An Exploratory Study of Management Accounting Practices in Manufacturing Companies in Barbados

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Abstract

This paper examines the management accounting practices in three manufacturing companies within a public limited group company in Barbados. Semi-structured interviews were done with a financial controller, production/operations manager and supervisor in each company. Respondents perceived that management accounting practices enable management to obtain relevant information for meaningful decision making. Budgeting was used as a control tool within the planning process and for monitoring the cash flow. The majority of management accounting practices were widely used by the sample. No sophisticated management accounting software was used to generate information other than the normal accounting software. Timeliness, technology, effectiveness, information needs and an adoption of best practice were important factors influencing the choice of management accounting practices used. Respondents perceived that the management accounting practices employed within the three entities were very effective and contributed to the success of the entities. It was also found that the management accounting practices were consistent and standardised across the group.

Keywords: Management accounting practices, Barbados, manufacturing.

1. Introduction

Manufacturing companies use management accounting techniques to assess their operations. These include budgeting, variance analysis and breakeven analysis. These methods help organisations to plan, direct and control operating costs and to achieve profitability. It is recognised that management accounting practices are important to the success of the organisation (Horngren et al., 2009). In Barbados, some manufacturing companies have been facing challenging times with several companies experiencing bankruptcy, especially during the current global recession. Thus, there is a need to strive for profitability in the manufacturing industry in Barbados through the use of sound management accounting practices.

The main objective of this paper is to examine the management accounting practices of three related entities in Barbados: Hipac Limited, Purity Bakeries Limited and The West Indies Rum Distillery Limited. The paper will seek to inform practitioners and academics about the management accounting practices within a small developing country and be able to determine the 'best practice' suitable for companies within this region. It therefore examines which management accounting practices in Barbados are more widely used, which ones are preferred and why are they preferred over other practices. It also focuses on several factors that influence decisions made by senior management in order to adopt appropriate techniques that provide the best results for external and internal reporting within these companies.
The research questions are:

a) What are the perceptions of the meaning of the phrase "management accounting practices"?
b) What types of management accounting practices are used in the sample of companies?
c) What types of management information systems are used within these companies?
d) What factors influence the choice of management accounting practices in these companies?
e) What is the level of effectiveness of management accounting practices in these companies?
f) How do the management accounting practices in each entity compare to each other?

The structure of this paper will be as follows: Section two reviews the literature on management accounting practices. Section three provides a background to the study. Section four describes the research methodology used. Section five presents the results of the study. The final section concludes the study.

2. Selective Literature Review

Ittner & Larcker (2002, p.788) defined management accounting practices as a variety of methods specially considered for manufacturing businesses so as to support the organisation's infrastructure and management accounting processes. Management accounting practices can include budgeting, performance evaluation, information for decision-making; and strategic analyses are some of the methods used among many others. Ittner & Larcker (2001) has also argued that due to the development of these new methods, it has changed the basic principles of management accounting to a more superior one that adds value to various practices. The literature has also indicated that some practices such as absorption costing and marginal costing have not been highly favoured by most manufacturing businesses. For example, Dugdale and Jones (2002) stressed that there is a limitation within these costing systems, since they do not provide an accurate method of recording costs to be exact in order to make sound management decisions.

Budgeting

Drury et al. (1993) has defined budgeting as an important tool for forecasting and controlling the activities within an organisation and for allocating the entity's resources so as to achieve its objectives and goals. Drury et al. (1993) have also highlighted that there are different forms of budgeting such as activity-based budgeting (ABB) and activity-based costing (ABC). Horngren et al. (2009, p.170) explained activity based costing (ABC) as a method best suited for improving a cost system. ABC is used to identify the cost of a product or service within the activity. Williams et al. (2010, p. 779) defines ABC as "an overhead allocation method that uses multiple overhead rates to track indirect costs by the activities that consume those costs." ABC is perceived to be a better method for costing a product or service based on the use of resources required to produce the product or service.

Activity-based budgeting (ABB) has been defined by Ayvaz & Pehlivanli (2011, p. 150) as "the budgeting of sources according to target activities." The application of this type of budgeting system is easy to use, as it focuses on the activities within the process rather than cost objects. Its primary purpose is to collect all costs within the process which includes materials, setup time, number of hours worked and manufacturing overhead that is to be included in the budget. The comparative advantage of ABB over ABC is that ABB is perceived to be more comprehensive and precise, since it gives a full breakdown of the costs to be expected.

