy (Fakhri *et al.,* 2009). Moreover, research based on contingency has suggested that a formal organisational structure influences the MCS design (Chenhall, 2003).

Based on the discussion above, it appears that some of the researchers assumed that contingency theory offers an essential analysis on the relationships among contingency factors, performance measures, and performance (Chenhall, 2003; Ittner *et al.,* 1997; Langfield-Smith, 1997; Luft & Shields, 2003).

### 2.7.2 Institutional Theory

Institutional theory focuses on the resilience aspects of the social structure, such as; rules, norms, and routines, which are considered as authoritative guidelines for social behavior (Scott, 1987). According to the institutional theory, the survival of the organisation to realise an efficient production level requires it to abide to the social norms of acceptable behavior (Hussain & Gunasekaran, 2002). Specifically, the institutional theory focuses on the institutional environment (Scott, 1987).

Institutional theory calls particular attention to the state and professional associations in an organization's institutional environment and their potentially profound influence on the organization's performance (Scott, 1987; Zucker, 1987). Furthermore, institutional theory has emerged as a powerful explanation to account for the influence of external institutions on organisational decision-making and outcomes (DiMaggio & Powell, 1983; Mizruchi & Fein, 1999). Institutional theory

describes effect of the social institutions on the business practices, the behavior of a firm, and organisational form including the choice of performance measures (DiMaggio & Powell, 1983). In addition, institutional theory has shown how various institutional forces[2] may influence management accounting choice, such as non-financial measures in the banking sector (Hussain & Haque, 2002). The institutional theory calls special attention professional association and its potential influence on performance (Scott, 1987). Furthermore, it provides better insights into the factors influencing the use of PMS in organisations and how these factors relate to the performance measures practices (Gimzauskiene & Kloviene, 2011).

Three branches of institutional theory have been identified in the literature, namely: old institutional economics, new institutional economics, and new institutional sociology (Hussain & Hoque, 2002). New institutional sociology consists of the isomorphism competitive, and isomorphism institutional. Under the isomorphism institutional, the following are covered: coercive pressures, normative pressures, and mimetic pressures. The new institutional sociology works to better understand the association of organisational structure with the social environment where organisations are located (Hussain & Hoque, 2002). It is the belief of researchers in New institutional sociology theory that organisation's institutional environment determines the form of the practice design and operation, such as MCS (DiMaggio & Powell, 1991). In addition, the new institutional sociology uses a wider multi-dimensional method of focusing on external (macro) and internal (micro) issues in the context of organisations (DiMaggio & Powell, 1983; Scott, 1987). The view of

2) Institutional forces are exerting more pressure within the industry on the organisation to place attention on some topic (Tapanya, 2004)[2]

new institutional sociology assists in developing an insight into how the phenomenon or behavior of an organisation results from internal and external institutions, regardless of its social and institutional make up (DiMaggio & Powell, 1983). The framework of new institutional sociology is pertinent to institutional research in several aspects of management accounting (Hussain & Hoque, 2002).

The factors that may assist in identifying PMS in line with the organisation's environment and the reaction encountered by them are dealt with by institutional theory. Specifically, the theory posits that internal and external institutional factors assist in gaining insights into the phenomenon or behavior of an organisation (Hussain & Hoque, 2002). Furthermore, the theory addresses the question of the nature of the factors and their effect on the organisations internal and external environment, their characteristics, and the component of PMS. The dimension of institutional theory that leads to a deeper analysis of relations between PMS and an organisation's environment is essential in organisations today (Gimzauskiene & Kloviene, 2011). In the case of Libya, the Libyan Central Bank controls banking activities of commercial banks through legislation and regulations issued by it. In addition, the Libyan Central Bank has a high proportion of the shares of large banks. Furthermore, it is important to note that the Libyan banking sector is still virtually closed to foreign investment. All these reasons make Libyan banking environment a stable environment. Based on this, the present study excluded mimetic pressures as it mainly stems from an unstable environment to face uncertain circumstances. In an uncertain scenario, organisations tend to imitate other organisations to be successful or gain legitimacy.

## 2.8 Chapter Summary

This chapter provides an extensive review of the literature on organisational performance, contingency and institutional factors, and performance measures. The first section reviews the definitions of organisational performance, Libyan banking environment, and performance in the commercial banks of Libya. The second section contains the contingent factors (business strategy, organisational structure, and competition) and institutional factors (coercive and normative pressures) and section three reviews the PMS and performance measures. Finally, this chapter also reviewed the relationship between organisational performances, contingency and institutional factors, and performance measures from a number of relevant studies. The review of relevant literature in this chapter provides a foundation for establishing the conceptual framework of the study, which is discussed in the next chapter.

# CHAPTER THREE
# THEORETICALFRAMEWORK AND METHODOLOGY

## 3.1 Introduction

The previous chapter thoroughly reviewed the literature relating to organisational performance and factors affecting it. It also reviewed literature on the performance measures. This chapter presents a theoretical framework to determine the relationships between the research variables: contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) with organisational performance, and with performance measures as mediating variable. This chapter also presents the variables measurement and methodology.

## 3.2 Theoretical Framework

The development of thetheoretical framework is considered as an essential step in the research methodology because it clearly defines the directions and contributions of the study. Thus, the theoretical framework provides a model, which spells out the logical associations among many identified factors that are relevant to the research problem (Cavana, Delahaye & Sekaran, 2001).

The present research adopts a framework developed by many researches. Specifically, Hoque and James (2000) investigated the relationships between some contingency factors and organisational performance, and with BSC usage and the organisational performance. It was suggested that greater BSC usage has a relationship with enhanced performance. On the other hand, Hussain and Hoque

(2002) analysed the factors influencing the use of non-financial performance measures in the banking industry and found that many institutional factors have strong influence of factors on use of performance measure, including the pressures of coercive, normative, and mimetic.

Similarly, Wu, Mahajan and Balasubramanian (2003) investigated the effect of e-business adoption of the business performance and suggested that research efforts should sufficiently consider a combination of factors obtained from the contingency and institutional point of view of the firm in correspondence with organisational performance. In addition, proper insights into the changes at work in ensuring customer satisfaction will necessarily require more studies to investigate both contingency and institutional factors (Tapanya, 2004).

In a related study, Hoque (2004) examined the role of choosing PM as an influence on how strategic priorities and environmental uncertainty are associated with organisational performance. The findings showed that the strategic choice of the management has a significant positive association with organisational performance via the greater use of non-financial measurements for the evaluation of performance by the management. Furthermore, Gosselin (2005) explored the effect of contingency factors on applying performance measures. The results showed that there are some significant relationships between performance measure and the contingency factors like strategy, and organisational structure.

In another related study, Fakhri *et al.* (2009) investigated how the contingent factors (organisational structure, business strategy, bank's size, and competition) affect the use performance measure in Libyan banking. It was suggested that banks that have a more detailed system of performance measures, especially non-financial measures, have greater performance. In addition, he recommended to investigate the relationship between the performance measures and organisational performance. Also, Lee and Yang (2011) investigated how the organisational structure and competition are associated with the design of PMS and how their combination influences the performance of Taiwanese firms.

In order to provide better insights into the organisational performance,the current study employs the contingency and institutional theoretical framework to investigate the relationship between contingency factors (business strategy, structure organisational, and competition), and institutional factors (coercive and normative pressures) as independent variable, with the organisational performance as dependent variable, by using the performance measures as a mediating variable. This is a shown in Figure 3.1.

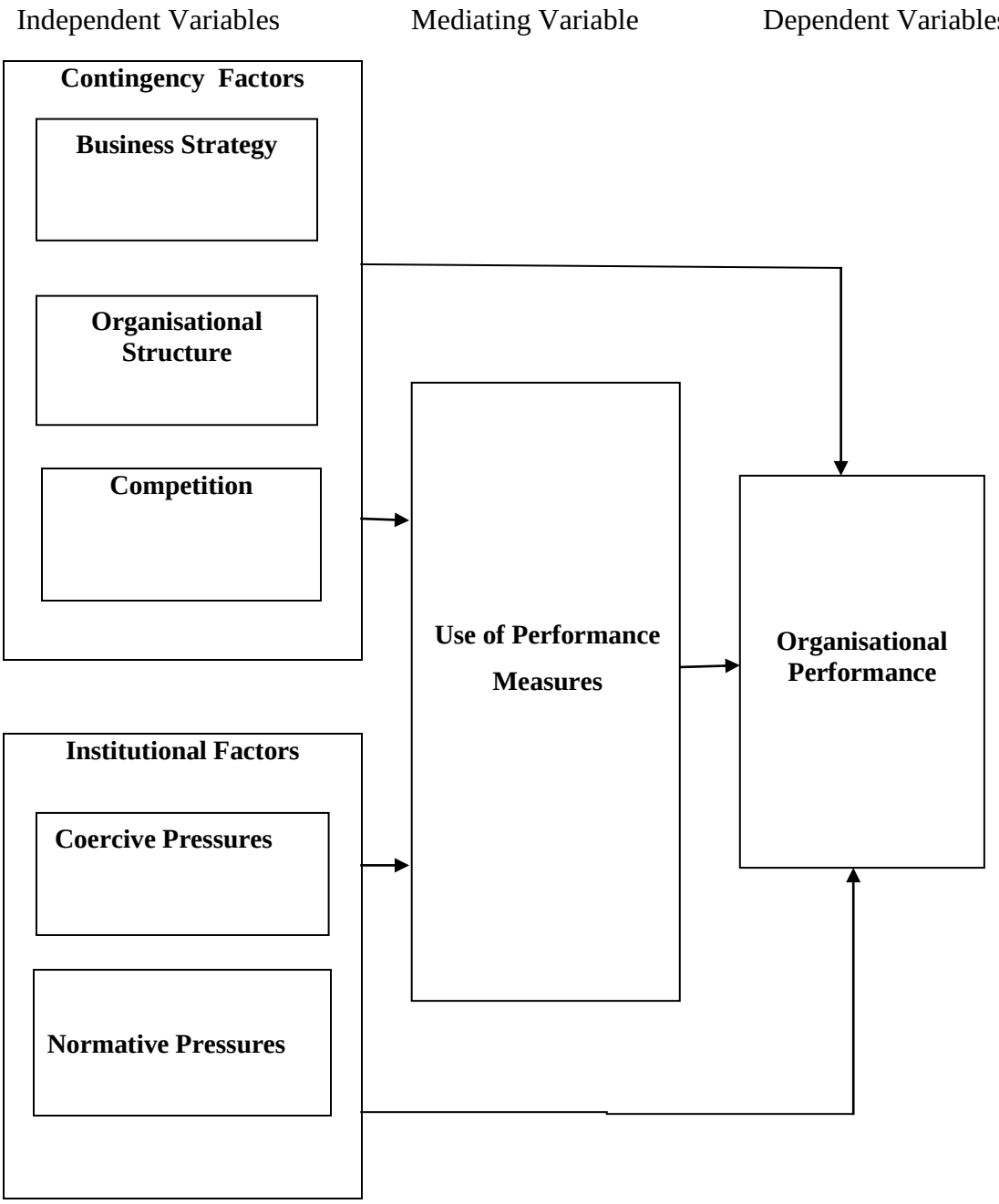


Figure 3.1
*Theoretical Framework: Contingency and Institutional Factors, Use of Performance Measures with Organisational Performance*

## 3.3 Explanation of Constructs in Theoretical Framework

### 3.3.1 Contingency and Institutional Factors (Independent Variables)

This study focuses on the importance of contingency factors (business strategy, organisational structure, and competition), and institutional factors (coercive and normative pressures).

#### 3.3.1.1 Contingency Factors

##### 3.3.1.1.1 Business Strategy

Business strategy is one of the important variables in contingency studies (Chong & Chong, 1997) and in the context of organisations, performance measures should be aligned with the contextual factors, such as strategy and organisational structure (Gosselin, 2005). The role of strategy is dynamic involving managers continually assessing the way combinations of environmental conditions, technologies and structures enhance performance (Chenhall, 2003). Furthermore, several studies have found significant relations between organisation's strategy and PMS (Abernethy & Guthrie, 1994; Gosselin, 2005; Govindarajan & Gupta, 1985; Hoque, 2004; Van der Stede *et al.*, 2006).

##### 3.3.1.1.2 Organisational Structure

Organisational structure has an important role in affecting performance (e.g., morale, efficiency, and effectiveness) at the organisational levels (Chia, 1995). It is considered as one of the important factors influencing management accounting practices (Lorenzo, 2008; Waterhouse & Tiessen, 1978). Furthermore, the literature

suggests an important link between organisational structure and performance measurement (Abernethy *et al.,* 2004; Langfield-Smith, 1997; Luft & Shields, 2003). Specifically, contingency theory suggests that the effectiveness of organisational design depends on the match between organisation design and contextual variables (Chapman, 1997). However, the extent to which the fit between PMS and organisation structure affects organisational performance is not well understood (Lee & Yang, 2011).

#### 3.3.1.1.3 Competition

Competition among organisations is an important determinant of organisational performance (Scherer & Ross, 1990). Competition is a powerful contextual factor affecting both organisational design and performance (Lee & Yang, 2011). Growing competition leads to increasing appeal of non-financial performance measures, as these can be leading indicators of performance (Banker *et al.,* 2000). Competition is one potential determinant of the use of multiple performance measures and has a significant impact on organisational performance (Agha *et al.,* 2011; Majeed, 2011). Furthermore, competition has a significant relationship with the use of performance measures (Fakhri *et al.,* 2009; Lee & Yang, 2011).

### 3.3.1.2 Institutional Factors

#### 3.3.1.2.1 Coercive Pressures

Coercive pressures contain the powerful environmental agents that impose structural forms or practices on subordinate organisational units (DiMaggio & Powell, 1983).

Furthermore, coercive pressure leads to a change in performance measurement practices (Munir *et al.*, 2011), where a significant relationship was found between the institutional factors and performance by Oliver (1997). In addition, Zhu and Sarkis (2007) found that coercive pressure influenced organisations to improve their environmental performance. According to Hussain and Hoque (2002), the regulatory control practised by the central bank is a forceful means entrenched in coercive pressures and institutional factors that affect the commercial and specialised banks. In Libya, the CBL examines and analyses the financial positions of commercial banks as well as issues the guidelines and laws governing the work of commercial banks.

#### 3.3.1.2.2 Normative Pressures

Normative pressures are one of the important institutional factors that affect the accounting literature (e.g., Chang, 2007; DiMaggio & Powell, 1983). Institutional theory proposes that normative pressures that represent the professional bodies and formal education can lead to changes to organisational practices, and professional behavior (DiMaggio & Powell, 1983). The experience of professionals, such as managers, may also influence the use and design of PMS (Hussain & Haque, 2002). Furthermore, institutional pressure has important implications of the relative balance between various performance dimensions (Hussain & Gunasekaran, 2002).

### 3.3.2 Use of Performance Measures (Mediating Variable)

Use of Performance measures are the mediator variable in this study, in which multiple performance measures (financial and non-financial) are used based on the

four dimensions of the BSC (financial, customer satisfaction, internal business process, learning and growth) and are employed as the basic framework to define the multiple performance measures. Furthermore, BSC approach has gained prominence in management accounting research as a way of integrating financial and non-financial performance measures (Kaplan & Norton 1996).

The variable can be considered as mediator when it provides the following conditions:

- The independent variable has a significant relationship with mediator variable.
- The mediator variable has a significant relationship with dependent variable.
- When the independent variable has a significant relationship with dependent variable (Baron & Kenny, 1986).

In other words, performance measures can be assumed to be a mediator when

- There are significant relationships between each of contingency and institutional factors, and performance measures.
- There are significant relationships between each of contingency and institutional factors, and the organisational performance.
- There is a significant relationship between performance measures and the organisational performance (Little, Card, Bovaird, Preacher & Crandall, 2007).

Several studies have found significant relations between the business strategy, organisational structure, and PMS (e.g., Abernethy & Guthrie, 1994; Gosselin, 2005; Govindarajan & Gupta, 1985; Lee & Yang, 2011). In addition, competition is one

potential determinant of the use of multiple performance measures in the market place (Lynch & Cross, 1992). Several studies deal with the relation between institutional factors and performance measures (Gimzauskiene & Kloviene, 2011; Hussain & Hoque, 2002; Munir *et al.,* 2011). Furthermore, several studies provide empirical evidence concerning the positive impact of performance measures on the organisations' financial performance in respect of long-term profitability (Banker *et al.,* 2000; Van der Stede *et al.,* 2006).

### 3.3.3 Organisational Performance (Dependent Variable)

Organisational performance is the dependent variable in this study. It has been suggested in accounting and management accounting literature that any comprehensive contingency study should include performance (Hoque, 2004; Lee & Yang, 2011). Accordingly, this study focuses on the objective and subjective measures of organisational performance. Many contingency and institutional factors affect organisational performance, such as business strategy, organisational structure, competition, coercive pressure and normative pressures (e.g., Agha *et al.*, 2011; Lee & Yang, 2011; Oliver, 1997).

## 3.4 Hypotheses Development

This study presents the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures), and organisational performance, with performance measures as mediator variable.

### 3.4.1 Relationship between Contingency and Institutional Factors, and Performance Measures

#### 3.4.1.1 Relationship between Contingency Factors and Performance Measures

This section deals with the relationships between institutional factors (business strategy, organisational structure, and competition) and performance measures based on the literature review.

##### 3.4.1.1.1 Business Strategy and Performance Measures

Many studies on PMS emphasise the linkage between business strategy and performance measures (Ittner *et al.*, 2003; Kaplan & Norton, 2001; Otley, 1999). There is a significant and positive association between strategy and management's use of non-financial measures performance (Hoque, 2004). On a similar note, Stede *et al.* (2006) found that there is a positive relationship between business strategy and the use of performance measures (financial and non-financial). Additionally, several studies have found significant relations between the organisation's strategy and the PMS (e.g., Abernethy & Guthrie, 1994; Govindarajan & Gupta, 1985).

The nature of PMS differs according to the type of business strategy selected (Lorenzo, 2008). Ittner *et al.* (1997) found that organisations following the prospector strategy make greater use of non-financial measures than organisations following the defender strategy. Meanwhile, Anderson and Lanen (1999) found that prospectors focus more on non-financial measures performance, such as customer satisfaction, market share and competitors' performance. In addition, Fakhri *et al.* (2009) found a positive association between prospector strategy and performance measures.

The defender strategies are associated with formal PMS includes objective budget performance targets (Chenhall, 2003). Furthermore, Simons (1987) found firms that follow a defender strategy tends to rely more on financial measures, such as short-term budgets, to compensate their managers (see Simons, 1995).

Based on the discussion above, the hypotheses are presented as follows:

**H1a:** There is a positive relationship between business strategy (prospector) and use of performance measures.

**H1b:** There is a positive relationship between business strategy (defender) and use of performance measures.

**H1c:** There is a positive relationship between business strategy (analyser) and use of performance measures.

#### 3.4.1.1.2 Organisational Structure and Performance Measures

Organisational structure is one of the most important factors that affects management accounting practices (Laitinen, 2006; Lorenzo, 2008). Moreover, the change in organisational structure has an indirect effect on the management accounting practices (Fakhri *et al.*, 2009). Contingency-based research suggests that the formal organisational structure affects the design of MCS (Gosselin, 1997). In an organisation, PMS is an integral part that interacts with the organisational structure to enhance control (Waterhouse & Tiessen, 1978). According to Gosselin (2005), organisational structure has a significant relationship with performance measures. Similarly, Lee and Yang (2011) found a significant association between

organisational structure and PMS. Furthermore, there are some significant relationships between the type of measure and contextual factors like strategy and organisational structure. Also, organisational structure was found to be positively associated with the use of performance measures (financial and non-financial) (Fakhri *et al.,* 2009).

Based on the previous discussion, the following hypothesis is proposed:

**H2:** There is a positive relationship between organisational structure and use of performance measures.

#### 3.4.1.1.3 Competition and Performance Measures

Competition is one of the potential determinants of the change in management accounting practices, such as PMS (Fakhri *et al.,* 2009). In this regard, Hussain and Hoque (2002) found an increasing awareness of the performance measures, primarily due to competition between the services organisations. In addition, the relationship between competition and use of performance measures is a significant one (Fakhri *et al.,* 2009; Lee & Yang, 2011) and greater emphasis on multiple performance measures is associated with firms that are facing high competition (Hoque *et al.,* 2001).

This leads to the development of the following hypothesis:

**H3:** There is a positive relationship between competition and use of performance measures.

#### 3.4.1.2 Relationship between Institutional Factors and Performance Measures

This section deals with the relationships between institutional factors (coercive and normative pressures) and use of performance measures based on the literature review.

##### 3.4.1.2.1 Coercive Pressures and Performance Measures

The institutional factors play a significant role in the process of change in a PMS (Haveman, 1993). Coercive pressures are one of the institutional factors that help to identify the environment and reaction of the organisation and its reflection on PMS (Gimzauskiene & Kloviene, 2011). Among studies dedicated to this topic, Tapanya (2004) found a significant impact between coercive pressures and performance measures while Hussain and Hoque (2002) found that the central bank regulatory control (regulations issued by CBL to control banks) affect banks functions and measures of performance (Hussain & Gunasekaran, 2002). additionally, the regulations issued by Libyan Central Bank positively affect the bank's use of non-financial performance measures (El-Shukri, 2007).

Accordingly, this study hypothesises that:

**H4:** There is a positive relationship between coercive pressures and use of performance measures.

##### 3.4.1.2.2 Normative Pressures and Performance Measures

Institutional forces influence the banks to implement a particular performance measure (Hussain & Hoque, 2002). Also pertaining to this, Verbeeten and Boons

(2009) reported that institutional factors seem to influence the utilisation of particular measures of performance, and in this context normative pressures represent the professional bodies and formal education. The experience of professionals such as managers may also influence the use and design of PMS (Hussain & Haque, 2002).

This leads to the following hypothesis:

**H5:** There is a positive relationship between normative pressures and use of performance measures.

### 3.4.2 Relationship between Contingency and Institutional Factors, and Organisational Performance

#### 3.4.2.1 Relationship between Contingency Factors and Organisational Performance

This section deals with the relationships between contingency factors (business strategy, organisational structure, and competition) and organisational performance based on the literature review.

##### 3.4.2.1.1 Business Strategy and Organisational Performance

The organisational literature (e.g., Miles & Snow, 1994) suggested that improving firm performance requires a management style that is related to a specific-firm strategy. In addition, firms will achieve higher performance if they align managerial practices to the strategic priorities of the organisation (Venkatraman *et al.*, 1993). Furthermore, Hoque (2004) suggested that strategy is an important antecedent of

organisational performance. Meanwhile, Van der Stede *et al.* (2006) found that strategy has a positive effect on organisational performance.

Based on the discussion above, the following hypotheses are proposed:

**H6a:** There is a positive relationship between business strategy (prospector) and organisational performance.

**H6b:** There is a positive relationship between business strategy (defender) and organisational performance.

**H6c:** There is a positive relationship between business strategy (analyser) and organisational performance.

#### 3.4.2.1.2 Organisational Structure and Organisational Performance

The organisational structure has no impact on real activity choice or performance (Lai & Limpaphayom, 2003) and it is considered as one of the mechanisms used to control conflicts, and as such, it should have a significant impact on the firm's financial behaviour (Mayers & Smith Jr, 1981). Furthermore, organisational structure has a significant positive impact on organisational performance (Lai & Limpaphayom, 2003; Lee & Yang, 2011). Managers having information related to the cause and effect relationships make a greater contribution to overall performance in organic organisations than in mechanistic structures because they have more authority to make decisions in such organisations (Lee &Yang, 2011). In regards to this, organisational structure is associated with organisational performance for aggregated and integrated information (Chenhall & Morris, 1986).

In view of this, this study hypothesises that:

**H7:** There is a positive relationship between organisational structure and organisational performance.

#### 3.4.2.1.3 Competition and Organisational Performance

There is a good association between a company's competitive advantage and its performance (Majeed, 2011). The performance of banks in the presence of competition, such as low price and quality of services, is considered the best (Neely, 2005). Furthermore, Mia and Winata (2014) found apositive relationship between competition and financial performance. The previous mentioned issues explicitly show that competition can influence positively the organisational performance. Added to this, Zhu and Sarkis (2007) found a significant relationship between competition and performance.

In view of this, the following hypothesis is proposed to be tested;

**H8:** There is a positive relationship between competition and organisational performance.

### 3.4.2.2 Relationship between Institutional Factors and Organisational Performance

This section deals with the relationships between institutional factors (coercive and normative pressures) and organisational performance based on the literature review.

#### 3.4.2.2.1 Coercive Pressures and Organisational Performance

The relationship between the coercive pressures and performance is significant (Oliver, 1997), where coercive pressure influences organisations to improve environmental and economic performance (Zhu & Sarkis, 2007). The central bank is one of the coercive pressures that have a positive impact on performance, especially in achieving lower inflation rates. These pressures are identified as political cycles that affect economic cycles (Laurens, 2005). Moreover, stringency of capital regulation is positively associated with efficiency of bank (Barth, Lin, Ma, Seade & Song, 2013).

Accordingly, this study hypothesises that:

**H9:** There is a positive relationship between coercive pressures and organisational performance.

#### 3.4.2.2.2 Normative Pressures and Organisational Performance

Institutional pressures have important implications for the relative balance between various performance dimensions (Hussain & Gunasekaran, 2002). Normative pressures represented by the professional bodies and formal education can lead to changes to organisational practices, and professional behavior (DiMaggio & Powell 1991). Professionals have the most dominant influence on organisational practices (DiMaggio & Powell 1991). Consequently, they affect organisational performance.Furthermore, having more experience in the supervisory authority of the bank leads to enhance efficiency of bank (Barth *et al.*, 2013).

This leads to the following hypothesis:

**H10:** There is a positive relationship between normative pressure and organisational performance.

### 3.4.3 Relationship between Performance Measures and Organisational Performance

There is a large support in literature for a positive relationship between the design of PMS (increased reliance on non-financial information) and performance (Baines & Langfield-Smith, 2003; Davis & Cosenza, 2000; Said, Elnaby & Wier, 2003; Scott & Tiessen, 1999). Additionally, Hoque and James (2000), and Scott and Tiessen (1999) found a positive relation between firm performance and increased use of different types of PM (Hoque & James, 2000; Scott & Tiessen, 1999). Also, several studies provide empirical evidence concerning the positive impact of non-financial performance measures on the organisations' financial performance in the long-term (Al-Enizi *et al.,* 2006; Anderson & Lanen, 1999; Fakhri*et al.,* 2009). Companies that use performance measures (financial and non-financial) lead them to increase their performance (Van der Stede *et al.,* 2006). In other words, the use of an integrated set of financial and non-financial measures can lead to superior firm performance (e.g., Banker *et al.,* 2000; Hoque & James, 2000). Furthermore, customer satisfaction measures were found to be significantly and positively associated with financial performance (Anderson *et al.,* 1994) and a positive and significant association between the use of performance measures and organisational performance was evidenced by studies (e.g., Anderson *et al.,* 1994; Banker et al., 2000; Hoque, 2004; Lee & Yang, 2011; Van der Stede *et al.,* 2006; Verbeeten & Boons, 2009).

In view of this, this study hypothesises that:

**H11:** There is a positive relationship between use of performance measure and organisational performance.

### 3.4.4 Relationship between Contingency Factors (Business Strategy, Organisational Structure, and Competition), Institutional Factors (Coercive and Normative Pressures), Performance Measures, and Organisational Performance

The strategy and selection of performance measures in performance evaluation is necessary to enhance organisational performance (Govindarajan & Gupta, 1985; Ittner *et al.*,1997; Simons, 1995). In this regard, Hoque (2004) found that the relationship between business strategy and organisational performance seems to be significantly indirect through the use of non-financial performance. In contrast, Van der Stede, Chow, and Lin (2006) found a positive relationship between the strategy, performance measures and their joint effect on firm performance. In support of this, Hoque (2004) found a significant and positive association between strategy and performance through management's high use of non-financial measures for performance evaluation.

Based on the discussion above, the hypotheses are:

**H12a:** Use of performance measures positively mediate the relationship between business strategy (prospectors) and organisational performance.

**H12b:** Use of performance measures positively mediate the relationship between business strategy (defender) and organisational performance.

**H12c:** Use of performance measures positively mediate the relationship between business strategy (analyser) and organisational performance.

A change in organisational structure has an indirect effect on the management accounting practices (Fakhri *et al.*, 2009). In contingency-based research, it has been suggested that a formal organisational structure affects the design of the MCS (Swenson & Foster, 1997; Gosselin, 1997). Furthermore, Lee and Yang (2011) found a significant association between the organisational structure and the design of PMS, and that the relationship between the use of integrated performance measures and organisational performance is positively associated with organisational structure. Also, according to Chia (1995), the greater the degree of decentralisation, the greater the positive impact of the sophistication of management accounting systems - in terms of scope, timeliness, integration and the level of aggregation - on managerial performance.

With regards to the above discussed studies, this research hypothesises that:

**H13:** Use of performance measures positively mediate the relationship between organisational structure and organisational performance.

Banker and Mashruwala (2007) suggested that non-financial performance information has a stronger relation with financial performance in the presence of higher competition. In this regard, banks that face greater competition and use non-financial measures will improve their performance (Hussain & Hoque, 2002). Added to this, Simons (1990) stated that increased competition leads to increased use of management control processes, which affect the sophistication of accounting. Lee and Yang (2011) supported this contention by stating that when there is a greater competition among firms, the relationship between the PMS and performance is positive.

Accordingly, this study hypothesises the following:

**H14:** Use of performance measures positively mediate the relationship between competition and organisational performance.

Coercive pressures are one of the institutional factors that help to identify the environment and the reaction of the organisation and its reflection on PMS (Gimzauskiene & Kloviene, 2011). Coercive pressures to change performance measures practices of organisation could eventuate from other organisations (DiMaggio & Powell, 1983). The principles and guidelines laid down by the central bank for controlling organisations effect the main business decisions, such as pricing and planning for the long term (DiMaggio & Powell, 1991). Consequently, this affects the revenue of banks, and thus their performance. Similarly, Oliver (1997) found a significant relationship between institutional factors and performance.

In view of this, this study hypothesises that:

**H15:** Use of performance measures positively mediate the relationship between coercive pressures and organisational performance.

