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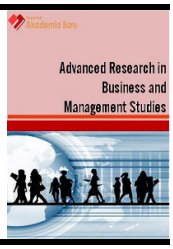

Contextual factors of performance measurement systems design in Libyan commercial banks

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ABSTRACT

Based on the contingency theory, this study examines the contextual factors that influence the design of performance measurement systems (PMS). Specifically, this study examines the influence of business strategy and organizational structure on the choice of measurements in Libyan commercial banks. Since the early 1980s, contingency-based research has focused on the search for the best design of management control systems. This research renews this idea by including two factors - business strategy and organizational structure. This research is conducted to contribute to the inconclusive and limited evidence concerning the influence of contextual variables in the design of PMS, particularly in the service industry in less developed countries, such as Libya. The data were gathered from Libyan commercial banks using a survey questionnaire mailed to the branch managers. Data analysis was conducted by employing descriptive analysis, factor analysis, reliability analysis, and multiple regression. The findings show that business strategy has a positive and significant relationship with PMS, while organizational structure has an insignificant influence on PMS design. The results of this study imply that managers should consider the contextual factors that may influence the choice of performance measures, so that the design of their PMS will result in better organizational performance.

Keywords:
Performance measurement systems, contingency theory, business strategy, organizational structure, Libyan commercial banks

1. Introduction

Performance measurement systems (hereafter PMS) are a topic that had received an enormous attention from academics and practitioners in recent decades, particularly after the introduction of the Balanced Scorecard (hereafter BSC) in the 1990s. However, according to [1], little definition has been given in the literature regarding PMS. They defined PMS as the process of quantifying the efficiency and effectiveness of an action, while performance measure is a metric used to quantify the efficiency and effectiveness of the action. Another definition is given by [2] who defined PMS as comprehensive models of the firm as a system, which reflect the organisational knowledge of the

relations among various value-chain performance measures. In the recent article, author [3] claimed that even though there are vast articles on PMS, but, there is still lacking in PMS literature where he mentioned that "PMS needs clarification as the field is now multidisciplinary and wide with no proper definitions or cohesive framework" (p.1). According to [2] improving the performance measurement of key parts of the value chain is one of management accounting's major roles. Valid performance measurement is important since it is able to help a firm to effectively describe and implement strategy, guide employees' behaviour, assess managerial effectiveness and provide a basis for rewards. Also, PMS is important for accountability and monitoring purposes and for enhancing organizational performance and promoting the organizational credibility [4]. While, [5] described PMS as information systems that consists of financial and non-financial measures that are derived from strategies and designed to align individual actions with the organisational strategy.

The objective of this paper is to examine the relationship between two contextual variables – business strategy and organisational structure and PMS in Libyan commercial banks. Following the financial crisis, which occurred in 2008, banks took steps to improve their PMS capabilities in light of the change in economic and market conditions and new management needs. According to author [6], 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 [7]. In addition, to develop an innovative PMS, the simplest method is to utilise the integration of the set of financial and non-financial measurements [8]. Proponents of the method have argued that it could lead to superior firm performance [9]. Many researchers [7, 10, 11] 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 investigated the use of financial and non-financial measurements in the banking sector have been very few [12].

PMS design in this paper refers to the adoption of financial and non-financial measures. This paper proposes a framework based on the contingency theory, which argues that the fit between contextual factors (business strategy and organisational structure) and the PMS design is very important to have better organisational performance [13, 14, 15, 16]. The influence of the business strategy has been discussed in the literature since the paper by authors [15]. This paper focuses on business strategy as many researchers, for example, [17, 18] claimed that to design effective PMS they must be aligned with the business strategy pursued by the organization. The evidence from prior studies supports the argument that the design of PMS should be aligned with business strategy. The defender strategy tends to adopt traditional PMS with the emphasis on financial measures, while the prospector strategy is linked to the adoption of multi-dimensional PMS, such as the BSC [6]. One of the relevant variables affecting the design of management accounting systems is the organisational structure [11, 19] Moreover, [20] found that organisational structure is the core variable for understanding the design of management control systems (hereafter MCS). To understand the control process in an organisation, issues relating to authority and the distribution of power are essential [20]. In respect of research based on contingency, it has been suggested that the formal organisational structure influences the design of the MCS [21,22]. Decentralised relates to the adoption of multi-dimensional PMS compared to centralised organisations [6, 23].

