European Journal of Business and Management
ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online)
Vol.9, No.36, 2017

Extent of Use of Cost and Management Accounting in the Cement Industry of Bangladesh

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Abstract

The purpose of this study is to examine the extent of use of Cost and Management Accounting Practices (CA & MAPs) in Bangladesh cement industry (BCI). To achieve this objective 23 cement companies have purposively been selected. A structured questionnaire was administered among some selected professionals in accounts and finance department in the selected cement companies. The study proposed conceptual framework and revealed that there are five dimensions for practicing CA and MPAs in the manufacturing industry. Cement companies are more or less practicing all those dimensions. In the costing system dimension, cement companies are mainly using separation of cost and cost of quality. Companies are using budgeting for planning and activity based budgeting more compared to other usual budgeting tools. For performance measure, the adoption of financial measures is very common. In terms of information for decision making dimension, cost volume profit (CVP) analysis is the mostly practiced technique. Value chain analysis is widely accepted by the cement companies for strategic analysis. However, modern sophisticated methods and tools for CA and MAPs such as balance score card (BSC), analysis of competitors' strength and weaknesses are less practicing. This study provides valuable understandings into the nature of CA & MAPs applied by cement companies in the emerging markets of developing countries.

Keywords: Bangladesh, Cement industry, Cost and Management accounting, Financial measures, Non-financial measures, Strategic analysis.

1. Introduction

Economic success or failure of any state is reflected by the performance of individual businesses, which itself reflects the quality of decisions made by the industry. Concrete relevant information is essential for making a fruitful decision in practice. Cost accounting and management accounting provide managers with the accounting information and assist them to continue the business operations in an effective and efficient manner (Boyns and Edwards, 1997). In recent years, business opportunities are characterized by an increasing level of domestic and global competition, decreasing selling prices, increasing input prices, economic crises etc. (Pavlatos and Paggios , 2008; Uyar, 2010). In addition, the world is now passing time with trans-national trade agreements, harmonization of the accounting standards, internationalization of the accounting profession and producing products are providing services for multinationals with multi-cultural consumers that are generating a convergence toward a global set of cost and management accounting practices (Granlund and Lukka, 1998).

The importance of cost and management accounting practices has increased more than ever, both manufacturing and service industry (Chenhall and Langfield-Smith, 1998; Abdel-Kader and Luther, 2006; Paggios and Pavlatos, 2008; Ahmad, 2012). Cost accounting is the basis of decision making and planning in order to make profit (Ukpai, 1997). Applying management accounting tools and techniques of an organization enable management to obtain sufficient information for meaningful decision making (Alleyne and Marshall, 2011). Moreover, management accounting information in advanced manufacturing environment facilitates firms for improving organizational performance (Ismail and Isa, 2011).

In recent past, cost and managerial accountants were mainly involved in collecting and reporting costs to management. But contemporary global competitive industrial environment of business becomes more automated. Business industries becoming technology based and therefore, methods of determining the cost in a product have been changed significantly. Managerial accountants now a day are responsible for strategic cost management that is assisting in evaluating how properly the company is using their available resources. As a result, cost and

management accountants now serve as an integral part of team members alongside personnel from production, marketing and engineering when critical strategic decisions are being made (Weygandt*et. al.*, 2008).

Moreover, the survival triplet today for any business depends on the facts that how it manage the cost, quality, and performance. Customers are continuously demanding high quality and better performance products/services and at the same time they want the prices to fall. The shareholders are also demanding an increasing rate of return on their investment. Thus, cost has become a residual and the challenge is being able to manufacture or provide service within the stipulated cost framework. Thus, cost management has to be considered as an ongoing continuous improvement program (Anand, *et,al*., 2004). Therefore, given the complexities of the modern manufacturing environment, it is argued that management needs a costing system that has the capacity to assist them in making more effective production decisions by providing more accurate cost information leading to increase profitability in order to make a sustainable business (Hoque, 1991).

After the liberation in 1971, various industrial sectors have been developed in Bangladesh like, cement, ceramics, pharmaceuticals, leather etc. Moreover, garments and textile industries and energy sector industries are still in rising position. Cement industry is one of the important sector that contributing its economic growth. This sector provides 70% of the total requirement of the local market and stimulates about 10% of GDP (IDLC, 2011). Bangladesh exports cement to global markets including Europe and some other western countries. In order to sustain in the dynamic and competitive business environment, the cement industry should link their strategies to quality improvement, increased flexibility meeting with customers individual requirements, reduced-lead time, inventory and production cost (Lord, 1996). Unfortunately, the application of cost and managerial accounting in a developing economy like Bangladesh still remains unsatisfactory and studies on this area are rare in the literature (Lin and Yu, 2002). Therefore, the study is designed to make an overview of the practice of Cost and Management accounting in cement industry of Bangladesh.