Institutional factors influence the implementation of performance measure, particularly in the banking sector (Hussain & Hoque, 2002). Furthermore, institutional pressures have important implications on the relative balance between various performance dimensions (Hussain & Gunasekaran, 2002). As such, it is logical to say that normative pressures that represent the professional bodies and formal education, can lead to changes to organisational practices, and professional behavior (DiMaggio & Powell, 1991).

With the aforementioned justification, the following hypothesis is developed:

**H16:** Use of performance measures positively mediate the relationship between normative pressures and organisational performance.

The assumptions of the mediating effects of performance measures on the relationships between the business strategy, organisational structures, competition, coercive pressures and normative pressures, and organisational performance are built on the results of previous studies. The following Table 3.1 shows these results.

Table 3.1
*Condition of the Mediator*

| **Contingency and Institutional Factors (IV)** | **Significant Relationship with Mediator (Use of Performance Measures)** | **Significant Relationship with DV(Organisational Performance )** |
|---|---|---|
| Business Strategy | Fakhri *et al.* (2009); Gosselin (2005); Hoque (2004); Van der Stede *et al*.(2006). | Hoque (2004); Van der Stede, *et al.* (2006); Verbeeten and Boons (2009). |
| Organisational Structure | Fakhri *et al.* (2009); Gosselin (2005); Lee and Yang (2011). | Lai and Limpaphayom (2003); Lee and Yang (2011); Mayers and Smith Jr (1981). |
| Competition | Fakhri *et al.* (2009); Hoque and James (2000); Hoque *et al*.(2001). | Agha *et al*.(2011); Banker and Mashruwala (2007); Majeed (2011). |
| Coercive Pressures | Hussain and Hoque (2002); Laurens (2005); Oliver (1997); Tapanya (2004); Zhu and Sarkis (2007). | Wu *et al.* (2003). |
| Normative Pressures | Hussain and Gunasekaran (2002); Munir *et al.*(2011). | Oliver (1997); Zhu and Sarkis (2007). |
| Performance Measures | | Anderson *et al*.(1994); Banker *et al*.(2000); Banker and Mashruwala (2007); Hoque, (2004); Van der Stede *et al.* (2006). |

Table 3.2 highlights the summary of the developed hypotheses:

Table 3.2
*Summary of Hypotheses*

| Hypothesis | Main Hypotheses |
|---|---|
| H1a | There is a positive relationship between business strategy (prospector) and use of performance measures. |
| H1b | There is a positive relationship between business strategy (defender) and use of performance measures. |
| H1c | There is a positive relationship between business strategy (analyser) and use of performance measures. |
| H2 | There is a positive relationship between organisational structure and use of performance measures. |
| H3 | There is a positive relationship between competition and use of performance measures. |
| H4 | There is a positive relationship between coercive pressures and use of performance measures. |
| H5 | There is a positive relationship between normative pressures and use of performance measures. |
| H6a | There is a positive relationship between business strategy (prospector) and organisational performance. |
| H6b | There is a positive relationship between business strategy (defender) and organisational performance. |
| H6c | There is a positive relationship between business strategy (analyser) and organisational performance. |
| H7 | There is a positive relationship between organisational structure and organisational performance. |
| H8 | There is a positive relationship between competition and organisational performance. |
| H9 | There is a positive relationship between coercive pressures and organisational performance. |
| H10 | There is a positive relationship between normative pressures and organisational performance. |
| H11 | There is a positive relationship between use of performance measure and organisational performance. |
| H12a | Use of performance measures positively mediate the relationship between business strategy (prospector) and organisational performance. |
| H12b | Use of performance measures positively mediate the relationship between business strategy (defender) and organisational performance. |
| H12c | Use of performance measures positively mediate the relationship between business strategy (analyser) and organisational performance. |
| H13 | Use of performance measures positively mediate the relationship between organisational structure and organisational performance. |
| H14 | Use of performance measures positively mediate the relationship between competition and organisational performance. |

Table 3.1 (Continued)

| Hypothesis | Main Hypotheses |
|---|---|
| H15 | Use of performance measures positively mediate the relationship between coercive pressures and organisational performance. |
| H16 | Use of performance measures positively mediate the relationship between normative pressures, and organisational performance. |

### 3.4.5 Research Design

Research design is the structure and strategy of investigation to obtain answers to research questions or problems (Kerlinger, 1986). According to Davis (2000), research design is a road map for the researcher to find answers for certain issues. On a similar note, Zikmund (2003) described research design as a master plan specifying the techniques and procedures for collecting and analysing the needed information, which is considered important in any research. Figure 3.2 illustrates the summary of the research-design-process.

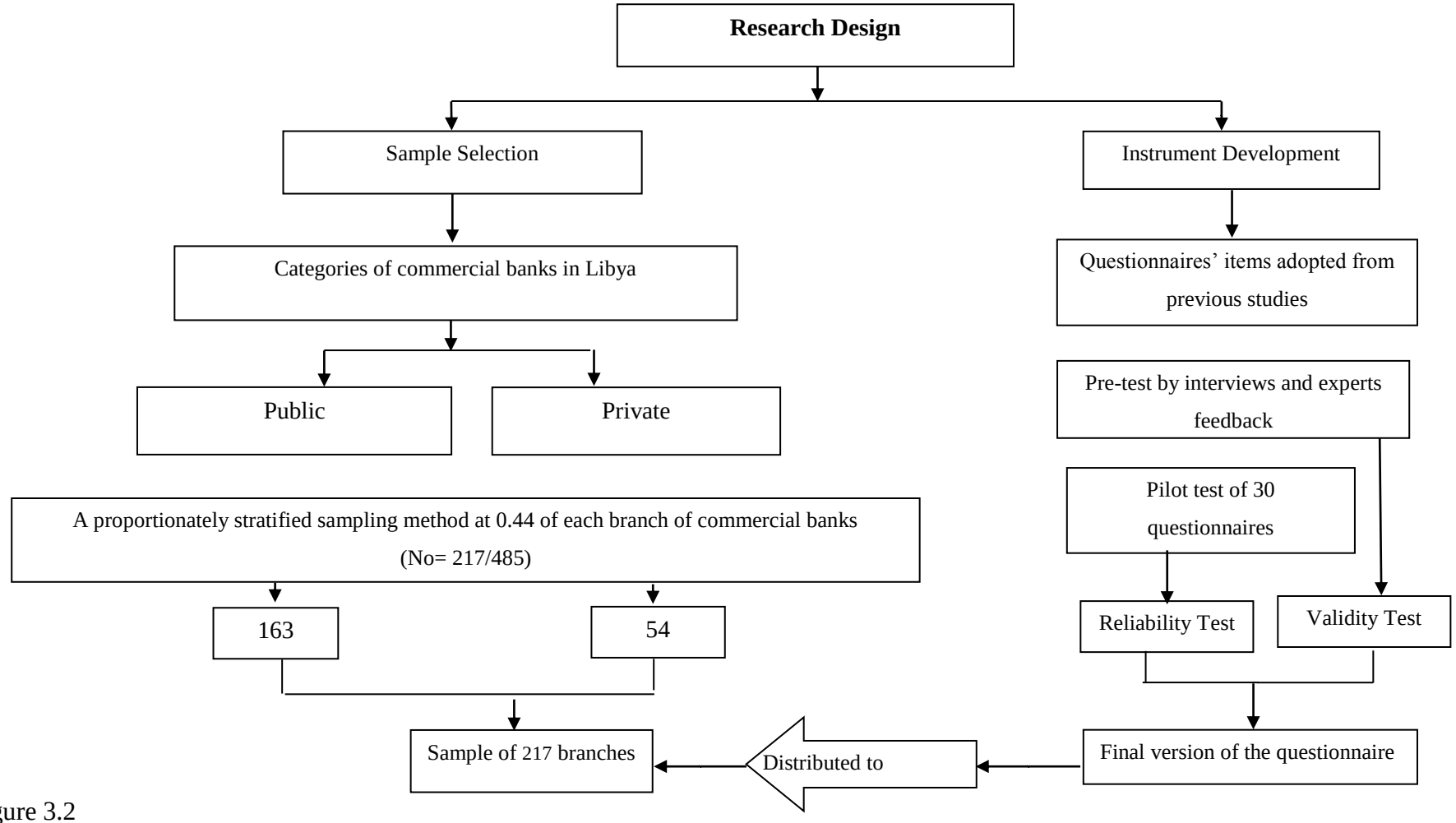


Figure 3.2
*Research Design of the Study*

### 3.5 Types of Research Design

Research design includes a series of rational decision-making tasks regarding the purpose of the study (i.e., descriptive, hypothesis testing, exploratory and case study) (Sekaran & Bougie, 2010). Since the purpose of this research is to investigate the relationships between contingency and institutional factors and organisational performance, with performance measures as mediating variable, it employs a descriptive method of study and hypothesis testing. Descriptive study is undertaken to identify the characteristics of the population while hypothesis testing is undertaken to explain the relationship between the variables of study (Sekaran & Bougie, 2010). Accordingly, this study used a quantitative design as it is appropriate for this type of study.

### 3.6 Quantitative Design

Zikmund (2003) claimed that the objectives, availability of information, and cost for conducting the research, are the factors affecting the choice of research design. The main objective of this research is to investigate the relationships between contingency and institutional factors, and organisational performance, with performance measures as the mediating variable. Hence, the research adopts a survey strategy, because the data obtained from a survey is used to examine the relationships between the dependent and independent variables (Davis, 2000). Furthermore, as the respondents are bank managers are expected to be highly educated, a survey approach is the most suitable technique in this context (Cooper, Schindler & Sun, 2003). Another advantage of the survey strategy is the large amount of data that can

be gathered from the respondents and the fact that the results can be generalised to the population at large.

The survey strategy has several approaches that are used to collect the data, and these include personal interview, telephone interview, internet survey and mail survey. The choice of survey method depends on three major issues, namely: the respondent's characteristics, the geographical distribution, and the nature of investigating the relationships between variables (Kumar, 2005). In terms of geographical distribution, the respondents for this research are located in a wide geographical area and thus, a mail survey is deemed suitable. Furthermore, the targeted population consists of bank managers who are well educated, and thus, it is assumed that they can understand and respond to the questionnaire.

### 3.7 Questionnaire Design

The development of the study instrument followed the general guides proposed by Oppenheim (2000), which stresses that an instrument should meet two requirements. Firstly, relevancy, as the questionnaire is used to collect the information to meet the research objectives. Secondly, accuracy, as the questionnaire is used to collect information characterised by a high degree of reliability and validity (Zikmund, 2003).

The questionnaire is designed using a booklet type questionnaire. Sudman and Bradburn (1982) argued that using a booklet type questionnaire has the following advantages: (1) it prevents pages from being lost or misplaced, (2) it makes it easier

for the respondent to turn the pages, (3) it looks more professional and is easier to follow, and (4) it makes it possible to use a double page format for questions about multiple events or persons. Consequently, the questionnaire is divided into four main sections:

Section One of the questionnaire consists of questions related to the demographic aspects of the respondents (branch managers) and has (9 questions). Section Two of the questionnaire is designed to assess the organisational performance: non-financial and financial (20 questions). This is followed by Section Three of the questionnaire that is designed to determine the nature of contingency factors: strategic business (11 questions), organisational structure (6 questions), and competition (6 questions). Moreover, institutional factors: coercive pressures (6 questions), and normative pressures (5 questions) and finally, Section Four that aims to determine the type of performance measures (20 questions) used in the banks for performance evaluation. The details of questionnaire presented in Appendix A.

The measures of some of the variables (business strategy, organisational structure, competition, performance measures, and organisational performance) of the study are adopted from various sources. The measures of of other variables (coercive and normative pressures) are adopted from various sources, modified to suit the research settings in banking sector in Libya.

This study used five-point Likert scale to measure the concepts of the study. The five point Likert scales are designed to know the extent of strength of the respondents

agreement or disagreement with the statements (Cavana, Delahaye & Sekaran, 2001). The researcher preferred to use five-point Likert scale since it is one of the best ways to comprehend the perception of respondents (Olakunke, 2003).

### 3.8 Operational Definitions

This section discusses the operational definitions of the terms used in the study. To begin with, business strategy is the means whereby managers can influence the nature of the external environment, technologies of the organisation, structural arrangements and the control culture (Chenhall, 2003).

Organisational structure is a formal control framework that covers reporting relationships interactions between information flows, employees, and the distribution of authority with regard to implementing activities within the organisation (Germain, 1996).

Competition is the degree that the bank is affected by competitors in the banking sector (Zhu, Kraemer, Xu & Dedrick, 2004).

Coercive pressures are the pressure exerted on the organisation to conform to the practices and rules that are considered important in its sector (Hussain & Hoque, 2002).

Normative pressures are often the result of professionals, top management and the organisational culture prevailing in a bank (Munir *et al.,* 2011).

Performance measures are the set of financial and non-financial measures that are applied to achieve multiple purposes such as evaluate, control, improve and compare the performance of different organisations, branches, and to assess employees of organisations achieving their objectives (Ghalayini & Noble, 1996).

Organisational performance refers to the organisational effectiveness to achieve the objectives of organization (Henri, 2004).

## 3.9 Measurement of Variables

### 3.9.1 Contingency and Institutional Factors (Independent Variables)

#### 3.9.1.1 Contingency Factors

In this study,the contingency factors are business strategy, organisational structure, and competition.

##### 3.9.1.1.1 Business Strategy

Following previous studies of Chenhall and Langfield-Smith (1998), Hoque (2004) and Ittner *et al.* (1997), strategy is measured relative to the three extreme strategic postures (prospectors, defenders, and analyser) of the Miles *et al.* (1978) typology. Respondents are asked to indicate the degree of emphasis that their branches place on strategic activities, across 11 items. Table 3.3 shows the items of business strategy.

Table 3.3
*Measures of Business Strategy*

| Variable | Dimension | Items | Sources of Items |
|---|---|---|---|
| Business Strategy | Prospectors | Provide high quality products.<br>Provide fast deliveries.<br>Decreasing the cost of coordination.<br>Provide service and support after service delivery. | Chenhalland Langfield-Smith (1998);Hoque (2004); Ittner *et al.* (1997);Miles *et al.* (1978). |
| | Defenders | Low price.<br>Service availability.<br>Customise services to customers' needs. | |
| | Analyser | Make changes in design and introduce new products quickly.<br>Providing services distinct.<br>Provide unique service features.<br>Low service cost. | |

**Note:** These items are measured using a five-point Likert scale ranging from 1="Strongly disagree" to 5= "Strongly agree".

#### 3.9.1.1.2 Organisational Structure

Organisational structure facilitates information processing at the source of an event that requires decision-making (Galbraith, 1973). The instrument for measuring organisational structure is adopted from the 6 items (the development of new services, selection of large investments, decision to enter new markets, decisions on major changes, pricing decisions, andbudget allocation ) used to measure the degree of decentralisation of decision-making (Gordon & Narayanan, 1984). Table 3.4 shows the items of organisational structure.

Table 3.4
*Measures of Organisational Structure*

| Variable | Items | Sources of Items |
|---|---|---|
| Organisational Structure | New services decisions.<br>Selection of large investments.<br>Hiring and firing of managerial personnel.<br>Decisions on major changes.<br>Pricing decisions.<br>Budget allocation. | Chia (1995); Gordon and Narayanan (1984); Gosselin (2005). |

**Note:** These items are measured using a five-pointLikert scale ranging from 1="Strongly disagree" to 5= "Strongly agree".

### 3.9.1.1.3 Competition

Competition refers to the degree of market participation. Hoque *et al.* (2001) summarises prior research relating to the level of competition (Hoque & Hopper, 1997; Libby & Waterhouse, 1996; Merchant, 1984) to develop the instrument (Lee & Yang, 2011) across 6 items. Table 3.5 shows the items of competition.

Table 3.5
*Measures of Competition*

| Variable | Items | Sources of Items |
|---|---|---|
| Competition | Services price.<br>New service development.<br>Marketing or distribution channels.<br>Gaining market share.<br>Behaviours of competitors.<br>Number of competitors. | Hoque and Hopper (1997); Libby and Waterhouse (1996) ; Merchant (1984); Lee and Yang (2011); Hoque *et al*. (2001) |

**Note:** These items are measured using a five-pointLikert scale ranging from 1="Strongly disagree" to 5= "Strongly agree".

### 3.9.1.2 Institutional Factors

In this study the institutional factors are coercive and normative pressures.

#### 3.9.1.2.1 Coercive Pressures

This study focuses on the measures of the central bank's regulatory control. The adopted 6 items are as follows: fines, monitoring commitment, supervision, legislation, encouragement, and maintaining relations from Ke, Liu, Wei, Gu and Chen (2009), Liang, Saraf, Hu and Xue (2007) and Teo *et al. (*2003). They are adapted to suit the research settings of the Libyan banking sector. Table 3.6 shows the items of coercive pressures.

Table 3.6
*Measures of Coercive Pressures*

| **Variable** | **Items** | **Sources of Items** |
|---|---|---|
| Coercive Pressures | Apply fines on banks.<br>Central bank monitors the commitment extent of banks.<br>Central bank supervision on implementing actions.<br>Legislations issued by the central bank helps the branch in their work.<br>The central bank is working to encourage and motivate the branch.<br>My bank maintains a good relationship with the central bank. | Ke *et al.* (2009); Khalifa and Davison (2006); Liang *et al.* (2007); Teo *et al*. (2003). |

**Note:** These items are measured using a five-pointLikert scale ranging from 1="Strongly disagree" to 5= "Strongly agree".

#### 3.9.1.2.2 Normative Pressures

This study adopted 5 items: competitors intend to use, various sources, participation in workshop, and training from Ke *et al.* (2009), Liang *et al.* (2007) and Teo *et al.* (2003), and these questions are adapted to suit the research settings in the banking sector of Libya. Table 3.7 shows the items of normative pressures.

Table 3.7
*Measures of Normative Pressures*

| Variable | Items | Sources of Items |
|---|---|---|
| Normative Pressures | Our competitors effect on work of the branch.<br>Commercial banks use in the near future.<br>Various financial sources.<br>Participation in workshops.<br>Participation in training. | Ke *et al*.(2009); Khalifa and Davison (2006); Liang *et al.* (2007); Teo *et al.*(2003). |

**Note:** These items are measured using a five-pointLikert scale ranging from 1="Strongly disagree" to 5= "Strongly agree".

### 3.9.1 Performance Measures (Mediating Variable)

Performance measures are a set of financial and non-financial measures, which measure different parts of the organisation operations. Performance measures are adopted from Kaplan and Norton (1996), Hoque *et al*. (2001), Henri (2006) and Lee and Yang (2011). Based on the four dimensions of the BSC, there are financial and non-financial measures (financial, customers' satisfaction, internal business process, and innovation and learning). The respondents are asked to indicate each performance measure currently used by the top management in their branches for performance evaluation, across 20 items.Table 3.8 shows the items of performance measures.

Table 3.8
*Measures of Performance Measures*

| Variable | Dimension | Items | Sources of Items |
|---|---|---|---|
| Performance Measures | Financial | The rate of achieving budget.<br>Revenue growth.<br>Return on net assets.<br>Branch profit. | Kaplan and Norton (1996); Hoque *et al.* (2001); Henri (2006); Lee and Yang (2011). |
| | Customer Satisfaction | Market share to main services.<br>On time delivery service.<br>Customer retention.<br>Customer response time.<br>Survey of customer satisfaction. | |
| | Internal Business Process | Teamwork among employees.<br>Rate the error of operational processes.<br>Employees' turnover rate.<br>Employee's productivity.<br>Number of customer complaints. | |
| | Learning and Growth | Time-to- market of new services.<br>Number of new services launched.<br>Employee satisfaction.<br>Percentage of revenue from news services.<br>Employees' suggestions.<br>Training hours per employee. | |

**Note:** These items are measured using a five-pointLikert scale ranging from 1= "Not at all "to 5= "To a very great extent".

### 3.9.2 Organisational Performance (Dependent Variable)

Measures of organisational performance depend on the managers' perception of the organisational performance (increase/decrease) measured by non-financial and financial indicators (subjective and objective). The non-financial (subjective) indicators range from customer services, service delivery to effective operations while the financial (objective) indicators include the financial growth and ratios. The measures of the performance are adopted from various sources. The respondents are required to rate their branch over the last three years, indicating the extent of perceived performance, across 20 items. Table 3.9 shows the items of organisational performance.

Table 3.9
*Measures of Organisational Performance*

| Variable | Dimension | Items | Sources of Items |
|---|---|---|---|
| Organisational Performance | Non-Financial Performance | Customer satisfaction.<br>Reactivation of account.<br>Customer service.<br>Customer relationship management.<br>Branch reputation.<br>Rate of speed of service.<br>The cost of providing services.<br>Error of operational processes.<br>New services development.<br>Market share. | Bontis, Keow and Richardson (2000); Khong and Richardson(2003); Ringim (2012); Ringim, Razalli and Hasnan (2012). |
| | Financial Performance | Number of performing loan.<br>Yearly profit.<br>Non-performing loans.<br>Deposit growth.<br>Collection of bad debts.<br>Fee on transaction services.<br>Current and saving account.<br>Volume of fixed deposit.<br>Financial performance targets.<br>Level of expenses. | |

**Note:** These items are measured using a five-pointLikert scale ranging from 1= "Decrease significantly" to 5= "Increase significantly".

### 3.9.3 Pilot Test

A pilot test was conducted before the questionnaires were distributed to the target respondents. The basic objective of the pilot test is to assess the goodness of the measurement in terms of validity and reliability, and to improve the questionnaire so that respondents do not face problems in responding and answering all the questions. To achieve this objective, a total of 35 questionnaires representing 10% of the sample was sent to bank managers as a sub-sample from the study target population to obtain their feedback (Sekaran & Bougie, 2010). This is according to the recommendation provided by Cooper *et al.*(2003), who stated that in general, a range of 25 to 100 is a suitable size for a pilot test.

### 3.9.4 Validity and Reliability of the Measurement Instrument

Assessment of the validity and reliability of the items was conducted before the questionnaires were distributed to the respondents to ensure that items are suitable for measuring the variables of the study. The validity is related to the accuracy of measures, and the reliability is related to consistency and stability (Sekaran & Bougie, 2010). For validity, concerning the measurement scale of this study, three experts, Senior lecturer, and Associate Professor at Universiti Utara Malaysia (UUM) were consulted.

To check the reliability of the questionnaire, Cronbach's Alpha test is used (refer Table 3.10). The reliability coefficient scores are considered poor when the Alpha coefficient range < 0.6, is moderate when the range is between 0.6 and 0.7, good when the range is between 0.7 and 0.8, very good between 0.8 and 0.9, and excellent when the Alpha coefficient range is equal to or more than 0.9 (Hair, Black, Babin & Anderson, 2010). If Alpha > 0.95, the items should be checked to ensure that they measure different aspects of the concept (Hair *et al.,* 2010). In this study, the Cronbach's Alpha of the business strategy represented in defender and analyser are weak, especially if compared with other factors.

Table 3.10
*Summary of the Pilot Test Reliability Analysis of Constructs*

| Constructs | Variable | Number of Items | Cronbach's Alpha |
|---|---|---|---|
| Business Strategy | Prospectors | 4 | 0.812 |
| | Defenders | 3 | 0.664 |
| | Analyser | 4 | 0.689 |
| Organisational Structure | | 6 | 0.901 |
| Competition | | 6 | 0.930 |
| Coercive Pressures | | 6 | 0.766 |
| Normative Pressures | | 5 | 0.754 |
| Performance Measures | | 20 | 0.891 |
| Organisational Performance | | 20 | 0.935 |

## 3.10 Data Collection

### 3.10.1 Population of Study

Population refers to the entire group of people, events, or things of interest that the researcher wants to investigate (Sekaran & Bougie, 2010). Population is a gathering of elements that the study is interested in examining. A sample could be defined as part of the target population of interest to be studied and can be statistically referred to as a sub-collection that is selected from a population of interest.

The Libyan banking sector is selected for this study for various reasons. Firstly, the service organisations like banks are more relevant and clearly reflect the constructs of this research, since its variables, such as business strategy and intensity of competition, are more related to banks rather than other organisations in Libya (Intter *et al.,* 2003). Secondly, the literature review shows that there is a lack of studies focusing on conducting empirical studies in the field of service organisations (Chenhall & Morris, 1986).

The Libyan banking sector consists of the CBL and 20 banks including specialised banks (Libyan Arab Foreign Bank, Agricultural Bank, Saving and Investment Bank, Libyan Foreign Bank, and Development Bank) and 15 commercial banks in Libya. Thus, the target population for this study is all branches of Libyan commercial banks (13 bank), after the exclusion of two foreign banks. The commercial banks in Libya are divided into two categories (public and private). Based on the participation rate of Libyan state in capital of banks, public banks constitute more than 50% of the total banks. Table 3.11 shows categories of commercial banks in Libya.

Table 3.11
*Categories of Commercial Banks in Libya*

| No | Public | Branches | No | Private | Branches |
|---|---|---|---|---|---|
| 1 | Al-Jomhuriya | 158 | 1 | North Africa | 45 |
| 2 | National Commercial | 81 | 2 | Al-Aman | 31 |
| 3 | Al-Wehda | 78 | 3 | Trade & Development | 11 |
| 4 | Al-Sahara | 48 | 4 | Al-Mutahed | 11 |
| | | | 5 | Al-Ejmaa' Al-Arabei | 10 |
| | | | 6 | Al-Waha | 4 |
| | | | 7 | Mediterranean | 3 |
| | | | 8 | Al-Wafa | 3 |
| | | | 9 | Al-Saraya | 2 |
| | Total | 365 | | Total | 120 |

Source: Central Bank of Libya, September, 2012.

### 3.10.2 Sample of Study

A sample is thus a subgroup or subset of the population (Sekaran & Bougie, 2010). For this study, the sampling frame for Libyan banks was obtained from the CBL's database in September 2012. Accordingly, there are 13 Libyan commercial banks. The Libyan commercial banks include four state-owned banks and nine private banks, whereas the specialised banks comprise of five state-owned banks (See

section 2.2.1 for more details). Thus, the population of the study is only 13 Libyan commercial banks (485 branches).

The study uses the organisation (branch) as the unit of analysis. The data was sent to branch managers of the 13 Libyan commercial banks in the Libyan banking sector. The top managers are the head of bank affairs and are knowledgeable about the operations, decisions, and management of the bank.

The sample size of this study covers 217 branches. The sample size was determined by referring to Krejcie and Morgan (1970). They stated that a sample size of 217 is appropriate for a study population of up to 485 elements. Also, a sample size of 217 is within Roscoe's rule of thumb for sample size; that is, a sample bigger than 30 and also less than 500 is appropriate for most research (Roscoe, 1975). The selected probability sampling gives each respondent an equal chance of being selected as the sample object (Sekaran & Bougie, 2010) as the aim of this study is to have samples drawn from various branches of commercial banks.

### 3.10.3 Sampling Techniques

Probability sampling gives each respondent an equal chance of being selected as the sample object (Sekaran & Bougie, 2010). The advantage of this sampling method is that there is no bias of the researcher against the choice of another(Salkind & Rainwater, 2003) Furthermore, the aim of this study is to have samples drawn from various branches of banks. Thus, stratified random sampling is appropriate for the

study, since it contains a process of categorization, followed by selection of subjects from each stratum using a simple random sampling procedure.

The commercial banks are categorised into strata: Public banks (365 branches) and Private branches (120 branches). The selection of the sample size of each category of banks is based on proportionate stratified random sampling technique, where 44.7% (Sample 217/ population 485) of the population elements from each stratum are selected. The breakdown of the stratified sample size and number of questionnaire distributed to each category of the bank is shown in Table 3.12.

Table 3.12
*Proportionate Stratified Random Sampling*

| **Commercial Banks** | **Population** | **Calculation (44.7% of the Element)** | **Proportionate Sample Size** |
|---|---|---|---|
| Public | 365 | 365 x .447 | 163 |
| Private | 120 | 120 x .447 | 54 |
| Total | 485 | 485 x .447 | 217 |

Simple random sampling is appropriate for the study because the sample drawn is taken of various banks. This study distributed 304 questionnaires among the branches of banks based on Salkind and Rainwater's (2003) suggestion to increase the sample by at least 40% to account for lost mail and uncooperative respondents.

### 3.10.4 Data Collection Procedure

The focus of this study is to examine the relationships between contingency factors (business strategy, organisational structure, and competition) and institutional factors (coercive and normative pressures), and their effect on organisational performance, with multiple performance measures as the mediator. Therefore, the unit of analysis

in this study comprises of the branch managers in the commercial banks in Libya, as they are the decision makers in these banks.

To achieve the objectives of this research, a questionnaire has been developed to collect the data from the respondents to provide answers to the research questions. A mail survey strategy was employed during this study and for collecting data, two ways were used. Firstly, the questionnaires were submitted to managers of branches directly, then they are collected from each one. Secondly, permission was obtained from the top management of the commercial banks, and then the questionnaires were sent through the public relations office at the headquarters of the bank, which in turn forwarded them to the respective branch managers (Refer to Appendix A).It is worthwhile to mention that there were problems faced such as: the response was not effective and almost 46% of the questionnaires were not returned,especiallythe questionnaires that were sent through the public relations offices to managers of branches. Additionally, there was some delay in returning the questionnaires and it was noticed some of the questions were not answered properly and precisely (i.e. some questions were blank and many questions were answered with the same option in all questions in one section).

### 3.11 Data Analysis Techniques

Analysing the data and testing the hypotheses requires several statistical techniques. This study uses the Statistical Package for the Social Sciences (SPSS) version 19.0. The data is analysed in five stages: (1) test of differences, (2) factor analysis, (3) descriptive statistics, (4) correlation analysis, and (5) multiple regression analysis.

### 3.11.1 Test of Differences

In this study, the test for differences between variables is conducted for different objectives. The test for differences between the early and late response is conducted to ensure there is no response bias in this study (Pallant, 2013).

### 3.11.2 Factor Analysis

Factor analysis is a method used to decrease a great number of variables in a factor by combining the related variables together (Hair *et al.,* 2010). In this study, the factor analysis is undertaken to determine the dimensions of the business strategy, organisational structure, competition, coercive pressure, normative pressure and organisational performance, with performance measures as the mediator. According to Pallant (2013), the steps for factor analysis consist of:

1. Consideration of the appropriateness of the data for the factor analysis by fulfilling the required assumptions, such as adequate sample size, existence of adequate correlations between the items in the same factor, achieving condition of linearity and checking for outliers.