The budgeting process is further made up of a number of different budgets such as the master budget and cash budget. The cash budget consists of cash receipts and payments and shows the beginning and ending cash position at the end of the budgeted period. The master budget is a summarised budget that sets specific goals to be achieved and includes the activities of the sales or distribution departments and other divisions in the organization. The majority of companies highly favoured the use of budgeting on a regular basis for long-term strategic planning and controlling of costs. Overall, Drury et al. (1993) concluded that surveys have shown that most companies preferred to use ABB over ABC costing systems. However, to support their views, they summed it up by saying most companies were using ABC as a supplementary method to the budgets which are prepared under ABB.

Performance evaluation

Ittner & Larcker (1998) stated that, in today's business environment, manufacturing organisations are constantly encountering challenges, namely that of performance evaluation. Ittner et al (1997) further criticised systems which focused entirely on financial components such as maximising profits and return on capital investment projects. They have also argued that the preparation of financial accounting information has been manipulated due to external reporting conventions. These conventions do not take into account the cost of raising capital and labour turnover. These shortcomings in performance evaluation have caused organisations to create the Economic Valued Added (EVA) mechanism. The "Economic Valued Added" mechanism is defined by Ittner & Larcker (1998), as looking at the true value that has been added to the company and its cost of capital (for example, stakeholders' investment). It takes a different look at the net operating profit after taxes from also an economic perspective rather than only an accounting one. Chen and Dodd (1997, p.318) stated that "EVA is the difference between a company's net operating income after taxes and its cost of capital of both equity and debt." The EVA method has not gained much recognition among organisations, but may be considered a useful tool for measuring performance evaluation in the future. A major shortcoming results from determining the weighted average cost of capital which can sometimes be problematic.

Kaplan & Norton (1992) proposed the balance scorecard as a tool for measuring performance and managing the financial and non-financial aspects of the company. The main purpose of the scorecard is for the collection of information to provide feedback to management for the purposes of strategic planning. When this type of management system is implemented, it allows the organisation to stay focused on the company's objectives and goals. Four different perspectives were also recognised for measuring performance: learning and development, customer-related, financial and internal business perspectives.

Learning and development perspectives focus primarily on the training of employees, as it realises that an organisation's greatest resource is its employees. The customer-related aspect is emphasised by realising the importance of customers' satisfaction within any organisation. If customers are not satisfied with the level of service delivered, they will seek an alternative provider of the service. The financial perspective focuses on measurable criteria such as profitability, sales growth and net income in order to make sound decisions. The final process is the internal business perspective which looks at the internal functions such as the standardisation of products and services being delivered to the customer and also if the organisation is being managed effectively. This process is useful for addressing any inefficiencies which may occur, since it compares performance and also establishes the appropriate methods to be used to improve performance.

Information for decision making

There is a general perception that management accounting provides relevant information for making decisions, both internally or externally and on a long term or short term basis. There are many different tools for making short term decisions such as cost volume profit (CVP) analysis, and customer profitability analysis. Horngren et al. (2009, p.87) defined cost volume profit analysis as a method or tool for measuring potential changes in the company's revenues, costs and prices. CVP analysis is used in manufacturing companies to determine how many units of a particular product must be sold in order to break even. The application of this principle is relatively straight forward with the unit selling price being subtracted from the variable cost per unit to arrive at the contribution margin. The total fixed cost is then divided by the contribution margin in order to arrive at the number of break even units required.

Therefore, this allows managers to see the behaviour of the cost prior to making a solid commitment or final decision on a specific order. CVP analysis may also be used by managers when considering if a product should be bought or made. LeBruto et al. (1997) stressed that cost volume profit analysis appears to be a practice that is strongly used by manufacturing companies in the food business. Management accounting can also produce useful information to make financial management decisions such as payback periods, accounting rate of return and discounted cash flow methods. Most companies used the popular way of measuring return on investment by using the accounting rate of return to calculate the cash flows on major capital projects. However, the use of discounted cash flows and internal rate of return techniques to calculate the cost of capital seems not to be a regular management accounting practice used by businesses.

