

Strategic Management Accounting Techniques: Relationship with Business Strategy and Strategic Effectiveness of Manufacturing Organizations in Bangladesh

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Increased competition and uncertain business conditions have put significant pressure on corporate management to make informed business decisions and maximize their company's financial performance. In response, a range of strategic management accounting tools and techniques has emerged. Strategic management accounting practices in the business world have their roots in all types of enterprises. This study investigates the usage levels of different strategic management accounting techniques and relationship with industry type, industry size, strategic pattern, strategic mission and strategic positioning in manufacturing organizations of Bangladesh. It also focuses on the influential techniques to attain strategic effectiveness of manufacturing organizations. Findings reveal that the overall adoption level is in between the medium and low adoption level. Except in case of type of industry, the usage level is different regarding industry size, strategic pattern, strategic mission and strategic positioning. It also shows that only activity based costing, target costing and strategic costing techniques are significant to achieve strategic effectiveness.

Keywords: Strategic management accounting techniques, Manufacturing organizations, Adoption level, Strategic effectiveness.

Field of Research: Accounting.

1. Introduction

Since the 80s a new term has arrived into management accounting literature "Strategic management accounting" (SMA) (Simmond 1981). In the following decades a debate about what SMA comprises has been originated. It is accepted that SMA is identified as a generic approach to accounting for strategic positioning (Roslender & Hart 2003). CIMA (2002) gives the definition about strategic management accounting saying that it is a form of management accounting in which emphasis is placed on information which relates to factors external to the firm, as well as nonfinancial information and internally generated information. Nilsson & Rapp (1999) see that strategic management accounting is one of the two lines of research to study management control systems from a strategic perspective. A particular feature of this school is the emphasis on the idea that management control systems should provide information on the cost structure, product markets and strategies of a firm's competitors (Nilsson & Rapp 1999). SMA may be viewed as an attempt to integrate insights from marketing management and management accounting within a strategic management

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framework (Roslender & Hart 2003). The literature suggests that strategic management accounting (SMA) should incorporate strategic product costing and performance measurement, analyses of the firm's product markets and competitive market forces, and the assessment of organizational strategies over extended periods of time (Horngren, Datar, Foster 2003). Bromwich (2001) sees SMA as going beyond collecting data on businesses and their competitors, to considering the benefits that products offer to customers, and how these benefits contribute to building and sustaining competitive advantage. The intent of strategic management accounting might therefore be to determine the cost of providing product features to consumers given operating conditions which continuously seek improvement (Horngren et al., 2005). Strategic management accounting is specific to the extent that it connotes the integration of external with internal financial and non-financial information. It includes cost management approaches such as life-cycle costing, value-chain analysis, target costing, activity-based management, quality costing and balanced scorecard among others. So it should not come as a surprise that SMA is deployed in some organizations in ways that are highly enterprise specific (Horngren et al., 2005).

It has been claimed that strategic management accounting is one of new management accounting techniques with activity-based costing and balanced scorecard which has been developed largely by practitioners within their own organizations. The role of researchers has tended to be one of reporting the techniques through case studies of innovative practices, and then refining the practices for more general use. In this refining process it is possible to discern some elements of the normative approach of management accounting's conventional wisdom. (Ryan et al 2002).

This study has been organized into several segments. Section 1 and 3 deal with introduction and overview of prior studies relating strategic management accounting and its techniques. Section 2, 4 and 5 illustrate why this study has been presented and which methodology has been applied. Section 6, 7 and 8 focuses on the results, limitations and conclusion.

2. Research Questions

This research paper will try to get the answers of the following questions:

- a) Are there relationships between the usage levels of different strategic management accounting techniques and industry type, industry size, strategic pattern, strategic mission and strategic positioning in manufacturing organizations of Bangladesh?
- b) Which strategic management accounting techniques are influential to attain strategic effectiveness of the manufacturing organizations?