2. Factor extraction using suitable techniques to verify the smallest number of factors. In this study, the principal component analysis is adopted since this technique has been widely used by researchers.

3. Factor extraction using suitable techniques to verify the smallest number of factors. In this study, the principal component analysis is adopted since this technique has been widely used by researchers.

4. Factor rotation and explanation is used when there is a need to repeat the rotation, and when there appears to be high loadings on more than one factor.

After the factor analysis, the reliability test is undertaken to assess the goodness of the measurement as well as to determine the internal consistency of the measurement items. The most widely used measurement for the reliability of the scale is Cronbach's Alpha value, which ranges from 0 to 1 (Hair *et al.,* 2010).

### 3.11.3 Descriptive Statistics

Descriptive statistics are undertaken to provide background information of the respondents to the questionnaire survey. In this study, the descriptive statistics are undertaken using central tendency and variation statistics, including means, ranges and standard deviation.

### 3.11.4 Correlation Analysis

Correlation analysis is described as the assessment of the relationship between two variables (Hair *et al.,* 2010). This study aims to examine the relationships between different variables comprising of contingency and institutional factors as the independent variables, organisational performance as the dependent variables, and performance measures as mediating variables.

Correlation analysis is conducted for this study between contingency and institutional variables and organisational performance, and performance measures as mediating variables, for three main purposes. Firstly, the tests are conducted to determine the direction of the relationship between these variables. Secondly, the tests are conducted to determine the strength of these relationships of these variables. Thirdly, the tests are conducted to examine if there is any multicollinearity between the independent variables.

### 3.11.5 Multiple Regression Analysis

Multiple regressions analsysi is used to examine the effect of more than one independent variable on one single dependent variable (Pallant, 2013). In this study, multiple regressions are employed to predict the strongest item between business strategy, competition, organisation structural and coercive pressure as independent variables on the organisational performance as a dependent variable.

## 3.12 Chapter Summary

This chapter highlighted the study methodology adopted. It discussed the research framework, related theories and hypotheses, and then it discussed the research design and the choice of method used in this study. The population of the study and the target respondents were also described. This was followed by data collection procedures and the development of the instrument. Finally, the data analysis techniques that are used to analyse the data were discussed.

# CHAPTER FOUR
# DATA ANALYSIS

## 4.1 Introduction

The aim of this chapter is to present the study results, and the findings extracted from data analysis and for this reason, the following phases were established; first, descriptive analysis was used to explain the characteristics of the sample understudy and second, multiple regression analysis was used to investigate the effects of contingency and institutional factors on both performance measures and organisational performance, and the effect of the performance measures on organisational performance.

## 4.2 Data Screening

Analysing the data should be detected to ensure its ability to provide a true picture of the actual phenomena. Screening the data considers aspects such as the non-response bias, response rate, and outliers. Ignoring such issues can affect the validity of the data and, accordingly, the results of the study. The following section discusses the data screening.

### 4.2.1 Non-Response Bias

From the 304 distributed questionnaires, only 164 respondents responded to the survey. Therefore, there was a legitimate concern about whether non-respondents did not respond due to a systematic reason, which might raise a question about the validity of the study's results (Bhattacherjee, 2012). Distributing the questionnaires took a period of two months. All returned questionnaires were divided into two groups: The first group early respondents included questionnaires that were returned in a one-month period from the distribution date, and the second group late respondents included questionnaires that were returned more than

a month after the distribution date. Therefore, the usable early respondents` group included 103 questionnaires. The late respondents` group consists of 61 questionnaires.

A non-response bias test was done to know any significant differences between early and late respondents on major variables. This study uses SPSS 19 analytical software program for testing non-response bias. Table 4.1 shows the result of differences between the means and standard deviations of the two groups; early and late respondents.

Table 4.1
*Non-Response Bias Test*

| | **Group** | **N** | **Mean** | **Std. Deviation** | **Std. Error Mean** |
|---|---|---|---|---|---|
| Gender | Early | 103 | 1.0583 | .23537 | .02319 |
| | Late | 61 | 1.0328 | .17956 | .02299 |
| Educational Qualification | Early | 103 | 2.0971 | 1.07114 | .10554 |
| | Late | 61 | 2.0984 | 1.16483 | .14914 |
| Field Study | Early | 103 | 2.0291 | 1.16700 | .11499 |
| | Late | 61 | 2.1148 | 1.14161 | .14617 |
| Experience | Early | 103 | 3.4563 | 1.39872 | .13782 |
| | Late | 61 | 3.6393 | 1.48361 | .18996 |
| Type Bank | Early | 103 | 1.6602 | .47596 | .04690 |
| | Late | 61 | 1.9344 | .24959 | .03196 |
| Assets Bank | Early | 103 | 2.1845 | .66786 | .06581 |
| | Late | 61 | 2.5902 | .49588 | .06349 |
| Number Employees | Early | 103 | 1.0000 | .00000a | .00000 |
| | Late | 61 | 1.0000 | .00000a | .00000 |
| Revenue | Early | 103 | 2.4660 | 1.14460 | .11278 |
| | Late | 61 | 3.1803 | .99177 | .12698 |
| Income | Early | 103 | 3.3592 | 1.44747 | .14262 |
| | Late | 61 | 4.3279 | .94377 | .12084 |
| Business Strategy | Early | 103 | 3.4761 | .69532 | .06851 |
| | Late | 61 | 3.4558 | .77491 | .09922 |
| Organisational Structure | Early | 103 | 4.5570 | .63003 | .06208 |
| | Late | 61 | 4.3224 | .88395 | .11318 |
| Competition | Early | 103 | 3.5778 | .73413 | .07234 |
| | Late | 61 | 3.5518 | .74312 | .09515 |
| Coercive Pressures | Early | 103 | 3.5133 | .67302 | .06631 |
| | Late | 61 | 3.6157 | .77403 | .09910 |

Table 4.1 (Continued)

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Normative Pressures | Early | 103 | 3.3026 | .65646 | .06468 |
| | Late | 61 | 3.3702 | .60808 | .07786 |
| Performance | Early | 103 | 3.1312 | .61338 | .06044 |
| Measures | Late | 61 | 3.1626 | .63798 | .08168 |
| Organisational | Early | 103 | 3.3350 | .45040 | .04438 |
| Performance | Late | 61 | 3.2182 | .54325 | .06956 |

Comparing the first and second group of respondents showed that there were no significant differences between the early and late respondents because most of significant values for all variables were larger than 0.05. Exclusion to this rate is the organisational structure in which the Sig p value was 0.018. This means that there is a significant difference between the two groups; the early and late (Refer to Appendix C). Perhaps this is due those questionnaires distributed firstly to the eastern region of Libya, which were more effective in answering the questionnaires compared to the western region.

### 4.2.2 Response Rate

The stratified sampling method was used to select the representative sample of this study. A total of 304 questionnaires delivered by hand to branches of commercial banks or to the headquarters of the banks, which in turn sent them to their branches. Out of 304 questionnaires, 164 questionnaires were returned, which represented a response rate of 54%.

According to Sekaran and Bougie (2010), a response rate of 30% is acceptable for surveys. Moreover, a response rate of 15 to 20 % has been considered typical for mail survey. Therefore, the response rate of 54% used in this study can be considered a good response rate, specifically with respect to developing countries in which the response rate is lower than that of developed countries. For instance, the response rate of 30% in developing

countries has been considered as a remarkable percentage by the world development report (World Bank, 2007). Additionally, the sample size of 164 can be considered enough, according to the rule of thumb of Hair *et al.* (2010), in which they stated for maintaining power at 0.80 in multiple regressions, a sample size of 50 is required and preferably 100 observations for most research situations. In addition, the useable questionnaires were more than 150 and it can be considered enough for conducting factor analysis (Pallant, 2013). Thus, the response rate of this study is considered acceptable as show in Table 4.2.

Table 4.2
*Response Rate of the Survey Study*

| **Questionnaires** | **No/ Rate** |
|---|---|
| Distributed questionnaires | 304 |
| Returned questionnaires | 164 |
| Response rate of distributed questionnaires (164/ 304) | 54% |
| Total of questionnaires before data entry | 164 |
| Outlier | <10> |
| Useable questionnaires | 154 |
| Final response rate | 51% |

Additionally, Roscoe (1975) recommended that a sample size larger than 30 and less than 500 is appropriate for most researchers. Table 4.3 shows the distribution of the useable returned questionnaires between public and private banks included in this study.

*Table 4.3*
*Distribution of Returned Questionnaires*

| **Type of Bank** | **Number of Branches** | **The Representative Sample** | **Usable Returned Questionnaires** |
|---|---|---|---|
| Public | 365 | 162 | 117 |
| Private | 124 | 55 | 37 |
| Total | 489 | 217 | 154 |

### 4.2.3 Outliers

In the phases of data collection or/and data entry, a researcher may make mistakes that result in distinctly varying values from those of the other respondents which are considered to be outliers (Hair *et al.*, 2010). An outlier can also include an accurate observation that reflects the true characteristics of the population but still distorts the results of the study. In other words, an outlier is an extremely high or low data value when compared with the rest of data. The existence of outliers can affect the validity of a study; therefore, a researcher has to identify the outliers and deal with these issues (Denscombe, 2010; Hair *et al.*, 2010; Pallant, 2013).

One common method used to identify the outliers' cases is Mahalanobias distance, which represent the distance from the case to the centroid of all cases for predictor variables. Hair *et al.* (2010) added that a large distance indicated that the observation is an outlier. Such a method requires plotting Mahalanobias distance' value against Chi-square percentile points to determine which cases are outliers.

Following the previous method, SPSS 19 was used to investigate the values of Mahalanobias distance, which resulted in values located between 26.537 and 158.106 (Refer to Appendix D1). Then, these values were compared with the critical value on Chi-square at 0.01. By doing so, the results indicated that 10 of all values were questionnaires (respondents) with less than the critical value of 104.01 (Refer to Appendix D2). Therefore, 10 questionnaires were deleted from the returned questionnaires of 164 and the number of usable questionnaires in the study became 154 questionnaires (Refer to Appendix D3).

## 4.3 Goodness of Data

This section discusses the obtained results from conducting reliability and validity tests. The validity tests were run for the collected data namely: content validity, construct validity. Additionally, the reliability of the data was checked and compared with those of previous results listed in Chapter Three. The following sections discuss in detail each of the previously mentioned points.

### 4.3.1 Validity

The concept of validity can be explained as the extent to which a set of measures is free from any systematic or non-random errors (Hair *et al.*, 2010). The validity of the instrument can be classified into two main categories namely: content validity and construct validity.

The content validity is the extent to which the instrument or measurement provides adequate coverage of the topic under study (Das, Paul & Swierczek, 2008). In other words, the data are considered to be contently validated if experts agree that the instrument of the study include items that are able to cover all variables that are being measured (Hair *et al.*, 2010; Sekaran & Bougie, 2010). Additionally, Hair *et al.* (2010) noted that validation involves consulting a small sample of typical respondents and/or experts to pass judgments on the suitability of the items chosen to represent the construct. Following these suggestions, the instrument of this study was checked by experts and managers in Libyan banks to insure that the instrument is comprehensive, relevant, and represents the phenomena under measure. Moreover, the researcher also ensured the content validity based on views and feedbacks from academicians, and highly qualified doctors of philosophy (PhD) students at UUM.

Construct validity is a type of validity that confirms that the concepts or scales are in fact measuring, and how well the results obtained from using the measures fit the theories around which the test is designed (Hair *et al.,* 2010; Sekaran & Bougie, 2010). Factor analysis is the most commonly used test to determine the construct validity of the data (Bhattacherjee, 2012; Pallant, 2013; Sekaran & Bougie, 2010). A large set of variables may be "reduced" or summarised using a smaller set of factors or components (Pallant, 2013). This reduction or summarisation makes the data more visible, straightforward, and manageable (Lattin, Carroll & Green, 2003). In other words, it establishes the construct validity of data by indicating which of the items are most suitable for each dimension (Sekaran & Bougie, 2010). Factor analysis represents the group of factors resulting from the observed relationships among the variables in addition to the correlation between each variable and each factor, which is called factor loading (Babbie, 2012). This analysis is based on the fundamental assumption that some underlying factors, which are smaller in number than the number of observed variables, are responsible for the conversion among the observed variables (Dunn, Seaker & Waller, 1994). Indeed, factor analysis collects the variables that have similar characteristics together and depends on the fact that a small number of dimensions is easier to control and manage (Lattin *et al.*, 2003).

### 4.3.2 Factor Analysis

Conducting factor analysis requires the data to be adequate and appropriate to be factored. Pallant (2013) noted that two issues have to be considered when conducting factor analysis: the sample size and the inter-correlations among the items. With regard to the sample size, it has been argued that samples more than 150 can be considered as enough for conducting factor analysis (Pallant, 2013). As noted by Gorsuch (1997) and cited by MacCallum,

Widaman, Zhang and Hong (1999), the sample should be at least 100 for the purpose of factor analysis. Moreover, as mentioned earlier, Roscoe (1975) recommended that a sample size larger than 30 and less than 500 are appropriate for most researchers. Therefore, the representative sample in this study (154) can be considered as an adequate sample for conducting factor analysis.

The second issue, as noted by Pallant (2013) is the strength of the inter-correlations among the items. Such an issue can be dealt with by using both Bartlett's test of sphericity and Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy. As classified by Kaiser (1974) and cited by Hair *et al.* (2010), KMO at the value of 0.90 is marvelous, 0.80 is meritorious, 0.70 is middling, 0.60 is mediocre; 0.50 are acceptable but miserable; and below 0.50 is unacceptable. Bartlett's test of sphericity has to be significant ($p < 0.05$) for factor analysis to be considered as suitable. When meeting the previous criteria in the interval variables of the study, the factor analysis is considered appropriate to this study. The following section focuses on examining the previous criteria of the study data and provides the factor analysis procedures for the study variables.

#### 4.3.2.1 Factor Analysis for Contingency and Institutional Factors (Independent Variables)

Table 4.4 illustrates the results of factor analysis. For determining whether factor analysis was appropriate for the independent variables of the study, KMO and Bartlett tests were first applied. The results in Table 4.4 indicated that the KMO measure for the items has a value of 0.788 indicating a meritorious adequacy (Hair *et al.*, 2010), and thus factor analysis was deemed to be appropriate. Moreover, the value of Bartlett sphericity was (2019.216)

and its associated significance level is low (p = 0.000 < 0.05). This means that factor analysis could be applied to the independent variables.

Table 4.4
*KMO and Bartlett's Test for Contingency and Institutional Factors*

| | **Business Strategy** | **Organisational Structure** | **Competition** | **Coercive Pressure** | **Normative Pressure** |
|---|---|---|---|---|---|
| Eigenvalue | 5.605 | 2.690 | 4.369 | 1.961 | 1.497 |
| Percentage of Variance (64.489 %) | 22.420 | 10.761 | 17.477 | 7.844 | 5.987 |
| KMO | | | | | .788 |
| Bartlett's Test | | | | | 2019.216 |
| df | | | | | 300.000 |
| Sig | | | | | .000 |

According to the rule of thumb by Hair *et al.* (2010), for practical significance, the factor loadings should have values greater than 0.50. However, they recommended that the sample size could be a determinant of the accepted value of factor loading. In other words, when the sample size is small, higher value is required for significant factor loading. Table 4.5 summarises the relationship between sample size and factor loadings values according to Hair *et al.* (2010).

Table 4.5
*The Relationship between Sample Size and Factor Loadings Values*

| **Factor Loading** | **Sample Size Needed for Significance** |
|---|---|
| 0.30 | 350 |
| 0.35 | 250 |
| 0.40 | 200 |
| ***0.45*** | ***150*** |
| 0.50 | 120 |
| 0.55 | 100 |
| 0.60 | 85 |
| 0.65 | 70 |
| 0.70 | 60 |
| 0.75 | 50 |

Source: Hair *et al.* (2010:p.116)

Following the criteria listed in Table 4.5, the factor loading values for the analysis in this study should be higher than 0.45, because the sample size of this study is 154. Therefore, items exhibiting low factor loadings (< 0.45), high cross loadings (> 0.40), or low communalities (< 0.30) were candidates for elimination (Hair *et al.,* 2010). Conducting factor analysis resulted in five factors that explain a variance of 64.489%. These factors are; business strategy (8 items), organisational structure (5 items), competition (5 items), coercive pressures (4 items), normative pressures (3items), and combination of prospectors, defender, and analyser strategy in one component or factor (8 items), as well as, combination of (8 items) from prospectors, defender, and analyser strategy in one component or factor namely business strategy. Some items were deleted from the factors,as shown in Table 4.6.

Table 4.6
*Items Deleted from the Contingency and Institutional Factors*

| No | Items |
|---|---|
| | **Business Strategy** |
| Q5 | Our services are low priced than our competitors. |
| Q9 | Provides services that are distinct from that of competitors. |
| Q10 | Provides unique service features. |
| | **Competition** |
| Q1 | Our branch faces high degree price competition for services. |
| | **Coercive pressures** |
| Q1 | Coercive pressures apply fines on branch if it violates decisions and guidelines by central bank. |
| Q2 | Central bank monitors the commitment extent of banks to decisions, and guidelines issued by it. |
| | **Normative pressures** |
| Q1 | Normative pressures of a large number of our competitors and business partners effect the performance of the branch. |
| Q2 | Many commercial banks intend to use multiple performance measures in the near future. |

As shown in Table 4.7, the loading values of the items ranged between 0.660 and 0.862. All items had a factor loading of more than 0.45 (Refer to Appendix F 1).

Table 4.7
*Factor Analysis of the Items of Contingency and Institutional Factors*

| **Items** | **Factors** | | | | |
|---|---|---|---|---|---|
| | **BS** | **OS** | **C** | **CP** | **NP** |
| Provides high-quality services. | .786 | | | | |
| Improves the time it takes to provide services to customers. | .862 | | | | |
| Decreases the cost required for coordination of various services. | .679 | | | | |
| Provides service and support after service delivery. | .717 | | | | |
| Offers a broader range of services than of competitors. | .660 | | | | |
| Meets the needs of customers of services. | .693 | | | | |
| Introduces new services/procedures quickly. | .710 | | | | |
| Achieves low service costs than our competitors. | .721 | | | | |
| New service decisions are made only at the top management of the bank. | | -.802 | | | |
| Selection of large investments is usually made only at the top management of the bank. | | -.813 | | | |
| Decision to hiring and firing of managerial personnel generally are made only by top management of the bank. | | -.773 | | | |
| Decisions on major changes are made only at the top management of the bank. | | -.810 | | | |
| Pricing policies are set of services by the senior management of the bank. | | -.849 | | | |
| There is a high degree of market competition in the new service development faced by our branch. | | | .772 | | |
| There is a high degree of competition in marketing the services faced by our branch. | | | .839 | | |
| Branch faces a high degree of competition to gain market share in services. | | | .860 | | |
| Behaviours of competing banks is a great threat to our branch. | | | .684 | | |
| The level of competition in the market for the major services of our branch is extremely intense. | | | .796 | | |

Table 4.7 (Continued)

| Items | Factors | | | | |
|---|---|---|---|---|---|
| | **BS** | **OS** | **C** | **CP** | **NP** |
| Central bank supervises the implementation of corrective actions from banks. | | | | .732 | |
| Legislations issued by the central bank help the branch in their work. | | | | .698 | |
| The central bank is working to encourage and motivate the branch to comply with the standards issued him. | | | | .850 | |
| My bank maintains a good relationship with the central bank. | | | | .766 | |
| Various organisations (e.g., professional or bankers' associations, training institutes) influence us to use multiple performance measures. | | | | | .694 |
| Participation in workshops, management seminars organised by local universities' business schools influence on bank performance. | | | | | .836 |
| Participation in training and seminars conducted by industry, and professional associations assist us to use multiple performance measures. | | | | | .819 |

Business Strategy (BS), Organisational Structure (OS), Competition (C), Coercive Pressures (CP), and Normative Pressures (NP).

#### 4.3.2.2 Factor Analysis for Use of Performance Measures (Mediating Variables)

Factor analysis was performed on 20 items and results indicated that the rest of the 15 items related to performance measures. The factor cumulatively captured 74.265 in the variance of the data. KOM measure of sampling adequacy is 0.903, which indicated marvelous adequacy (Hair *et al.*, 2010), and thus factor analysis was appropriate to be used. Moreover, the value of Bartlett sphericity is (1431.287) and its associated significance level is low (0.000). The 15 items that measured the performance measures had a factor loading above 0.45, and these values ranged from 0.612 to 0.904. Five items were deleted from performance measures as shown in Table 4.8.

Table 4.8
*Items Deleted from the Use of Performance Measures*

| No | Items |
|---|---|
| Q5 | Branch's share of the services offered in the banking market. |
| Q9 | Survey of customer satisfaction. |
| Q11 | The error rate of operational processes. |
| Q14 | Number of customer complaints. |
| Q19 | Employees' suggestions. |

These items were excluded due to the commonalities and the factors loading that were very low. Table 4.9 shows the results of factor analysis for performance measure's variable (Refer to Appendix F 2).

Table 4.9
*Factor Analysis of the Items of Performance Measures*

| Items | Performance Measures | | | |
|---|---|---|---|---|
| | FM | CS | IB | LN |
| The rate of achieving budget. | -.785 | | | |
| The rate of revenue growth. | -.827 | | | |
| Return on net assets. | -.792 | | | |
| Branch income. | -.782 | | | |
| On-time service delivery. | | .711 | | |
| Customer retention | | .904 | | |
| Reply to the customer at the right time. | | .858 | | |
| Teamwork among employees. | | | .612 | |
| Employees' turnover rate | | | .727 | |
| Employee's productivity | | | .773 | |
| Number of new services launched. | | | | .862 |
| Time-to-market of new services. | | | | .851 |
| Employee's satisfaction. | | | | .691 |
| Per cent of revenue from new services. | | | | .709 |
| Training hours per employee. | | | | .808 |
| Eigenvalue | | | | 1.038 |
| Percentage of variance | | | | 74.265 |
| KMO | | | | .903 |
| Bartlett's Test of Sphericity | | | | 1431.287 |
| Df | | | | 105.000 |
| Sig. | | | | .000 |

Financial Measures (FM), Customer Satisfaction (CS), Internal Business (IB), and Innovation and Learning (IL).

#### 4.3.2.3 Factor Analysis for Organisational Performance (Dependent Variable)

Factor analysis was performed on 20 items and results indicated that the rest of the 12 items related to organisational performance have been rotated in one factor. The factor cumulatively captured was 58.489 in the variance of the data. KOM measure of sampling adequacy was 0.873, which indicated 'marvelous' adequacy (Hair *et al.*, 2010), and thus factor analysis was to be used. Moreover, the value of Bartlett sphericity was (844.540) and its associated significance level is low (0.000). The 12 items had a factor loading of more than 0.45, and these values ranged from 0.464 to 0.918. Eight items of organisational performance were deleted as shown in Table 4.10.

Table 4.10
*Items Deleted from the Organisational Performance*

| No | Items |
|---|---|
| Q2 | The reactivation of inactive accounts. |
| Q4 | The customer relationship management in our branch. |
| Q7 | The cost of providing services in the branch. |
| Q8 | Rate of the correct processes operational. |
| Q11 | The number of performing loans. |
| Q13 | The number of non-performing loans. |
| Q15 | The collection of bad debts to total debts of the branch. |
| Q20 | The level of expenses incurred by the branch. |

These items were excluded due to the commonalities and the factor loadings that were very low. Table 4.11 shows the results of factor analysis for organisational performance variable.

Table 4.11
*Factor Analysis of the Items of Organisational Performance*

| Items | Factor Loading | |
|---|---|---|
| The level of our customer satisfaction with our services. | .784 | |
| The customer service delivery in branch. | .918 | |
| The reputation of our branch in the banking sector. | .726 | |
| Rate of speed of service to the customer. | .878 | |
| The new services' development in the branch. | .535 | |
| Branch's share of the services in the banking market. | | .464 |
| Rate of the yearly profit. | | .814 |
| The growth of branch deposit. | | .845 |
| Revenues collected from fees on transactions. | | .517 |
| The volume of current and saving account customers. | | .576 |
| The volume of fixed deposit. | | .488 |
| The financial performance targets achievement by branch. | | .697 |
| Eigenvalue | | 1.554 |
| Percentage of variance | | 58.489 |
| KMO | | .873 |
| Bartlett's Test of Sphericity | | 844.540 |
| Df | | 66.000 |
| Sig | | .000 |

.

### 4.3.3 Reliability

The term "reliability" refers to the accuracy or precision of the scale (Dunn *et al.,* 1994). Dunn et al (1994) asserted that reliability is most commonly estimated using Cronbach's Coefficient Alpha. The rule of thumb established that Cronbach Alpha's values higher than 0.70 indicated internal consistency among the items of a scale and those as low as 0.60 are acceptable for new scales (Dunn *et al.,* 1994). Table 4.12 shows that the reliability test of the instrument, where the Cronbach Alpha's values for each variable was 0.743 and above.

Table 4.12
*Reliability Test*

| Constructs | Number of Items | Cronbach's Alpha |
|---|---|---|
| Business Strategy | 8 | 0.882 |
| Organisational Structure | 5 | 0.879 |
| Competition | 5 | 0.872 |
| Coercive Pressures | 4 | 0.786 |
| Normative Pressures | 3 | 0.743 |
| Performance Measures | 15 | 0.922 |
| Organisational Performance | 12 | 0.888 |

Although Cronbach Alpha is a criteria most frequently used to assess the reliability (Nunnally, Bernstein & Berge, 1967), it has been articulated that Cronbach Alpha may understate reliability (Hair *et al.,* 2010). It is recommended to use composite reliability as an alternative way to assess the reliability. Composite reliability is calculated using the squared sum of factor loading for each construct and the error variance terms for a construct according to the following formula (Hair *et al.,* 2010):

$$\text{Composite Reliability} = \frac{\Sigma(\text{Factor Loading})2}{\Sigma(\text{Factor Loading})2 + \Sigma\, \varepsilon j}$$

Where:

Σ = Summation

εj = standardised error

According to Hair *et al.*(2010), composite reliability of 0.70 or above is an indicator of good reliability.

For this study, Table 4.9 indicates that each construct of the study has achieved an accepted level of composite reliability with values that is greater than 0.70, which further confirms the fitness of the data for the intended measurements in this study (Refer to Appendix G).

### 4.4 Multiple Regression Analysis

Multiple regression analysis is used when the researcher assumes that there are several independent variables contributing to the variation of the dependent variable (Hair *et al.*, 2010), added that using multiple regressions could increase the accuracy of the predictions for the dependent variable over one independent variable. One advantage of multiple regression analysis is that the researcher can explore the interdependency between variables (Lattin *et al.*,2003). There are three types of multiple regressions that can be used by the researchers, namely: standard or simultaneous, hierarchical or sequential, and stepwise. The standard or simultaneous multiple regression for all the independent variables is where all the variables are entered at the same time in the equation, based on that all independent variables are assumed to be of equal importance (Pallant, 2013). Therefore, this type of analysis is the appropriate method to be used in the present study.

For conducting multiple regression analysis, several assumptions have to be met and they are normality, linearity and homoscedasticity (Bluman, 2012; Pallant, 2013). According to Pallant (2013), normality refers to the normal distribution of the residuals about the predicted dependent variable, while linearity means there is a straight-line relationship between residuals and the dependent variable. Furthermore, homoscedasticity assumes that the variance of the residuals about dependent variable scores should be the same for all predicted scores. Checking and meeting these assumptions are discussed in the next section.

### 4.4.1 Multicollinearity

Multicollinearity is an assumption that should be checked to conduct the regression analysis. According to Hair *et al.*(2010), multicollinearity is the measurement to which the other variables can explain a variable in the analysis. According to Tabachnick and Fidell (2007), multicollinearity problem appears when the correlations is more than 0.90 and exists between independent variables. This assumption can be tested using Tolerance Value and Variance Inflation Factor (VIF) tests. Hair *et al.* (2010) defined tolerance as the amount of variability of the selected independent variable not explained by the other independent variables, whereas VIF is the opposite of Tolerance Value.

In this study, the Tolerance Value and VIF were used to investigate multicollinearity. The result of which is, each independent variable had Tolerance Value greater than 0.1, and VIF value less than 10, indicating that there is no multicollinearity between independent variables. The values of Tolerance Value and VIF for each independent variable are shown in Table 4.13.

Table 4.13
*Testing of Multicollinearity*

| **Variables** | **Collinearity Statistics** | |
|---|---|---|
| | **Tolerance Value** | **VIF value** |
| Business Strategy | .746 | 1.340 |
| Organisational Structure | .839 | 1.192 |
| Competition | .829 | 1.207 |
| Coercive Pressures | .782 | 1.278 |
| Normative Pressures | .772 | 1.295 |
| Performance Measures | .668 | 1.498 |

Dependent Variable: Organisation Performance

### 4.4.2 Normality

Normality is checked using two types of normality tests namely: a histogram with a normal curve, and skewness and kurtosis. First, the histogram tests were conducted for both independent variables and mediator, and independent variables and dependent variable. Figures 4.1 and 4.2 shows the histograms and normal curves of the two tests. It can be seen that in both cases, the normal curve is symmetrical, bell shaped, and the majority of the values are located within plus/minus three standard deviations from the mean. Thus, it can be accepted that the normality assumption is met.