2. Literature Review

Cost and management accounting practice provide important information to the business organizers and administrators. Numerous study has been done in this aspect to study the relevant tools and their applications consequences in the business firm in order to make an overview for the use of cost and management accounting across the firm and business community. In the following sections a brief of some related literature has been discussed.

The Chartered Institute of Management Accountants in London conducted a worldwide survey in 2009 to investigate the extent and use of management accounting tools in manufacturing and service organizations. Their study covered the organizations among which 61% from UK, 12% from rest of the Europe, 9% from Asia, 7% from Africa, 6% from Australia and remaining 5% from rest of the World. Results indicate that ten management accounting tools are mostly used in different organizations. The leading tool is financial year forecasting (86%) followed by profit before tax (82%), cash forecasting (78%), variance analysis (73%), strategic planning (72%), gross margin (69%), overhead allocation (66%), rolling forecast (65%), SWOT analysis(64%), and net profit margin (63%). The study also revealed that larger business organizations are using sophisticated and more tools (CIMA, 2009).

Wijewardena and Zoysa (1999) found that the Australian companies place an emphasis on cost control tools such as budgeting, standard costing and variance analysis at the manufacturing stage. On the other hand Japanese companies devote a much greater attention to cost planning and cost reduction tools based on target costing at the product planning and design stage.

Zimmerman (2001) mentioned that management accounting tools that are practiced certainly changed with further advancement of information technology, highly competitive environments and economic recession.

Alleyne and Marshall (2011) observed that manufacturing companies are practicing management accounting under five headings-cost system, budgeting, performance evaluation, information for decision making and strategic analysis. They also found that management accounting practices enable management to obtain relevant information for meaningful decision.

Ali Uyar (2010) found that the job costing is widely used as product cost method; prime costs, units produced, and direct labor cost are using as a basis to allocate overhead; and three management accounting practices are mostly used budgeting, followed by planning and control, and cost-volume-profit analysis. It is also found that traditional management accounting tools still important.

Sleihate*et.al*. (2012) investigated the extent of usage of management accounting practices in service oriented

organizations in Jordan. Their study revealed that traditional practices are still wide spread and highly used. Whereas, the more sophisticated or advanced practices are rarely used.

Ahmad (2012) investigated the use of management accounting practices in 160 SME's in Malaysian manufacturing sector. The results show that, use of costing systems, budgeting system and performance evaluation system are significantly higher than the decision support system and strategic management accounting which indicates that the uptake of traditional MAPs is greater than the sophisticated MAPs.

A study conducted on cost management practices in India by Anand*et.al*. (2004) shows that Indian corporations not only practices traditional cost management techniques but also use the contemporary management tools such as activity based costing.

Yeshmin and Fowzia (2010) studied cost and management accounting practices in different manufacturing and service organizations. Their findings revealed that management accounting techniques such as financial statement analysis, budgetary control, CVP analysis, variance analysis and fund flow analysis are frequently used in managerial functions. The total variability in application of management accounting techniques in managerial functions of manufacturing and service industries are 73.343 % and 54.396% respectively.

Mazumder (2007) found that modern techniques of cost and management accounting are not adopted by national public and private manufacturing enterprises but some multinational corporations are using few of them. The study also revealed that traditional techniques like financial statement analysis, standard costing, cash flow analysis, CVP Analysis, marginal costing and fund flow analysis are widely used.

Making a survey on 70 listed manufacturing organizations in Bangladesh Fowzia and Nasrin (2011) reveals that five cost management tools such as, traditional cost accounting, quality costing, activity based costing, absorption costing, backflush costing are influential in profit planning decisions. They also found that three cost management tools-activity based costing, differential costing and kaizen costing are significant in overall satisfaction of cost management tools.

Farjana and Das (2009) evaluated the management performance by using management accounting techniques of the financial institutions in Bangladesh. Their study found that managers in financial institutions were very much satisfied in application of budgetary control analysis and variance analysis to measure managerial performance. At the same time application of segment reporting was discouraged.

Sharkar and Sobhan (2006) found the differences in extent and use of cost and management accounting methods and techniques among different manufacturing sectors. The study also revealed that all sectors are not practicing the sophisticated tools and techniques- target costing, throughput costing, life cycle costing and probabilistic CVP etc.