3. Literature Review

Since the mid 1980s criticisms about the current state of management accounting practices were widely publicized in the professional and academic literature (see Kaplan, 1984; 1986; Johnson and Kaplan, 1987; Ashton et al, 1991; Bhimani and Bromwich, 1992; Drury, 1992). Perhaps the most general and critical weakness of

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conventional management accounting practice was identified by Kaplan (1984, p.414) who argued that

“Management accounting can no more exist as a separate discipline, developing its own set of procedures and measurement systems and applying these universally to all firms without regard the underlying values, goals, and strategies of particular firms, but it must serve the strategic objectives of the firm”.

The criticisms raised have carried considerable resonance, as Cravens and Guilding (2001) note that the recent past reflects something of a management accounting renaissance. Revisions of management accounting practices have produced a variety of novel approaches in the fields of costing, strategic investment appraisal, strategic control and performance management. Paralleling developments at the level of individual accounting techniques the new term “strategic management accounting” has emerged. Hoque (2001) sees the significance of SMA to be such as to view it as a whole new discipline.

Bromwich (1988; 1990; 1992) provides some slightly different perspectives on SMA. He sees SMA (1988, p.27) as concerned with “the evaluation of the enterprise’s comparative advantages or value added relative to its competitors and to evaluate the benefits the enterprise’s products yield over their lifetime to customers and the benefits which these sales yield to the firm over a long decision horizon”. Bromwich introduced a concern with customers and also an explicit emphasis on the long term, to the SMA notion. Contemporaneously, in the U.S.A., Shank and Govindarajan (1988, 1992a, 1992b, 1993) commenced a stream of work that focused on what they termed “strategic cost management”. They analyzed the role that cost information plays according to four stages of strategic management and argued that effective cost management requires a broad focus that is external to the firm (Shank and Govindarajan, 1992a), and captures a strategic (long-run) perspective (Shank and Govindarajan, 1993).

While the SMA literature has since grown (see Rickwood et al, 1990; Wilson, 1991; Ward, 1992; Palmer, 1992; Moores and Chenhall, 1993; Clarke, 1995; Ryan, 1995; Roslender, 1995; Coad, 1996; Lord, 1996; Tomkins and Carr, 1996; Smith, 1997; Dixon, 1998; Roslender et al., 1998; Brouthers and Roozen, 1999; Szendi and Shum, 1999; Guilding et al, 2000; Cravens and Guilding, 2001; Hoque, 2001; Cadez, 2002; Tayles et al, 2002; Roslender and Hart, 2003),³ there is still limited consensus on the exact meaning of the term “strategic management accounting”. A second striking characteristic of the SMA literature is the paucity of empirical research.

Most of the literatures regarding strategic management accounting were at the conceptual levels. In recent years such approaches have influenced research conducted around the factors affecting SMA techniques implementation (Cravens & Guilding, 2001,2008; Guilding *et al.*, 2000; Cadez, 2006, Cadez and Guiding, 2007,2008;Imeokparia, 2008,Cinquini and Tenucci, 2006,2007,2010.), confirming the increasing interest on the assessment of the extension of their use within companies and the factors affecting it. The overall findings of these researches revealed some significant issues such as the strategic management accounting techniques were not strategy-driven, some strategic management accounting

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techniques had influence on financial performance improvement, the intensity of the usage of strategic management accounting techniques were high in New Zealand compared to UK and USA, some cost-oriented strategic management accounting techniques were applied more extensively in Slovenian companies than in the Australian benchmark sample, several strategic management accounting techniques appeared to be used in Italian companies as they were in other countries investigated in different studies, there were significant usage of strategic management accounting techniques in Nigeria manufacturing companies.

In the context of these prior studies, this study has examined the application level of fundamental strategic management accounting techniques and also the relationship of strategic management accounting techniques with the industry type, size, strategic pattern, mission, positioning and strategic effectiveness of manufacturing organizations in Bangladesh perspective.

4. Objectives of the Research

1. To examine the adoption level of different strategic management accounting techniques in various listed manufacturing organizations in Bangladesh.
2. To identify the relationship between adoption levels of strategic management accounting techniques with industry type.
3. To discover the relationship between adoption levels of strategic management accounting techniques with industry size.
4. To find out the relationship between adoption levels of strategic management accounting techniques with strategic pattern, strategic mission and strategic positioning.
5. To determine the influential strategic management accounting techniques on attainment of strategic effectiveness of the manufacturing organizations.