Even though, much research has been done to investigate the link between contextual variables and MCS, more empirical evidence is needed to further understand this particular issues. The findings of the current study contribute in several ways. First, this study contributes to

understanding the factors that influence the design of PMS in the service industry, specifically in the banking industry. Lately, there is a growing body of research focusing on the service sector [24, 25, 26]. According to [27], only a few studies have been conducted in banking and financial institutions, thus, it is very important for future studies to investigate MCS, including PMS, in this sector. In any economy, banks play a crucial role in terms of the economic development. For example, in Libya, the banking sector is the most important service sector that contributes to the Gross Domestic Product [28]. The Libyan banking sector is divided into two parts, where the first part introduces the Central Bank of Libya (CBL) and the second part is the Libyan banking structure. The structure of the Libyan banking sector consists of 22 banks, which includes five specialised banks and 17 commercial banks. Libyan commercial banks could be grouped into two categories namely, private and public. The four large commercial banks own between 54% to 85% from Libyan government state, these banks own 81% of the total asset of the Libyan banking sector [29]. With the changes occurring in the business environment and organisational structure, managers need to understand the factors that influence the design of effective PMS, as it is important to improve the quality of service, customer satisfaction and bank performance. Second, this study is one of the few empirical studies concerning the adoption of multi-dimensional PMS in Arab countries, particularly in Libya. Most studies in this area have been conducted in developed countries [for example, 9, 30]. Therefore, this study contributes to the limited knowledge in this area in developing countries such as Libya, and will provide an impetus for more research efforts in future.

This paper is organized as follows. The next section of this paper discusses the literature review followed by a section on research methodology. The subsequent section focuses on the results and discussion, and, finally, the conclusion is in the last section.

2. Literature Review

This study investigates the relationship between two contingent factors, namely, business strategy and organisational structure, and PMS in the context of Libyan banks. The proceeding sections discuss the business strategy, organisational structure and PMS that will lead into hypotheses development. The section is also briefly explains on contingency theory as an underpinning theory in this research.

2.1 Business Strategy

Business strategy has been classified in many ways. The two prominent strategy types generally adopted by researchers in accounting are those put forward by [31, 32]. According to [32], there are three overall strategies including focus, cost leadership, and differentiation. The widely accepted categorization of strategic types propounded by [31], identifies four strategic forms of organisation 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, for 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 for which the consistency in its strategy is lacking and is viewed as a dysfunctional organisational type.

The most generally used strategy typology in accounting studies is that of authors [31] which is based on contingency, and has been found to be very helpful in categorizing generic strategies over a broad spectrum of industries [33]. The typology by authors [31] is based on the notion that proper implementation of strategic types, such as 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. In contrast, financial measurements, like variances, are emphasised by the defenders [21]. Therefore, this study focuses on three strategic classifications - prospector, defender, and analyser.

2.2 Organisational Structure

Organisational structure is a formal control framework that covers the reporting relationships and interactions among information flows, employees, and the distribution of authority with regard to implementing activities within the organisation [34]. It also encompasses the formal stating 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 [13].

Organisational structure has been described in various ways by many scholars and researchers. For example, [35] described structure as the differentiation and integration of the organisation in which such differentiation entails the decentralisation of the authority and the integration encompasses the rules, procedures for operation, and committees. While, [36] described structure in terms of bureaucratic and non-bureaucratic approaches. According to [37], structure is defined generically with respect to mechanistic and organic approaches. Mechanistics has a centralised, bureaucratic and rigid organisational structure, compared to organic which tends to have a decentralised, participative, adaptive and flexible structure [38]. Mechanistic organisations have lower exposure to initiation and discretion from the individual and have a lower tendency towards innovation compared to organic organisations [37]. A centralised structure is more suitable in a routine and certain environment, where the decision-making process is centralised to the top management.