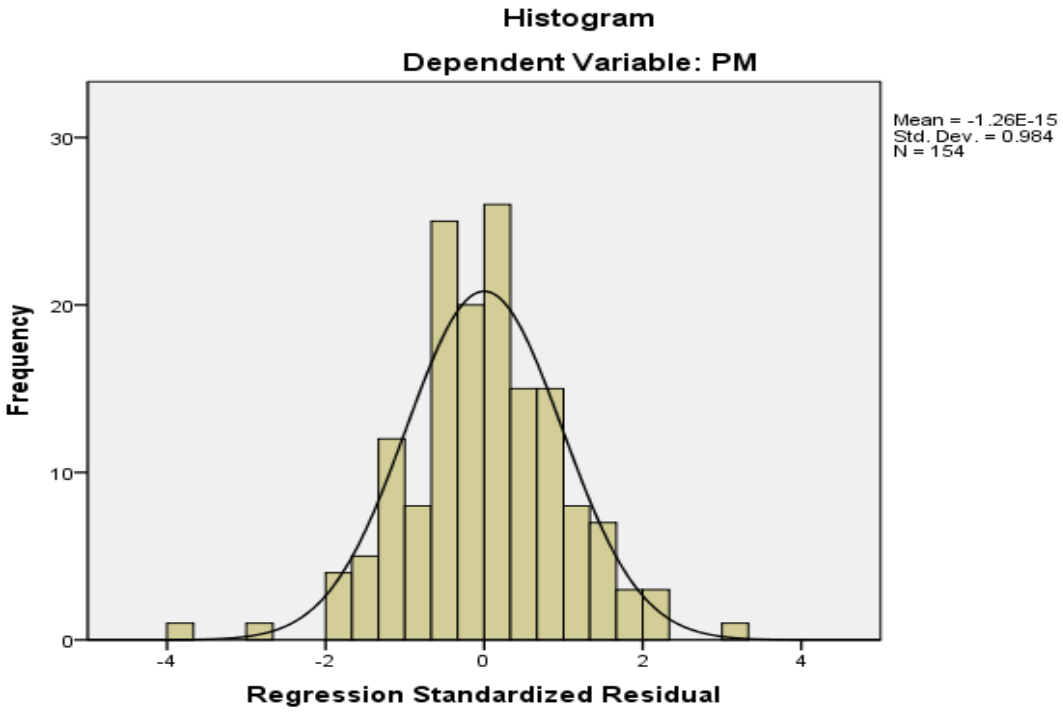


Figure 4.1
*Normality Test for Performance Measures (PM)*

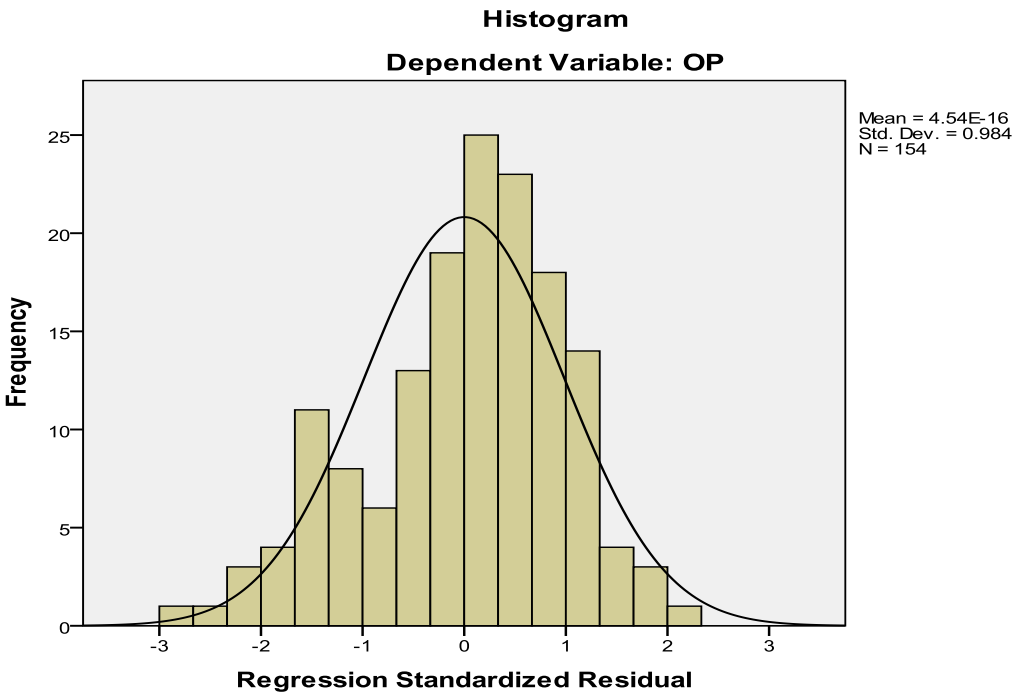


Figure 4.2
*Normality Test for Organisational Performance (OP)*

Moreover, to further ascertain the normality of the data, the study follows the recommendation of Byrne (2013), who stated that the data can be considered as normal when the skewness of each question is between -2 to +2, and kurtosis is between -7 to +7.

The results in Appendix E showed that all ratios of items between the range of skeweness and kurtosis except item six of organisational structure (Budget allocation decision is usually made only at the top management of the bank), where the skeweness is 2.556 and kurtosis is 7.829, therefore it was deleted from this study as suggested in literature (i.e. Byrne, 2013).

### 4.4.3 Linearity

The linearity assumption is confirmed on normal probability plot of the regression-standardised residual, which several authors have suggested. Conducting a linearity test for each of performance measures as mediator and organisational performance as dependent variable resulted in Figure 4.3 and 4.4. The following figures show that all the points' line in a reasonably straight diagonal line, the assumptions of normality are met and there are no major deviations from normality.

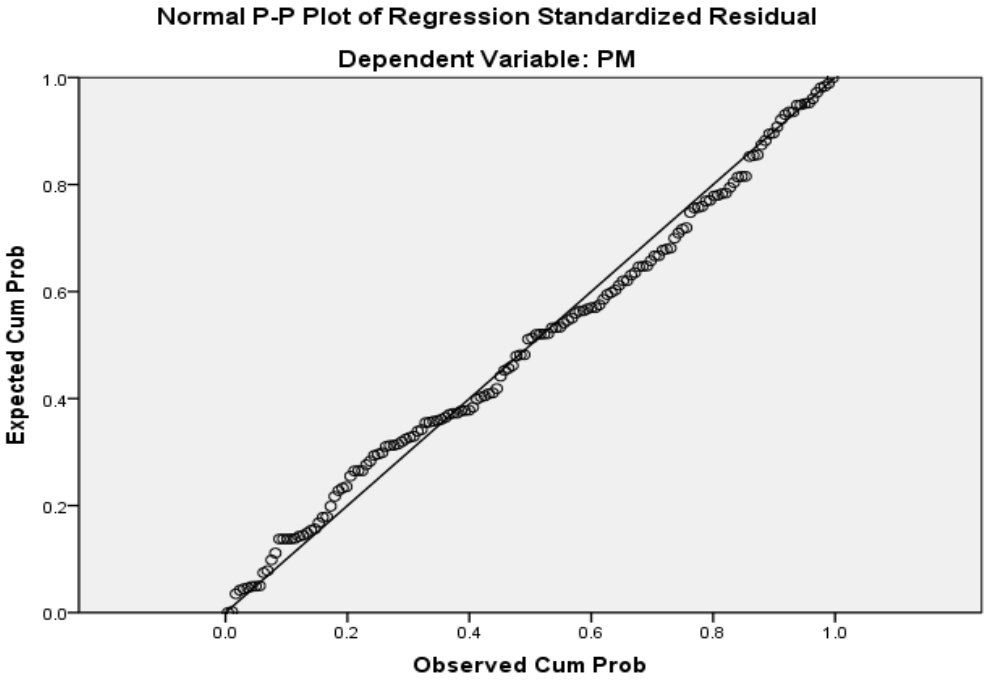


Figure 4.3
*Test of Linearity for Performance Measures (PM)*

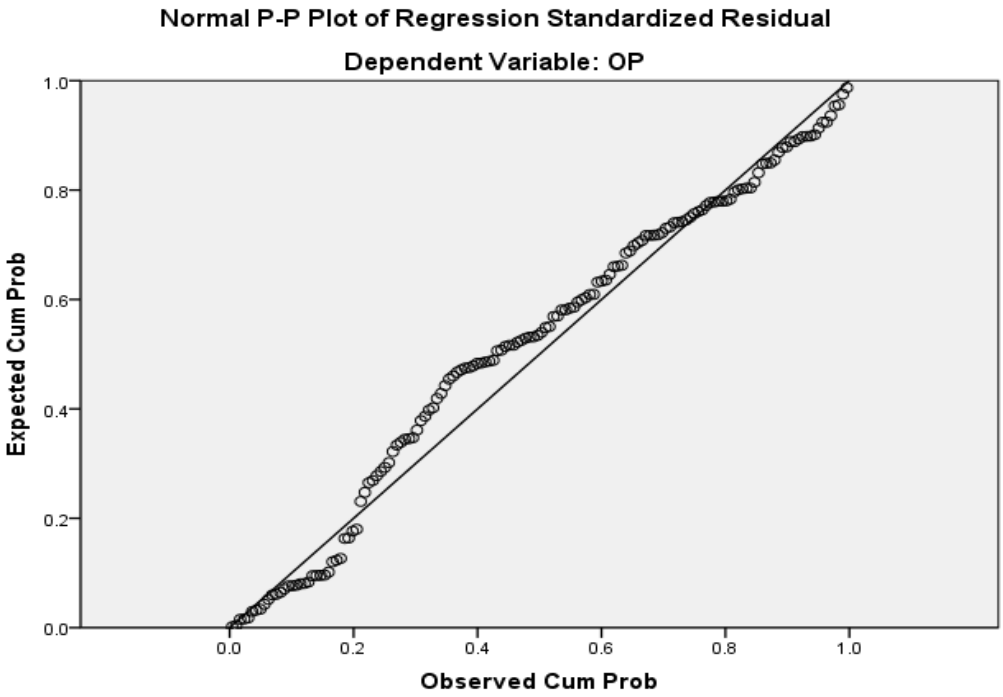


Figure 4.4
*Test of Linearity for Organisational Performance (OP)*

### 4.4.4 Homoscedasticity

Homoscedasticity test is conducted by using scatter plot, which has been suggested by studies in literature (e.g. Hair *et al.*, 2010; Pallant, 2013). Scatter plot diagrams of standardised residuals is used to test the homoscedasticity for both performance measures and organisational performance. The two scatter plots are shown in Figure 4.5 and Figure 4.6 to show the outcome of this test.

The two Figures show that there is no systematic pattern such as curvilinear or the existence of the residuals in one side. Therefore, the assumption of homoscedasticity was met.

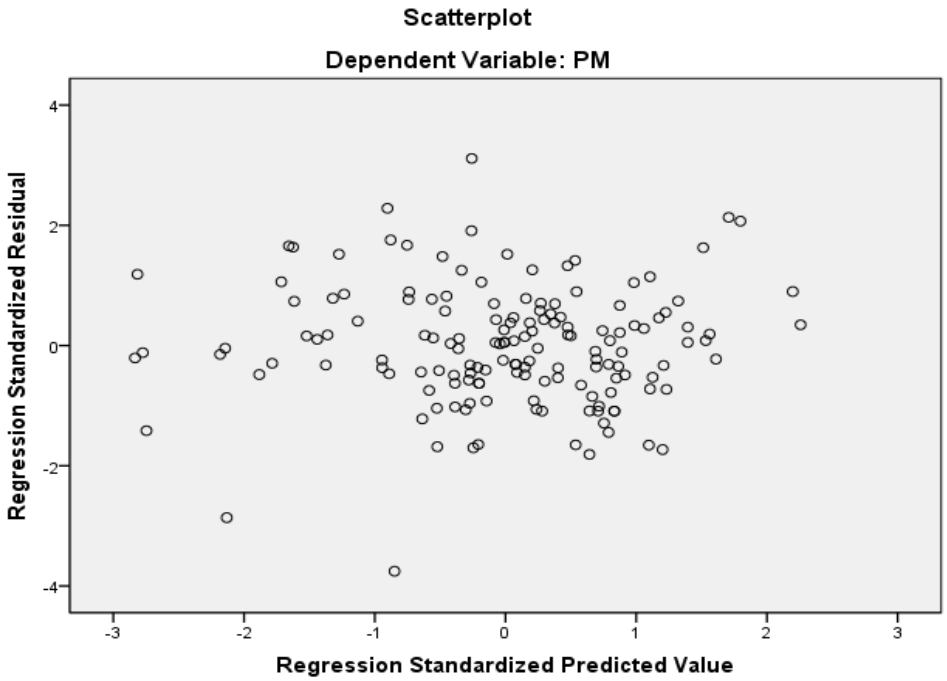


Figure 4.5
*Homoscedasticity Test for Performance Measures (PM)*

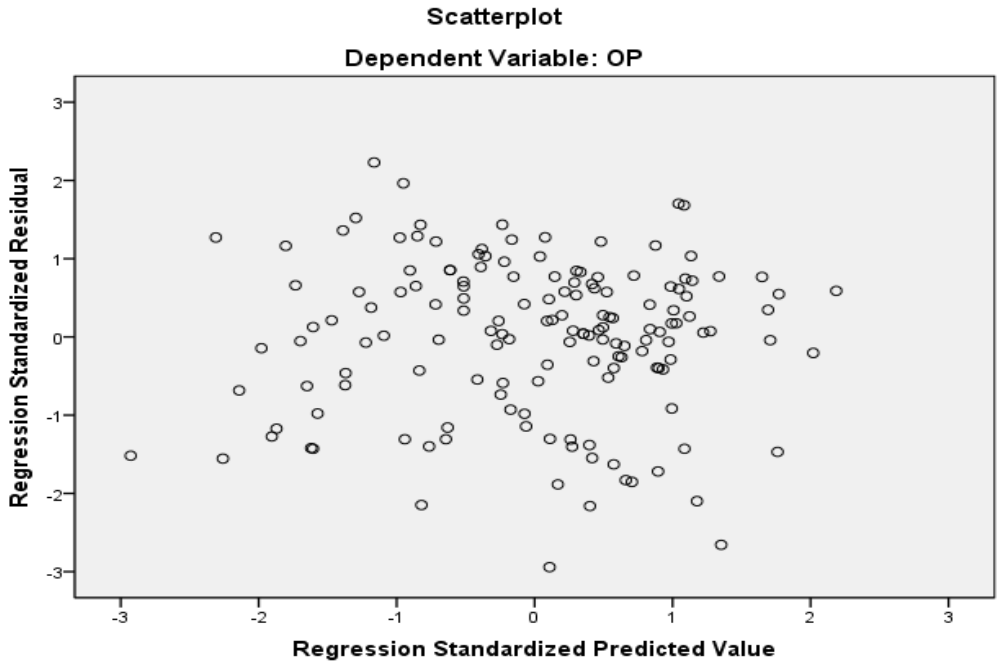


Figure 4.6
*Homoscedasticity Test for Organisational Performance (OP)*

## 4.5 Profiles of Respondents

This section describes the results of the study regarding the factors' affect on Libyan banking sector performance, by discussing the descriptive analysis for each variable based on mean, standard deviation, minimum and maximum for the total study respondents. Specifically, the section provides a discussion of the profiles of the respondents based on four characteristics namely gender, qualification, field of study, and the length of working experience. Additionally, the section explains the demographic factors of the banks under study including their type, assets, number of employees in each branch, the annual revenue, and the annual profit before tax. The following section describes and explains the previous aforementioned aspects.

### 4.5.1 Gender of the Respondent

This section presents the profiles of the respondents. The majority of the respondents were males (95%) while the remainder constituted females (5%). This ratio is in line with Libyan and Arabic culture regarding the management and decision-making. In addition, this ratio indicates that decision-making in the Libyan commercial banks is dominated by males. Table 4.14 illustrates the frequencies and percentages of the respondents' positions.

Table 4.14
*Distribution of Respondents by Gender*

| Position of Respondent | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Male | 146 | 95 | 95 | 95 |
| Female | 8 | 5 | 5 | 100 |
| Total | 154 | 100 | 100 | |

### 4.5.2 Qualifications of Respondents

Qualification represents the educational level of respondents. The descriptive analysis of this variable showed that 51% of respondents held Bachelor's degrees, 29% held diploma certification, and 10% held Master's degree. Finally, 10% were certified with other certifications. Table 4.15 shows the frequencies and percentages of the respondents with respect to their qualifications.

Table 4.15
*Distribution of Respondents by Qualification*

| Qualification of Respondent | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Diploma | 45 | 29 | 29 | 29 |
| Bachelor | 78 | 51 | 51 | 80 |
| Master | 16 | 10 | 10 | 90 |
| Others | 15 | 10 | 10 | 100 |
| Total | 154 | 100 | 100 | |

### 4.5.3 Field of Study of Respondents

Based on the field of study 45% of the respondents were accountants indicating that most of the managers in Libyan branches are accountants, 21% of the respondents were from the field of business administration, 14% of the respondents were from finance, while 20% of the respondents were from other fields of study. Although, 45% of the bank managers held accounting certifications, the accounting educational system is very traditional. Therefore, it is not harmonious with the development of modern practice (El-Shukri, 2007). Table 4.16 shows the frequencies and percentages of the respondents with respect to the field study of respondents.

Table 4.16
*Distribution of Respondents by Field of Study*

| Field Study of Respondent | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Accounting | 69 | 45 | 45 | 45 |
| Business administration | 33 | 21 | 21 | 66 |
| Finance | 22 | 14 | 14 | 80 |
| Others | 30 | 20 | 20 | 100 |
| Total | 150 | 100 | 100 | |

### 4.5.4 Experiences of Respondents

Experience in this study is the period of work within the bank (the number of years). From Table 4.17, it can be observed that more than 89% of the `respondents worked in the corporation for more than 5 years, and only 11% of the `respondents worked in the corporation for less than 5 years.This observation indicates that majority of managers' branches are experienced and they are in good position to give a logical view. On the other hand, some previous studies (e.g. Young & Gurbaxani, 2012), suggested that long tenure of work make managers resistant to innovative organisational practices.

Table 4.17
*Distribution of Respondents by Experiences*

| Experience of Respondent | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less or equal to 5 years | 17 | 11 | 11 | 11 |
| Between 6 and 10 years | 25 | 16 | 16 | 27 |
| Between 11 and 15 years | 36 | 23 | 23 | 50 |
| Between 16 and 20 years | 16 | 11 | 11 | 61 |
| More than 20 years | 60 | 39 | 39 | 100 |
| Total | 154 | 100 | 100 | |

### 4.5.5 Type of Bank

Libyan banks are classified into two types namely the private and the public banks. The descriptive analysis showed that 75% of the respondents were managers of public banks, whereas 25% worked at private banks (See Table 4.18). Such a classification might help in

identifying the role of ownership`s (public or private) effect on performance measures and organisational performance. Although there are differences among the ownership of banks,but the activities of banks are almost the same due to the control of the central bank over them through regulations and guidelines.

Table 4.18
*Distribution of Respondents by Type of Banks*

| Type of Banks | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Private | 38 | 25 | 25 | 25 |
| Public | 116 | 75 | 75 | 100 |
| Total | 154 | 100 | 100 | |

### 4.5.6 Assets of Bank

The total assets of each bank measure the size of bank. Majority of banks (91%) have more than 1000 million Libyan dinar assets, while the rest (9%) has less than that. This means that the entire branches of Libyan banks are of small size, and thus the effect of size on performance is equal between banks. Table 4.19 shows the assets of banks.

Table 4.19
*Distribution of Banks Assets*

| Assets of Bank (Million) | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less than 1000 | 14 | 9 | 9 | 9 |
| Between 1000 to15000 | 73 | 47 | 47 | 56 |
| More than 15000 | 67 | 44 | 44 | 100 |
| Total | 154 | 100 | 100 | |

### 4.5.7 Employees in Branch

The number of employees in each branch measures the size of the branch. All the branches of Libyan banks have less than 100 employees in each branch, indicating that all of the branches of Libyan banks are of small size. Table 4.20 shows the number of employees in branches.

Table 4.20
*Distribution of Employees in Branch*

| Employees in Branch | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less than 100 | 154 | 100 | 100 | 100 |
| Total | 154 | 100 | 100 | |

### 4.5.8 Annual Revenue of Bank

The average annual revenue (Millions of Libyan Dinar) in the past three years (2010 to 2012) among the banks were divided as follows: 44 % of banks have an average annual revenue between 451 and 650 million, 44% of banks have an average annual revenue between 51 and 250 million and finally, 12% of the banks have an average annual revenue less or equal to 50 million. Table 4.21 shows the annual revenues of banks.

Table 4.21
*Distribution of Respondents by Annual Revenue*

| Annual Revenue of Bank (Million) | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less or equal to 50 | 19 | 12 | 12 | 12 |
| Between 51 to 250 | 68 | 44 | 44 | 56 |
| Between 251 to 450 | 0 | 0 | 0 | 0 |
| Between 451 to 650 | 67 | 44 | 44 | 100 |
| More than 650 | 0 | 0 | 0 | |
| Total | 150 | 100 | 100 | |

### 4.5.9 Bank's Annual Profit before Tax

The average annual profits before tax (Millions of Libyan Dinar) of the banks in the past three years (2010 to 2012) were as follows; 44% of banks had an annual profit before tax of more than 95 million. This is considered the largest profit distributed as indicated in the following: 17% of banks profited between 66 and 95 million, 15% of banks profited between 36 and 65 million, and 16% of banks profit ed between 6 to 35 million. On the other hand, 8% of banks profited less or equal to 5 million Libyan dinar. Table 4.22 shows the frequencies and percentages of the respondents with respect to annual profit before tax.

Table 4.22
*Distribution of Respondents by Annual Profit before Tax*

| Annual Profit before Tax of Bank (Million) | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|
| Less or equal to 5 | 12 | 8 | 8 | 8 |
| Between 6 to 35 | 25 | 16 | 16 | 24 |
| Between 36 to 65 | 23 | 15 | 15 | 39 |
| Between 66 to 95 | 27 | 17 | 17 | 56 |
| More than 95 | 67 | 44 | 44 | 100 |
| Total | 150 | 100 | 100 | |

## 4.6 Descriptive Analysis of the Factors

This section describes the results of the study regarding the contingency and institutional factors, performance measures, and organisational performance in Libyan commercial banks, by showing the mean and standard deviation for all variables.

### 4.6.1 Contingency and Institutional Factors (Independent Variables)

#### 4.6.1.1 Business Strategy

This section discusses the strategies that Libyan commercial banks depend on to make decisions. In principle, there are three strategies: prospector, defender and analyser. After performing factor analysis on the combined component of all types of strategies in one factor (8 items), the variable scored a mean value of 3.50 for all items that measures this construct with standard deviation of 0.703. Because the mean value is above the average of 5-point Likert scale (2.5), they can be deemed to have moderate importance. Table 4.23 illustrates the importance of each item of the business strategy.

Table 4.23
*Descriptive Statistics of Business Strategy*

| Items | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Introduces new services/procedures quickly. | 1.00 | 5.00 | 3.65 | .980 |
| Meets the needs of customers of services. | 1.00 | 5.00 | 3.60 | .866 |
| Improves the time it takes to provide services to customers. | 1.00 | 5.00 | 3.55 | .899 |
| Provides high-quality services. | 1.00 | 5.00 | 3.54 | .970 |
| Achieves low service costs than our competitors. | 1.00 | 5.00 | 3.46 | 1.138 |
| Provides service and support after service delivery. | 1.00 | 5.00 | 3.40 | .943 |
| Offers a broader range of services than of competitors. | 1.00 | 5.00 | 3.39 | .996 |
| Decreases the cost required for coordination of various services. | 2.00 | 5.00 | 3.38 | .774 |

N=154. Scale: 1 Strongly Disagree ——————— 5 Strongly Agree.

The mean values of the items ranged from 3.65 to 3.38. The highest value was for the item "Introduces new services and procedures quickly", while the lowest value was for the item "Decreases the cost required for coordination of various services". The remaining items were located between these two values in the following order: Firstly, "Meet the needs of customers of services" with a mean value of 3.60, followed by "Improving the time it takes to provide services to customers" with a mean value of 3.55. Then "Provide high-quality services" with a mean value of 3.54, followed by "Achieves low service costs than our competitors" with a mean value of 3.46. The next item is "Provides service and support after service delivery" with a mean value of 3.40 and the final one, "Offers a broader range of services than of competitors" with a mean value of 3.39.

#### 4.6.1.2 Organisational Structure

This determines variables for constructing formal control framework between components of the organisation. The descriptive analysis of the five items resulted in an overall mean value of 4.47 and a standard deviation of 0.709. This value was higher than the average level of the 5-point Likert scale (2.5), which indicates the importance of this construct to the Libyan banks.

Table 4.24 shows the mean value of the items that ranged from 4.54 to 4.41. The highest value was for the item "Pricing policies are set of services by the senior management of the bank", while the lowest value was for the item, "New service decisions are made only at the top management of the bank". The remaining items were located between these two values in the following order;

Firstly, the item, "Decisions on major changes are made only at the top management of the bank", has a mean value of 4.53, followed by the item, "Decision to hiring and firing of managerial personnel generally are made only by top management of the bank", which has a mean value of 4.47. Finally, item, "Reducing selection of large investments is usually made only at the top management of the bank", has a mean value of 4.44. The mean values of the items indicate that respondents agreed that all major decisions are made only at the top management. Thus, the Libyan banks are considered to be centralised organisations, which have a tendency to make decision in the organisational level.

Table 4.24
*Descriptive Statistics of Organisational Structure*

| Items | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Pricing policies are set of services by the top management of the bank. | 1.00 | 5.00 | 4.54 | .793 |
| Decisions on major changes are made only at the top management of the bank. | 1.00 | 5.00 | 4.53 | .818 |
| Decision of hiring and firing of managerial personnel generally are made only by top management of the bank. | 2.00 | 5.00 | 4.47 | .886 |
| Selection of large investments is usually made only at the top management of the bank. | 2.00 | 5.00 | 4.44 | .884 |
| New service decisions are made only at the top management of the bank. | 1.00 | 5.00 | 4.41 | .926 |

N=154. Scale: 1 Strongly Disagree ——————— 5 Strongly Agree.

### 4.6.1.3 Competition

This construct measured the competition that face bank from other banks. It scored a mean value of 3.62 for all items measuring the construct with standard deviation of 0.772. Because the mean value is above the average of 5-point Likert scale (2.5), these results indicated that Libyan banks give moderate importance to this variable. Table 4.25 illustrates the importance of each item of the competition.

The mean values of the items ranged from 3.73 to 3.36. The highest value was for the item "A high degree of market competition in the new service development faced by the branch", while the lowest value was for the item "Reducing the behaviors of competing banks taking is a great threat to the branch". The remaining items ranged between these two values in the following order:

Firstly, the "Branch faces a high degree of competition to gain market share in services" which has a mean value of 3.72, followed by "A high degree of competition in marketing the services faced by the branch", which has a mean value of 3.69. Finally, the "Level of competition in the market for the major services of the branch is extremely intense" which has a mean value of 3.61.

Table 4.25
*Descriptive Statistics of Competition*

| Items | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| There is a high degree of market competition in the new service development faced by our branch. | 1.00 | 5.00 | 3.73 | .922 |
| There is a high degree of competition in marketing the services that faced by our branch. | 1.00 | 5.00 | 3.72 | .902 |
| Branch faces a high degree of competition to gain market share in services. | 1.00 | 5.00 | 3.69 | .944 |
| The level of competition in the market for the major services of our branch is extremely intense. | 1.00 | 5.00 | 3.61 | .916 |
| Behaviours of competing banksis taking a great threat to our branch. | 1.00 | 5.00 | 3.36 | 1.052 |

N=154. Scale: 1 Strongly Disagree ——— 5 Strongly Agree.

#### 4.6.1.4 Coercive Pressures

This section considers the pressures that the Libyan Central Bank places on the Libyan commercial banks. This variable scored a mean value of 3.40 for all items that measures this construct with standard deviation of 0.779. Because the mean value is above the average of 5-point Likert scale (2.5), the variable can be deemed to have moderate importance.

As shown in Table 4.26, the mean values of the items ranged from 3.76 to 3.20. The highest value was for the item "Reducing the bank maintains a good relationship with the central bank", while the lowest value was for the item "Central bank is working to encourage and motivate the branch to comply with the standards issued by itself". The remaining items ranged between these two values as follows:

Firstly "Central bank supervises the implementation of corrective actions from banks" which has a mean value of 3.37 followed by, "Legislations issued by the central bank helps the branch in its work" which has a mean value of 3.27.

Table 4.26
*Descriptive Statistics of Coercive Pressures*

| Items | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Bank maintains a good relationship with the central bank. | 1.00 | 5.00 | 3.76 | .948 |
| Central bank supervises the implementation of corrective actions from banks. | 1.00 | 5.00 | 3.37 | .995 |
| Legislations issued by the central bank helps the branch in its work. | 1.00 | 5.00 | 3.27 | 1.056 |
| The central bank is working to encourage and motivate the branch to comply with the standards issued by it. | 1.00 | 5.00 | 3.20 | .992 |

N=154. Scale: 1 Strongly Disagree ——— 5 Strongly Agree.

#### 4.6.1.5 Normative Pressures

This section considers the pressures from various organisations on the Libyan commercial banks. This variable scored a mean value of 3.23 for all items that measures this construct with standard deviation of 0.775. This concept was less than

2.97 but was above the average level of the 5-point Likert scale 2.5, which indicate insufficient importance given to this construct by the banks under study.

Table 4.27 illustrates the importance of each item of the normative pressures. The item "Participation in workshops, management seminars organised by local universities' business schools influence bank's performance" had the highest mean value of 3.52, followed by the item "Many of commercial banks intend to use multiple performance measures in the near future", which has a mean value of 3.21. Finally, the lowest mean value was for the item "Various organisations (e.g., professional, bankers' associations or training institutes) influence us to use multiple performance measures", which was 2.97**.**

Table 4.27
*Descriptive Statistics of Normative Pressures*

| Items | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| Participation in workshops, management seminars organised by local universities' business schools influence bank's performance. | 1.00 | 5.00 | 3.52 | .935 |
| Many commercial banks intend to use multiple performance measures in the near future. | 1.00 | 5.00 | 3.21 | 1.044 |
| Various organisations (e.g., professional or bankers' associations, training institutes) influence us to use multiple performance measures. | 1.00 | 5.00 | 2.97 | .878 |

N=154. Scale: 1 Strongly Disagree ——— 5 Strongly Agree.

### 4.6.2 Use of Performance Measures (Mediating Variable)

This section focuses on performance measures through the examination of the importance of 15 items. This variable scored a mean value of 3.27 for all items that measure this

construct with standard deviation of 0.629. Because the mean value is above the average of 5-point Likert scale 2.5, the variable can be deemed to have moderate importance.

The highest mean value score found for the item "Customer retention", which has a mean value of 3.66, and the lowest mean value was for the item "Training hours per employee", which has a very low mean value of 2.62. The remaining 13 items values ranged between these two values. Table 4.28 shows these mean values for all items of performance measures.