5. Research Design

The type of research adopted for this study is exploratory in nature with survey method. Because exploratory research is conducted into an issue or problem where there are few or no earlier studies to refer to. The focus is on gaining insights and familiarity for later investigation.

The target population for the purpose of the study is different types of listed manufacturing organizations of Bangladesh. In this study, total seventy listed manufacturing organizations have been surveyed from August to October 2010. The details of the sample size were described below:

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Types of manufacturing organizations	No of Respondents	% of Respondents
Textile companies	25	35.70
Pharmaceutical and chemical companies	15	21.40
Food and allied companies	20	29.00
Cement companies	5	6.95
Ceramic companies	5	6.95
Total	70	100

This study considered seventy listed manufacturing organizations on simple random basis. Because, in a simple random sample ('SRS') of a given size, all such subsets of the frame are given an equal probability. Each element of the frame thus has an equal probability of selection: the frame is not subdivided or partitioned.

Based on the research questions, a set of hypotheses are developed and tested to show the positive or negative relationships between the usage levels of different strategic management accounting techniques and industry type, industry size, strategic pattern, strategic mission and strategic positioning by using one-way ANOVA analysis. Each of the alternative hypotheses formulated is stated below:

- **Hypothesis 1:**

H_A = There are differences in using different types of strategic management accounting techniques among the five types of industry.

- **Hypothesis 2:**

H_A = There are differences in using different types of strategic management accounting techniques among the three sizes of industries.

- **Hypothesis 3:**

H_A = There are differences in using different types of strategic management accounting techniques between defender and prospector types of industries.

- **Hypothesis 4:**

H_A = There are differences in using different types of strategic management accounting techniques between build and harvest types of industries.

- **Hypothesis 5:**

H_A = There are differences in using different types of strategic management accounting techniques between cost leadership and differentiation types of industries.

Based on the second research question, the following alternative hypothesis is formulated to determine the influential strategic management accounting techniques on attainment of strategic effectiveness by applying multiple regression model.

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- **Hypothesis 6:**

H_A = There is no relation between the usage of activity based costing, attribute costing, benchmarking, competitive positioning monitoring, competitor cost assessment, competitor performance appraisal based on published financial statements, customer accounting, integrated performance measurement, life cycle costing, quality costing, strategic costing, strategic pricing, target costing, value chain costing and strategic effectiveness.

6. Results and Analysis

Strategic management accounting techniques are linked to the issue of the need for external information to face the uncertainties of environment and to support strategic decisions. The following table shows that the usage levels of different strategic management accounting techniques where 1 denotes “I don’t know” and 5 denotes “high adoption.”

Table 1: Frequencies (f) and Descriptive statistics of the SMA techniques usage rate

SMA techniques	I don't know		Non adoption		Low adoption		Medium adoption		High adoption		Median	Mean	S.D	Actual range
	f	%	f	%	f	%	f	%	f	%				
ABC	0	0	10	14.3	8	11.4	24	34.3	28	40	4	4.00	1.05719	1-5
Attribute costing	4	5.7	18	25.7	4	5.7	22	31.4	22	31.4	4	3.5714	1.33473	1-5
Benchmarking	0	0	8	11.4	4	5.7	22	31.4	36	51.4	5	4.2286	1.00252	1-5
Competitive position monitoring	0	0	4	5.7	6	8.6	24	34.3	36	51.4	5	4.3143	.86675	1-5
Competitor cost assessment	0	0	4	20	10	14.3	20	28.6	26	37.1	4	3.8286	1.15008	1-5
Competitor performance appraisal based on published financial statements	0	0	24	34.3	4	5.7	24	34.3	18	25.7	4	3.5143	1.22165	1-5
Customer accounting	2	2.9	14	20	6	8.6	24	34.3	24	34.3	4	3.7714	1.21476	1-5
Integrated performance measurement	0	0	16	22.9	8	11.4	18	25.7	28	40	4	3.8286	1.20014	1-5
Life cycle costing	2	2.9	10	14.3	6	8.6	14	20	38	54.3	5	4.0857	1.22165	1-5
Quality costing	0	0	8	11.4	4	5.7	14	20	44	62.9	5	4.3429	1.02736	1-5
Strategic costing	0	0	10	14.3	4	5.7	24	34.3	32	45.7	4	4.1143	1.05081	1-5
Strategic pricing	0	0	4	20	0	0	30	42.9	26	37.1	4	3.9714	1.09774	1-5
Target costing	0	0	6	8.6	2	2.9	26	37.1	36	51.4	5	4.3143	.90005	1-5
Value chain costing	2	2.9	10	14.3	6	8.6	24	34.3	28	40	4	3.8857	1.13167	1-5