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 [20]. Furthermore, decentralisation is one type of organisational structure that indicates that the decisions are taken within the organisation, a level of autonomy being delegated to managers for their decision-making [39]. Decentralisation leads to the decisions being made at the lower levels of the hierarchy of the organisation. Significant associations between the type of measurement and the contextual factors, such as decentralisation and strategy, have been reported [21]. In addition, [20] asserted that decentralisation is a good response for change environments where wider scope, and non-financial information is required. This study focuses on mechanistic approaches (centralization) because all Libyan banks are considered centralised organisations.

2.3 Contingency Theory

The contingency theory is a class of behavioural theories that contends that there is no one way of the organizing, leading and leadership style [40]. The contingency perspective is used from management accounting studies to explain a range of contextual variables such as strategy [e.g., 41, 42], organisational structure [21, 39], and competition [43, 44]. Other streams of study consider the use of contingency factors in analysing the association of improved organisational performance with the design of accounting information systems [45]. According to the contingency theory, the fit

between the contextual factors (business strategy, organisational structure, and competition) and the MCS design is very important for better organisational performance [13, 14, 15, 16]. The use of performance measures is derived from the management accounting systems for performance evaluation [17]. In addition, the contingency theory asserts that the optimum design of PMS is dependent on the strategy of the organisation (it is also dependent on other features of the organisation), and that greater performance will be realised when they are both aligned [13, 15].

2.4 Business Strategy and Performance Measurement Systems Design

Many studies on PMS emphasise the linkage between business strategy and various measures [7, 8, 45]. There is a significant and positive association between strategy and management's use of non-financial performance measures [9]. Authors [46] 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 PMS [41, 42, 47, 48].

The nature of PMS differs according to the type of business strategy selected [11, 49]. Authors [21] found that organisations following the prospector strategy make greater use of non-financial measures than organisations following the defender strategy. Authors [50] found that prospectors focus more on non-financial measures performance, such as customer satisfaction, market share and competitors' performance. In addition, [12] found a positive association between the prospector strategy and performance measures.

The strategies characterised by defenders are associated with formal PMS includes objective budget performance targets [13]. Furthermore, author [42] found that firms that follow a defender strategy tend to rely more on financial measures, such as short-term budgets, to compensate their managers [51].

Based on the discussion above, the following hypothesis is presented:

H1a: There is a positive relationship between business strategy (prospector) and the design of performance measures.
H1b: There is a positive relationship between business strategy (defender) and the design of performance measures.

2.4 Organizational Structure and Performance Measurement Systems Design

One of the relevant variables affecting the design of management accounting systems is the organisational structure [11,19]. Moreover, [13] and [15] claimed that organisational structure is the core variable and that it plays a key role in designing MCS. Specifically, in the area of PMS, [23] mentioned that not much studies have been conducted to examine decentralisation and PMS design.

According to [52], 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 [21]. In recent times, [44] 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, [21] explored 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. Authors [12] investigated the effect of the contingent factors on the use of financial and non-financial measures and the results revealed that organisational structure positively affected the use of performance measures.

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

H2: There is a positive relationship between organisational structure (centralisation) and the design of performance measures.

3. Research Method

3.1 Data Collection

This study focuses on 13 Libyan commercial banks, which had 485 branches based on the Central Bank of Libya database as of September 2012. The Libyan commercial banks include four state-owned banks and nine private banks.

Data were collected using a questionnaire that was sent to the branch managers in two ways. First, the questionnaires were submitted to managers of branches directly, then, they were collected from each one. The researcher, then, cancelled out the name of banks that already received the questionnaire from the list of respondents, before continue with the second option. This is to ensure no duplication of questionnaires been sent out to the similar banks. Second, 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. Out of 304 questionnaires that were distributed, 164 were returned by the respondents. However, 10 questionnaires were discarded due to outlier problems. Thus, the usable questionnaires are 154, which yielded a 51% response rate.