The role of cost and management accounting can be explained at various aspects of business actions. Cost and management accounting continues to participate a role as information provider for planning, controlling, performance evaluation and decision making. The majority of the studies revealed that traditional cost and management accounting tools are extensively practicing in the manufacturing companies, especially in Bangladesh. The task of manufacturing sector is extremely crucial for a rising country. Cement is one of the key manufacturing industries which plays a very important responsibility in the enlargement and expansion of a nation (Ajmal, 2015). Unluckily, the study on the topic of the application of cost and managerial accounting in the cement industry of Bangladesh is still remaining in a disappointing manner. The present study will endeavor to close the gap and add to existing knowledge about the extent and use of cost and management accounting tools and techniques in the cement industry of Bangladesh.

3. Objectives

The main objective of this study is to make an overview of the practice of Cost and Management accounting in cement industry of Bangladesh. More specifically, the study will keep attention to the followings:

a) Analyze the practices of Cost and Management accounting cement companies in Bangladesh.

b) Overall satisfaction level of account managers in cement companies of Bangladesh for using different cost management tools.

4. Conceptual Framework

The conceptual framework for this study is based on the aspects of cost and Management accounting practice and dimensions identified in the existing literature. It has been revealed that the cost and management accounting practices in different industries have five main streams (As in Figure 1) namely, the costing system, budgeting system, performance evaluation, information for decision making and strategic analysis.

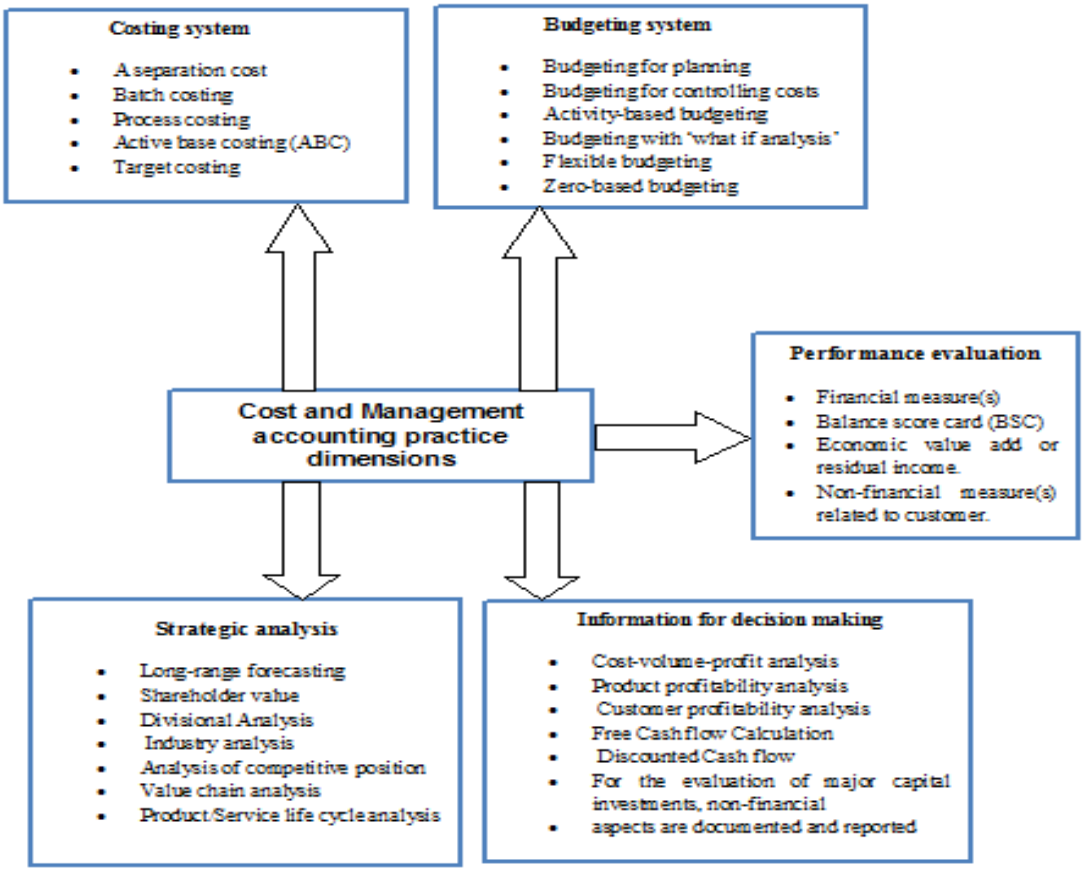

Figure 1: Conceptual Framework

The indicators for each of these dimensions are outlined below:

Costing system helps the company to ascertain actual cost of the product and pricing of the product that influence the actual profit. So it can be considered as an important dimension of cost and management accounting practice analysis (Paggios and Pavlatos, 2008; Ahmad, 2012; Chenhall and Langfield-Smith, 1998). Costing system includes separation of variable cost, incremental cost and fixed cost , batch costing, process costing , activity-base costing , target costing and the cost of quality (Kader and Luther , 2006; Alleyne and Marshall, 2011)

The extensive use of budgeting system for controlling cost is another important aspect of Cost and Management accounting practice analysis. This dimension have been reported in Chenhall and Langfield-Smith (1998); Joshi (2001); and Paggios and Pavlatos (2008). Budgeting system includes - budgeting for planning, budgeting for controlling costs, activity-based budgeting, budgeting with 'what if analysis', flexible budgeting, zero-based budgeting (Kader and Luther, 2006; Alleyne and Marshall, 2011).

According to Phadoongsitthi (2003) and Jusoh and Parnell (2008), the extent use of performance evaluation system is a vital fact of cost and management accounting tools and techniques. The company's performance evaluation includes - financial measure(s), balance score card (BSC), economic value add or residual income, non-financial measure(s) related to customer (Kader and Luther, 2006; Alleyne and Marshall, 2011).

Information for decision making system that includes cost-volume-profit analysis, product profitability analysis, customer profitability analysis, free cash flow calculation, discounted cash flow, evaluation of major capital investments and non-financial aspects (Kader & Luther,2006; Alleyne and Marshall, 2011; Szychta, 2002) is another important dimension in Cost and management accounting tools and techniques.

Strategic analysis is revealed an appealing increase in uptake and benefit [For instance, see Guilding*et. al.*, (2000); Joshi (2001); Paggios and Pavlatos (2008); Ahmad (2012) and Chenhall and Langfield-Smith (1998)]. Strategic analysis includes- long-range forecasting, shareholder value, divisional analysis, industry analysis, analysis of competitive position, value chain analysis, and product life cycle analysis (Kader and Luther , 2006; Alleyne and Marshal, 2011).

5. Research Methodology and Data

The study is quantitative in nature. Primary data have been collected for this study using a structured questionnaire. 23 respondents were purposively selected from 32 cement companies at different locations of Bangladesh who are operating their business at present. The positions of respondents within the companies are finance and accounts managers (Alleyne and Marshal, 2011). Selected sample covers almost 73% of target population. Secondary data also used in this study for discussion of results and comparison.

The questionnaire includes information regarding 34 cost & management accounting practices that have been classified into five groups: costing system, budgeting, performance evaluation, information for decision making, and strategic analysis (Kader and Luther, 2006; Alleyne and Marshall, 2011). Respondents were asked to react on use of the selected cost and management accounting practices (CA & MAPs) using five point Likert scale ranging from '1: never used' to '5: very often used'. Data editing and analysis have been done by using Statistical Package for Social Science (SPSS) version 20.0. Different statistical tools like percentage, mean etc. have been used for analysis.

6. Result and Discussion

Respondents of this study are the mid-senior level employees who are attached with the finance and accounts division of cement companies. Most of the respondents (52%) are middle aged who belongs to the age category 36 to 40 years. Majority of them (70%) have educational attainments till post-graduation level with some professional degrees, like CA or CMA and few of them (4%) have diploma certificates, or graduation degree. Sample data includes the male respondents only. This may be due to the existing socio-cultural aspect that discourages females to stay out of home for a longer period daily.

6.1 Extent of cost accounting methods and techniques use

Respondents were asked to specify the methods and techniques of cost accounting implemented in cement companies. Results in Figure 2 indicate that among the ten different chosen methods and tools, cement companies are not applying five distinct approaches namely, job costing uniform costing, service costing, contract costing and firm costing.