Strategic analysis

Roslender & Hart (2003) defined strategic management accounting as the external approach which focuses on the effect of the competitors' decisions and cost structures on the future process of the business. Tomkins & Carr (1996) realised that this aspect of strategic management accounting does not carry any sound theoretical structure. This view has been shared by many other academics because they argued that the primary focus is internally rather than externally and as a result, the external environment is constantly overlooked. Organisations in manufacturing, for example perhaps those in the food industry, seem to place more emphasis on long term planning. This also suggests that there is a high occurrence in the usage of management accounting practices among companies in the production of food.

Changes in management accounting practices

There are factors that influence the changes in management accounting practices within some organisations. Otley & Berry (1980) made reference to some systems as open, that is, there is a continuous cycle of resources that are inputs which moves from the external environment. It is a common belief that such changes will have an influence on the selection of the appropriate management accounting practices within any organisation. Some researchers have commented that such changes may originate due to different settings of both economic and cultural environments. Most of the research focused on changes in management accounting practices, primarily in countries such as South Africa and Canada (e.g Luther & Longden, 2001). However, some researchers noted what is often taught in schools is far different in the world of work and therefore creates a breach in knowledge between the practical and the theory. Johnson & Kaplan (1987) argued that management accounting has not changed over the past years. However, Libby & Waterhouse (1996) were convinced that there were changes. Burns et al. (1999) further argued that there is evidence that management accounting practices have changed over the last decade in a developed country such as the UK.

Contingency Theory

Burns & Stalker (1961) discussed why management accounting practices may be unalike when comparing one organisation to the other. This can be related to organisations operating in different industries or sectors. Otley (1980) applied contingency theory to management accounting practices and explained that there is no single general standard accounting practice that can be applied to all organisations. In essence, each organisation will have its own management accounting practices. The theory looks at certain influential factors that will assist management to decide on an appropriate management accounting practice. These factors can either be technological changes and the infrastructure of an organisation. For example, a manufacturing food company may want to change the technology used to a more modern hygienic and efficient way of handling, processing and packaging its food. It may then consider installing a computer based system that mass produces its products. However, the type of qualified personnel that is require to operate such highly complex equipment will influence the type of management accounting practices selected and production costs.

Dugdale (1994) highlighted which management accounting practices are widely used in manufacturing organisations. Those that were highly favoured were budgeting for controlling costs and performance evaluation. His findings revealed that budgeting plays an important role in the managing and directing process of the organisation. This tells managers what costs to expect over the next budgeted period and also gives an indication when the company might expect to go through a seasonal change and the impact it will have on the company's cash flows and revenues. Perhaps this is the main reason why this particular management accounting practice is highly rated over many other practices. Dugdale (1994) further went on to mention that budgeting enables organisations to effectively plan and develop strategies to achieve their goals. Luther & Longden (2001) also observed that the budgeting process is an integral part of managing and controlling costs in the manufacturing sector, for example, in the UK, South Africa and Australia.

3. Background

Goddard Enterprises Limited

Goddard Enterprises Limited (GEL) was founded by Joseph Goddard in 1921 as a partnership with his son, Victor. The business began trading with a small meat and grocery store in Bridgetown, Barbados. In 1924, when GEL acquired the Ice House Building, causing the food operation to expand, it brought new business to the retail sector being the first cold storage to be opened in Bridgetown. During 1939, GEL purchased its first entity, Purity Bakeries Limited. During the 1960s, GEL established Super Centre Supermarket in Barbados. The conglomerate's main focus has been the supermarket and retail business, but it has also attributed its success to diversification in different sectors. GEL, with its head office situated in Barbados, has as its corporate mission statement "*to be successful and responsible while satisfying customers, suppliers, employees and shareholders."* To date, through strategic alliances, joint ventures and acquisitions, the company has subsidiaries in over twenty countries throughout the Caribbean, North, Central and South America operating in many different sectors. These sectors are namely the manufacturing, retail, financial, shipping, insurance, airliner catering, restaurant, meat processing, bakery, rum distilling and many others. However, Goddard's most important division of business focuses primarily in the area of distribution, catering, manufacturing and finance.