Table 4.28
*Descriptive Statistics of Performance Measures*

| **Items** | **Minimum** | **Maximum** | **Mean** | **Std. Deviation** |
|---|---|---|---|---|
| Customer retention. | 1.00 | 5.00 | 3.66 | .890 |
| Teamwork among employees. | 1.00 | 5.00 | 3.61 | .911 |
| Reply to the customer at the right time. | 1.00 | 5.00 | 3.60 | .864 |
| Branch income. | 1.00 | 5.00 | 3.54 | .794 |
| The rate of revenue growth. | 1.00 | 5.00 | 3.42 | .856 |
| Per cent of revenue from new services. | 1.00 | 5.00 | 3.31 | .955 |
| On-time service delivery. | 1.00 | 5.00 | 3.31 | .814 |
| Return on net assets. | 1.00 | 5.00 | 3.27 | .836 |
| Employee's productivity. | 1.00 | 5.00 | 3.25 | .875 |
| The rate of achieving budget. | 1.00 | 5.00 | 3.22 | .854 |
| Number of new services launched. | 1.00 | 5.00 | 3.17 | .960 |
| Employee's satisfaction. | 1.00 | 5.00 | 3.11 | 1.039 |
| Time-to-market of new services. | 1.00 | 5.00 | 3.05 | .980 |
| Employees' turnover rate. | 1.00 | 5.00 | 2.86 | .900 |
| Training hours per employee. | 1.00 | 5.00 | 2.62 | 1.050 |

N=154. Scale: 1 Strongly Disagree ——————— 5 Strongly Agree.

### 4.6.3 Organisational Performance (Dependent Variable)

This construct focuses on measuring the organisational performance through the evaluation of the number of bank goals. In general, the mean value score of this variable is 3.47, with a standard deviation of 0.600, indicating its moderate importance. Table 4.29 shows the mean value and standard deviation of each item. The highest mean value score was for the item "Volume of current and saving account customers" which has a mean value of 3.76, while the lowest mean value was for the item "Volume of fixed deposit" which has a very low value of 3.11. The remaining 10 items ranged between these two values.

Table 4.29
*Descriptive Statistics of Organisational Performance*

| Items | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|
| The volume of current and saving account customers. | 1.00 | 5.00 | 3.76 | .859 |
| The reputation of our branch in the banking sector. | 1.00 | 5.00 | 3.68 | .932 |
| Revenues collected from fees on transactions. | 1.00 | 5.00 | 3.66 | .755 |
| The customer service delivery in branch. | 1.00 | 5.00 | 3.56 | .926 |
| The new services' development in the branch. | 1.00 | 5.00 | 3.53 | .816 |
| Branch's share of the services in the banking market. | 1.00 | 5.00 | 3.47 | .819 |
| Rate of speed of service provided to the customer. | 1.00 | 5.00 | 3.47 | .853 |
| The financial performance targets achievement by branch. | 1.00 | 5.00 | 3.40 | .837 |
| Rate of the yearly profit. | 1.00 | 5.00 | 3.39 | 1.033 |
| The growth of branch deposit. | 1.00 | 5.00 | 3.31 | .912 |
| The level of our customer satisfaction with our services. | 1.00 | 5.00 | 3.19 | 1.014 |
| The volume of fixed deposit. | 1.00 | 5.00 | 3.11 | .901 |

N=154. Scale: 1 Strongly Disagree ——————————5 Strongly Agree.

## 4.7 Correlation Analysis

Correlation analysis is a statistical method used to describe the strength and direction of linear relationship between two variables (Pallant, 2013). Correlation coefficients are usually used to determine either the positive or negative and either weakness or strength of the linear relationship between the two variables. One of the most commonly used methods for identifying the correlation coefficients between the two variables is the Pearson Product Moment Correlation Coefficient (r). It has a range of values between +1 and -1. If the value of r is close to +1, a strong positive relationship exists between the two variables, and when this value is close to -1, a strong negative relationship between the two variables exists. If value of r is equal to zero, no relationship (association) between the variables exists. According to Hair *et al.* (2010), several assumptions must be met if the researcher wants to use r in investigating the correlations between the variables of the study as follows:

First, the variables should be interval or ratio data and second, the relationship under examination should be linear. Finally, the last assumption states that variables under examination should from a normally distributed population. All these assumptions are met in this data set because all independent and dependent variables are measured by the interval scale, and both linearity and normality assumptions have been met as was discussed previously. Thus, using the Pearson Product Moment Correlation Coefficient is appropriate in this study to determine and interpret the strengths of the correlations between two variables. Table 4.30 illustrates that.

Table 4.30
*Cohen's Guideline of Correlation Strength*

| ***r* Values** | **Strength of Relationship** |
|---|---|
| ***r*** = +.l0 to .29 or ***r*** = -.l0 to -.29 | Small |
| r = +.30 to .49 or r = -.30 to -.49 | Medium |
| r = +.50 to l.0 or r = -.50 to -.l.0 | Large |

Table 4.31 shows the results of the correlation analysis for all variables involved in the study.

Table 4.31
*Pearson Correlations*

| **Variables** | **BS** | **OS** | **C** | **CP** | **NP** | **PM** | **OP** |
|---|---|---|---|---|---|---|---|
| Business Strategy | 1 | | | | | | |
| Organisational Structure | .119 | 1 | | | | | |
| Competition | -.001 | .346** | 1 | | | | |
| Coercive Pressures | .341** | .115 | .132 | 1 | | | |
| Normative Pressures | .224** | -.033 | .162* | .317** | 1 | | |
| Performance Measures | .442** | -.077 | -.065 | .351** | .398** | 1 | |
| Organisational Performance | .410** | .185* | -.008 | .296** | .078 | .437** | 1 |

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

The correlations between independent and dependent variables of this study according to Cohen's Guideline are presented in Table 4.32.

Table 4.32
*Correlations among Independent, Mediate and Dependent Variables*

| Type of the Relationship | Correlations | Strength |
|---|---|---|
| PM and BS | .442** | Medium |
| PM and OS | -.077 | Negligible |
| PM and C | -.065 | Negligible |
| PM and CP | .351** | Medium |
| PM and NP | .398** | Medium |
| OP and BS | .410** | Medium |
| OP and OS | .185* | Small |
| OP and C | -.008 | Negligible |
| OP and CP | .296** | Small |
| OP and NP | .078 | Negligible |
| OP and PM | .437** | Medium |

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

From Table 4.29, it is observed that performance measures (PM) is positively significant and has medium correlations with each of the variables: business strategy (BS), coercive pressures (CP), and normative pressures (NP). These relationships are significant at p level of 0.01. In addition, the correlation between performance measures (PM), organisational structure (OS) and competition (C) are negatively significant and have small correlations.

The table also shows that organisational performance (OP) has positive significance but medium correlations with each of the variables: coercive pressure (CP) and performance measures (PM) at p value of 0.01. In addition, the correlation between performance measures (PM), business strategy (BS) and organisational structure (OS) are with positively significant effect but with small correlations at p value of 0.01 and 0.05 respectively. Finally, the relationship between organisational performance (OP) with competition (C) and normative pressure (NP) seem to be negligible (Refer to Appendix H).

## 4.8 Regression Analysis

Correlation analysis is usually used to determine the relationship between two variables in terms of the strength and direction of the relationship,while multiple regression analysis is used to determine the relationship among more than one independent variable and one or more dependent variable. In the process of multiple regressions, the researcher can in one equation predict a single dependent variable by entering several independent variables (Hair *et al.*, 2010; Pallant, 2013).

In the present study, a standard multiple regression is used to investigate the relationship among independent variables which consists of two sets of contingency variables (business strategy, organisational structure, and competition), and institution variables (coercive and normative pressures) with the use of performance measures as mediator, and organisational performance as a dependent variable.

To this end, Hair *et al.* (2010) established steps to evaluate the multiples as described as follows;

1. Checking the F value to determine the statistical significance of the model.
2. The $R^2$ should be checked to determine if its value fits.
3. Examining the regression coefficients and their Beta coefficient (b) to determine the independent variables that have statistically significant coefficients.

### 4.8.1 Multiple Regression between Contingency and Institutional Factors, and Use of Performance Measures

**Objective 1:** To determine the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and use of performance measures of Libyan commercial banks. Table 4.33, illustrates the results of the multiple regression analysis between all independent variables and the dependent variable.

Table4.33
*Regression Model of the Relationship between the Contingency and Institution Factors, and Use of Performance Measures*

| **Model** | **Coeff.(B)** | **Std. Error** | **t** | **Beta (b)** | **Sig** |
|---|---|---|---|---|---|
| (Constant) | 1.685 | .373 | 4.521 | | .000 |
| Business Strategy | .296 | .065 | 4.542 | .331 | .000 |
| Organisational Structure | -.082 | .065 | -1.263 | -.092 | .208 |
| Competition | -.082 | .060 | -1.376 | -.101 | .171 |
| Coercive Pressures | .139 | .060 | 2.306 | .172 | .022 |
| Normative Pressures | .229 | .059 | 3.879 | .282 | .000 |
| $R^2$ | | | | | .332 |
| Adjusted $R^2$ | | | | | .310 |
| F change | | | | | 14.741**** |

**** P < 0.001, *** P < 0.01, ** P < 0.05, * P < 0.10.

Dependent Variable: Use of Performance Measures

Table 4.33 shows that F value is statistically significant (F= 14.741, P < 0.05), which indicates that the model is statistically significant as suggested by Hair *et al.* (2010). The $R^2$ for this model is also fit ($R^2$= .332), which means that the independent variables (contingency and institution factors) explains 33% of the variation of the dependent variable (performance measures).This result is consistent with Hair *et al.*'s (2010) recommendation as shown in Table 4.34.

This table shows that when N = 100 and the number of independent variables is 5 and $\alpha = 0.05$, and the suggested $R^2$ is 12%. Because the sample size of this study is 154 (more than 100), and the number of independent variables is 5; therefore, $R^2 = 0.332$ indicating that the value of this model is statistically significant and stable.

Table 4.34
*Acceptable $R^2$ Value*

| | **Significance Level = 0.01** | | | | **Significance Level = 0.05** | | | |
|---|---|---|---|---|---|---|---|---|
| | Number of Independent Variable | | | | Number of Independent Variable | | | |
| Sample Size | 2 | 5 | 10 | 20 | 2 | 5 | 10 | 20 |
| 20 | 45 | 56 | 71 | NA | 39 | 48 | 64 | NA |
| 50 | 23 | 29 | 36 | 49 | 19 | 23 | 29 | 42 |
| 100 | 13 | 16 | 20 | 26 | 10 | 12 | 15 | 21 |
| 250 | 5 | 7 | 8 | 11 | 4 | 5 | 6 | 8 |
| 500 | 3 | 3 | 4 | 6 | 3 | 4 | 5 | 9 |
| 1000 | 1 | 2 | 2 | 3 | 1 | 1 | 2 | 2 |

Source: Hair *et al.* (2010)

As shown in Table 4.33, the independent variables (contingency and institutional variables) contribute significantly to explain the dependent variable (performance measures). The highest contribution is from business strategy variable where (b = 0.331, t = 4.542, Sig = 0.000), explaining 33%, and has significant influence, followed by that of normative pressures (b = 0.282, t = 3.879, Sig = 0.000), explaining 28%, and has significant influence, then coercive pressures (b = 0.172, t = 2.306, Sig = 0.022) explaining 17%, of significant influence. On the other hand, independent variables (competition and organisational structure) do not have significant influence on performance measures and they have negative direction. Competition values is found to be (b = - 0.101, t = - 1.376, Sig = 0.171) and explains

10% of the total variance of performance measures, and organisational structure values is (b = - 0.092, t = - 1.263, Sig = 0.208) and explains 10% of the total variance of performance measures (Refer to Appendix I1).

Table 4.35

*Results of Regression Model the Relationships the Contingency and Institution Factors, and Components of Performance Measures*

| | Performance Measures | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Financial | | | Customer Satisfaction | | | Internal Business Process | | | Innovation and Learning | | |
| Variables | Coeff. (B) | Std. Error | Beta (b) | Coeff. (B) | Std. Error | Beta (b) | Coeff. (B) | Std. Error | Beta (b) | Coeff. (B) | Std. Error | Beta (b) |
| Business Strategy | .281 | .081 | .279 *** | .420 | .082 | .385 **** | .218 | .086 | .207 ** | .280 | .086 | .236 *** |
| Organisational Structure | -.029 | .080 | -.029 | .155 | .082 | .144 * | -.078 | .085 | -.075 | -.268 | .086 | -.227 *** |
| Competition | -.017 | .074 | -.018 | -.188 | .075 | -.190 ** | -.096 | .079 | -.100 | -.063 | .079 | -.058 |
| Coercive Pressures | .020 | .075 | .022 | .123 | .076 | .125 | .186 | .079 | .195 ** | .215 | .080 | .201 *** |
| Normative Pressures | .236 | .073 | .258 *** | .123 | .074 | .124 | .151 | .078 | .158 * | .334 | .078 | .311 **** |
| $R^2$ | | | 0.183 | | | 0.284 | | | 0.171 | | | 0.334 |
| Adjusted $R^2$ | | | 0.156 | | | 0.259 | | | 0.143 | | | 0.312 |
| F change | | | 6.650 **** | | | 11.722 **** | | | 6.112 **** | | | 14.466 **** |

**** Significant at the 0.001 level; **** significant at the 0.01 level; ***significant at the 0.05 level; *significant at the 0.10 level.

Dependent Variable: Use of Performance Measures

As shown in Table 4.35, the independent variables contribute significantly to explain the components of performance measures (financial, customer satisfaction, internal business process, and innovation and learning). The results revealed that business strategy has statistically significant influence on each component of performance measures. The highest contribution was of customer satisfaction (b = 0.385, Sig = 0.000), followed by that of financial (b = 0.279, Sig = 0.001), then innovation and learning (b = 0.236, Sig = 0.001), and finally, internal business process (b = 0.207, Sig = 0.012). In addition, the normative pressures have statistically significant influence on the three components of performance measures. The highest contribution was from innovation and learning (b = 0.311, Sig = 0.000), followed by that of financial (b = 0.258, Sig = 0.002), and finally internal business process (b = 0.158, Sig = 0.054). However, customer satisfaction does not have any significant influence (b = 0.124, Sig = 0.102).

Furthermore, the results show that competition has a negative direction with all components of performance measures, and have a significant influence with only customer satisfaction (b = - 0.190, Sig = 0.014). It does not have any significant influence with the three other components of performance measures; that is an internal business process (b = - 0.100, Sig = 0.224), innovation and learning (b = - 0.058, Sig = 0.429), and financial (b = - 0.018, Sig = 0.823). Finally, organisational structure has a significant influence with only two components of performance measures; that is customer satisfaction (b = 0.144, Sig = 0.059), and innovation and learning (b = - 0.227, Sig = 0.002), but with negative direction. On the other hand, organisational structure does not have a significant influence with another dimension of performance measures; that is financial (b = - 0.029, Sig = 0.716), and internal business process (b = - 0.075, Sig = 0.359) with negative direction (Refer to Appendix I1).

Multiple regression analysis tests the five hypotheses that proposed a direct relationship between contingency and institutional variables, and performance measures. The following section discusses the hypotheses testing process:

**Hypothesis H1: There is a positive relationship between business strategy and use of performance measures.**

In the coefficients part of Table 4.33, the Beta value (b = 0.345) and significance value of p = 0.000, indicate that there is a positive significant relationship between business strategy and performance measures. This means that for each unit increase in the business strategy, there is an expecteded increase of 0.345 in performance measures (t = 4.542). Accordingly, this hypothesis is supported.

**Hypothesis H2: There is a positive relationship between organisational structure and use of performance measures.**

In the coefficients part of Table 4.33, the Beta value (b = - 0.092) and the insignificant value of p = 0.208 indicate a negative and insignificant relationship between organisational structure and performance measures. Such result means that for each unit increase in the organisational structure, there is an expected decrease of - 0.092 in the performance measures (t = -1.263). Thus, this hypothesis is not supported.

**Hypothesis H3: There is a positive relationship between competition and use of performance measures.**

In the coefficients part of Table 4.33, the Beta value (b = - 0.101) and the insignificant value of p = 0.171, indicate a negative and insignificant relationship

between competition and performance measures. Such result means that for each unit increase in the competition there is an expected decrease of 0.101 in the performance measures (t = -1.376). Thus, this hypothesis is not supported.

**Hypothesis H4: There is a positive relationship between coercive pressures and use of performance measures.**

In the coefficients part of Table 4.33, the Beta value (b = 0.172) and significance value of p = 0.022, indicate a positive significant relationship between coercive pressure and performance measures. This result means that for each unit increase in coercive pressure, there is an expected increase of 0.172 in the performance measures (t = 2.306). Accordingly, this hypothesis is supported.

**Hypothesis H5: There is a positive relationship between normative pressures anduse of performance measures.**

In the coefficients part of Table 4.33, the Beta value (b = 0.282) and significance value of p = 0.000, indicate a positive significant relationship between normative pressure and performance measures. This shows that for each unit increase in the normative pressure, there is an expected increase of 0.282 in the performance measures (t = 3.879) and hence, the hypothesis is supported.

### 4.8.2 Multiple Regression between Contingency and Institutional Factors,and Organisational Performance

**Objective 2**: To determine the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks. Table 4.36

illustrates the results of the multiple regression analysis between all independent and dependent variable.

Table 4.36 shows that F value is statistically significant (F= 8.289, P < 0.05), and the $R^2$ evidences the model fit ($R^2$ = .219). This means that the independent variables (contingency and institution variables) explained 22% of the variation of the dependent variable (organisational performance). Such a result can be considered enough to demonstrate the fit or the goodness of the model (Hair *et al.*, 2010).

Table 4.36
*Regression Model the Relationshipbetween Contingency and Institution Factors, and Organisational Performance*

| **Model** | **Coeff.(B)** | **Std. Error** | **t** | **Beta (b)** | **Sig** |
|---|---|---|---|---|---|
| (Constant) | 1.728 | .382 | | | .000 |
| Business Strategy | .286 | .067 | 4.284 | .337 | .000 |
| Organisational Structure | .125 | .066 | 1.883 | .149 | .062 |
| Competition | -.059 | .061 | -.967 | -.077 | .335 |
| Coercive Pressures | .143 | .062 | 2.311 | .186 | .022 |
| Normative Pressures | -.030 | .061 | -.493 | -.039 | .623 |
| $R^2$ | | .219 | | | |
| Adjusted $R^2$ | | .192 | | | |
| F change | | 8.289**** | | | |

**** P < 0.001, *** P < 0.01, ** P < 0.05, * P < 0.10.

Dependent Variable: Organisational Performance

As shown in Table 4.36, the independent variables (contingency and institutional variables) contribute significantly to explain the variance of the dependent variable (Organisational performance). The highest contribution is a business strategy (b = 0.337, t = 4.284, Sig = 0.000), as it explains 34% and has significant influence, followed by coercive pressures (b = 0.186, t = 2.311, Sig = 0.022), as it explains 19% and has significant influence, then organisational structure (b = 0.149, t = 1.883, Sig = 0.062), as it explains 15% and has significant influence. On the other hand, independent variables that do not have a significant relationship with dependent variable and have negative direction are: competition

(b = - 0.077, t = - 0.967, Sig = 0.335), which explains 8%, and normative pressures (b = - 0.039, t = - 0.493, Sig = 0.623), which explains 4% of the variance of the organisational performance (Refer to Appendix I 2).

Multiple regression analysis tests the five hypotheses that propose a direct relationship between contingency and institutional variables, and organisational performance. The following section discusses the hypotheses testing process:

**Hypothesis H6: There is a positive relationship between business strategy and organisational performance.**

In the coefficients part of Table 4.36, the Beta value (b = 0.337) and significance value of p = 0.000, indicate that there is a significant and positive relationship between business strategy and organisational performance. Such result means that for each unit increase in the business strategy, there is an expected increase of 0.337 in the organisational performance (t = 4.284) and as such, the hypothesis is supported.

**Hypothesis H7: There is a positive relationship between organisational structure and organisational performance.**

Based on the coefficients part of Table 4.36, the Beta value (b = 0.149) and significance value of p = 0.062, indicate a significant and positive relationship between organisational structure and organisational performance. Such result means that for each unit increase in the organisational structure, there is an expected increase of 0.149 in the organisational performance (t = 1.883). Thus, this hypothesis is supported.

**Hypothesis H8: There is a positive relationship between competition and organisational performance.**

From the coefficients part of Table 4.36, it appears that there is an insignificant relationship between competition and organisational performance, this is because the significance value of p = 0.335. However, the Beta value (b = - 0.077) indicates that the direction of this relationship is negative. Such result means that for each unit increase in the competition, there is an expected decrease of 0.077 in the organisational performance (t = - 0.916). Thus, this hypothesis is not supported.

**Hypothesis H9: There is a positive relationship between coercive pressures and organisational performance.**

In Table 4.36, the coefficients part shows that the Beta value of the coercive pressures (b = 0.186) with a significance value of p = 0.022, which indicates a significant relationship between coercive pressures and organisational performance. Moreover, the Beta value (b = 0.186) indicates that this relationship is positive. Thus, for each unit increase in the coercive pressures, there is an expected increase of 0.186 in the organisational performance (t= 2.311). This shows support for the hypothesis.

**Hypothesis H10: There is a positive relationship between normative pressures and organisational performance.**

From the coefficients part of Table 4.36, it appears that there is an insignificant relationship between normative pressures and organisational performance because the significance value of p = 0.623. However, the Beta value (b = - 0.039) indicates that the direction of this relationship is negative. Such result indicates that for each

unit increase in the competition, there is an expected decrease of - 0.039 in organisational performance (t = - 0.493). Thus, this hypothesis is rejected.

### 4.8.3 Multiple Regression between Use of Performance Measures and Organisational Performance

**Objective 3**: To determine the relationship between use of performance measures and organisational performance of Libyan commercial banks. Table 4.37, illustrates the results of the multiple regression analysis between independent variable and dependent variable.

Table 4.37 shows, that the F value is statistically significant (F = 35.890 < 0.05), and the $R^2$ ($R^2$ = .191) shows model fit. This means that the independent variables (performance measures) explain 19% of the variation of the dependent variable (Organisational performance). Such a result can be considered enough to demonstrate the fit or the goodness of the model (Hair *et al.*, 2010).

Table 4.37
*Regression Model the Relationship between use of Performance Measures and Organisational Performance.*

| Model | Coeff.(B) | Std. Error | t | Beta (b) | Sig |
|---|---|---|---|---|---|
| (Constant) | 2.426 | .254 | | | |
| Performance Measures | .306 | .077 | 5.991 | .310 | 0.000 |
| $R^2$ | | | | | .191 |
| Adjusted $R^2$ | | | | | .186 |
| F change | | | | | 35.890**** |

**** P < 0.001, *** P < 0.01, ** P < 0.05, * P < 0.10 .

Dependent Variable: Organisational Performance

As shown in Table 4.37, the performance measures contribute significantly to explain the organisational performance (b = 0.310, t = 5.991, Sig = 0.000) upto 31% with significant influence (Refer to Appendix I 3). The results of this analysis

revealed that there is a relationship between performance measures and organisational performance.

Table 4.38
*Results of Regression Model the Relationship between Components of Performance Measures and Organisational Performance*

| **Model** | **Coeff.(B)** | **Std. Error** | **Beta(b)** |
|---|---|---|---|
| Constant | 1.943 | .217 | |
| Financial | .114 | .074 | .135 |
| Customer Satisfaction | .464 | .066 | .597**** |
| Internal Business Process | -.204 | .067 | -.255*** |
| Innovation and Learning | .053 | .063 | .074 |
| $R^2$ | | | .378 |
| Adjusted $R^2$ | | | .361 |
| F change | | | 22.644**** |

As shown in Table 4.38, the performance measures (financial, customer satisfaction, internal business process, and innovation and learning) contribute significantly to explain the organisational performance. The result shows that customer satisfaction has the highest significant influence on the organisational performance (b = 0.597, Sig = 0.000), while the internal business process has significant influence with a negative direction (b = - 0.255, Sig = 0.003). Other performance measures (financial, and innovation and learning) do not have significant relationships with organisational performance (Refer to Appendix I 3).

Multiple regression analysis tests the hypothesis that proposes a direct relationship between performance measures and organisational performance. The following section discusses the hypothesis testing process:

**Hypothesis H11: There is a positive relationship between use of performance measures and organisational performance.**

Table 4.38 in the coefficients part shows that the Beta value of the performance measures (b = 0.437) with a significance value of p = 0.000 indicate a significant and positive relationship between performance measures and organisational performance. Thus, for each unit increase in the performance measures, there is an expected increase of 0.437 in the organisational performance (t = 5.991). Thus, this hypothesis is supported.

### 4.8.4 Measuring the Mediating Effects Using Regression Analysis

**Objective 4:** To determine whether use of performance measures variable positively mediates the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks.

This section discusses the mediating effects of performance measures on the relationship between contingency and institution variables and organisational performance. Mediator variable explains the relationship between independent and dependent variables (Frazier, Tix & Barron, 2004).

The variable can be considered as a mediator when the following conditions are met according to Little *et al.*(2007):

- The variation of the independent variable significantly accounts for the variation in the mediator variable.

- The variation in the independent variable significantly accounts for the variation in the dependent variable.
- The variation in the mediator variable significantly accounts for the variation in the dependent variable.

In addition, Little *et al*. (2007) stated that there are three types of mediators as explained in the following:

- Full mediator is defined when entering the mediator variable in the equation, the direct relationship between independent variable and dependent variable becomes an insignificant relationship.
- Partial mediator is defined when entering the mediator variable in the equation, the direct relationship between independent variable and dependent variable remains a significant relationship but the Beta value is decreased.
- Inconsistent mediator is defined when entering the mediator variable in the equation, the direct relationship between independent variable and dependent variable remains a significant relationship but the Beta value is increased.

The first condition, as presented in Table 4.33, shows that the mediating effects require a significant relationship between each construct of contingency and institution variables as independent variables and performance measures as dependent variable. The business strategy, coercive pressures, and normative pressures have a significant relationship with the performance measures.Therefore, these variables have met this first condition. On the other hand, competition and

organisational structure do not have a significant relationship with the performance measures; therefore, these variables do not meet this first condition.

The second condition (See Table 4.36) requires the significant relationship between each construct of contingency and institution variables (independent variables) and organisational performance (dependent variable). The business strategy, organisational structure, and coercive pressures have a significant relationship with organisational performance; therefore, these variables have met this second condition. On the other hand, competition and normative pressures do not have a significant relationship with organisational performance; therefore, these variables do not meet this second condition.

The third condition (Table 4.37) shows the relationship between performance measures (as an independent variable) and organisational performance (as a dependent variable). The performance measures have significant relationship with the organisational performance; therefore, these variables meet the third condition.

The following section discusses conditions of the mediating effects in this study. According to Baron and Kenny (1986), there are three regressions to test the type of mediator in this study as explained in the following:

- Testing the regression of performance measures on contingency and institution variables.
- Testing the regression of organisational performance on contingency and institution variables.

- Testing the regression of performance measures on both organisational performance and contingency and institution variables (Refer to Appendix I 4).

Table 4.36 shows that business strategy was significantly related to organisational performance (b = 0.337****). However, when performance measures were included in the relationship between business strategy and organisational performance, the relationship between them remained significant but with decreased Beta value (b = 216***). Accordingly, it can be stated that the performance measures are a partial mediator in the relationship between business strategy and organisational performance.

Table 4.39 shows that the organisational structure was significantly related to organisational performance (b = 0.149*). However, when the performance measures were included in the relationship between organisational structure and organisational performance, the relationship between them increased the level of significance, with an accompanying increased Beta value (b = 182**). It can thus be concluded that the performance measures does not mediate the relationship between organisational structure and organisational performance.

Table 4.39 shows that competition was insignificantly related to organisational performance (b = - 0.077). However, when the performance measures are included in the relationship between competition and organisational performance, the relationship between them remained significant with increased Beta value (b = - 0.040). Accordingly, it can be concluded that the performance measures did not mediate the relationship between competition and organisational performance.

Table 4.39 shows that coercive pressures variable was significantly related to organisational performance (b = 0.186**). However, when the performance measures were included in the relationship between coercive pressures and organisational performance, the relationship between them became insignificant with decreased Beta value (b = 123). Accordingly, it can be stated that the performance measures fully mediates relationship between coercive pressures and organisational performance according to the above-mentioned rules.

Table 4.39 shows that normative pressures were insignificantly related to organisational performance (b = - 0.039). However, when the performance measures were included in the relationship between normative pressures and organisational performance, the relationship between them became significant with increased Beta value (b = - 0.142). Accordingly, it can be concluded that the performance measures did not mediate the relationship between normative pressures and organisational performance.

Table 4.39
*Summary of the Results Organisational Performance*

| **Independent Variables** | **PM** | **OP** | **OP with PM** | |
|---|---|---|---|---|
| Business Strategy | .331**** | .337**** | . 216*** | Partial Mediation |
| Organisational Structure | -.092 | .149* | .182** | No Mediation |
| Competition | -.101 | -.077 | -.040 | No Mediation |
| Coercive Pressures | .172** | .186** | .123 | Full Mediation |
| Normative Pressures | .282*** | -.039 | -.142* | No Mediation |
| $R^2$ | .332 | .219 | .308 | |
| Adjusted $R^2$ | .310 | .216 | .280 | |
| F change | 14.741*** | 9.430*** | 10.920**** | |

**** significant at the 0.001 level, *** significant at the 0.01 level, ** significant at the 0.05 level, * significant at the 0.10 level

Performance Measures (PM), Organisational Performance (OP)

Multiple regression analysis tests the five hypotheses that propose the indirect relationships between contingency and institutional variables and organisational performance through performance measures. The following section discusses the hypotheses testing process:

**Hypothesis H12: Use of Performance measures positively mediates the relationship between business strategy and organisational performance.**

Table 4.39 shows that business strategy is significantly related to performance measures and to organisational performance (b = 0.337, Sig = 0.000). However, when the performance measures were included in the relationship between business strategy and organisational performance, the relationship between them remained significant, but the Beta value is decreased (b = 216, Sig = 0.007). Therefore, the hypothesis that performance measures mediated the relationship between business strategy and organisational performance is partially supported.