3.2 Variable Measurement

3.2.1 Business strategy

Following the previous studies of [9, 13, 14, 15], strategy is measured relative to the three extreme strategic postures (prospectors, defenders, and analyser) of the authors' [31] typology. Respondents are asked to indicate the degree of emphasis that their branches place on strategic activities, across the 11 items. The items are adapted from authors [14, 31, 53]. Table 1 shows the items of business strategy.

However, after conducting a factor analysis, it is found that analyser strategic type shares the features of the two types (prospector and defender) of strategy. Thus, for the business strategy is divided into two dimensions only, namely, prospector and defender.

3.2.2 Organisational Structure

The instrument for measuring organisational structure is adopted from the six items (the development of new services, selection of large investments, decision to enter new markets, decisions about major changes, pricing decisions, and budget allocation) used to measure the degree of decentralisation of decision-making [54]. Table 2 shows the items for organisational structure.

Table 1
Measures of Business Strategy

Variable	Dimension	Items
Business Strategy	Prospectors	Provide high quality products. Provide fast delivery. Reduce the cost of coordination. Provide service and support after service delivery.
	Defenders	Low price. Service availability. Customise services to customers' needs.
	Analyser	Make changes in design and introduce new products quickly. Provide distinct services. Provide unique service features. Low service cost.

Table 2
Measures for Organisational Structure

Variable	Items
Organisational Structure	New services decisions. Selection of large investments. Hiring and firing of managerial personnel. Decisions on major changes. Pricing decisions. Budget allocation.

3.2.3 Performance Measurement Systems Design

Performance measures are a set of financial and non-financial measures, which measure different parts of the organisation's operations. Performance measures are adopted from authors [9, 17, 44, 55]. Based on the four dimensions of the BSC, there are financial and non-financial measures (customer satisfaction, internal business process, and innovation and learning). Table 3 shows the items for the performance measures.

Table 3
Measures for Performance Measures

Variable	Dimension	Items
Performance Measures	Financial	The rate of achieving budget. Revenue growth. Return on net assets. Branch profit.
	Customer Satisfaction	Market share to main services. On time delivery service. Customer retention. Customer response time. Survey of customer satisfaction.
	Internal Business Process	Teamwork among employees. Rate the error of operational processes. Employee turnover rate.

		Employee productivity. Number of customer complaints.
	Learning and Growth	Time-to- market of new services. Number of new services launched. Employee satisfaction. Percentage of revenue from news services. Employees' suggestions. Training hours per employee.

4. Result and Discussion

4.1 Reliability and Factor Analysis

The internal consistency of the items included in the scale was assessed using Cronbach's Alpha as a reliability coefficient for which the resulting Alpha was 0.831 for prospector strategy, 0.756 for defender strategy; and 0.879 for organisational structure; while the financial measures were 0.868, and the non-financial measures were 0.902. These Cronbach's Alpha scores were above 0.70, as recommended by author [56].

4.2 Descriptive Statistics

4.2.1 Respondents Profile

Table 4 presents the profile of the respondents. The total assets of each bank measure the size of the bank. The majority of banks (91%) have assets of more than 1,000 million Libyan dinar, while the minority (9%) have assets of less than 1,000 million Libyan dinar. This means that all the Libyan bank branches are small in size, and, hence, the effect of size on performance is equal between banks. Libyan banks are classified into two types: private and public banks. The descriptive analysis showed that 75% of the respondents are the managers of public banks, while 25% worked at private banks. Such a classification might help in identifying the role of the ownership (public or private) effect on performance measures and organisational performance. Although, there are differences among the ownership of banks, the activities of banks are almost the same due to the control of the central bank on banks through regulations and guidelines.