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This table illustrates that total seven strategic management accounting techniques are medium adopted such as activity-based costing (ABC), benchmarking, competitive position monitoring, life cycle costing, quality costing, strategic costing and target costing and rest of the techniques are in the range of low adoption.

The results of the relationship between adoption levels of strategic management accounting techniques with industry type, industry size, strategic pattern, strategic mission and strategic positioning are as follows:

Table 2: Relationship the usage rate of SMA techniques with some variables

Sl no	Significance	Result	Explanation
H ₁	.636	Reject	There is no difference regarding types of industry
H ₂	.077	Accept	There is difference regarding size of industry
H ₃	.066	Accept	There is difference regarding pattern of industry
H ₄	.000	Accept	There is difference regarding mission of industry
H ₅	.070	Accept	There is difference regarding positioning of industry

This table shows that there is no difference in using different types of strategic management accounting techniques among different types of industry. But there is difference in case of size of industry at 10% level of significance, regarding strategic pattern and strategic positioning at 10% level of significance and in respect of strategic mission at 1% level of significance.

To determine the influential strategic management accounting techniques on attainment of strategic effectiveness of the manufacturing organizations, multiple regression analysis has been considered where 7 point Likert type questions has been applied where 1 denotes “very unimportant” and 7 denotes “very important.” The results are shown below:

Table 3: Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.933 ^a	.870	.779	.44393

Table 4: ANOVA						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.344	14	1.882	9.548	.000 ^a
	Residual	3.942	55	.197		
	Total	30.286	69			

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The regression result shows that the multiple regression model is highly significant (.000). The coefficient of determination indicates that 77.90 percent of the variation in the strategic effectiveness of manufacturing organizations is explained by variations in the independent variables.

Table 5: Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.528	.554		-.952	.352
	abc	.207	.098	.232	2.110	.048
	attribut	.075	.077	.106	.970	.344
	bench	-.146	.166	-.155	-.880	.389
	monitor	.294	.184	.270	1.594	.127
	assesmen	-.032	.174	-.039	-.182	.857
	appraisa	-.106	.115	-.101	-.918	.369
	customer	.163	.127	.210	1.287	.213
	integrat	-.016	.131	-.020	-.122	.904
	cycle	.009	.149	.012	.062	.951
	quality	.142	.156	.155	.913	.372
	stracost	.315	.155	.351	2.040	.055
	pricing	-.120	.163	-.140	-.735	.471
	target	.365	.148	.473	2.466	.023
value	-.024	.157	-.028	-.150	.882	

The above table explains that only activity based costing (ABC) and target costing are influential techniques at 5 % level of significance and strategic costing at 10% level of significance. It means the strategic management accounting techniques are not well used by the manufacturing organizations so that those are not capable to influence strongly in achieving strategic effectiveness.

7. Limitations of the Study and Further Study for Future

This study is based on few structured questionnaire in survey and some secondary data. Some strategic management accounting techniques have been considered. But there is huge number of strategic management accounting techniques. Only usage and importance level have been considered but what are the reasons behind it have not been concentrated. If the study considered the qualifications of the respondents, the finding might be different. Because most of the respondents did not have clear idea about these techniques. This study lacks consideration of a good number of strategic management accounting techniques and also the level of the qualifications of them towards justification of their responses. Also merely manufacturing organization has been considered. The

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study could consider the perceptions of service organizations also. That prospect is kept open for further research.

