

Factors Affecting ABB Implementation in PLCC

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This paper aims to examine the role and significance of activity-based budgeting (ABB) in developing countries. It provides comparison with the traditional system, and evaluates the possibility of implementing ABB system in private Libyan commercial companies (PLCC). This paper attempts to highlight the factors affecting the implementation of ABB in PLCC. The findings suggest that PLCC still uses traditional system in budget preparation.

Keywords: activity-based budgeting, private Libyan commercial companies, budget preparation

Background to the Study

Libya is facing significant changes in its private sector and therefore the accounting techniques, such as budget used to deliver efficiency and effectiveness in private organisations (Salama & Flanagan, 2005; Sharif, 2000). Different developing countries utilise different accounting practices in their companies, such as budgeting, performance measurement tools, balanced scored card, and activity-based costing (ABC) (Jackson & Lapsley, 2003).

The development of ABC led to extend into planning and budgeting (Cooper & Kaplan, 1991). Fubara and Agundu (2003) highlighted that not every plan is a budget but every budget must be a plan. Consistency, Anthony and Young (2002, pp. 19-20) described a budget as follows: “a budget is a plan expressed in quantitative, usually monetary terms. It covers a specified period, usually a year...during the budget preparation phase made in program terms are converted into responsibility terms”.

Chartered Institute of Management Accountants (CIMA, 2013) Official Terminology described ABB as a technique of budgeting, using cost driver in the budget setting, as well as it focuses on activities rather than functions. Therefore, ABB is a part of ABC and management that guarantees more accurate during analysing a cost and profitability. In addition to ABB, it gives information for improving, pricing, and customer profitability analyses (Haluk Bengü, 2010). In addition to, Rickards (2006) stated that the economic changes in business environment led to evolutions in budget implementation, from the traditional budget to modern system, such as ABB. Furthermore, the ABB method was developed to overcome the limitations by combining the activities and the budget (Lin & Yahalom, 2009). The ABB could be a method for improving business management and an important tool for planning and organizing the business of the enterprise operations (Pockevičiūt, 2008). In this regard, ABB method focuses on reducing cost during and improving the efficiency of activities (Rich, Jones, Heitger, Mowen, & Hansen, 2011).

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The Study Problem and Justification

There are economic changes that have led the Libyan government to decide to allow internal and foreign investors to invest in Libya, and thus, this also led to competition between investors especially in Libyan private sector (Salama & Flanagan, 2005).

Drury and Tayles (2005) pointed out that, most institutes have been facing important changes, such as global competition and information systems. These changes have encouraged many institutes to apply ABC. Consequently, ABB is an outgrowth of ABC, which is similar to zero-based budgeting (Shane, 2005). Thus, more additional research studies are needed to address the contextual needs of developing countries accounting and how the various developing countries are meeting the challenges they face (Pollitt, 2006). Ahmad and Gao (2004) concluded that further accounting research in Libya was needed to improve the current knowledge base. There is no empirical evidence providing an extensive explanation of the ABB utilised within the PLCC. This study is the first attempt to investigate ABB within the PLCC. Therefore, the current study contributes to the limited studies of accounting practices, and it is an attempt to remedy the shortage and fill the gap in the accounting literature in Arab countries, such as Libya.

Based on the shortcomings of the existing knowledge base, there is a need to study and explain the ABB system and the factors which have an impact on the implementation of that system in PLCC within the current Libyan business environment.

The Study Aims

The primary aims of the study are :

- To explore and examine the budget preparation by using the ABB system within PLCC;
- To analyse the factors that might have an impact on the application of ABB system in PLCC.

The Study Questions

To achieve these aims, some study questions were derived from suggestions made by a focus group of five Libyan academic staff, which have enough knowledge of accounting in Libyan business environment. Some ideas are derived from previous related studies in different countries.

Consequently, the study attempts to answer the following study questions:

1. To what extent is ABB system used in the Libyan private sector (Case study PLCC)?
2. What factors affect the application of ABB system in PLCC?