The majority (95%), of the respondents were male and the minority (5%), of the respondents were female. This ratio is in line with Libyan and Arab culture regarding management and decision-making. In addition, this ratio indicates that decision-making in the Libyan commercial banks is dominated by males. It can also be observed that more than 89% of the respondents have been working in the organisation for more than 5 years, and only 11% of the `respondents have been working in the corporation for less than 5 years. This observation indicates that the majority of branches managers are having a good experience and that they are in a good position to give a logical view. On the other hand, some of the previous studies, for example, authors [57], suggested that long tenure of work makes managers resistant to innovative organisational practices.

Table 4
Respondents Profile (N = 154)

Items	Categories	Frequency	Percent (%)
Types of Banks	Private	38	25
	Public	116	75
Bank Assets (Million)	< 1,000	14	9
	Between 1,000 and 15,000	73	47
	> 15,000	67	44
Gender	Male	146	95
	Female	8	5
Working Experience	≤ 5 years	17	11
	Between 6 and 10 years	25	16
	Between 11 and 15 years	36	23
	Between 16 and 20 years	16	11
	> 20 years	60	29

4.2.2 Business strategy

This section presents the results from the descriptive analysis on business strategy, organisational structure and PMS. Descriptive analysis provides analysis on each of variable being examine in terms of mean, standard deviation variance and total mean values.
Table 5 illustrates the importance of each item of the business strategy.

Table 5
Descriptive Statistics of Business Strategy (N = 154)

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
Overall mean			3.50	

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.

4.2.3 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 6
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
Overall mean			4.47	

Table 6 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.

4.2.4 Performance measures

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 7 shows these mean values for all items of performance measures.

Table 7
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
Overall mean			3.27	

4.2.5 Correlation analysis

Correlation analysis is a statistical method used to describe the strength and direction of linear relationship between two variables [58]. 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.

Table 8 shows the results of the correlation analysis for all variables involved in the study. From Table 8, it is observed that performance measures (PM) is positively significant and has medium correlations with business strategy (BS). This relationship is significant at p level of 0.01. In addition, the correlation between performance measures (PM) and organisational structure (OS) is negatively significant and has small correlations.

Table 8
Pearson Correlations

Variables	BS	OS	PM
Business Strategy (BS)	1		
Organisational Structure (OS)	.119	1	
Performance Measures (PM)	.442**	-.077	1

4.3 Regression Analysis

Table 9 shows the results of the regression analysis. The results showed that the F value is statistically significant (F = 11.903, P < 0.05), which indicates that the model is statistically significant, as suggested by authors [59]. The R2 for this model is also fit (R2 = 0.192), which means that the independent variables explain 19% of the variation of the dependent variable (performance measures). The results showed that only prospector strategy (b = 0.302; P < 0.05) has a significant impact on overall PMS design.

Table 9
Regression Model of the Relationship among Business Strategy, Organisational Structure and Performance Measurement Design

Model	Coeff.(B)	Std. Error	t	Beta (b)	Sig
Constant	2.238	.374		5.986	.000
Business Strategy_Prospector	.299	.114	2.611	.302	.010
Business Strategy_Defender	.145	.105	1.381	.158	.169
Organisational Stucture	-.114	.066	-1.721	-.128	.087
R^2					*.192*
Adjusted R^2					*.176*
F change					*11.903****

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

Tables 10 and 11 present the results of business strategy (prospector and defender), organizational structure and each dimension of PMS - financial and non-financial measures. The results indicate that both types of business strategy have a significant influence on financial measure (F = 5.760, sig = 0.001) contributing 10.3% of variants in financial performance measures; while for non-financial performance measures (F= 12.283, sig = 0.000), it explained 19.7% variance. Overall, the results showed that the prospector strategy has the highest influence on PMS design, while organisational structure showed a negative association with PMS design.