**Hypothesis H13: Use of Performance measures positively mediates the relationship between organisational structure and organisational performance.**

Table 4.39 shows that organisational structure is insignificantly related to performance measures. On the other hand, the organisational structure is significantly related to the organisational performance (b = 0.149, Sig = 0.062). However, when the performance measures were included in the relationship between organisational structure and organisational performance, the relationship between them increased the level of significance and Beta value is increased (b = 182, Sig = 0.016). Therefore, the hypothesis proposed that performance measures mediated the relationship between organisational structure and organisational performance is not supported.

**Hypothesis H14: Use of Performance measures positively mediates the relationship between competition and organisational performance.**

Table 4.39 shows that competition is insignificantly related to performance measures and to organisational performance (b = - 0.077, Sig = 0.335). However, when the performance measures were included in the relationship between competition and organisational performance, the relationship between them remained insignificant with increased Beta value (b = - 0.040, Sig = 0.599). Therefore, the hypothesis that performance measures mediated the relationship between competition and organisational performance is not supported.

**Hypothesis H15: Use of Performance measures mediated the relationship between coercive pressures and organisational performance.**

Table 4.39 shows that coercive pressures are significantly related to performance measures and to organisational performance (b = 0.186, Sig = 0.022). However, when the performance measures were included in the relationship between the coercive pressures and organisational performance, the relationship between them became insignificant with decreased Beta value (b = 123, Sig = 0.114). Therefore, the hypothesis that performance measures mediated the relationship between coercive pressures and organisational performance is fully supported.

**Hypothesis H16: Use of Performance measures positively mediates the relationship between normative pressures and organisational performance.**

Table 4.39 shows that normative pressures are significantly related to performance measures, but are insignificantly related to the organisational performance

(b = - 0.039, Sig = 0.623). However, when the performance measures were included in the relationship between normative pressures and organisational performance, the relationship between them became significant and the Beta value is increased (b = - 0.142, Sig = 0.070). Therefore, the hypothesis proposed that performance measures mediated the relationship between normative pressures and organisational performance is not supported.

Table 4.40
*Summary of Hypotheses Testing Results*

| Research Questions | Research Objectives | Hypotheses | Results |
|---|---|---|---|
| **1.**What is the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and use of performance measures of Libyan commercial banks? | **1.**To determine the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and use of performance measures of Libyan commercial banks. | **H1**. There is a positive relationship between business strategy anduse of performance measures. | Supported |
| | | **H2.** There is a positive relationship between organisational structure and use of performance measures. | Not Supported |
| | | **H3.** There is a positive relationship between competition and use of performance measures. | Not Supported |
| | | **H4.** There is a positive relationship between coercive pressures and use of performance measures. | Supported |
| | | **H5.** There is a positive relationship between normative pressures and use of performance measures. | Supported |
| **2.** What is the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks? | **2.** To determine the relationshipbetween contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks. | **H6.** There is a positive relationship between business strategy and organisational performance. | Supported |
| | | **H7.** There is a positive relationship between organisational structure and organisational performance. | Supported |
| | | **H8.** There is a positive relationship between competition and organisational performance. | Not Supported |
| | | **H9.** There is a positive relationship between coercive pressures and organisational performance. | Supported |
| | | **H10.** There is a positive relationship between normative pressures and organisational performance. | Not Supported |

Table 4.40 (Continued)

| Research Questions | Research Objectives | Hypotheses | Results |
|---|---|---|---|
| **3.** What is the relationship between use of performance measures and organisational performance of Libyan commercial banks? | **3.** To determine the relationship between use of performance measures and organisational performance of Libyan commercial banks. | **H11.** There is a positive relationship between use of performance measure and organisational performance. | Supported |
| **4.** Does use of performance measures positively mediate the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks? | **4.** To determine whether use of performance measures positively mediate the relationship between contingency factors (business strategy, organisational structure, and competition), institutional factors (coercive and normative pressures) and organisational performance of Libyan commercial banks. | **H12.**Use of performance measures positively mediate the relationship between business strategy and organisational performance | Partly Supported |
| | | **H13.**Use of performance measures positively mediate the relationship between organisational structure and organisational performance | Not Supported |
| | | **H14.**Use of performance measures positively mediate the relationship between competition and organisational performance | Not Supported |
| | | **H15.**Use of performance measures positively mediate the relationship between coercive pressures and organisational performance | Supported |
| | | **H16.**Use of performance positively mediate the relationship between normative pressures, and organisational performance | Not Supported |

## 4.9 Discussion of Results

This section discusses the results of the study analysis by highlighting the performance issues in Libyan commercial banks, based on the findings obtained from the 16 hypotheses. Discussion of results is divided according to the type of hypotheses.

The first group of hypotheses is dedicated to the relationship between contingency and institutional variables, and use of performance measures, while the second group of the hypotheses addresses the relationship between contingency and institutional variables and organisational performance. The third group is concerned with the relationship between performance measures and organisational performance while the final group discusses the mediating hypothesis of performance measures - the relationship between contingency and institutional factors and organisational performance through use of performance measures as a mediator variable.

### 4.9.1 Relationship between Contingency and Institutional Factors, and Use of Performance Measures in Libyan Commercial Banks

Depending on contingency and institutional theory, the study proposed that each of the contingency and institutional variables is positively and significantly related to use of performance measures. The results revealed that some variables support the hypotheses while others do not.

#### 4.9.1.1 Relationship between Contingency Factors and Use of Performance Measures

The relationship between contingency variables and performance measures is based on contingency theory and literature reviews. Specifically, the present study attempts to investigate the relationship between contingency variables (business strategy, organisational structure, and competition) and performance measures in Libyan commercial banks.

##### 4.9.1.1.1 Business Strategy and Use of Performance Measures

The results found that business strategy has a positive effect on the performance measures (See Table 4.33). This result supports the hypothesis of the study. As shown in Table 4.35, business strategy has a positive effect with all the perspectives of the performance measures (financial, customer satisfaction, internal business, and innovation and learning). This result is also consistent with the contingency theory, which asserts that the optimum design of the performance measure is dependent on the strategy of the organisation (Chenhall, 2003; Langfield, 1997). In addition, this result is consistent with many studies in literature, for example Van der Stede (2006); Hoque (2004), and Abernethy and Guthrie (1994). To be more specific, the result is

also consistent with the study of Fakhri (2009) on developing countries, such as the Libyan banking sector.

#### 4.9.1.1.2 Organisational Structure and Use of Performance Measures

The study found that the relationship between organisational structure and performance measures is negative and insignificant (See Table 4.33). This result does not support the hypothesis of the study as evidenced by the results presented by Table 4.35 where the organisational structure has a significant relationship with two components of the performance measures (customer satisfaction, and innovation and learning), and negative relationship with three components of the performance measures (financial, internal business, and innovation and learning). This result is inconsistent with the contingency theory that declares a fit between contextual factors (organisational structure and competition) and the MCS design (Chenhall, 2003; Ittner *et al.*,1997). In addition, this result is also inconsistent with previous studies (Gosselin, 2005; Lee & Yang, 2011).

One possible reason for the rejection of the hypothesis is because almost all Libyan banks are considered to be centralised organisations. The results of this study indicate that all major decisions are made only at the top management. This result is in line with Chenhall and Morris (1986) who indicated that the process of decision making in the structure of centralisation depends on the organisational levels (top management). However, the use of non-financial measures is connected mainly to the operational levels of the organisational hierarchy. Furthermore, the centralised organisations have a tendency to apply financial measures more than non-financial

measures that represent three of the perspectives of the performance measures (Lee & Yang, 2011). Thus, the Libyan banks have limited authority that affects adversely in their use of non-financial performance measures (El-Shukri, 2007). In addition, Johnson and Kaplan (1987) argued that insignificant relationship between organisational structure and performance measures is due to the centralised system that applies in the organisations. It hinders the organisation to focus on employees' participation and the teamwork that fit with the new and flexible approaches to the design of the performance measures. Another explanation is related to the fact that managers remain in the same position for long periods and this makes them resistant to innovation of organisational practices, like the BSC usage (Young & Gurbaxani, 2012). In this study, 74% of the manager's branches in Libya worked for more than 10 years in their branches.

#### 4.9.1.1.3 Competition and Use of Performance Measures

This study does not find enough evidence to support a positive relationship between competition and performance measures (See Table 4.33). This result does not support the hypothesis of the study. This is shown in Table 4.35, where the competition has an insignificant relationship with three perspectives of the performance measures (financial, internal business, and innovation and learning), and negative relationship with all perspectives of the performance measures. This result is inconsistent with contingency theory that suggests that the competition determines the non-financial measures (Hoque, 2004). In addition, this result is also inconsistent with the previous studies (Hoque *et al.*, 2001; Lee & Yang, 2011).

The result suggests that competition does not play an important role in using performance measures. This is due to reduced competition among banks as a result of the monopoly of the Libyan Central Bank to many banking activities (Fakhri, 2010). This result is consistent with Hoque and James (2000) that did not find a significant relationship between firm's market position and greater BSC usage. Furthermore, the Libyan banking sector is still virtually closed to foreign investment. In addition, Hussain and Gunasekaran (2002) indicated that when there is low competition among banks, the banks may not think to use the non-financial performance measure towards improving services and customer satisfaction. All these reasons detract managers in banks from using the performance measures. This in turn would have an impact on the use of non-financial performance measures, techniques and systems that will improve performance (Hussain & Hoque, 2002).

#### 4.9.1.2 Relationship between Institutional Factors and Use of Performance Measures

The relationship between institutional factors and performance measures are based on institutional theory and literature review. This study attempts to investigate the relationship between institutional factors (coercive and normative pressures) and performance measures in Libyan commercial banks.

##### 4.9.1.2.1 Coercive Pressures and Use of Performance Measures

The study found that coercive pressures have a positive effect on the performance measures (See Table 4.33). This result supports the hypothesis of the study. This is shown in Table 4.35, where coercive pressures have a significant relationship with

two perspectives of the performance measures (internal business, and innovation and learning), and positive relationship with all perspectives of the performance measures. Added to this, the result is consistent with the institutional theory, which assumes that an articular social institution has an effect on performance measures (DiMaggio & Powell, 1991). This result is in line with prior studies that indicated a relationship between the coercive pressures, which represent regulations, and guidelines issued by the Libyan central bank and performance measures (e.g., Hussain & Hoque, 2002; Tsamenyi, Cullen & González, 2006). In addition, the Libyan Central Bank controls several banking activities, which include a choice of the performance measures (Fakhri, 2009).

#### 4.9.1.2.2 Normative Pressures and Use of Performance Measures

The study found that normative pressures have a positive effect on the performance measures (See Table 4.33). This result supports the hypothesis of the study. This is shown in Table 4.35, where the normative pressures have a significant relationship with three perspectives of the performance measures (financial, internal business, and innovation and learning), and positive relationship with all perspectives of performance measures. This is consistent with the institutional theory, which assumes that articular social institutions affect on organisational practices (DiMaggio & Powell, 1991). According to DiMaggio and Powell (1991), the normative pressure stems primarily from professional associations and the level of education that influence and shape of organisational practices (such as choice of performance measures).This result is in line with prior studies (e.g., Granlund & Lukka, 1998; Hussain & Hoque, 2002).

### 4.9.2 Relationship between Contingency and Institutional Factors, and Organisational Performance in Libyan Commercial Banks

Depending on contingency and institutional theory, the study proposed that each of the contingency and institutional variables were positively and significantly related to organisational performance. The results revealed that some variables support hypotheses while others do not.

#### 4.9.2.1 Relationship between Contingency Factors and Organisational Performance

The relationship between contingency variables and organisational performance are based on contingency theory and literature reviews. This study attempts to investigate the relationship between contingency variables (business strategy, organisational structure, and competition) and organisational performance in Libyan commercial banks.

##### 4.9.2.1.1 Business Strategy and Organisational Performance

First, this study found that business strategy has a positive and significant relationship with organisational performance (See Table 4.36). This result supports the hypothesis of the study. Miles and Snow's (1994) study indicated that when the management style is connected with a strategy of organisation, this will lead to the improvement of business performance. Furthermore, Venkatraman *et al.* (1993) found that performance of organisations increases if the managerial practices go along with the strategy of the organisation. In addition, Van der Stede *et al.* (2006) found the positive relationship between strategy and organisational performance.

This result is also consistent with the contingency theory that stresses that the prospector strategy is a reason to use new techniques by firms, which would eventually lead to improving corporate performance (Abrahamson, 1996).

#### 4.9.2.1.2 Organisational Structure and Organisational Performance

With regard to this relationship, the result revealed that organisational structure has a positive effect on the organisational performance (See Table 4.36). This result supports the hypothesis of the study and is consistent with other studies (Lai, 2003; Hao, 2012; Lee & Yang, 2011). Furthermore, this result is in line with contingency theory that suggests the effectiveness an organisation depends on the organisational design (Lee & Yang, 2011).

#### 4.9.2.1.3 Competition and Organisational Performance

As for the relationship between competition and organisational performance, the result found it to be negative and insignificant (See Table 4.36).This result does not support the hypothesis of the study but is consistent with Murayama and Elliot (2012), and Uddin and Suzuki (2014). This insignificant and negative result can be explained by the low competition that exist among Libyan banks. In other words, owning of the Libyan state of major banks impedes competition for credit expansion and the development of services in general (Bank of Commerce & Development, 2013). In this regard, Hussain and Hoque (2002) indicated that if the competition is not significant in the financial industry, the banks would realise that there is a need to improve their service. In this case, the banks neglected to improve their services (quality, timeliness, and reliability) to satisfy customers. This in turn would have an

effect on the bank's overall performance. Banks should focus more on enhancing competition among each other as this would eventually lead to encouraging them to improve their services to satisfy customers. This in turn would lead to increased banks' overall performance.

#### 4.9.2.2 Relationship between Institutional Factors and Organisational Performance

The relationship between institutional variables and performance measures are based on institutional theory and literature reviews. This study attempts to investigate the relationship between institutional variables (coercive and pressures normative) and organisational performance in Libyan commercial banks.

##### 4.9.2.2.1 Coercive Pressures and Organisational Performance

The study results found evidence to support a positive significant relationship between coercive pressures and organisational performance (See Table 4.36). This result supports the hypothesis of the study. This is consistent with the previous studies, and institutional theory that is used to explain the influence of the institution`s factors on the organisational performance (e.g., Lapavitsas & Dos Santos, 2008; Laurens, 2005; Oliver, 1997).

##### 4.9.2.2.2 Normative Pressures and Organisational Performance

The result of the study does not find enough evidence to support a positive significant relationship between normative pressures and organisational performance (See Table 4.36). This result does not support the hypothesis of the study. However, this result is in line with Oliver (1997) where he indicated that the relationship

between normative pressures (professional association) and organisational performance had weak significance. In addition, this could be attributed to the low competition among Libyan banks and restrictions imposed by the Libyan central bank. This reflects the influence of professional associations and level of education on the bank's performance. The result in this study suggests that the normative pressures do not play a significant role in improving the banks' performance. This finding is in line with El-Firjani, Menacere and Pegum (2014) who found that the level of professionalism in Libya is below the accepted standard. However, it is inconsistent with previous studies and institutional theory that call for more attention from professional associations that are affecting the banks' performance in an institutional environment (Scott, 1987; Zhu & Sarkis 2007; Zucker, 1987).

### 4.9.3 The Relationship between Use of Performance Measures and Organisational Performance in Libyan Commercial Banks

The results of the study found that the relationship between performance measures and organisational performance is positive and significant (See Table 4.37). This result supports the hypothesis of the study. As shown in Table 4.38, customer satisfaction has the highest significant influence on organisational performance. In addition, customer satisfaction was significantly associated with financial performance (Anderson *et al.*, 1994). This result is consistent with the argument that the measurement of the performance evaluation by academics and consultants reflects the increased pressure to improve organisational performance (Hoque, 2004; Nanni *et al.*, 1992). In addition, other researchers found that performance measures have a positive influence on the financial performance of the organisations in respect of long-term profitability (Banker *et al.*, 2000; Van der Stede *et al.*,2006).

The results of this study are also in line with previous studies (e.g., Baines & Langfield-Smith, 2003; Davila, 2000; Said, 2003; Scott, 1999).

### 4.9.4 Use of Performance Measures Positively Mediate the Relationship between Contingency and Institutional Factors, and Organisational Performance in Libyan Commercial Banks

The study proposes that performance measures mediate the relationship between each of contingency and institutional factors, and organisational performance (See Table 4.36). Such expectation is built on the suggestion that the relationship between contingency and institutional factors and organisational performance may not be only direct, but also indirect through the contribution of contingency and institutional factors to performance measures. This consequently leads to the improvement in the organisational performance. Such notion can be considered to be one of the assumptions of the contingency theory that assumes that the fit between contingency variables and the design of the Management Control Systems (MCS) is relevant to performance of the organisation (Chenhall, 2003; Ittner *et al.,* 1997). In addition, the researchers also claim that non-financial measures can help managers to recognise changes in the assessment of business objectives, and confirm achievement of performance goals (Kaplan & Norton, 1996). This study found that the conditions of mediation in the two variables (coercive pressures, and business strategy) are confirmed.

The result indicates that the relationship between coercive pressures and organisational performance is fully mediated by the performance measures. This result supports the hypothesis of the study, where coercive pressures have a hand in

performance measures (DiMaggio & Powell, 1983; Munir *et al.*, 2011) through regulations and guidelines issued by the Libyan central bank (LCB). This factor may affect bank performance. Furthermore, the relationship between business strategy and organisational performance was found to be partially mediated by the performance measures. This result supports the hypothesis of the study and is consistent with previous studies (Govindarajan & Gupta, 1985; Ittner*et al.*, 1997; Simons, 1995), in which they stated that the strategy coupled with performance measures lead to enhanced organisational performance. However, the relationship between organisational structure and organisational performance was not mediated by performance measures and as such, the study hypothesis is rejected, where the relationship between organisational structure and performance measures was insignificant.

Furthermore, the relationship between competition and organisational performance was not mediated by performance measures. This result does not support the hypothesis of the study, as the result shows that the relationship between competition and both performance measures and organisational performance were insignificant. Moreover, the relationship between normative pressures and organisational performance was not mediated performance measures - a result that rejects the study hypothesis, where the relationship between normative pressures and organisational performance is insignificant.

## 4.10 Chapter Summary

This chapter provides the data analysis of the study. It incorporates the achieved response rate, which was deemed as appropriate. Moreover, the chapter descriptively presented the distribution of the demographic variables of both the branches and respondents. The goodness of data was checked using several tests as content validity, construct validity, factor analysis, and reliability. Additionally, the chapter included the methods of correlation and regression analysis, and concluded by testing the hypotheses of the study. In addition, regression analysis was conducted to test the mediating effects of the performance measures on the relationship between contingency and institutional variables and organisational performance.Finally, the results extracted from regression analysis were presented and discussed.

# CHAPTER FIVE
# CONCLUSION

## 5.1 Introduction

This chapter provides the recapitulation, contributions, and limitations of the study as well as some ideas for future studies.

## 5.2 Recapitulation of Study

This study is an empirical attempt to explore the relationship between contingency and institutional factors, use of performance measures, and organisational performance of the Libyan commercial banks. A survey of the related literature review showed that an inconsistency existed in the results of previous studies and demonstrated lack of studies dedicated to both the effect of contingency and institutional factors on the performance of banks in developing countries. In addition, prior studies have used different measures to represent the performance issues on different environments, which in turn resulted in the absence of a general framework combining the complete picture of the factors related to organisational performance. Therefore, this study aims to investigate the relationship between contingency and institutional factors, and organisational performance. It examined the mediating effects of the performance measures on the relationship between contingency and institutional factors, and organisational performance. In addition, the study examined a number of aspects considered in literature that are strongly influenced performance issues.

This study classified contingency factors into three factors: business strategy, organisational structure, and competition that affect organisational performance. The contingency theory explains the relationship between contingency factors and organisational performance (Hoque, 2004; Lee & Yang, 2011; Van der Stede, 2006). In addition, this study classified institutional factors into two factors: coercive pressures and normative pressures that affect organisational performance. The institutional theory explains the relationship between institutional factors and organisational performance (Lapavitsas & Dos Santos, 2008; Scott, 1987; Oliver, 1997; Zucker, 1987). Moreover, this study used performance measures as a mediator that affects the relationship between contingency and institutional factors, and organisational performance.

## 5.3 Implications of the Study

The implications of the current study can be divided into two aspects namely practical and theoretical implications.

### 5.3.1 Theoretical Implications

The results of study contribute to the existing theoretical knowledge through the support of contingency theory in explaining the relationship between business strategy and organisational performance via performance measures. The contingency theory suggests that fit between contextual factors (business strategy) and the MCS design is very important to have better organisational performance (Chenhall, 2003; Ittner *et al.*, 1997; Langfield-Smith, 1997; Luft & Shields, 2003). On the other hand, the results do not support contingency theory in explaining the relationship among organisational structure, competition, and organisational performance through the

performance measures. This is due to the centralisation of making decisions and the weak competition among banks.These results create future debate on whether the competition can be a source of the organisational performance in developing countries.

Furthermore, the results also support the institutional theory in explaining the relationship between coercive pressure and organisational performance through the performance measures. On the other hand, the results do not support institutional theory in explaining the relationship between normative pressures and organisational performance through the performance measures, due to lack organisations' provision of workshops and conferences for raising educational level of employees.

### 5.3.2 Practical Implications

From the practical implications, the results of the study indicated issues of banking performance and factors affecting them through two types of factors, namely: contingency factors (business strategy, organisational structure, and competition) and institutional factors (coercive and normative pressures). In addition, the study used performance measures as a mediator between the relationship of contingency and institutional factors, and organisational performance. The study results are expected to help the managers of banks improve the banks' performance.

The results of the study suggested that commercial banks that aim to enhance their performance measures should focus more on areas such as business strategy, coercive pressures, and normative pressures, which in turn would lead to improvement in their performance. With respect to organisational structure, banks should be given more authority to their branches for making decisions in order to

apply new and flexible approaches to the use non-financial measures. Moreover, banks should focus more on enhancing competition among each other to enhance their ability to satisfy customers. This in turn would lead to increased attention of performance measures, thus improving the bank's overall performance. Additionally, this would encourage the Libyan central bank to enhance the competition among banks by lifting the restrictions on their activities and opening investment opportunities to international banks in the Libyan banking sector. Furthermore, raising educational level of employees through organised workshops and conferences would assist the employees to improve the use of performance measures, which in turn would lead to improved bank performance, and ultimately, the banking sector.

## 5.4 Contributions of the Study

This study contributes to the knowledge of issues related to the organisational performance, by providing insights into the mechanisms and importance of the organisational performance in Libyan commercial banks, and the factors affecting it. This was through the investigation of the relationship between the contingency and institutional factors together, and organisational performance, which provides direction and guidelines for the development of organisational performance. The contributions of the current study can be categorised into theoretical, methodological, and practical aspects.

### 5.4.1 Theoretical Contributions

This study contributes to the accounting literature by providing more evidence of the impact of the contingency and institutional factors on bank performance. Thus, determining the most important factors affecting the performance in Libya would

lead to opening up an exchange of ideas between Libya and other countries on the most important factors affecting the performance, and consequently leading to improved performance in the countries' institutions and firms.

According to Wu *et al.*(2003), research efforts must adequately consider a mix of factors drawn from contingency and institutional perspectives of the firm to correspond with organisational performance. This study attempts to combine both contingency factors (business strategy, structure organisational, and competition) and institutional factors (coercive and normative pressures), and both contingency and institutional theories. In particular, relatively few studies have looked into the influence of both contingency and institutional factors on the organisational performance. Hence, this study provides integrated insights about the impact of these factors combined, and the difference between them. In doing so, the study minimises one of the major gaps in literature.

In literature concerning institutional forces, there are some studies that deal with the relation between institutional forces and performance measures (Gimzauskiene & Kloviene, 2011; Hussain & Hoque, 2002; Munir *et al.,* 2011), whereas other studies deal with the relation between institutional forces and organisational performance (Oliver, 1997; Zhu & Sarkis, 2007). The unique aspect of this study is that it attempts to investigate the indirect relationship between the institutional factors and organisational performance with the performance measures as mediator between them. This successful attempt minimises another major gap in literature.

### 5.4.2 Methodological Contributions

The literature review revealed that few studies have empirically examined the effect of the coercive and normative pressures on both performance measures and organisational performance. Therefore, this study adapted instruments from various sources to measure these variables to suit the research settings in the Libyan banking sector. Coercive pressures consist of four items covering a various aspects of this variable from various sources (i.e. Ke *et al.,* 2009; Khalifa & Davison, 2006; Liang *et al.,* 2007; Teo *et al.,* 2003) and normative pressures consisted of three items covering a various aspects of this variable from various sources (i.e. Ke *et al.,* 2009; Khalifa & Davison, 2006; Liang *et al.,* 2007; Teo *et al.,* 2003). These instruments of variables were validated by conducting a reliability test, where Cronbach's alpha for coercive pressures was 0.786, and for normative pressures was 0.743. Generally, these ratios are accepted as representing reliability (Hair *et al.,* 2010). These instruments can be used for further studies in other contexts. Most previous studies related to institutional factors used the case study approach, while limited attention was given to the survey approach to examine these factors. This study filled another gap by using a survey questionnaire to collect data on institutional factors.

### 5.4.3 Practical Contributions

There is a dearth of research on organisational and institutional performance in developing countries such as Libya. Most of the studies in this area have been conducted in developed countries (e.g., Hoque, 2004, Verbeeten& Boons, 2009), and in the manufacturing sector (Beal, 2000; Hoque, 2004; Rodríguez & Ventura, 2003; Van der Stede *et al.,* 2006; Verbeeten & Boons, 2009). Therefore, this study

contributes to the understanding of the issues related to performance in a developing country, Libya. This opens the way front of academics to increase the search in issues related to performance in developing countries.

The present study provides insights into the factors affecting the organisational performance in the service sectors, particularly the banking sector. These factors are business strategy and coercive pressures that were found to have a positive and significant effect on organisational performance. Additionally, this study examine dthe use of performance measures as mediating variable between the relationship of institutional forces and organisational performance. This helps professional networks in increasing awareness among Libyan banks on factors that enhance their performance, through the organisation's provision of workshops, conferences, educational programs and professional training.

This study helps the branch managers in decision making to improve branch performance. Furthermore, it helps the Libyan central bank to provide the suitable environment to enhance the performance of Libyan banks.

### 5.5 Limitations of the Study

Although the study has several contributions, it also has several limitations that may affect, to some extent, its validity or generalisability. These limitations are presented in this section.

First, this study investigated the impact of some contingency factors (business strategy, organisational structure, and competition) and some institutional factors (coercive and normative pressures) on organisational performance, with performance measures (financial and non-financial) as mediator between them.

Second, this study used only 20 items in the questionnaire for measuring performance measures. In the literature, there are many other measures. This study only used the dimensions of the BSC.

Third, the questionnaire of study is answered only by branch bank managers (as respondents), and as such, there may be a bias in their answers concerning their managerial skills and performance compared with other banks. They may present their skills and performance in a superior way instead of reflecting the nature of their actual performance. Furthermore, the data collected was gathered from 154 usable questionnaires, through a period between July and August 2013, making this study a cross-sectional one.

Fourth, the banking sector in Libya consists of 20 banks, including 5 specialised banks and 15 commercial banks. The study includes only the Libyan commercial banks (13 banks), after the exclusion of two foreign banks in Libya. In order to limit the scope, the study focused on all branches (485) of Libyan commercial banks (CBL, 2012).

Fifth, this study is conducted in Libya, which is one of the developing countries. Precautions must be taken when generalising the results of the study and therefore the results may be generalised only to similar environments and a similar stage of development in any related context.

### 5.6 Future Studies

To overcome the limitations of the study, it might be useful to conduct more investigations in future studies. Accordingly, recommendations for future studies are provided in this section.

First, this study investigated the impact of some contingency and institutional factors on the organisational performance – in regards to this, it would be important to know the impact of other contingency and institutional factors on banking performance such as culture, technology, and mimetic pressures for greater insight.

Second, this study uses the survey method for collecting data and respondents of the study are branch managers. Future studies should increase the sample size and the use of mixed method in the methodology of the study (survey and interviews) to obtain stronger results.

Third, the use of a single category of individuals (branch managers) to answer the questionnaires may results in mono-response bias. Therefore, future studies should focus on increasing the categories of respondents to include chief executive officers and managers of financial departments to obtain stronger results. Furthermore, in

future studies, longitudinal methods could cover the performance of organisations more thoroughly, which might provide results that are more accurate.

Fourth, future studies could compare between the results of topical extracted from specialised banks and commercial banks as well as financial institutions.

Fifth, this study focuses on the factors affecting the performance and its consequences in Libya. It is interesting to replicate this study in other cultures or countries, and then conduct a comparison between the results extracted in Libya and such countries.

## 5.7 Conclusion

This study investigated the relationship between contingency factors (business strategy, competition, and organisational structure), institutional factors (coercive and normative pressures), and organisational performance; as well as the use of performance measures as the mediator variable on the relationship between contingency and institutional factors, and organisational performance within the Libyan commercial banks.

This study made important contributions by providing insights into the performance of Libyan banks. Additionally, this study has used a multiple regression analysis to test the relationship between factors of the study. The findings indicated that business strategy, coercive and normative pressures lead to improved usage of the performance measures. It is revealed that practices such as organisational structure

and competition by themselves do not lead to the use of the performance measures, at least in the context of Libyan banking.

With respect to the relationship between contingency and institutional factors and organisational performance, the findings indicate that business strategy, organisational structure and coercive pressures are among important factors that should be considered in enhancing the organisational performance in Libyan commercial banks, while both competition and normative pressures do not lead to improved organisational performance.

The study concluded that use the performance measures have a positive influence on increasing organisational performance in Libyan commercial banks. In addition, the study found that coercive pressures could improve performance of the bank through its contribution to use performance measures, which in turn supported the notion that performance measures fully mediate the relationship between coercive pressures and organisational performance. Furthermore, this study found that business strategy could improve performance of the bank through its contribution to use performance measures, which in turn supported the notion that performance measures partially mediate the relationship between business strategy and organisational performance. On the other hand, the performance measures did not mediate the relationship between organisational structure competition, and normative pressures with organisational performance.

Issues related to performance measures and organisational performances have received considerable attention among researchers. To conclude, this study was

conducted in Libya, a developing country, and it has contributed to providing a more inclusive global picture of the influencing factors on the organisational performance in banking sector. It serves as a strategic point that may open up many possibilities to conduct more studies in the future.