In 2009, the consolidated audited financial report showed that GEL's net assets totalled US$324 million, gross revenue was US$445 million and profit from operations was US$28 million (Goddard Enterprises Limited, 2010). The conglomerate has contributed significantly to the GDP of Barbados and has also provided employment for persons in different industries either working as managers or general workers (Goddard Enterprises Limited, 2010). This research focuses on three major manufacturing entities within the Group which are Hipac Limited, Purity Bakeries Limited and the West Indies Rum Distillery Limited, which are all located in Barbados. These three companies were selected based on their positive contribution to the group performance. For example, CariCRIS (2008) stated that "through its subsidiary, Hipac Limited, GEL dominates the processed meat products market in Barbados, with around 80% market share, enjoying good strong brand equity and the ability to maintain a price premium for its products" (p.2). CariCRIS (2008, p.2) further stated that:

> "The West Indies Rum Distilleries Ltd. (WIRD) … has a very strong clientele which includes the top two global players in the premium alcoholic drinks business – Diageo and Pernod Ricard (PR). WIRD meets a significant amount (80%) of the latter's global requirements of bulk rum for its Malibu brand" (p.2).

Hipac Limited

Hipac Limited is a meat processing plant which is located in Fontabelle, St. Michael, Barbados. Its staff numbers approximately one hundred and ninety persons.

When H.I.H Manufacturing and Barbados Packers and Canners amalgamated in 1990, it formed a new entity called Hipac Limited, which Goddard Enterprises Limited has a 78% interest. During 1992, National Foods Limited and Hipac Limited merged and later diversified into products such as chicken nuggets, fillets and patties were added to the production line. Today, Hipac Limited has broadened its horizon by expanding its operations and carrying a variety of brand names such as Fisherman's Choice, Island Cuisine, Farmer's Choice and Eve. Fisherman's Choice consists of breaded shrimp nuggets, fish sticks and "Bajan" seasoned fillets while Island Cuisine concentrates on a line of Caribbean flavoured products. In addition, hams, slice meats, hamburgers, sausages and luncheon meat are all products of Farmer's Choice which are processed and produced by Hipac Limited (Goddard Enterprises Limited, 2010).

Purity Bakeries Limited

Purity Bakeries Limited, which is located at Lower Collymore Rock, St. Michael, Barbados, is the largest bakery in the island, and is wholly owned by Goddard Enterprises Limited. This division supplies deliveries to supermarkets, shops, hotels and restaurants across the island. The company produces three different brands of bread, namely Purity, Sunshine and Wonder. These different lines include whole wheat, bran, white bread products, salt breads and a variety of health products.

The West Indies Rum Distillery Limited

The West Indies Rum Distillery Limited was established since 1893 in Barbados by the Stades brothers (Goddard Enterprises Limited, 2010). Its main purpose was to distill and ship rum to Germany. Today, The West Indies Rum Distillery Limited continued the traditional idea of the Stades brothers, by ensuring that an adequate supply of rum is readily available, and which is now being manufactured by improved technology. The West Indies Rum Distillery Limited is located at Brighton, Black Rock, St. Michael, Barbados and currently employs approximately sixty-two persons (Goddard Enterprises Limited, 2010). The distillery is well known for some of its famous brands and blends of rum and liquor such as Cockspur, Malibu, Gilbeys and Popov which come in a variety of sizes. Many of the products are not only for local consumption, but are exported to European and North American markets. Goddard Enterprises Limited owns 88% of the shares (Goddard Enterprises Limited, 2010). Hipac Limited, Purity Bakeries Limited and The West Indies Rum Distillery Limited were in operation for seventeen (17), seventy (70) and one hundred and fourteen (114) years, respectively.

4. Research Methodology

The research was conducted in three related companies in Barbados, namely Hipac Limited, Purity Bakeries Limited and The West Indies Rum Distillery Limited. Face-to-face interviews were conducted using a semi-structured interview schedule. The first part of the interview schedule dealt with demographic information such name and type of company, years in operation, respondent's position, experience and qualifications. The second part requested information on the management accounting practices used within their companies. These questions specifically, focused on the respondents understanding of the term 'management accounting practices', the type of management information systems being utilised, the types of management accounting practices used, factors influencing their choice of practice, the level of success of the practices in meeting management's objectives and for them to identify any challenges or benefits from using these practices. The third part of the interview schedule listed management accounting practices under headings of cost system (7 items), budgeting (7 items), performance evaluation (6 items), information for decision making (10 items) and strategic analysis (8 items) (adapted from Drury et al., 1993; Abdel-Kader & Luther, 2006; and Dick-Forde et al., 2007) (See Table 1). Respondents were asked to state their usage of these practices, using "yes", "no" or "not sure" responses.