Table 10
Regression Model of the Relationship among Business Strategy, Organisational Structure and Financial Measure

Model	Coeff.(B)	Std. Error	t	Beta (b)	Sig
Constant	2.278	.443	5.140		.000
Business Strategy_Prospector	.232	.136	1.712	.208	.089
Business Strategy_Defender	.139	.124	1.117	.135	.266
Organisational Stucture	-.045	.078	-.573	-.045	.567
R^2					*.103*
Adjusted R^2					*.085*
F change					*5.760****

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

The results found that business strategy has a positive effect on the performance measures (See Table 9). This result supports the hypotheses of the study. 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 [13, 15]. In addition, this result is consistent with many studies in the literature, for example, [9, 46, 47]. To be more specific, the result is also consistent with the study of authors [12] on developing countries, such as the Libyan banking sector.

Table 11
Regression Model of the Relationship among Business Strategy, Organisational Structure and Non-Financial Measure

Model	Coeff.(B)	Std. Error	t	Beta (b)	Sig
Constant	2.224	.393	5.655		.000
Business Strategy_Prospector	.323	.120	2.683	.309	.008
Business Strategy_Defender	.147	.110	1.333	.152	.185
Organisational Stucture	-.139	.069	-1.997	-.148	.048
R^2					*.197*
Adjusted R^2					*.181*
F change					*12.283***
***** P < 0.001, *** P < 0.01, ** P < 0.05, * P < 0.10.*					

The study found that the relationship between organisational structure and performance measures has a negative and insignificant effect (See Table 9). This result does not support the hypothesis of the study. This result is inconsistent with the contingency theory, which declares there is a fit between contextual factors (organisational structure and competition) and the design of MCS [13, 14). In addition, this result is also inconsistent with previous studies [21, 44]. In particular, author [21], found a significant negative relationship between centralization and non-financial measures and a significant positive relationship between centralisation and financial measures.

One possible reason that the result does not support the hypothesis is because almost all Libyan banks are considered centralised organisations. The results of this study indicated that all major decisions are only made at the level of top management. The branch manager has no power to influence decision-making including the choice of performance measures adopted in the banks. This result is in line with authors [60] who indicated that the process of decision-making in the structure of centralisation depends on the organisational level (top management). Furthermore, centralised organisations have a tendency to apply financial measures more than non-financial measures which represent three of the perspectives of the performance measures [44]. Thus, Libyan banks have limited authority that adversely affects the use of non-financial performance measures [61]. In addition, authors [62] argued that the insignificant relationship between organisational structure and performance measures is due to the centralisation system that applies in the organisations. The results suggest that centralisation system hinders the creativity and innovative among employees as top management tends to focus more on financial measures. Another explanation is that managers remain in the same position for long periods, which makes them resistant to the innovation of organisational practices, like the usage of the BSC [57]. In this study, 74% of the branch managers in Libyan banks had worked more than 10 years.

5. Conclusion

The objective of this study was to recognize the relationship among business strategy, organisational structure and PMS design. This paper argued that in order to have effective PMS, organisations should design them in line with the contingent factors, such as business strategy and

organisational structure. Regression analysis revealed that the mentioned contingent factors (business strategy and organisational structure) significantly influenced the design of PMS. The findings of this study suggested that managers in the service industry, particularly in the Libyan Commercial banks, should be aware of the business strategy employed by their organizations and understand the structure of their organizations. This is important to ensure that they will adjust their PMS according to their business strategy and organisational structure. Failure to do so will render their organizations unable to effectively control their organisational performance.

This study has contributed to the accounting literature through providing more evidence concerning the impact of the contingency factors on the choice of performance measure, which, indirectly will influence 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 concerning the most important factors affecting the performance, and, consequently lead to an improvement in the performance in these countries. This research extends the knowledge of PMS practices in Libyan banks, which will help professional networks among accountants and managers to increase their awareness about Libyan banks and the factors that enhance their performance, through the organisation of workshops, conferences, educational programmes and professional training. This study provides a basis for more research in this area in other countries, particularly in developing countries that appear to have been left far behind in the management control systems research stream. Future studies can include other contingent factors, such as culture and technology, and also integrate institutional factors to examine their influence on PMS design.

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