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## APPENDICES

### Appendix A

# Research Questionnaire

**"English Version"**

**UNIVERSITI UTARA MALAYSIA**

**Othman Yeop Abdullah Graduate School of Business**
**Sintok- Malaysia**

SURVEY

THE EFFECT OF CONTINGENCY AND INSTITUTIONAL FACTORS ON THE ORGANISATIONAL PERFORMANCE OF LIBYAN COMMERCIAL BANKS

This study is a PhD research which aims to investigate the effect of contingency factors (business strategy, organisational structure, and competition) and institutional factors (coercive and normative pressures) on the bank performance of Libyan commercial banks. It is hoped that the outcome of the study will be of immense benefit to improve the banks performance in the Libya. Your effort in filling the questionnaire is highly appreciated in order to produce the quality of the research.

Your answer plays a significant role in the success of this study and you are assured that such will be treated with utmost confidentiality.

For any inquiries about the study or if you need any help in completing the questionnaire, please contact:

Ismail Mohamed Elnihewi
Email: ime_2000@Yahoo.com
Phone: 0060175520420

Branch :……..

Thank you for your time and kind cooperation

Sincerely

**Section One: Demographic Profiles**

Please tick (√)the appropriate option as follows:

**1. Gender?**

( ) Male
( ) Female

**2. What is the level of your highest educational qualification?**

( ) Diploma
( ) Bachelor degree
( ) Master degree
( ) PhD
( ) Others

**3. In which field of study was your degree?**

( ) Accounting
( ) Business administration
( ) Finance
( ) Others

**4. Working experience in banking?**

( ) Less and equal to 5 years
( ) 6-10 years
( ) 11-15 years
( )16-20 years
( ) More than 20 years

**5. Type of bank?**

( ) Private bank
( ) Public bank
( ) Foreign bank

**6. What is the total assets of your bank (Million /Dinar Libya)?**

( ) Less than 1000
( ) Between 1000-15000
( ) More than 15000

**7. What is the approximate number of employees in your branch?**

( ) Less than 100
( ) 100-500
( ) 501-1000
( ) More than 1000

**8. What is your average annual revenue (Million /Dinar Libya) for the past three years?**

( ) Less or equal to 50
( ) Between 51 -250
( ) Between 251-450
( ) Between 451- 650
( ) More than650

**9. What is your average annual profit before tax (Million /Dinar Libya) for the past three years?**

( ) Less or equal to 5
( ) Between 6 - 35
( ) Between 36 -65
( ) Between 66- 95
( ) More than 95

**Section Two:Organisational Performance**

The following statements assess the performance of banks. You are required to rate your branch performance in the last three years, and by reference to the data presented in the Table. Please tick (√) in the appropriate box.

| **Non-Financial Performance** | Decrease Significantly | Decrease | No change | Increase | Increase Significantly |
|---|---|---|---|---|---|
| 1. The level of our customer satisfaction with our services. | | | | | |
| 2. The reactivation of inactive accounts. | | | | | |
| 3.The customer service delivery in branch. | | | | | |
| 4. The customer relationship management in our branch. | | | | | |
| 5. The reputation of our branch in the banking sector. | | | | | |
| 6. Rate of speed of service brovided to the customer. | | | | | |
| 7. The cost of providing services in the branch. | | | | | |
| 8. Rate of the correct processes operational (error-free). | | | | | |
| 9. The new services' development in the branch. | | | | | |
| 10.Branch's share of the services in the banking market. | | | | | |
| **Financial Performance** | Decrease Significantly | Decrease | No change | Increase | Increasesignificantly |
| 11. The number of performing loan. | | | | | |
| 12. Rate of the yearly profit. | | | | | |
| 13. The number of non-performing loans. | | | | | |
| 14. The growth of branch deposit. | | | | | |
| 15. The collection of bad debts to total debts of the branch. | | | | | |
| 16. Revenues collected from fees on transactions. | | | | | |
| 17. The volume of current and saving account customers. | | | | | |
| 18. The volume of fixed deposit. | | | | | |
| 19. The financial performance targets achievement by branch. | | | | | |
| 20. The level of expenses incurred by the branch. | | | | | |

**Section Three: Contingency and Institutional Factors**

**1. Business Strategy**

Please indicate the degree of your agreement with the following sstrategic activities carried out by the bank. Please tick (√) in the appropriate box.

| **Prospector strategy** | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| BS1. Provide high-quality services. | | | | | |
| BS 2. Improving the time it takes to provide services to customers. | | | | | |
| BS 3. Decreasing the cost required for coordination of various services. | | | | | |
| BS 4. Provide service and support after service delivery. | | | | | |
| **Defenders strategy** | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| BS 5. Our services are low priced than our competitors. | | | | | |
| BS 6. Offering a broader range of services than of competitors. | | | | | |
| BS 7. Meet the needs of customers of services. | | | | | |
| **Analyser strategy** | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
| BS 8. Introducing new services /procedures quickly. | | | | | |
| BS 9. Provides services that are distinct from that of competitors. | | | | | |
| BS 10. Provide unique service features. | | | | | |
| BS 11. Achieving low service costs than our competitors. | | | | | |

**2. Organisational Structure**

Please select the extent of making these decisions by the top management of the bank. Please tick (√) in the appropriate box.

| **Statements** | Never | Rarely | Sometimes | Usually | Almost Always |
|---|---|---|---|---|---|
| OS1.New service decisions are made only at the top management of the bank. | | | | | |
| OS 2.Selection of large investments is usually made only at the top management of the bank. | | | | | |
| OS 3. Decision of hiring and firing of managerial personnel generally are made only by top management of the bank. | | | | | |
| OS 4.Decisions on major changes are made only at the top management of the bank. | | | | | |
| OS 5. Pricing policies are set of services by the top management of the bank. | | | | | |
| OS 6. Budget allocation decision is usually made only at the top management of the bank. | | | | | |

**3. Competition**

Please indicate the degree of your agreement with the following statements, which describes the branch's competitive position compared with their counterparts in the banking sector. Pleasetick (√) in the appropriate box.

| Statements | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| C1. Our branch faces high degree price competition for services. | | | | | |
| C2. There is a high degree of market competition in the new service development faced by our branch. | | | | | |
| C3. There is a high degree of competition in marketing the services that faced by our branch. | | | | | |
| C4. Branch faces a high degree of competition to gain market share in services. | | | | | |
| C5. Behaviours of competing banks is taking a great threat to our branch. | | | | | |
| C6. The level of competition in the market for the major services of our branch is extremely intense. | | | | | |

**4. Coercive Pressures**

Please indicate the degree of your agreement with the following statements, which show the impact of the central bank on your bank. Please tick (√) in the appropriate box.

| Statements | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| CP1. Apply fines on branch if it violates decisions and guidelines by central bank. | | | | | |
| CP2. Central bank monitors the commitment extent of banks to decisions, and guidelines issued by it. | | | | | |
| CP3.Central bank supervises the implementation of corrective actions from banks. | | | | | |
| CP4. Legislations issued by the central bank helps the branch in its work. | | | | | |
| CP5. The central bank is working to encourage and motivate the branch to comply with the standards issued by itself. | | | | | |
| CP6. My bank maintains a good relationship with the central bank. | | | | | |

**5. Normative Pressures**

Please indicate the degree of your agreement with the following statements, which show the impact of the normative pressures on your branch. Please tick (√) in the appropriate box.

| Statements | Strongly Disagree | Disagree | Neutral | Agree | Strongly Agree |
|---|---|---|---|---|---|
| NP1. A large number of our competitors and business partners effect the performance of the branch. | | | | | |
| NP2. Many commercial banks intend to use multiple performance measures in the near future. | | | | | |
| NP3. Various organisations (e.g., professional or bankers' associations, training institutes) influence us to use multiple performance measures | | | | | |
| NP4 .Participation in workshops, management seminars organised by local universities' business schools influence bank's performance. | | | | | |
| NP5. Participation in training and seminars conducted by industry, and professional associations assist us to use multiple performance measures | | | | | |

**Section Four: Performance Measures**

The following questions about the non-financial performance measures adopted by your branch. For each measure, please rate the extent to which it is used by your branch for performance evaluation. Please tick (√) in the appropriate box.

| Performance Measures | Not at all | To a little extent | To a some extent. | To a considerable extent | To a very great extent |
|---|---|---|---|---|---|
| 1. The rate of achieving budget. | | | | | |
| 2. The rate of revenue growth. | | | | | |
| 3. Return on net assets. | | | | | |
| 4. Branch income. | | | | | |
| 5. Branch's share of the services offered in the banking market. | | | | | |
| 6. On-time service delivery. | | | | | |
| 7. Customer retention | | | | | |
| 8. Reply to the customer at the right time. | | | | | |

Continue

| **Performance Measures** | Not at all | To a little extent | To a some extent. | To a considerable extent | To a very great extent |
|---|---|---|---|---|---|
| 9. Survey of customer satisfaction | | | | | |
| 10. Teamwork among employees. | | | | | |
| 11. The error rate of operational processes. | | | | | |
| 12. Employees' turnover rate | | | | | |
| 13. Employee's productivity | | | | | |
| 14. Number of customer complaints. | | | | | |
| 15. Number of new services launched. | | | | | |
| 16. Time-to-market of new services. | | | | | |
| 17. Employee's satisfaction. | | | | | |
| 18. Per cent of revenue from new services. | | | | | |
| 19. Employees' suggestions. | | | | | |
| 20. Training hours per employee. | | | | | |

**Thank you**

## Appendix B

# Research Questionnaire

**"Arabic version"**

**جامعة الشمال (اوتارا) الماليزية**

**كلية عثمان أيوب عبدالله - المدرسة العليا للأعمال التجارية**

**سنتوك – ماليزيا**

**استبيان**

أثر عوامل الطوارئ والمؤسسية على الأداء التنظيمي من خلال مقاييس الأداء للمصارف التجارية الليبية

هذه الدراسة هي بحث دكتوراه يهدف الى تحديد اثر عوامل الطوارئ (الاستراتيجية , الهيكل التنظيمي , المنافسة) والمؤسسية (الضغوط القسرية والضغوط المعيارية) على ألاداء المصرفي من خلال مقاييس الأداء للمصارف التجارية في ليبيا. ومن المؤمل ان تكون نتائج الدراسة ذات فائدة كبيرة في تحسين اداء المصارف التجارية في ليبيا. جهودكم في ملئ الاستمارة هي موضع تقدير عال لدى الباحث من أجل تحقيق جودة البحث

جوابك يلعب دورا هاما في نجاح هذه الدراسة, علما بأن هذه البيانات سيتم التعامل معها بسرية تامة. (يرجى وضع علامة (√) في المربع المناسب)

لأي استفسار عن الدراسة أو اذا كنت بحاجة الى أي مساعدة في استكمال الاستبيان , يرجى الاتصال :

الباحث : اسماعيل محمد النيحوي
الاميل: ime_2000@Yahoo.com
هاتف: 0060175520420

الفرع : .....

**شكرا لكم على تعاونكم**

**القسم الاول الملامح الديمغرافية :**

**1-الجنس؟**

انثى ( )

ذكر ( )

**2-ما هو مستوى المؤهل التعليمية ؟**

دبلوم ( )

بكالوريوس ( )

ماجستير ( )

دكتوراه ( )

أخرى ( )

**3- مجال الدراسة ؟**

محاسبة ( )

ادارة اعمال ( )

المالية ( )

اخرى ( )

**4-الخبرة في المجال المصرفي ؟**

أقل وعلى قدم المساواة إلى 5 سنوات( )

سنوات 6- 10( )

11- 15 سنة( )

16- 20 سنة ( )

اكثر من 20 سنة( )

**5- نوع المصرف ؟**

عام ( )

خاص ( )

خارجي ( )

**6-ما هو مجموع الأصول في المصرف (مليون / دينار ليبيا)؟**

اقل من 1000 ( )

بين 1000 - 15000 ( )

اكثر من 15000 ( )

**7-. ما هو العدد التقريبي للموظفين في الفرع؟**

اقل من 100 ( )

بين 100-500 ( )

بين 501 – 1000 ( )

اكثر من 1000 ( )

**8-ما هو متوسط الايراد السنوي للمصرف (مليون دينار) في السنوات الثلاث الماضية؟**

اقل او تساوي 50 ( )

بين 51 – 250 ( )

بين 251- 450 ( )

بين 451 -650 ( )

اكثر من 651 ( )

**9- ما هو متوسط اجمالي الدخل قبل الضريبة للمصرف (مليون دينار) في السنوات الثلاث الماضية؟**

اقل او تساوي 5 ( )

بين 6- 35 ( )

بين 36 – 65( )

بين 66 – 95 ( )

أكثر من 95 ( )

**القسم الثاني :الأداء التنظيمي**

العبارات التالية لتقييم الأداء المالي وغير المالي للمصارف. يرجي تقييم اداء الفرع في السنوات الثلاث الماضية، وبالرجوع إلى البيانات الواردة في الجدول (ضع (√) في المربع المناسب).

| | الأداء غير المالي | أنخفاض ملحوظ | أنخفاض | لا تغيير | زيادة | زيادة كبيرة |
|---|---|---|---|---|---|---|
| 1 | مستوى رضا الزبون من الخدمات التي نقدمها | | | | | |
| 2 | إعادة تنشيط الحسابات الجامدة | | | | | |
| 3 | تقديم خدمات للزبائن في الفرع | | | | | |
| 4 | عمل ادارة العلاقات مع الزبائن في الفرع | | | | | |
| 5 | سمعة الفرع في القطاع المصرفي | | | | | |
| 6 | معدل سرعة تقديم الخدمة للزبون. | | | | | |
| 7 | تكلفة تقديم الخدمات في فرع | | | | | |
| 8 | معدل العمليات التشغيلية الصحيحة (خالية من الاخطاء) | | | | | |
| 9 | تطوير خدمات جديدة في الفرع | | | | | |
| 10 | حصة الفرع من الخدمات في السوق المصرفية | | | | | |
| | **الأداء المالي** | **أنخفاض ملحوظ** | **أنخفاض** | **لا تغيير** | **زيادة** | **زيادة كبيرة** |
| 11 | عدد القروض التي تم تحصيلها | | | | | |
| 12 | معدل الربح السنوي | | | | | |
| 13 | القروض المتعثرة | | | | | |
| 14 | نمو الودائع لدى الفرع | | | | | |
| 15 | نسبة تحصيل الديون المتعثرة الى اجمالي ديون الفرع | | | | | |
| 16 | الايرادات المحصلة من الرسوم على المعاملات | | | | | |
| 17 | قيم الحسابات الجارية وحسابات التوفير للزبائن | | | | | |
| 18 | حجم الودائع الثابتة لدى الفرع | | | | | |
| 19 | تحقيق أهداف الأداء المالي للفرع . | | | | | |
| 20 | مستوى المصاريف التي يتكبدها الفرع | | | | | |

**القسم الثالث: عوامل الطوارئ و المؤسسية**

**1. استراتيجية العمل.**

من فضلك, وضح مدى موافقتك من للانشطة الاستراتيجية التالية التي يقوم بها الفرع (ضع علامة (√) في المربع المناسب).

| | استراتيجية الهجوم | غير متفق بشدة | غير متفق | محايد | متفق | متفق بشدة |
|---|---|---|---|---|---|---|
| 1 | توفير خدمات ذات جودة عالية. | | | | | |
| 2 | تحسين الوقت المستغرق في تقديم الخدمات للزبائن. | | | | | |
| 3 | تقليل التكلفة اللازمة للتنسيق بين الخدمات المختلفة. | | | | | |
| 4 | توفير خدمات اضافية ما بعد تقديم الخدمة . | | | | | |
| | استراتيجية الدفاع | | | | | |
| 5 | سعر الخدمات التي نقدمها منخفض عن منافسينا | | | | | |
| 6 | نقديم مجموعة أوسع من الخدمات من المنافسين | | | | | |
| 7 | تلبية احتياجات الزبائن من الخدمات. | | | | | |
| | استراتيجية التحليل | | | | | |
| 8 | إدخال خدمات و إجراءات جديدة بسرعة | | | | | |
| 9 | تحقيق تكاليف خدمة منخفضة عن منافسيان | | | | | |
| 10 | تغيير في مزيج الخدمات المقدمة | | | | | |
| 11 | توفير خدمات مميزة و فريدة من نوعها | | | | | |

**2. الهيكل التنظيمي**

من فضلك , حدد مدى اعتقادك من ان هذه القرارت تتخذ من قبل الإدارة العليا للمصرف (ضع علامة (√) في المربع المناسب

| | اتخاذ القرارات | أبدا | نادرا | أحيانا | عادة | دائما |
|---|---|---|---|---|---|---|
| 1 | يتم اتخاذ قرارات الخدمة الجديدة في الإدارة العليا للمصرف | | | | | |
| 2 | يتم عادة اختيار الاستثمارات الكبيرة في الإدارة العليا للمصرف | | | | | |
| 3 | قرار توظيف وفصل الموظفين تتم عادة فقط من قبل الإدارة العليا للمصرف. | | | | | |
| 4 | يتم اتخاذ القرارات بشأن التغييرات كبيرة في الإدارة العليا للمصرف. | | | | | |
| 5 | يتم تعيين سياسات تسعير الخدمات من قبل الإدارة العليا للمصرف. | | | | | |
| 6 | يكون قرار تخصيص ميزانية في الإدارة العليا للمصرف. | | | | | |

**3.المنافسة**

من فضلك, وضح مدى موافقتك للعبارات التالية والتي توضح الوضع التنافسي للفرع مقارنة مع مثيلاته في القطاع المصرفي (ضع علامة (√) في المربع المناسب).

| | البيانات | غير متفق بشدة | غير متفق | محايد | متفق | متفق بشدة |
|---|---|---|---|---|---|---|
| 1 | يواجه فرعنا ارتفاع درجة المنافسة السعرية للخدمات. | | | | | |
| 2 | يواجه فرعنا درجة عالية من المنافسة في تطوير الخدمة الجديدة . | | | | | |
| 3 | يواجه فرعنا درجة عالية من المنافسة في مجال تسويق الخدمات . | | | | | |
| 4 | يواجه فرعنا درجة عالية من المنافسة في كسب حصة في سوق الخدمات . | | | | | |
| 5 | السلوكيات من المصارف المنافسة تشكل تهديدا كبيرا للفرع | | | | | |
| 6 | مستوى المنافسة في السوق لأهم الخدمات التي يتميز بها الفرع تكون كبيرة للغاية | | | | | |

**4. الضغوط القسرية**

من فضلك, وضح مدى موافقتك على العبارات التالية والتي توضح تاثير المصرف المركزي و المؤسسات الاخرى على مصرفكم (ضع علامة (√) في المربع المناسب).

| | البيانات | غير متفق بشدة | غير متفق | محايد | متفق | متفق بشدة |
|---|---|---|---|---|---|---|
| 1 | يتم فرض غرامات على المصرف إذا انتهك القرارات والمبادئ التوجيهية من قبل المصرف المركزي. | | | | | |
| 2 | يراقب المصرف المركزي مدى التزام الفروع بالقرارات والمبادئ التوجيهية الصادرة منه | | | | | |
| 3 | يشرف المصرف المركزي على تنفيذ إجراءات معالجة المشاكل التي يواجها المصرف. | | | | | |
| 4 | التشريعات الصادرة من قبل المصرف المركزي تساعد الفرع في عمله. | | | | | |
| 5 | يعمل المصرف المركزي على تشجيع و تحفيز الفرع للالتزام بالمعايير الصادرة منه. | | | | | |
| 6 | يحافظ مصرفنا على علاقة جيدة بالمصرف المركزي | | | | | |

**6. ضغوط المحاكاة**

من فضلك, وضح مدى موافقتك على العبارات التالية والتي توضح تاثيرالمنافسين الرئيسيين ( المصارف التجارية الاخرى) على مصرفكم (ضع علامة (√) في المربع المناسب).

| | البيانات | غير متفق بشدة | غير متفق | محايد | متفق | متفق بشدة |
|---|---|---|---|---|---|---|
| 1 | المنافسين الرئيسيين لهم تأثير كبير على أداء المصرف. | | | | | |
| 2 | المنافسين الرئيسيين ينوون استخدام مقاييس الأداء ( المالية وغير المالية) في المستقبل القريب. | | | | | |
| 3 | المنافسين الرئيسيين الذين يستخدمون مقاييس الأداء ( المالية وغير المالية) يستفيدون كثيرا منها. | | | | | |
| 4 | ينظر إلى المنافسين الرئيسيين الذين يستخدمون مقاييس الأداء ( المالية وغير المالية) بشكل إيجابي من قبل الآخرين | | | | | |
| 5 | المنافسين الرئيسيين الذين يستخدمون مقاييس الأداء ( المالية وغير المالية) يكونون اكثر نجاح . | | | | | |

**القسم الرابع: مقاييس الاداء**

الأسئلة التالية عن رأيك في مقاييس الأداء المالي وغير المالي التي يعتمدها الفرع ، يرجى الاشارة الى مدى استخدم كل مقياس من قبل الفرع لتقييم الأداء (ضع علامة (√) في المربع المناسب).

| | مقاييس الأداء المالي | لا على الإطلاق | إلى حد ضئيل | إلى حد ما | إلى حد كبير | إلى حد كبير جدا |
|---|---|---|---|---|---|---|
| 1 | معدل التحقيق في الميزانية التقديرية | | | | | |
| 2 | معدل نمو الإيرادات | | | | | |
| 3 | العائد على صافي الأصول | | | | | |
| 4 | دخل الفرع | | | | | |
| 5 | حصة المصرف من الخدمات المقدمة في السوق المصرفية . | | | | | |
| 6 | اداء الخدمة في الوقت المخصص لها | | | | | |
| 7 | الاحتفاظ بالزبون | | | | | |
| 8 | الاستجابة للزبون في الوقت المناسب. | | | | | |
| 9 | اجراء مسح لمعرفة رضا الزبائن. | | | | | |
| 10 | العمل الجماعي بين الموظفين | | | | | |
| 11 | نسبة الخطأ في العمليات التشغيلية | | | | | |
| 12 | معدل دوران العمالة (الموظفين) | | | | | |
| 13 | إنتاجية الموظف | | | | | |
| 14 | عدد شكاوى الزبائن | | | | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 15 | عدد الخدمات الجديدة التي تم إطلاقها | | | | | |
| 16 | وقت وصول الخدمات الجديدة الى السوق. | | | | | |
| 17 | رضا الموظفين | | | | | |
| 18 | نسبة الايراد من الخدمات الجديدة. | | | | | |
| 19 | اقتراحات الموظفين | | | | | |
| 20 | ساعات التدريب لكل موظف | | | | | |

شكرا لكم

**Appendix C**

# Non-Response Bias

## T test for Non-Response Bias

**Independent Samples Test**

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | |
|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error |
| Gender | Equal variances assumed | 2.181 | .142 | .728 | 162 | .467 | .02547 | .03496 |
| | Equal variances not assumed | | | .780 | 151.786 | .437 | .02547 | .03266 |
| Edu_Qualification | Equal variances assumed | .872 | .352 | -.007 | 162 | .994 | -.00127 | .17881 |
| | Equal variances not assumed | | | -.007 | 117.769 | .994 | -.00127 | .18271 |
| Field_Study | Equal variances assumed | .456 | .501 | -.458 | 162 | .648 | -.08563 | .18703 |
| | Equal variances not assumed | | | -.460 | 128.332 | .646 | -.08563 | .18598 |
| Experience | Equal variances assumed | 1.065 | .304 | -.792 | 162 | .430 | -.18303 | .23115 |
| | Equal variances not assumed | | | -.780 | 120.201 | .437 | -.18303 | .23469 |
| Type_bank | Equal variances assumed | 127.103 | .000 | -4.170 | 162 | .000 | -.27423 | .06577 |
| | Equal variances not assumed | | | -4.832 | 160.052 | .000 | -.27423 | .05675 |
| Assets_bank | Equal variances assumed | 1.151 | .285 | -4.118 | 162 | .000 | -.40570 | .09853 |
| | Equal variances not assumed | | | -4.437 | 153.767 | .000 | -.40570 | .09144 |
| Revenue | Equal variances assumed | .425 | .516 | -4.054 | 162 | .000 | -.71431 | .17618 |
| | Equal variances not assumed | | | -4.206 | 140.549 | .000 | -.71431 | .16984 |
| Income | Equal variances assumed | 2.625 | .107 | .596 | 200 | .552 | .114 | .191 |
| | Equal variances not assumed | | | .521 | 30.352 | .606 | .114 | .219 |
| BS | Equal variances assumed | 1.358 | .246 | .173 | 162 | .863 | .02032 | .11726 |
| | Equal variances not assumed | | | .169 | 115.424 | .866 | .02032 | .12057 |
| OS | Equal variances assumed | 5.674 | .018 | 1.977 | 162 | .050 | .23461 | .11865 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Equal variances not assumed | | | 1.817 | 96.401 | .072 | .23461 | .12908 |
| C | Equal variances assumed | .010 | .919 | .219 | 162 | .827 | .02610 | .11915 |
| | Equal variances not assumed | | | .218 | 124.866 | .828 | .02610 | .11952 |
| CP | Equal variances assumed | .629 | .429 | -.889 | 162 | .375 | -.10232 | .11505 |
| | Equal variances not assumed | | | -.858 | 112.492 | .393 | -.10232 | .11924 |
| NP | Equal variances assumed | .641 | .424 | -.655 | 162 | .514 | -.06758 | .10323 |
| | Equal variances not assumed | | | -.668 | 133.890 | .506 | -.06758 | .10122 |
| PM | Equal variances assumed | .133 | .716 | -.311 | 162 | .756 | -.03132 | .10059 |
| | Equal variances not assumed | | | -.308 | 122.142 | .758 | -.03132 | .10161 |
| OP | Equal variances assumed | 3.357 | .069 | 1.485 | 162 | .139 | .11683 | .07866 |
| | Equal variances not assumed | | | 1.416 | 108.242 | .160 | .11683 | .08251 |

## Appendix D

# Outliers

### D1.Outliers Test

**Residuals Statistics[a]**

| | Minimum | Maximum | Mean | Std. Deviation | N |
|---|---|---|---|---|---|
| Predicted Value | 16.1719 | 165.0827 | 82.5000 | 37.73561 | 164 |
| Std. Predicted Value | -1.758 | 2.188 | .000 | 1.000 | 164 |
| Standard Error of Predicted Value | 16.033 | 38.543 | 26.081 | 3.986 | 164 |
| Adjusted Predicted Value | -24.5744 | 445.8481 | 85.1968 | 55.90298 | 164 |
| Residual | -80.25366 | 79.98833 | .00000 | 28.82748 | 164 |
| Std. Residual | -2.057 | 2.050 | .000 | .739 | 164 |
| Stud. Residual | -2.592 | 2.372 | -.011 | .996 | 164 |
| Deleted Residual | -354.84805 | 124.57441 | -2.69680 | 61.14290 | 164 |
| Stud. Deleted Residual | -2.680 | 2.437 | -.010 | 1.005 | 164 |
| Mahal. Distance | 26.537 | 158.106 | 73.549 | 22.395 | 164 |
| Cook's Distance | .000 | 1.077 | .019 | .087 | 164 |
| Centered Leverage Value | .163 | .970 | .451 | .137 | 164 |

a. Dependent Variable: ID

### D2.Chi-Square Probabilities

| f | P = 0.05 | P = 0.01 | P = 0.001 | f | P = 0.05 | P = 0.01 | P = 0.001 | f | P = 0.05 | P = 0.01 | P = 0.001 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 3.84 | 6.64 | 10.83 | 35 | 49.80 | 57.34 | 66.62 | 68 | 88.25 | 98.03 | 109.79 |
| 2 | 5.99 | 9.21 | 13.82 | 36 | 51.00 | 58.62 | 67.99 | 69 | 89.39 | 99.23 | 111.06 |
| 3 | 7.82 | 11.35 | 16.27 | 37 | 52.19 | 59.89 | 69.35 | 70 | 90.53 | 100.42 | 112.31 |
| 4 | 9.49 | 13.28 | 18.47 | 38 | 53.38 | 61.16 | 70.71 | 71 | 91.67 | 101.62 | 113.56 |
| 5 | 11.07 | 15.09 | 20.52 | 39 | 54.57 | 62.43 | 72.06 | 72 | 92.81 | 102.82 | 114.84 |
| 6 | 12.59 | 16.81 | 22.46 | 40 | 55.76 | 63.69 | 73.41 | 73 | 93.95 | **104.01** | 116.08 |
| 7 | 14.07 | 18.48 | 24.32 | 41 | 56.94 | 64.95 | 74.75 | 74 | 95.08 | 105.20 | 117.35 |
| 8 | 15.51 | 20.09 | 26.13 | 42 | 58.12 | 66.21 | 76.09 | 75 | 96.22 | 106.39 | 118.60 |
| 9 | 16.92 | 21.67 | 27.88 | 43 | 59.30 | 67.46 | 77.42 | 76 | 97.35 | 107.58 | 119.85 |
| 10 | 18.31 | 23.21 | 29.59 | 44 | 60.48 | 68.71 | 78.75 | 77 | 98.49 | 108.77 | 121.11 |
| 11 | 19.68 | 24.73 | 31.26 | 45 | 61.66 | 69.96 | 80.08 | 78 | 99.62 | 109.96 | 122.36 |
| 12 | 21.03 | 26.22 | 32.91 | 46 | 62.83 | 71.20 | 81.40 | 79 | 100.75 | 111.15 | 123.60 |
| 13 | 22.36 | 27.69 | 34.53 | 47 | 64.00 | 72.44 | 82.72 | 80 | 101.88 | 112.33 | 124.84 |
| 14 | 23.69 | 29.14 | 36.12 | 48 | 65.17 | 73.68 | 84.03 | 81 | 103.01 | 113.51 | 126.09 |
| 15 | 25.00 | 30.58 | 37.70 | 49 | 66.34 | 74.92 | 85.35 | 82 | 104.14 | 114.70 | 127.33 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 16 | 26.30 | 32.00 | 39.25 | 50 | 67.51 | 76.15 | 86.66 | 83 | 105.27 | 115.88 | 128.57 |
| 17 | 27.59 | 33.41 | 40.79 | 51 | 68.67 | 77.39 | 87.97 | 84 | 106.40 | 117.06 | 129.80 |
| 18 | 28.87 | 34.81 | 42.31 | 52 | 69.83 | 78.62 | 89.27 | 85 | 107.52 | 118.24 | 131.04 |
| 19 | 30.14 | 36.19 | 43.82 | 53 | 70.99 | 79.84 | 90.57 | 86 | 108.65 | 119.41 | 132.28 |
| 20 | 31.41 | 37.57 | 45.32 | 54 | 72.15 | 81.07 | 91.88 | 87 | 109.77 | 120.59 | 133.51 |
| 21 | 32.67 | 38.93 | 46.80 | 55 | 73.31 | 82.29 | 93.17 | 88 | 110.90 | 121.77 | 134.74 |
| 22 | 33.92 | 40.29 | 48.27 | 56 | 74.47 | 83.52 | 94.47 | 89 | 112.02 | 122.94 | 135.96 |
| 23 | 35.17 | 41.64 | 49.73 | 57 | 75.62 | 84.73 | 95.75 | 90 | 113.15 | 124.12 | 137.19 |
| 24 | 36.42 | 42.98 | 51.18 | 58 | 76.78 | 85.95 | 97.03 | 91 | 114.27 | 125.29 | 138.45 |
| 25 | 37.65 | 44.31 | 52.62 | 59 | 77.93 | 87.17 | 98.34 | 92 | 115.39 | 126.46 | 139.66 |
| 26 | 38.89 | 45.64 | 54.05 | 60 | 79.08 | 88.38 | 99.62 | 93 | 116.51 | 127.63 | 140.90 |
| 27 | 40.11 | 46.96 | 55.48 | 61 | 80.23 | 89.59 | 100.88 | 94 | 117.63 | 128.80 | 142.12 |
| 28 | 41.34 | 48.28 | 56.89 | 62 | 81.38 | 90.80 | 102.15 | 95 | 118.75 | 129.97 | 143.32 |
| 29 | 42.56 | 49.59 | 58.30 | 63 | 82.53 | 92.01 | 103.46 | 96 | 119.87 | 131.14 | 144.55 |
| 30 | 43.77 | 50.89 | 59.70 | 64 | 83.68 | 93.22 | 104.72 | 97 | 120.99 | 132.31 | 145.78 |
| 31 | 44.99 | 52.19 | 61.10 | 65 | 84.82 | 94.42 | 105.97 | 98 | 122.11 | 133.47 | 146.99 |
| 32 | 46.19 | 53.49 | 62.49 | 66 | 85.97 | 95.63 | 107.26 | 99 | 123.23 | 134.64 | 148.21 |
| 33 | 47.40 | 54.78 | 63.87 | 67 | 87.11 | 96.83 | 108.54 | 100 | 124.34 | 135.81 | 149.48 |
| 34 | 48.60 | 56.06 | 65.25 | | | | | | | | |