Telephone calls were made to the key personnel (financial controllers, accountants, production managers and supervisors) of these companies to secure access. Respondents were informed of the nature of the research and the researcher explained that sensitive matters obtained during the interview will not be included in the paper. The financial controller/accountant, production manager and production supervisor of each company granted permission to be interviewed. The qualitative methodology (i.e use of semi-structured interviews) was deemed to be appropriate since the research required opinions and feelings on the topic (Saunders et al., 2003). Each interview lasted about one hour. Thematic analysis was used as the main analytical strategy in this research (Neuman, 2003). Results were subsequently shared with respondents to ensure that they were satisfied that there was no release of information that could cause potential harm. This research also relied on secondary or existing data. Specific websites were visited to gather information and searches were also conducted using the "Google" search engine as well as the Library's online database. This approach facilitated a comprehensive review of the current literature on the research topic.

Characteristics of the sample

The sample consisted of 9 respondents from 3 companies. The positions of respondents within the companies were financial controllers/accountants, production supervisors and production/operations managers. The respondents possessed at least a bachelor's degree in their respective fields, and had an average of at least ten (10) years experience in the organisations. Each company was a manufacturing subsidiary of a public limited company in Barbados.

5. Results

Understanding the phrase "management accounting practices"

Respondents were asked to explain what they understood by the phrase "management accounting practices." They all generally agreed that management accounting practices are aimed at assisting with the making of decisions by management. For example, one financial controller defined it as "information gathered from accounting systems to help management make decisions on a daily, monthly, yearly and long range horizon." Another respondent supported this by stating that management accounting practices focus on the "provision and use of accounting information to managers within the organisation to assist with decisions making and enhance the control function." Another respondent agreed that it relates to "different types of management accounting practices in place and managing information for internal reporting." Thus, the finding of this study showed that respondents perceived that management accounting practices enable management to obtain relevant information for meaningful decision making. This finding is consistent with Ittner & Larcker (2002), who argued that management accounting practices support the organisational structure and management accounting processes.

Types of management accounting practices widely used

Table 1 shows the frequency of usage of specific management accounting practices. In terms of a costing system, separation of variable cost, incremental costs and fixed costs, use of plant-wide overhead rate and department or multiple plant-wide overhead rates were the most widely used. Interestingly, popular techniques such as activity based costing and regression and learning curve techniques were not widely used. With respect to budgeting, it was seen that budgeting for planning and controlling costs, "what if" analysis, zero based budgeting, and budgeting for long term (strategic) plans were the most popular practices.

Insert Table (1) about here

In terms of performance evaluation, financial and non-financial measures as well as benchmarks were considered as the most widely used management accounting practices within this sub-group of practices. This finding is encouraging and agrees with Ittner & Larcker's (1998) call for an increase in the use of performance evaluation in companies. With respect to information for decision making, almost all of the practices were generally used. Importantly, cost volume profit analysis was widely used. This finding is consistent with LeBruto et al.'s (1997) argument that cost volume profit analysis is a strongly used practice by manufacturing companies. In terms of strategic analysis, the methods used by all in the sample were industry analysis, analysis of competitive position, product life cycle analysis, and analysis of competitors' strengths and weaknesses. This finding shows that strategic analysis is perceived to be a critical management accounting practice within these companies.

During the interviews, it was pointed out that budgeting, standard costing, and actual costing were widely practiced. However, the use of budgets prepared annually has been significantly important within the three companies, as it helps to control cost and to assist with the planning process. These entities used the budgeting process as an aid so that management can control the company's cash flow effectively. Within the three entities, standard costing has been used to work out the costs before it is actually incurred and to point out any variances when compared with actual costs. One production manager stated that "we use these practices to monitor cost and compare actual sales with the budget of last year, to explain variances from the previous year and to plan for the upcoming year." An accountant argued:

> It is used for decision making and comparing actual results with planned results.
> It also assists with controlling costs, that is, standard and actual costing.