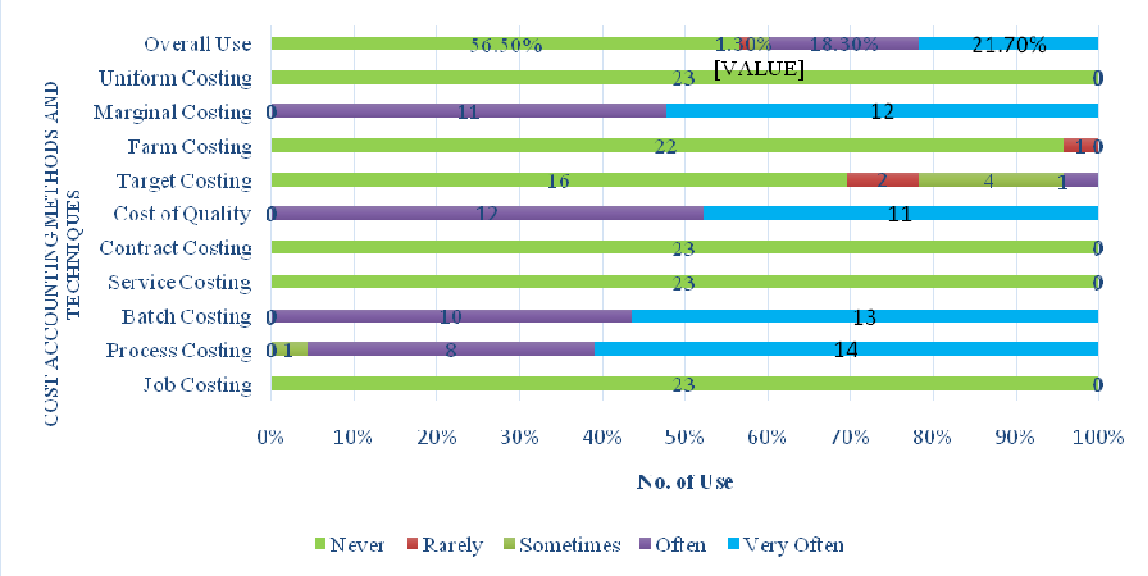

Figure 2: Cost accounting methods and techniques

Those methods and tools do not match with the manufacturing process and related production cost elements. It is also revealed that the very often used cost accounting methods and tools is process costing (61%), followed by batch costing (56%), marginal costing (52%) and cost of quality (48%). The reason behind the extent use of process costing is that, it is suitable with the manufacturing nature of cement industries. Similar findings also observed by Shields *et.al.*(1991) where they found the extent use of process costing is 50% for Australian companies. Another study by Lukka and Granlund (1996) revealed a lower use of process costing (40%).

6.2 Extent of management accounting tools and techniques use

Respondent were asked to explain the extent of use management accounting tools and techniques in selected

cement companies. The result (Figure 3) also revealed that all (8) management accounting tools and techniques are used in cement industry of Bangladesh.

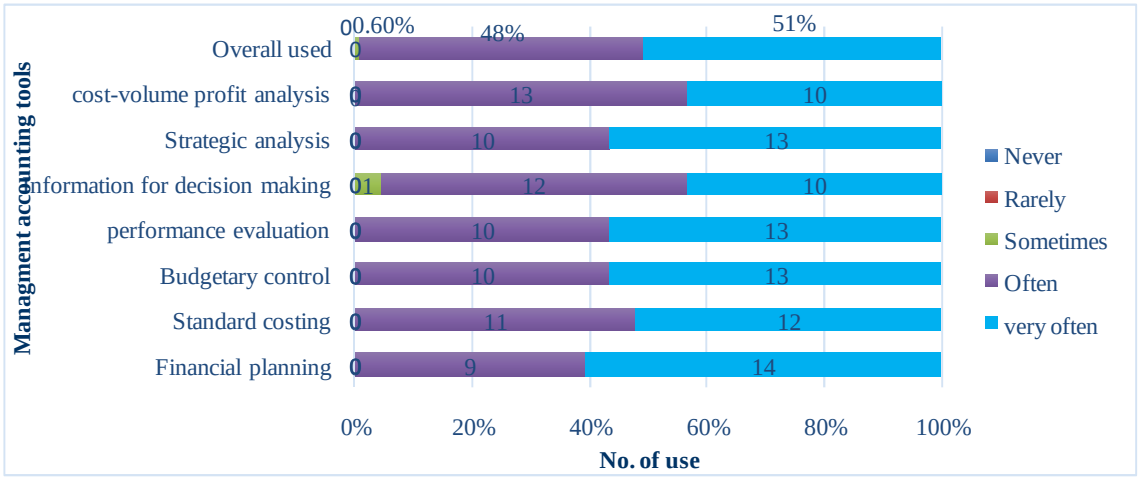

Figure 3: Management accounting tools and techniques

It is also evident that, very often used management accounting tools is financial planning (60%), followed by budgetary control, performance evaluation and strategic analysis (58%), standard costing (50%) and CVP analysis and information for decision making (44%). Besides, often use of management accounting tools by cement companies in Bangladesh are CVP analysis (58%), information for decision making (52%), standard costing (48%), and budgetary control, performance evaluation, strategic analysis (42%) and financial planning (39%). Result is consistent with the previous study (Yeshmin and Fowzia, 2010) that the most vital and dominant tools and techniques for management accounting are financial planning, budgetary control, performance evaluation, strategic analysis.