Related Studies

Lin and Yahalom (2009) studied the ABB method in commercial port in Taiwan (Keelung Harbor). This study explained that with the traditional budgeting technique, next year's budget is based on the current year's budget with a small percent increase or decrease. This budgeting increases the budget from year to year, but it does not ensure the benefits of performance improvement. There are shortcomings in traditional budget system. The ABB method was developed to overcome the shortcomings by combining the activities and the budget. Budgeting based on actual demand can assist an organization control cost and increase its performance level effectively. This study integrates the ABB with the balanced scorecard in order to develop the performance of Keelung port with respect to competitiveness. Therefore, ABB system can assist a company to reach the performance target. With the purpose of evaluating the performance of port, the writers design an assessment

system, integrating balanced scorecard with ABB to control cost and check the reaching rate of target performance. The results of this study indicate that a company's targets and resources can be integrated by employing the balanced scorecard and ABB system.

In this regard, Haluk Bengü (2010) investigated the effects of classical (volume-based) and ABB approaches on target costing techniques via a hypothetical application. Furthermore, it is supposed that preferring ABB rather than the classical one will enhance the probability of success of target costing practices. The underlying rational base of this hypothesis is that in target costing, the specific properties of any product and the required resources to produce it are determined before the production begins.

ABB is a method that could be helpful in managing shared service departments by providing deeper insights to their capacity utilization and resource allocation than a traditional budgeting method. This study investigates the possibilities, benefits, and difficulties that may face the implementation of an ABB method in an environment that lacks sophisticated international technology (IT) based accounting information system. This study used an application experiment to implement the ABB in two shared service departments (accounts and transportation) in two different companies. Additionally, a simple survey of the two companies' employees was adopted to acquire their reaction and feedback regarding the proposed budgeting method. Results show that benefits can be achieved and difficulties resulting from lack of IT support can be overcome but with considerable human effort. When labour force is not a constraint, this grants the solution. However, measuring human labour's capacity is a factor that needs more consideration from accounting researchers (Mousatafa, 2005).

Capusneanu, Sorina, Barbu, Rof, and Topor (2013) studied the implementation of ABB system in the industry of Romania. This study focused on the research carried out in the literature regarding the implementation of the ABB system to the specific of the entities within the mining extractive industry and up to the current performances of various specialists. This study demonstrated the usefulness of the ABB in the management, coordination, and harmonization of the activities of the entities within the industry in Romania and of the substantiation of decisions based on the information supplied by this system. The conclusion of this study explained that there are advantages and the significance of using the ABB system within in the Romanian mining industry.

Wnuk-Pel (2014) stated that majority of companies in Poland employed ABB system. Some of them implemented this system in areas of activity in other areas they used traditional budgeting. Two companies of them gave up the traditional budgeting when ABB system adoption. This study found that the benefit of using ABB system epitomised in three points: a better identification of demand for resources, a greater involvement of employees in budgeting, and a better acceptance of budgets.

Pietrzak (2013) explained the implementation of ABB system by the budgeting process in a company. This study depended on the literature studies; these concluded that companies do not have plan to move from traditional budgeting to new techniques, such as ABB system. Therefore, this study added a more theoretical and practical understanding of the ABB system and how it could change the budgeting procedure. In addition, this study summarised the advantages and disadvantages of ABB implementation in non-manufacturing companies.

Chartered Institute of Management Accountants (2013) outlined that the advantages of ABB similar to ABC.

- It draws attention to overhead activities and their costs;
- It emphasises that activity costs should be controlled and understood;
- Traditional budgeting focuses on input costs, but ABB interests in outputs, recognising that activities drive costs;
- It views the business as activities, this links with organisational strategy.

The Research Methodology

There is quantitative approach that can be used in this study, for collecting data such as questionnaire surveys. In this regards, Pietrzak (2013) concluded that the questionnaire can be conducted in further surveys for ABB system this opportunity for generalization of the results. The questionnaire is used as a quantitative approach to gathers empirical data in relation to the current practices ABB system by PLCC. The method explores and evaluates the factors that have an impact on the ABB system. In order to obtain this information, the study targeted the financial managers and accountants in PLCC as population group.

The statistical methods applied to the data collected by questionnaires were analysed by descriptive statistical analysis using non-parametric tests such as the Kruskal-Wallis test.