8. Conclusion

Strategic management accounting is a vast area .The importance of strategic management accounting practices in measuring multidimensional aspects of performance is rapidly increasing. Strategic management accounting practices in organization recognize the problem that management is facing in future courses of action focusing customer, market, decision and activity etc. Strategic management accounting practice pervades its scope to strategic aspects of decision making allowing the firm to use external information in addition to the traditionally used internal information for managerial decisions. The current strategic management accounting practices in industries are taking new shapes commensurate with the market competitiveness and applying variety of techniques that accumulates strategic and financial information for decision making.

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Appendix

ANOVA (Industry size and overall usage mean)

ONEWAY Descriptive

MEAN

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
LARGE	24	4.1071	.41070	.11856	3.8462	4.3681	3.14	4.57
MEDIUM	24	3.3730	.72441	.20912	2.9127	3.8333	1.57	4.19
SMALL	22	3.6017	1.08844	.32818	2.8705	4.3330	1.57	4.67
Total	70	3.6966	.81985	.13858	3.4150	3.9782	1.57	4.67

MEAN

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	3.378	2	1.689	2.775	.077
Within Groups	19.475	67	.609		
Total	22.853	69			

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ANOVA (types of industry and overall usage mean)

ONEWAY Descriptives

MEAN

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
TEXTILE	24	3.6786	.63892	.18444	3.2726	4.0845	2.76	4.62
PHARMA	20	3.8476	.82625	.26128	3.2566	4.4387	1.81	4.57
FOOD	18	3.3862	1.10745	.36915	2.5350	4.2375	1.57	4.67
CEMENT	4	3.8810	.63976	.45238	-1.8671	9.6290	3.43	4.33
CERAMIC	4	4.2619	.43773	.30952	.3290	8.1948	3.95	4.57
Total	70	3.6966	.81985	.13858	3.4150	3.9782	1.57	4.67

MEAN

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1.806	4	.451	.644	.636
Within Groups	21.047	65	.702		
Total	22.853	69			

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2-Independent Sample t test (types of strategic pattern and overall usage mean)

Group Statistics

	PATTER N	N	Mean	Std. Deviation	Std. Error Mean
MEAN	DEFEND ER	44	3.7684	.66037	.14079
	PROSP ECTOR	26	3.5751	1.05632	.29297

Indep Test

		Levene Test ...		t-test for Equality...						
		F	Significance	t	df	Sig(2- tailed)...	Mean Difference	Std. Error Diff...	95% Confidence Interval of the Difference	
									Lower	Upper
MEAN	Equal variances ...	3.612	.066	.669	68	.508	.1933	.28916	-.39500	.78162
	Not Equal variances595	17.645	.560	.1933	.32505	-.49057	.87719

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2-Independent Sample t test (types of strategic mission and overall usage mean)

Group Statistics

	MISSION	N	Mean	Std. Deviation	Std. Error Mean
MEAN	BUILD	54	3.8836	.55601	.10700
	HARVEST	16	3.0655	1.23546	.43680

Indep Test

		Levene Test ...		t-test for Equality...						
		F	Significance	t	df	Sig(2-tailed)...	Mean Difference	Std. Error Diff...	95% Confidence Interval of the Difference	
									Lower	Upper
MEAN	Equal variances ...	17.979	.000	2.698	68	.011	.8181	.30320	.20126	1.43499
	Not Equal variances ...			1.819	7.858	.107	.8181	.44972	-.22220	1.85845

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2-Independent Sample t test (types of strategic positioning and overall usage mean)

Group Statistics

	POSITION	N	Mean	Std. Deviation	Std. Error Mean
MEAN	COST LEADERSHIP	30	3.7905	.66783	.17243
	DIFERENTIATION	40	3.6262	.92843	.20760

Indep Test

		Levene Test ...		t-test for Equality...						
		F	Significance	t	df	Sig(2-tailed)...	Mean Difference	Std. Error Diff...	95% Confidence Interval of the Difference	
									Lower	Upper
MEAN	Equal variances ...	3.517	.070	.581	68	.565	.1643	.28280	-.41107	.73965
	Not Equal variances609	32.965	.547	.1643	.26987	-.38480	.71337