6.3 Extent of cost and management accounting practices

This section discusses the respondent's rating for extent of use of Cost and MAPs in the selected cement companies. It is revealed that the cost and management accounting practices in different industries have five main streams namely, the costing system, budgeting system, performance evaluation, information for decision making and strategic analysis (Kader and Luther, 2006; Alleyne and Marshall, 2011; Szychta, 2002). Following tables are showing the descriptive results for the extent of cost and management accounting practices at its detailed level.

6.3.1 Costing system

Costing system covers two different aspects in business industry: cost method and specific costing technique. Respondents were asked to indicate how often they are practicing different methods and techniques related to costing systems to provide more perfect cost information for decision making purpose.

Table 1: Descriptive statistics for costing systems and the ranking of techniques

	How often used?						
Costing system	**S_1**	**S_2**	**S_3**	**S_4**	**S_5**	**UI** (% of S_4 & S_5)	**Rank**
Separation of variable cost, incremental cost and fixed cost			3(13)	9(39)	11(48)	87%	I
Batch costing			5(22)	10(44)	8(35)	79%	III
Process costing			6(26)	9(39)	8(35)	74%	IV
Activity-base costing (ABC)			4(17)	10(44)	9(39)	83%	II
Target costing	21(91)	2(9)				0%	V
The cost of quality			3(13)	13(57)	7(30)	87%	I
Relative overall percentage of use	**68.16%**						
Note: In table, S_1= never use, S_2= Rare use, S_3=Sometimes use, S_4=often use and S_5= very often use and UI- User Index (relative total percentage of frequency of use computed from S_4 & S_5)							

Results (Table 1) indicate that overall uptakes have almost similar pattern for individual techniques except target costing. It is evident that, an overall uptake of costing system is about 68% and total uptake ranges from 74% to 87%. It is also revealed that the separation of variable cost, incremental cost and fixed cost and the cost of quality are the most leading system used by the respondents (87%) followed by activity-base costing (83%) batch costing (79%) and process costing (74%).

Separation of cost (variable cost& fixed cost) score (87%) and the cost of quality score (87%) are mostly consistent with the previous studies of Chenhall and Langfield-Smith (1998), (89%) and (80%) respectively. Some other studies found comparatively smaller score for the use of separation cost (For instance, Abdel-Kader and Luther (48%) 2008; Ahmad (45%) 2012; Paggios and Pavlatos (43.5%) 2008). The use of ABC costing (83%) is moderately same with the previous studied as that of Chenhall and Langfiel-Smith (1998) 56%; Green and Khienan (1992) 50%. Few other studies found smaller use of ABC costing (Such as Joshi (2001) found that the uptake is only up to 20%; and Paggios and Pavlatos (2008) found 23.5%).

Finding also revealed that only 2 (9%) cement companies are rarely using 'Target costing' which is almost similar with the Abdel-Kader and Luther (2006) result as 24%. The target costing also does not match with the costing system of Cement Company. Therefore, few respondents reported for the use of Target costing.

6.3.2 Budgeting system

Respondents had been asked to rate the usage of different type of budgeting system and the obtained results are presented in Table 2.

Table 2: Descriptive statistics for budgeting systems and the ranking of techniques

	How often used?						
Budgeting system	**S_1**	**S_2**	**S_3**	**S_4**	**S_5**	**UI (% of S_4 & S_5)**	**Rank**
Budgeting for planning			2(9)	11(48)	10(43)	91%	I
Budgeting for controlling cost		2(9)	4(17)	5(22)	12(52)	74%	III
Activity-based budgeting (ABB)			2(9)	12(52)	9(39)	91%	I
Zero-based budgeting (ZBB)	8(34)	14(61)	1(4)			0%	V
Budgeting for long term(strategic) plans		2(9)	3(17)	8(34)	10(43)	77%	II
Budgeting with "what if analysis"			9(40)	10(43)	4(17)	60%	IV
Relative overall percentage of use	**65.50%**						
Note: In table, S_1= never use, S_2= Rare use, S_3=Sometimes use, S_4=often use and S_5= very often use UI- User Index (relative total percentage of frequency of use computed from S_4& S_5)							

It is evident that, the maximum percentage supported for the use of budgeting for planning (91%) and Activity-Based Budgeting (ABB) (91%) followed by budgeting for long term (strategic) plans (77%), budgeting for controlling cost (74%) and budgeting with 'what if analyses' (60%). It is also found that the Zero-Based Budgeting (ZBB) is not adopted in this selected sector.