This study uses the Cronbach's Alpha coefficient in order to confirm the internal consistency of the selected scales for this study. Pallant (2007) stated that the Cronbach's Alpha coefficient technique is commonly used internal consistency (reliability). Therefore, the reliability responses of this study were tested utilizing Statistical Package for the Social Sciences (SPSS) software which resulted in a Cronbach's Alpha result of 0.8366. This result ($\alpha = 0.8$) means the reliability of responses is high according to Alpha ranking. The internal reliability of responses was also assessed in the questionnaire when participants were asked about their positions and qualifications. This question was designed to assess if the respondent had the required background and professional qualification to make comments and statements of professional opinion. The Cronbach's Alpha analysis explains that the targeted respondents answered all the questionnaires and the majority of the respondents were suitably qualified to be respondents. To improve the reliability of posted questionnaires, it was necessary that the questionnaire is completed by targeted participants, because they would have sufficient knowledge and experience to provide the required level of reliable data (Saunders, Lewis, & Thornhill, 2009).

Participants were asked if they would like a copy of the results of this study and more than 50% of respondents were interested in obtaining a copy of the present study. This high percentage of interest enhances the questionnaire results and underlines the seriousness of respondents, thus increasing the confidence in the reliability of responses. It also supports the verbal discussions in relation to half completed specific questions where the research encountered enthusiasm for the topic and the relevance to the individual's current role in their PLCC.

Practical Study

In this study, the target population are 45 questionnaires distributed, where 37 questionnaires were completed and collected (82.2% of the total number of questionnaires) (see Table 1). The obtained results had been analysed statistically, using the descriptive statistical analysis. The participants were asked about the time taken to complete the questionnaire. The majority of the participants reported that it took between 15-25 minutes. The following tables are indicating the obtained results.

Table 1

Sample Size and Response Rate of Questionnaire

No. of distributed questionnaires	Uncompleted questionnaires	Valid questionnaires	Response rate
45	8	37	82.20%
Percentage (%)	Frequency	Respondents	
40.5	15	Financial managers	
59.5	22	Accountants	
100	37	Total	

The Automation of Accounting System

The respondents were asked to indicate the level of their accounting system's automation. The results are presented in Table 2 showed that most of the respondents (59.5%) indicated that they are using an automated accounting system and some (37.8%) indicated that they are using mixed between manual and automatic. This will assist to apply the ABB in these companies, where the automated system is one of the basic components of the application ABB system.

Table 2

The Automation Level of Accounting System

Automation level	Frequency	Percentage (%)
Manual	1	2.7
Automated	22	59.5
Mixed between manual and automatic	14	37.8
Total	37	100

Qualification of Respondents

The collected data related to those completing the questionnaire are shown that the majority of them (67.6%) hold a postgraduate's degree as their highest qualifications; some (24.3%) hold a bachelor's degree. Only four participants hold a high-school level certificate. This supports the application of the ABB system.

Table 3

The Qualification of Respondents

Qualifications	Frequency	Percentage (%)
Postgraduate	25	67.6
Bachelor degree	9	24.3
High institute diploma	3	8.1
Total	37	100

The Systems in Budget Preparation

Table 4 shows that 92% of respondents pointed out that the system of budget preparation for determining the budget figures was line-item budgeting and incremental budgeting (traditional method), while ABB system was not used for preparing a budget except few respondents (8%) indicated use of programme budgeting.

Table 4

The Methods of Budget Preparation

Methods	Yes		No	
	Frequency	Percentage	Frequency	Percentage
Line-item budgeting, incremental budgeting (traditional methods)	34	92	3	8
ABB.	0	0.0	37	100
Programme budgeting	3	8	34	92

The Factors That Affect the Application of ABB System in PLCC

The respondents were asked to indicate on five-point Likert scale the importance of selected factors that have influenced ABB practices in their companies.

Tables 5 and 6 reveals respondents considered the most important and least important factors to be top management support and the different company's service, respectively, with means of 4.8 and 3.1. The tables show that most of the listed factors were ranked as "above average importance" or "extremely importance" by more than 50% of respondents.

Among "policy of government, training programmes, incentive systems, cost of implementing the ABB system, using computer system for accounting purposes, accounting research in Libya, accounting education in Libya, co-operation between universities and companies, business environment, and economic changes", policy of government were ranked as "above average in importance" or "extremely importance" by 83.8%, 86.5%, 81.0%, 81.0%, 64.9%, 69.5%, 80.6%, 58.4%, 58.3%, 100%, and 97.3% of respondents, respectively. The lowest mean of 3.1 is for the different company's service. Mode was 3 (Average importance) for the different company's service. Therefore, all the listed factors were recognized as important by most respondents.