This study found that standard costing and variance analysis have been widely used in the sample of companies. These findings were inconsistent with Dugdale et al.'s (2006) study which showed a selective and limited use of variances in the UK. This study also found that budgeting is used as a control tool with the planning process and for monitoring cash flow, similar to Drury et al. (1993)'s and Dugdale (1994)'s arguments. Budgeting and forecasting were widely used. However, budgeting was more than at the end of the financial year instead of a rolling 12 month forecast, as suggested by Dugdale et al. (2006).

Dugdale (1994) contends that companies favour management accounting practices that budgeted for controlling costs and performance evaluation. Overall, this study found that the majority of the management accounting practices were widely used by the sample. The results of this study supports Dick-Forde et al.'s (2007) finding in Barbados that there was a preference for conventional and traditional management accounting practices in these companies.

Management information system

Each entity had its own management information system for financial reporting. They all used Microsoft Excel spreadsheets for the purpose of comparing product profitability and sales trends. One manager stated that "they used ACCPAC, an accounting software package which helps to generate financial reports such as balance sheets, income statements, cash flow statements and other reports for the company." Two other respondents stated that "they used Microsoft Solomon which is an accounting software package used to produce similar financial reports." Thus, it can be seen that there was no sophisticated or specialised management accounting software used to generate information other than the normal accounting software. This study supports Dick-Forde et al.'s (2007) finding that the disproportionate emphasis on financial accounting and the use of financial reporting software resulted in a neglect of the internal reporting system. In addition, the study finds that cost considerations had been suggested as being partly responsible for the use of just one accounting system and that as a result, management accounting practices was seen to be subservient to financial accounting, as argued by Dick-Forde et al. (2007).

Factors influencing the choice of management accounting practices

Respondents were asked to indicate the factors which influenced the choice of management accounting practices used. A production supervisor argued that factors included "timeliness, utilisation of existing resources (technology, etc) and the four core management functions." A production manager noted that the choice of management accounting practices is influenced by:

> The type of information the company wants to capture and the data available for the management accounting. Effectiveness of a practice compared to alternatives.

A financial controller stated that the choice of management accounting practices was influenced by "the nature of the business, information needs for making decisions and adopting the best practice suited for the organisation." Thus, it was found that several factors such as timeliness, technology, effectiveness, information needs and adoption of best practices were important factors influencing the choice of management accounting practices used by the sample. This finding is consistent with Otley (1980)'s argument that factors such as technology and infrastructure are critical to the adoption of management accounting practices.

Effectiveness of management accounting practices

All respondents agreed that the management accounting practices used within the three entities were important to the success of the companies and have given management the proper tools to make sound business decisions. The practices also contributed to the profit maximisation and returns on shareholders investment. For example, one financial controller stated "that management accounting practices are effective compared to alternatives tried." Another financial controller cited that "The nature of the business, information needs for making decisions and adopting the best practice suited for the organisation has contributed to the organisations success." Another supported this by saying that "our management accounting practices are very successful as it assists with the controlling of costs and helps the company to reach its goals."

However, respondents identified there were some challenges encountered with the application and use of some management accounting practices within the three entities. One accountant stated that "timeliness and inaccurate information was a major challenge." A production manager argued that "misunderstanding of information either from the vendor side or the company was also considered a challenge." A financial controller argued that his company tried the ABC method but found that it was difficult to apply, and as a result, they discontinued the use of ABC. This finding is inconsistent with that of Drury et al. (1993), who argued that most companies were using ABC. One accountant noted a benefit "as the practice helps to control inventory, good cash management and good internal reporting." While a financial controller emphasised an additional benefit from the use of these practices such as "these practices allow relevant information for decision making." Respondents were quite satisfied that these challenges helped to highlight the areas where management needed to pay specific attention to in order to improve the running and effectiveness of the operations. Thus, the respondents commended the benefits that were obtained from the implementation of the management accounting practices in their companies.