The extensive use of budgeting for planning (91%) and budgeting for controlling cost (74%) are consistent with the previous study by Abdel-Kader and Luther (2006) where they observed that the budgeting for planning (83%) and budgeting for controlling (73%) are frequently used by firms. Meanwhile, the low uptake of ZBB is also consistent with Joshi (2001) where he reported only 5% of Indian firms' applied ZBB.

6.3.3 Performance evaluation system

In order to measure the extent of use of performance evaluation systems respondents were asked to put their preferences for a number of elements in performance measures, both financial and non-financial.

Table 3: Performance evaluation system tools and their ranking of use

	How often used?						
Performance evaluation system	**S_1**	**S_2**	**S_3**	**S_4**	**S_5**	**UI (% of S_4& S_5)**	**Rank**
Financial measure(s)				17(74)	6(26)	100%	I
Non-financial measure(s) related to customers			5(22)	8(35)	10(43)	78%	II
Economic value add (EVA) or Residual income			7(30)	4(18)	12(52)	70%	III
Balance score card (BSC)	2(9)	5(22)	8(35)	8(35)	0	35%	IV
Relative overall percentage of use	**70.75%**						
Note: In table, S_1= never use, S_2= Rare use, S_3=Sometimes use, S_4=often use and S_5= very often use UI- User Index(relative total percentage of frequency of use computed from S_4& S_5)							

Results (Table 3) indicate that the financial measures are adopted by the entire respondent (100%) and can be considered as the highly used for performance measure followed by non-financial measures (78%), EVA (70%) and balance score card (35%). A number of 71% overall use of performance evaluation measures with uptakes across categories varying from a minimum of 35% up to 100% also been negotiated. The findings are consistent with some other previous studies. Joshi (2001) found that all selected companies are using financial measure. Sulaiman*et.al*, (2004) found 80% of evaluated performances are based on customer satisfaction.

6.3.4 Information for Decision making system

Respondents' propensity using of eight different widely applicable tools for the information support for decision making are presented in Table 4. Findings revealed that CVP analysis (100%) is mostly adopted by the respondents. All other decision making tools and techniques are widely used (96%) by the respondents except the tool based upon evaluation of major capital investments based on pay-back period or average rate of return (78%).

Table 4: Information for decision support systems tools and their ranking of use

	How often used?						
Information For Decision Making	**S_1**	**S_2**	**S_3**	**S_4**	**S_5**	**UI (% of S_4& S_5)**	**Rank**
CVP analysis				11(48)	12(52)	100%	I
Product profitability analysis			1(4)	14(61)	8(35)	96%	II
Customer profitability analysis			1(4)	13(57)	9(39)	96%	V
Evaluation of major capital investments based on discounted cash flow method(s)			1(4)	13(57)	9(39)	96%	III
Evaluation of major capital investments based on pay-back period or average rate of return			5(22)	11(48)	7(30)	78%	IV
For the evaluation of major capital investment, non-financial aspects are documented and reported			1(4)	8(35)	14(61)	96%	II
Evaluation the risk of major capital investment projects by using probability analysis or computer simulation	1(4)			15(65)	7(31)	96%	II
Performing sensitivity "what if" analysis when evaluating major investment project.			1(4)	12(52)	10(44)	96%	II
Relative overall percentage of use	**94.25%**						
Note: In table, S_1= never use, S_2= Rare use, S_3=Sometimes use, S_4=often use and S_5= very often use UI- User Index (relative total percentage of frequency of use computed from S_4& S_5)							

Similar findings also observed by the LeBruto*et. al.*, (1997) and Alleyne and Marshall (2011), where they found CVP used by 86% and 76% of their respective respondents. Paggios and Pavlatos (2008) and Chenhall and Langfield-Smith (1998) found that 94.1% and 80% of the respective respondents are using customer profitability analysis. Their study also revealed that capital investment analysis techniques have been widely used. Similar findings also observed by Abdel-Kader and Luther (2006) for various industrial enterprises.