Table 5

The Importance of Selected Factors' Influence on ABB Practices

The factors		Yes	No	1		2		3		4		5	
				F	%	F	%	F	%	F	%	F	%
1	Policy of government.	37	0	0	0.0	3	8.1	3	8.1	4	10.8	27	73.0
2	Training programmes	37	0	0	0.0	0	0.0	5	13.5	13	35.1	19	51.4
3	Incentive systems	37	0	0	0.0	2	5.4	5	13.5	15	40.5	15	40.5
4	Cost of implementing the ABB system	37	0	0	0.0	0	0.0	7	18.9	18	48.6	12	32.4
5	Using computer system for accounting purposes	37	0	1	2.7	1	2.7	11	29.7	17	46.0	7	18.9
6	Professional accounting bodies in Libya	32	5	2	6.3	6	18.8	8	25.0	11	34.4	5	15.6
7	Accounting research in Libya	36	1	0	0.0	1	2.8	10	27.8	11	30.6	14	38.9
8	Accounting education in Libya	36	1	0	0.0	1	2.8	6	16.7	14	38.9	15	41.7
9	Co-operation between universities and PLCC	36	1	2	5.6	4	11.1	9	25.0	11	30.6	10	27.8
10	The different company's service	25	12	2	8.0	6	24.0	8	32.0	6	24.0	3	12.0
11	Business environment	36	1	3	8.3	5	13.9	7	19.4	13	36.1	8	22.2
12	Economic changes	37	0	0	0.0	0	0.0	0	0.0	13	35.1	24	64.9
12	Top management support	37	0	0	0.0	0	0.0	1	2.7	5	13.5	31	83.8

Notes. 1 = unimportant, 2 = below average importance, 3 = Average importance, 4 = above average importance, 5= extremely importance.

Table 6

Statistical Analysis for the Importance of Selected Factors' Influence on ABB System.

The factors	Yes	Mean	Std. deviation	Median	Mode	Frequencies' mode
1 Policy of government	37	4.5	0.96	5.0	5	27
2 Training programmes	37	4.4	0.72	5.0	5	19
3 Incentive systems	37	4.2	0.87	4.0	5	15
4 Cost of implementing the ABB system	37	4.1	0.71	4.0	4	18
5 Using computer system for accounting purposes	37	3.8	0.90	4.0	4	17
6 Professional accounting bodies in Libya	32	3.3	1.15	3.5	4	11
7 Accounting research in Libya	36	4.1	0.89	4.0	5	14
8 Accounting education in Libya	36	4.2	0.82	4.0	5	15
9 Co-operation between universities and PLCC	36	3.6	1.18	4.0	4	11
10 The different company's service	25	3.1	1.15	3.0	3	8
11 Business environment	36	3.5	1.23	4.0	4	13
12 Economic changes	37	4.6	0.48	5.0	5	24
12 Top management support	37	4.8	0.46	5.0	5	31

Conclusions

The results reported that the ABB system was not applied in PLCCs at this time; the traditional system such as line-item budgeting and incremental budgeting were followed in PLCCs. This should be improved by introducing clear objectives and measuring performance against the given objectives and goals.

With regard to the responsibility for budget preparation in PLCCs, most PLCCs have financial department which are responsible for all matters of budget preparation. Budget preparation was centralised where the final figures were determined by the top management.

Furthermore, the main reasons for budget preparation in PLCCs were to comply with planning for the future and for performance evaluation and guidance for decision-making, whereas financial controlling and monitoring were less important than performance evaluation and guidance for decision-making and planning for the future.

The findings in this study also revealed the degree of importance and influence of selected factors on the application of ABB system in PLCCs. Most of the listed factors were ranked as above average importance or extreme importance by more than 50% of respondents. Of the factors listed, "policy of government, training programmes, incentive systems, accounting research in Libya, accounting education in Libya, economic changes, and top management support" were ranked the most influential and important factors whereas "cost of implementing the ABB system, using computer systems for accounting purposes, professional accounting bodies in Libya, co-operation between universities and PLCCS, and business environment" were considered the least influential and important factors. The different company's service was less important than other factors. This means PLCCs have begun to recognise their need for ABB system.

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