Source: http://home.comcast.net/~sharov/PopEcol/Tables/chisq.html

Nearest point of 74 -1= 73 (number of questions) Critical value at 0.01

**D3.Deleted all this Questionnaire**

| No | No. Questionnaire | MAH 1 |
|---|---|---|
| **1** | 91.00 | 96.85568 |
| **2** | 60.00 | 93.37398 |
| **3** | 113.00 | 92.23752 |
| **4** | 58.00 | 91.85427 |
| **5** | 143.00 | 88.41939 |
| **6** | 133.00 | 86.96900 |
| **7** | 46.00 | 86.95292 |
| **8** | 79.00 | 85.20604 |
| **9** | 74.00 | 84.43521 |
| **10** | 88.00 | 83.41511 |

**Appendix E**

# Normality

| | N | Mean | Std. Deviation | Skewness | | Kurtosis | |
|---|---|---|---|---|---|---|---|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic | Std. Error |
| OPN1 | 154 | 3.1917 | 1.01438 | -.549 | .195 | -.732 | .389 |
| OPN2 | 154 | 3.0416 | .88472 | -.487 | .195 | -.184 | .389 |
| OPN3 | 154 | 3.5562 | .92627 | -.792 | .195 | .480 | .389 |
| OPN4 | 154 | 3.2312 | .87854 | -.310 | .195 | .330 | .389 |
| OPN5 | 154 | 3.6840 | .93180 | -.502 | .195 | -.125 | .389 |
| OPN6 | 154 | 3.4740 | .85328 | -.654 | .195 | .268 | .389 |
| OPN7 | 154 | 3.2959 | .76559 | -.657 | .195 | 1.203 | .389 |
| OPN8 | 154 | 3.1761 | .85423 | -.230 | .195 | -.118 | .389 |
| OPN9 | 154 | 3.5264 | .81608 | -.817 | .195 | 1.111 | .389 |
| OPN10 | 154 | 3.4748 | .81919 | -.459 | .195 | .230 | .389 |
| OPF11 | 154 | 3.2786 | .83822 | -.315 | .195 | .290 | .389 |
| OPF12 | 154 | 3.3912 | 1.03302 | -.748 | .195 | -.198 | .389 |
| OPF13 | 154 | 2.6676 | .82711 | .080 | .195 | .409 | .389 |
| OPF14 | 154 | 3.3177 | .91220 | -.646 | .195 | .253 | .389 |
| OPF15 | 154 | 2.9923 | .85938 | -.359 | .195 | -.170 | .389 |
| OPF16 | 154 | 3.6643 | .75503 | -1.085 | .195 | 1.634 | .389 |
| OPF17 | 154 | 3.7649 | .85855 | -.644 | .195 | .259 | .389 |
| OPF18 | 154 | 3.1094 | .90120 | -.334 | .195 | .539 | .389 |
| OPF19 | 154 | 3.4028 | .83690 | -.566 | .195 | .204 | .389 |
| OPF20 | 154 | 3.4528 | .79695 | -.392 | .195 | -.087 | .389 |
| BS_P1 | 154 | 3.5425 | .97005 | -.535 | .195 | -.315 | .389 |
| BS_P2 | 154 | 3.5527 | .89872 | -.625 | .195 | -.342 | .389 |
| BS_P3 | 154 | 3.3869 | .77364 | -.214 | .195 | -.488 | .389 |
| BS_P4 | 154 | 3.3971 | .94336 | -.313 | .195 | -.636 | .389 |
| BS_D5 | 154 | 3.4221 | 1.00835 | -.462 | .195 | -.452 | .389 |
| BS_D6 | 154 | 3.3920 | .99588 | -.301 | .195 | -.369 | .389 |
| BS_D7 | 154 | 3.6039 | .86636 | -.906 | .195 | .634 | .389 |
| BS_A8 | 154 | 3.6494 | .98041 | -.426 | .195 | -.631 | .389 |
| BS_A9 | 154 | 3.4107 | .86524 | -.180 | .195 | -.723 | .389 |
| BS_A10 | 154 | 3.3489 | .84734 | -.297 | .195 | -.216 | .389 |
| BS_A11 | 154 | 3.4576 | 1.13752 | -.380 | .195 | -.684 | .389 |
| OS1 | 154 | 4.4116 | .92553 | -1.566 | .195 | 1.647 | .389 |
| OS2 | 154 | 4.4377 | .88436 | -1.503 | .195 | 1.259 | .389 |
| OS3 | 154 | 4.4704 | .88605 | -1.594 | .195 | 1.463 | .389 |
| OS4 | 154 | 4.5260 | .81808 | -1.971 | .195 | 4.136 | .389 |
| OS5 | 154 | 4.5390 | .79322 | -1.921 | .195 | 3.676 | .389 |
| OS6 | 154 | 4.6688 | .67693 | -2.556 | .195 | 7.829 | .389 |
| C1 | 154 | 3.3921 | 1.01772 | -.626 | .195 | -.193 | .389 |
| C2 | 154 | 3.7338 | .92208 | -.762 | .195 | .221 | .389 |
| C3 | 154 | 3.6863 | .94376 | -.789 | .195 | .260 | .389 |
| C4 | 154 | 3.7254 | .90196 | -.887 | .195 | .708 | .389 |
| C5 | 154 | 3.3571 | 1.05210 | -.247 | .195 | -.602 | .389 |
| C6 | 154 | 3.6078 | .91634 | -.530 | .195 | .113 | .389 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| CP1 | 154 | 4.1623 | .83604 | -.858 | .195 | .268 | .389 |
| CP2 | 154 | 4.1169 | .86280 | -.909 | .195 | .373 | .389 |
| CP3 | 154 | 3.3661 | .99510 | -.470 | .195 | -.191 | .389 |
| CP4 | 154 | 3.2727 | 1.05578 | -.398 | .195 | -.553 | .389 |
| CP5 | 154 | 3.2027 | .99252 | -.338 | .195 | -.089 | .389 |
| CP6 | 154 | 3.7633 | .94790 | -.718 | .195 | .677 | .389 |
| NP1 | 154 | 3.8684 | .89796 | -1.051 | .195 | 1.254 | .389 |
| NP2 | 154 | 3.0332 | .87386 | -.245 | .195 | -.128 | .389 |
| NP3 | 154 | 2.9726 | .87781 | -.120 | .195 | .056 | .389 |
| NP4 | 154 | 3.2043 | 1.04375 | -.352 | .195 | -.514 | .389 |
| NP5 | 154 | 3.5235 | .93470 | -.751 | .195 | .304 | .389 |
| PM_F1 | 154 | 3.2232 | .85422 | -.397 | .195 | .753 | .389 |
| PM_F2 | 154 | 3.4196 | .85570 | -.379 | .195 | .178 | .389 |
| PM_F3 | 154 | 3.2747 | .83644 | -.308 | .195 | .643 | .389 |
| PM_F4 | 154 | 3.5385 | .79437 | -.208 | .195 | .504 | .389 |
| PM_N5 | 154 | 3.2632 | .77245 | -.454 | .195 | .829 | .389 |
| PM_N6 | 154 | 3.3147 | .81452 | .069 | .195 | .634 | .389 |
| PM_N7 | 154 | 3.6615 | .88970 | -.671 | .195 | .762 | .389 |
| PM_N8 | 154 | 3.5967 | .86395 | -.275 | .195 | .067 | .389 |
| PM_N9 | 154 | 2.8570 | 1.09066 | -.074 | .195 | -.589 | .389 |
| PM_N10 | 154 | 3.6128 | .91072 | -.658 | .195 | .728 | .389 |
| PM_N11 | 154 | 2.7514 | .78281 | .321 | .195 | .321 | .389 |
| PM_N12 | 154 | 2.8581 | .90027 | -.089 | .195 | -.096 | .389 |
| PM_N13 | 154 | 3.2500 | .87473 | -.238 | .195 | -.023 | .389 |
| PM_N14 | 154 | 2.8656 | .95423 | .598 | .195 | -.395 | .389 |
| PM_N15 | 154 | 3.1695 | .95923 | -.400 | .195 | -.163 | .389 |
| PM_N16 | 154 | 3.0481 | .97908 | -.142 | .195 | -.272 | .389 |
| PM_N17 | 154 | 3.1149 | 1.03867 | -.343 | .195 | -.253 | .389 |
| PM_N18 | 154 | 3.3135 | .95523 | -.363 | .195 | .061 | .389 |
| PM_N19 | 154 | 2.8298 | 1.10480 | .025 | .195 | -.624 | .389 |
| PM_N20 | 154 | 2.6228 | 1.05042 | .372 | .195 | -.464 | .389 |
| Valid N (listwise) | 154 | | | | | | |

## Appendix F

# Factor Analysis

### F1.Factor Analysis for Contingency and Institutional Factors (IV)Analysis Factors

**KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .788 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 2019.216 |
| | df | 300 |
| | Sig. | .000 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| BS_P1 | 1.000 | .625 |
| BS_P2 | 1.000 | .726 |
| BS_P3 | 1.000 | .499 |
| BS_P4 | 1.000 | .563 |
| BS_D6 | 1.000 | .546 |
| BS_D7 | 1.000 | .590 |
| BS_A8 | 1.000 | .617 |
| BS_A11 | 1.000 | .573 |
| OS1 | 1.000 | .699 |
| OS2 | 1.000 | .691 |
| OS3 | 1.000 | .681 |
| OS4 | 1.000 | .642 |
| OS5 | 1.000 | .725 |
| C2 | 1.000 | .697 |
| C3 | 1.000 | .777 |
| C4 | 1.000 | .780 |
| C5 | 1.000 | .592 |
| C6 | 1.000 | .620 |
| CP3 | 1.000 | .655 |
| CP4 | 1.000 | .505 |
| CP5 | 1.000 | .767 |
| CP6 | 1.000 | .613 |
| NP3 | 1.000 | .512 |
| NP4 | 1.000 | .742 |
| NP5 | 1.000 | .685 |

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.605 | 22.420 | 22.420 | 5.605 | 22.420 | 22.420 |
| 2 | 4.369 | 17.477 | 39.897 | 4.369 | 17.477 | 39.897 |
| 3 | 2.690 | 10.761 | 50.658 | 2.690 | 10.761 | 50.658 |
| 4 | 1.961 | 7.844 | 58.502 | 1.961 | 7.844 | 58.502 |
| 5 | 1.497 | 5.987 | 64.489 | 1.497 | 5.987 | 64.489 |
| 6 | .989 | 3.955 | 68.444 | | | |
| 7 | .911 | 3.643 | 72.087 | | | |
| 8 | .749 | 2.996 | 75.083 | | | |
| 9 | .622 | 2.488 | 77.571 | | | |
| 10 | .616 | 2.463 | 80.034 | | | |
| 11 | .584 | 2.334 | 82.368 | | | |
| 12 | .538 | 2.150 | 84.519 | | | |
| 13 | .507 | 2.026 | 86.545 | | | |
| 14 | .447 | 1.787 | 88.332 | | | |
| 15 | .433 | 1.731 | 90.063 | | | |
| 16 | .362 | 1.448 | 91.511 | | | |
| 17 | .335 | 1.341 | 92.851 | | | |
| 18 | .324 | 1.296 | 94.147 | | | |
| 19 | .299 | 1.196 | 95.343 | | | |
| 20 | .268 | 1.071 | 96.414 | | | |
| 21 | .228 | .911 | 97.325 | | | |
| 22 | .213 | .852 | 98.177 | | | |
| 23 | .176 | .704 | 98.881 | | | |
| 24 | .152 | .610 | 99.490 | | | |
| 25 | .127 | .510 | 100.000 | | | |

**Pattern Matrix[a]**

| | Component | | | | |
|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 |
| BS_P1 | .786 | | | | |
| BS_P2 | .862 | | | | |
| BS_P3 | .679 | | | | |
| BS_P4 | .717 | | | | |
| BS_D6 | .660 | | | | |
| BS_D7 | .693 | | | | |
| BS_A8 | .710 | | | | |
| BS_A11 | .721 | | | | |
| OS1 | | | -.802 | | |
| OS2 | | | -.813 | | |
| OS3 | | | -.773 | | |
| OS4 | | | -.810 | | |
| OS5 | | | -.849 | | |

| | | | | | |
|---|---|---|---|---|---|
| C2 | | .772 | | | |
| C3 | | .839 | | | |
| C4 | | .860 | | | |
| C5 | | .684 | | | |
| C6 | | .796 | | | |
| CP3 | | | | .732 | |
| CP4 | | | | .698 | |
| CP5 | | | | .850 | |
| CP6 | | | | .766 | |
| NP3 | | | | | .694 |
| NP4 | | | | | .836 |
| NP5 | | | | | .819 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
Rotation converged in 8 iterations.

## F2.Factor Analysis for Performance Measures (Mediator)

**KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .903 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1431.287 |
| | df | 105 |
| | Sig. | .000 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| PM_F1 | 1.000 | .590 |
| PM_F2 | 1.000 | .823 |
| PM_F3 | 1.000 | .785 |
| PM_F4 | 1.000 | .727 |
| PM_N6 | 1.000 | .723 |
| PM_N7 | 1.000 | .843 |
| PM_N8 | 1.000 | .809 |
| PM_N10 | 1.000 | .727 |
| PM_N12 | 1.000 | .748 |
| PM_N13 | 1.000 | .746 |
| PM_N15 | 1.000 | .785 |
| PM_N16 | 1.000 | .790 |
| PM_N17 | 1.000 | .631 |
| PM_N18 | 1.000 | .740 |
| PM_N20 | 1.000 | .673 |

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 7.275 | 48.497 | 48.497 | 7.275 | 48.497 | 48.497 |
| 2 | 1.547 | 10.317 | 58.813 | 1.547 | 10.317 | 58.813 |
| 3 | 1.280 | 8.532 | 67.345 | 1.280 | 8.532 | 67.345 |
| 4 | 1.038 | 6.921 | 74.265 | 1.038 | 6.921 | 74.265 |
| 5 | .610 | 4.064 | 78.330 | | | |
| 6 | .556 | 3.707 | 82.037 | | | |
| 7 | .454 | 3.027 | 85.063 | | | |
| 8 | .416 | 2.776 | 87.839 | | | |
| 9 | .390 | 2.597 | 90.436 | | | |
| 10 | .330 | 2.198 | 92.634 | | | |
| 11 | .276 | 1.837 | 94.471 | | | |
| 12 | .260 | 1.736 | 96.207 | | | |
| 13 | .209 | 1.390 | 97.597 | | | |
| 14 | .187 | 1.245 | 98.842 | | | |
| 15 | .174 | 1.158 | 100.000 | | | |

**Pattern Matrix[a]**

| | Component | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| PM_F1 | | | -.785 | |
| PM_F2 | | | -.827 | |
| PM_F3 | | | -.792 | |
| PM_F4 | | | -.782 | |
| PM_N6 | | .711 | | |
| PM_N7 | | .904 | | |
| PM_N8 | | .858 | | |
| PM_N10 | | | | .612 |
| PM_N12 | | | | .727 |
| PM_N13 | | | | .773 |
| PM_N15 | .862 | | | |
| PM_N16 | .851 | | | |
| PM_N17 | .691 | | | |
| PM_N18 | .709 | | | |
| PM_N20 | .808 | | | |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 9 iterations.

## F3.Factor Analysis forOrganisational Performance (DV)

**KMO and Bartlett's Test**

| | | |
|---|---|---|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | .873 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 844.540 |
| | df | 66 |
| | Sig. | .000 |

**Communalities**

| | Initial | Extraction |
|---|---|---|
| OPN1 | 1.000 | .675 |
| OPN3 | 1.000 | .749 |
| OPN5 | 1.000 | .650 |
| OPN6 | 1.000 | .686 |
| OPN9 | 1.000 | .407 |
| OPN10 | 1.000 | .446 |
| OPF12 | 1.000 | .661 |
| OPF14 | 1.000 | .620 |
| OPF16 | 1.000 | .514 |
| OPF17 | 1.000 | .559 |
| OPF18 | 1.000 | .450 |
| OPF19 | 1.000 | .604 |

Extraction Method: Principal Component Analysis.

**Total Variance Explained**

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.465 | 45.540 | 45.540 | 5.465 | 45.540 | 45.540 |
| 2 | 1.554 | 12.949 | 58.489 | 1.554 | 12.949 | 58.489 |
| 3 | .924 | 7.696 | 66.186 | | | |
| 4 | .794 | 6.617 | 72.803 | | | |
| 5 | .596 | 4.963 | 77.765 | | | |
| 6 | .543 | 4.522 | 82.287 | | | |
| 7 | .516 | 4.300 | 86.587 | | | |
| 8 | .405 | 3.374 | 89.961 | | | |
| 9 | .351 | 2.923 | 92.884 | | | |
| 10 | .321 | 2.673 | 95.557 | | | |
| 11 | .284 | 2.369 | 97.927 | | | |
| 12 | .249 | 2.073 | 100.000 | | | |

**Pattern Matrix**[a]

| | Component | |
|---|---|---|
| | 1 | 2 |
| OPN1 | .784 | |
| OPN3 | .918 | |
| OPN5 | .726 | |
| OPN6 | .878 | |
| OPN9 | .535 | |
| OPN10 | | .464 |
| OPF12 | | .814 |
| OPF14 | | .845 |
| OPF16 | | .517 |
| OPF17 | | .576 |
| OPF18 | | .697 |
| OPF19 | | .488 |

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 9 iterations.

## Appendix G

# Reliability

### Business Strategy

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .882 | 8 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| BS_P1 | 24.4395 | 24.455 | .652 | .866 |
| BS_P2 | 24.4293 | 24.480 | .715 | .860 |
| BS_P3 | 24.5952 | 26.492 | .572 | .874 |
| BS_P4 | 24.5849 | 24.937 | .618 | .870 |
| BS_D6 | 24.5900 | 24.510 | .623 | .870 |
| BS_D7 | 24.3781 | 25.120 | .665 | .866 |
| BS_A8 | 24.3327 | 23.946 | .702 | .861 |
| BS_A11 | 24.5244 | 23.179 | .655 | .868 |

### Organisational Structure

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .879 | 5 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| OS1 | 17.9731 | 7.878 | .735 | .848 |
| OS2 | 17.9469 | 8.092 | .731 | .849 |
| OS3 | 17.9142 | 8.128 | .720 | .852 |
| OS4 | 17.8587 | 8.702 | .659 | .866 |
| OS5 | 17.8457 | 8.580 | .720 | .853 |

## Competition

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .872 | 5 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| C2 | 14.3766 | 9.902 | .711 | .842 |
| C3 | 14.4241 | 9.405 | .792 | .821 |
| C4 | 14.3850 | 9.686 | .780 | .826 |
| C5 | 14.7532 | 9.896 | .586 | .876 |
| C6 | 14.5026 | 10.253 | .646 | .857 |

## Coercive Pressures

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .786 | 4 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| CP3 | 10.2387 | 5.786 | .613 | .723 |
| CP4 | 10.3321 | 6.066 | .487 | .789 |
| CP5 | 10.4022 | 5.394 | .723 | .665 |
| CP6 | 9.8415 | 6.167 | .562 | .748 |

**Normative Pressures**

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .743 | 3 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| NP3 | 6.7279 | 3.196 | .462 | .772 |
| NP4 | 6.4961 | 2.247 | .665 | .536 |
| NP5 | 6.1769 | 2.706 | .597 | .626 |

**Performance Measures**

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .922 | 15 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| PM_F1 | 45.7954 | 80.199 | .521 | .921 |
| PM_F2 | 45.5990 | 77.679 | .696 | .916 |
| PM_F3 | 45.7439 | 77.717 | .711 | .915 |
| PM_F4 | 45.4801 | 79.120 | .648 | .917 |
| PM_N6 | 45.7039 | 78.595 | .668 | .916 |
| PM_N7 | 45.3571 | 78.756 | .593 | .919 |
| PM_N8 | 45.4218 | 78.546 | .628 | .918 |
| PM_N10 | 45.4058 | 78.767 | .576 | .919 |
| PM_N12 | 46.1604 | 79.069 | .564 | .919 |
| PM_N13 | 45.7686 | 79.307 | .567 | .919 |
| PM_N15 | 45.8491 | 76.411 | .690 | .916 |
| PM_N16 | 45.9705 | 75.661 | .721 | .914 |
| PM_N17 | 45.9037 | 75.903 | .659 | .917 |
| PM_N18 | 45.7051 | 75.710 | .739 | .914 |
| PM_N20 | 46.3958 | 76.685 | .604 | .919 |

**Organisational Performance**

**Reliability Statistics**

| Cronbach's Alpha | N of Items |
|---|---|
| .888 | 12 |

**Item-Total Statistics**

| | Scale Mean if Item Deleted | Scale Variance if Item Deleted | Corrected Item-Total Correlation | Cronbach's Alpha if Item Deleted |
|---|---|---|---|---|
| OPN1 | 38.3656 | 41.363 | .674 | .874 |
| OPN3 | 38.0011 | 43.083 | .595 | .878 |
| OPN5 | 37.8733 | 41.992 | .689 | .873 |
| OPN6 | 38.0833 | 44.034 | .567 | .880 |
| OPN9 | 38.0309 | 44.670 | .536 | .881 |
| OPN10 | 38.0825 | 44.133 | .586 | .879 |
| OPF12 | 38.1661 | 42.244 | .586 | .879 |
| OPF14 | 38.2396 | 44.588 | .473 | .885 |
| OPF16 | 37.8930 | 44.295 | .628 | .877 |
| OPF17 | 37.7924 | 43.145 | .647 | .876 |
| OPF18 | 38.4479 | 45.075 | .437 | .887 |
| OPF19 | 38.1545 | 42.724 | .709 | .872 |

## Appendix H

# Correlations

**Correlations**

| | | BS | OS | C | CP | NP | PM | OP |
|---|---|---|---|---|---|---|---|---|
| BS | Pearson Correlation | 1 | .119 | -.001 | .341** | .224** | .442** | .410** |
| | Sig. (2-tailed) | | .141 | .987 | .000 | .005 | .000 | .000 |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| OS | Pearson Correlation | .119 | 1 | .346** | .115 | -.033 | -.077 | .185* |
| | Sig. (2-tailed) | .141 | | .000 | .156 | .686 | .342 | .022 |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| C | Pearson Correlation | -.001 | .346** | 1 | .132 | .162* | -.065 | -.008 |
| | Sig. (2-tailed) | .987 | .000 | | .104 | .045 | .425 | .926 |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| CP | Pearson Correlation | .341** | .115 | .132 | 1 | .317** | .351** | .296** |
| | Sig. (2-tailed) | .000 | .156 | .104 | | .000 | .000 | .000 |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| NP | Pearson Correlation | .224** | -.033 | .162* | .317** | 1 | .398** | .078 |
| | Sig. (2-tailed) | .005 | .686 | .045 | .000 | | .000 | .333 |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| PM | Pearson Correlation | .442** | -.077 | -.065 | .351** | .398** | 1 | .437** |
| | Sig. (2-tailed) | .000 | .342 | .425 | .000 | .000 | | .000 |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |
| OP | Pearson Correlation | .410** | .185* | -.008 | .296** | .078 | .437** | 1 |
| | Sig. (2-tailed) | .000 | .022 | .926 | .000 | .333 | .000 | |
| | N | 154 | 154 | 154 | 154 | 154 | 154 | 154 |

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

## Appendix I

# Regression Analysis

### I1.Results of Multiple Regressions between Contingency and Institutional Factors (IV) and Performance Measures (Mediator)

| R | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | R Square Change | F Change | df1 | df2 | Sig. F Change |
| .577a | .332 | .310 | .52219 | .332 | 14.741 | 5 | 148 | .000 |

a. Predictors: (Constant), NP, OS, BS, C, CP
b. Dependent Variable: PM

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 20.098 | 5 | 4.020 | 14.741 | .000[a] |
| | Residual | 40.357 | 148 | .273 | | |
| | Total | 60.455 | 153 | | | |

a. Predictors: (Constant), NP, OS, BS, C, CP
b. Dependent Variable: PM

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.685 | .373 | | 4.521 | .000 |
| | BS | .296 | .065 | .331 | 4.542 | .000 |
| | OS | -.082 | .065 | -.092 | -1.263 | .208 |
| | C | -.082 | .060 | -.101 | -1.376 | .171 |
| | CP | .139 | .060 | .172 | 2.306 | .022 |
| | NP | .229 | .059 | .282 | 3.879 | .000 |

**I2.Results of Multiple Regressions between Contingency and Institutional Factors (IV) andOrganisational Performance (DV )**

**Model Summary**

| | | | | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|
| R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change |
| .468[a] | .219 | .192 | .53577 | .219 | 8.289 | 5 | 148 | .000 |

a. Predictors: (Constant), NP, OS, BS, C, CP
b. Dependent Variable: OP

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 11.897 | 5 | 2.379 | 8.289 | .000[a] |
| | Residual | 42.483 | 148 | .287 | | |
| | Total | 54.380 | 153 | | | |

a. Predictors: (Constant), NP, OS, BS, C, CP
b. Dependent Variable: OP

**Coefficients[a]**

| | | Unstandardized Coefficients | | Standardized Coefficients | | |
|---|---|---|---|---|---|---|
| Model | | B | Std. Error | Beta | t | Sig. |
| 1 | (Constant) | 1.728 | .382 | | 4.520 | .000 |
| | BS | .286 | .067 | .337 | 4.284 | .000 |
| | OS | .125 | .066 | .149 | 1.883 | .062 |
| | C | -.059 | .061 | -.077 | -.967 | .335 |
| | CP | .143 | .062 | .186 | 2.311 | .022 |
| | NP | -.030 | .061 | -.039 | -.493 | .623 |

a. Dependent Variable: OP

**I3.Results of Bivariate Regression between Performance Measures (Mediator) andOrganisational Performance (DV)**

**Model Summary**

| | | | | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|
| R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change |
| .437[a] | .191 | .186 | .53798 | .191 | 35.890 | 1 | 152 | .000 |

a. Predictors: (Constant), PM
b. Dependent Variable: OP

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 10.387 | 1 | 10.387 | 35.890 | .000[a] |
| | Residual | 43.992 | 152 | .289 | | |
| | Total | 54.380 | 153 | | | |

a. Predictors: (Constant), PM
b. Dependent Variable: OP

**Coefficientsa**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 2.109 | .230 | | 9.158 | .000 |
| | PM | .415 | .069 | .437 | 5.991 | .000 |

a. Dependent Variable: OP

**I4.The Regression of Organisation Performance (DV) on both the Contingency and Institutional Factors (IV) and Performance Measures (Mediator)**

**Model Summary**

| | | | | Change Statistics | | | | |
|---|---|---|---|---|---|---|---|---|
| R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change |
| .555[a] | .308 | .280 | .50585 | .308 | 10.920 | 6 | 147 | .000 |

a. Predictors: (Constant), PM , NP, OS, BS, C, CP
b. Dependent Variable: OP

**ANOVA[b]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 16.765 | 6 | 2.794 | 10.920 | .000[a] |
| | Residual | 37.615 | 147 | .256 | | |
| | Total | 54.380 | 153 | | | |

a. Predictors: (Constant), PM, C, OS, CP, NP, BS
b. Dependent Variable: OP

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | 1.143 | .385 | | 2.968 | .004 |
| | BS | .183 | .067 | .216 | 2.725 | .007 |
| | OS | .153 | .063 | .182 | 2.434 | .016 |
| | C | -.031 | .058 | -.040 | -.527 | .599 |
| | CP | .094 | .059 | .123 | 1.592 | .114 |
| | NP | -.109 | .060 | -.142 | -1.823 | .070 |
| | PM | .347 | .080 | .366 | 4.362 | .000 |

a. Dependent Variable: OP