Therefore, it may be concluded that decision making tools and techniques are important and evenly adopted by the cement companies in Bangladesh.

6.3.5 Strategic analysis

Respondents were asked to specify the tools and techniques of cost and management accounting for strategic analysis practice.

Table 5: Strategic analysis system tools and their ranking of use

	How often used?						
Strategic analysis (SA)	**S_1**	**S_2**	**S_3**	**S_4**	**S_5**	**UI (% of S_4& S_5)**	**Rank**
Long-range forecasting			4(22)	9(39)	9(39)	78%	III
Industry analysis		1(4)	3(13)	8(35)	11(48)	83%	II
Value chain analysis			3(13)	11(48)	9 (39)	87%	I
Product life cycle			4(22)	9(39)	10(44)	83%	II
Analysis of competitors' strength and weaknesses	2(9)	1(4)	11(48)	9(39)	0	39%	IV
Relative overall percentage of use	**74%**						
Note: In table, S_1= never use, S_2= Rare use, S_3=Sometimes use, S_4=often use and S_5= very often use UI- User Index (relative total percentage of frequency of use computed from S_4 & S_5)							

Results in Table 5 indicate that, the value chain analysis is the most frequently used (87%) and analysis of competitors' strength and weaknesses is the least used (39%). Product life cycle industry analysis is most dominantly used (83%) by the respondents and use of Long range forecasting is at moderate level (73%).The overall relative uptake of individual strategic analysis tools is high as reported by respondents, representing 74%.

Alleyne and Marshall (2011) found 71% use of overall uptake of strategic analysis tools, which is consistent to the findings of present study. Use of analysis of competitors' strength and weaknesses (39%) is also similar with the previous study by Abdel-Kader and Luther (2006) where they observed that competitive position analysis is frequently used by 33% of British drinking firms. Result for adopting product life cycle analysis (83%) is persistent with some other previous studies (for instance, Chenhall and Langfield-Smith, 1998; and Joshi, 2001).

Method and techniques of CA & MAPs enables industrial enterprises to make a good decision regarding cost control, product price determination, production efficiency and production of quality products that assures and increases the overall profitability in business. From the above analysis it can be concluded that the most adopted methods and techniques of CA & MAPs in the cement industry of Bangladesh are-i) information for decision making system representing the maximum overall usage (94%), followed by ii) Strategic Analysis (74%), iii) Performance Evaluation System (71%), iv) Costing system (68%) and v) Budgeting System (65%).

7. Conclusion

The main objective of the present study is to examine the overall adoption of practicing cost and management accounting methods and techniques in the cement industry of Bangladesh. Results are based on a questionnaire completed by the cost and management accountants of the selected cement companies of Bangladesh. Study findings indicate several aspects of the extent use of cost and management accounting in the selected industry.

Process costing methods is vastly used by the cement companies among the cost accounting methods. It is also revealed that job costing has not been practiced in this industry. All selected companies are adopting management accounting tools and techniques. 51% are very often practicing the management accounting tools and techniques and 48% are often using them. The extent use of financial planning is the major management

accounting technique.

In the costing system, separation cost (fixed cost and variable cost) and the cost of quality are widely used by the selected companies. It is also found that the modern and sophisticated tool ABC is largely practiced. It has been observed that cement companies are emphasizing the budgeting for controlling cost, activity-based budgeting (ABB), budgeting for long term (strategic) plans and budgeting for controlling cost. It is also found that the zero-based budgeting (ZBB) has not been adopted. Results revealed that all cement companies are applying financial measure for performance evaluation. 78% of the companies are also practicing the non-financial measure. The latest combined tool for performance evaluation, the balance score card (BSC) adoption level is infrequent. For pursuing decision making information, CVP analysis is commonly used by the selected cement companies. Besides, product profitability analysis, customer profitability analysis, discounted cash flow method(s), evaluation of major capital investment for non-financial aspects, evaluation of the risk of major capital investment projects by using probability analysis or computer simulation and "what if" analysis are documented and reported. Strategy analysis techniques are frequently practicing in cement companies. Value chain analysis is the mostly applied technique in addition to the product life cycle analysis and industry analysis that are widespread practicing.

We may conclude that the traditional cost and management accounting methods and techniques are mostly applied in the cement industry of Bangladesh. However, sophisticated methods and tools such as balance score card (BSC), analysis of competitors' strength and weaknesses are less practicing. Therefore, cement companies of Bangladesh should improve the extent use of modern methods and techniques of cost and management accounting.

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