Thus, it was generally agreed by all respondents that the management accounting practices employed within the three entities were very effective, and contributed to the success of the entities. These methods have been tried and tested as these companies were performing well. Similar to Dugdale (1994), the success of management accounting practices is measured based on the company's ability to control costs and improve performance.

Comparability of management accounting practices within the group

All respondents agreed that the management accounting practices within these organisations are standardised to conform to the group practices. One financial controller noted that:

> comparability, and the format used is standardised. The setting up of an internal audit group enforces that each company is doing the same as the other companies within the group.

In addition, another experienced financial controller stated that the "practices are consistent with other companies within the group." Thus, it was observed that the group's management insisted that management accounting practices should be consistent across the group.

6. Conclusion

The primary focus of this research paper was to examine the management accounting practices in three manufacturing companies within a public limited group company in Barbados. Semi-structured interviews were done with financial controllers/accountants, production managers and production supervisors in each of the three companies. Respondents perceived that management accounting practices enable management to obtain relevant information for meaningful decision making. This study concluded that budgeting was used as a control tool with the planning process and for monitoring the cash flow. This study also found that the majority of the management accounting practices were widely used by the sample. It was found that no sophisticated management accounting software was used to generate information other than the normal accounting software. It was also found that several factors such as timeliness, technology, effectiveness, information needs and adoption of best practice were important factors influencing the choice of management accounting practices used by the sample. The study showed that respondents perceived that the management accounting practices employed within the three entities were very effective and contributed to the success of the entities. It was also found that the management accounting practices were consistent and standardised across the group.

Managerial implications

The findings of this study are important to managers in small developing countries as it highlights the most widely used management accounting practices in three manufacturing companies in Barbados. This study fills the research gap on management accounting practices in small developing countries. There has been little research done on management accounting practices in manufacturing companies in Barbados. Finally, academics and practitioners can use the findings of this study to fully understand how management accounting practices can help to improve business performance in companies.

Limitations and suggestions for future research

There are several limitations to this study. Firstly, the study used a very small sample size (that is, 3 companies in a group), which may limit the generalisability or the representativeness of the results to the population. Future studies should seek to target a larger sample. Secondly, this study used a qualitative approach which may not allow confidential and anonymous reporting by respondents. Future research should use a questionnaire (survey design) to obtain information on management accounting practices. Thirdly, self-report bias may exist. That is, respondents may have painted a favourable picture of their organisations.

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Table 1: Frequency of usage of management accounting practices

Types of management accounting practices	**Frequency**
A costing system	**%**
Separation of variable cost, incremental costs & fixed costs	100%
Use of plant- wide overhead rate	67%
Department or multiple plant-wide overhead rates	67%
Activity- based costing (ABC)	33%
Target costs	33%
The cost of quality	33%
Regression and /or learning curve techniques	0%
Budgeting	
Budgeting for planning	100%
Budgeting for controlling costs	100%
Activity- based budgeting	33%
Budgeting with "what if analysis"	67%
Flexible budgeting	33%
Zero-based budgeting	67%
Budgeting for long-term (strategic) plans	100%
Performance evaluation	
Financial measures	100%
Non-financial measure(s) related to customers	100%
Non-financial measures(s) related to operation and innovation	100%
Non- financial measure(s) related to employees	33%
Economic value added or residual income	33%
Benchmarks	67%
Information for decision making	
Cost-volume-profit analysis (break-even analysis) for major products	67%
Product profitability analysis	67%
Customer profitability analysis	67%
Stock control models	33%
Evaluation of major capital investment based on discounted cash flow method(s)	100%
Evaluation of major capital investments based on payback period and/ or accounting rate of return	100%
For the evaluation of major capital investments, non-financial aspects are documented and reported	100%
Evaluating the risk of major capital investment projects by using profitability analysis or computer simulation	100%
Performing sensitivity "what if" analysis when evaluating major capital investments projects	67%
Calculation and use of cost of capital in discounting cash flow for major capital investment evaluation	67%
Strategic analysis	
Long-range forecasting	67%
Shareholder value	67%
Industry analysis	100%
Analysis of competitive position	100%
Value chain analysis	0%
Product life cycle analysis	100%
The possibilities of integration with suppliers' and/or customers' value chains	33%
Analysis of competitors' strengths and weaknesses	100%

Note: n = 3 companies (9 respondents)