The Relevance of Conventional Management Accounting Techniques

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Abstract
The study's objective was to observe the relevance of conventional management accounting techniques (CMATs) in Nepalese manufacturing companies (NMCs). A structured survey questionnaire was utilized to collect data. The population of the study included all the manufacturing companies that were functioning in Nepal and their employees. The study targeted the listed manufacturing companies in Nepal Stock Exchange and their employees as a sample. A sum of 570 respondents was approached using a random sampling technique, and 391 appropriately filled-up responses were recorded in the study. The survey instrument had two questions relating to the respondents' general information, 13 questions regarding CMATs, and five questions relating to the relevance of the study variables with organizational performance evaluation (OPE). The study uncovered a negative and significant association of CMATs with OPE in the NMCs. Researchers and professionals may utilize this study's outcome to upturn their insights, which encourages them to assist the NMCs in deploying modern and innovative management accounting techniques and practices.
Introduction

Management accounting (MA) concerns assisting stakeholders in a way that results in goal congruent actions. It is a political technology continually evolving to meet an organization's stakeholders' demands and facilitate competitive advantage. Despite the voluminous amount of both descriptive and prescriptive literature in management accounting techniques (MATs), the role of MA information systems in the overall planning, control, and decision-making processes of many organizations is still well understood but lacks practices. Traditionally, management accounting has focused on annual controls in secure and confirmed competitive operating environments due to the managers' need for historical data to apprehend overall performance and manipulate accountability in their organization (Taipaleenmaki & Ikaheimo, 2013). Management accounting's ongoing fashion has shifted from history-based planning and control to future-oriented decisions, strategic planning, and control (Dahal et al., 2020).

According to Johnson and Kaplan (1987), the CMATs were developed before the 1980s and had the inappropriateness for providing valuable and timely information for better decision and control in the contemporary environment of rapid technological change and vigorous competition. It is argued that business organizations have responded to the competitive environmental demands by implementing modern and innovative management accounting techniques that meet the organizational and stakeholders' needs (Banker et al., 1993). The adoption of such modern and innovative techniques is viewed by commentators as having implications on the deployment of CMATs (Abdel-Maksoud et al., 2005). Building upon such view, the study observed: how CMATs were relevant in the NMCs? Focusing on the common existence of the CMATs, the objective of the study was to measure and report the current use and importance of CMATs in association with OPE in the NMCs.

Manufacturing firms are comprehensive organizations with consistently modified technology, from manufacturing processes to ready-to-sell products (Wahyuni & Triatmantono, 2020). In order to achieve the competitive advantages and expected performance targets, each part of the organization should likewise uphold itself and improve MATs, strategies, and organizational structures together (Moores & Yuen, 2001). The significance of CMATs in the corporate framework enables organizations to cooperate to effectively utilize available resources to meet the desired targets and locate the best use. CMATs are as yet assuming a key role in handling the various operational activities in the manufacturing industry, contributing to better OPE. However, there is an absence of pragmatic evidence in the MA.
literature regarding the relevance of CMATs on OPE. Therefore, the study observed the association between CMATs on OPE and filled the gap in the NMCs. The remainder of the paper is organized as follows. The following section briefly reviewed the literature and set the study hypothesis. The consequent sections are followed by the methodology, outcomes and analysis, and discussion and conclusion. The last section sets out the limitations and implications of the study.

**Literature Review and Development of Hypothesis**

MA techniques, systems and practices, and the resulting information used to assist management in its decision-making process are contended to provide a comparative advantage in a dynamic and competitive business environment (Chenhall & Langfield-Smith, 1998). MA assists managers in serving customer needs, promotes decision-making processes, and facilitates the corporate value chain (Dahal, 2019). Earlier studies (such as Baines & Langfield-Smith, 2003; Bisbe et al., 2007; Laitinen, 2014) have shown that the organization's MATs have catalyzed to inspire stakeholders to lead superior organizational outcomes. The following section discussed the commonly applied CMATs in the NMCs.

Cash flow analysis reports the cash receipts, cash payments, and net changes in cash resulting from operating, investing, and financing activities of an organization during a period (Weygandt et al., 2008) that supports taking various managerial decisions. Ratio analysis helps to diagnose and analyze the liquidity, solvency, activities, profitability, financial soundness of the business organization. Standard costing/variance analysis is the act of computing and interpreting variances. Fleischman and Tyson's (1998) study showed that resulting information on standard costing/variance analysis was helpful in various managerial decision-making purposes in many organizations. Variable costing/absorption costing are the established methodologies of identifying the costs of material, labor, and overheads in product costing system, and their uses in product costing methods have endured over time as a means of giving information for decision making and control (Jones et al., 2012; Lucas, 2000). They analyze the cost information for management guidance and try to impact benefit because of changes in the volume of output (Noreen et al., 2011).

Break-even analysis helps managers/supervisors understand the relationships among cost, volume, and profit of an organization that upholds managerial decisions. Budgetary control assumes a vital role in creating goal congruence in an organization and thus always links in some way to the evaluation function of budgeting (Malmi & Brown 2008; Palermo 2018). In Pirttila and Sandstrom's (1995) words, capital budgeting provides substance to the strategic dimensions of manufacturing investments, and a manufacturing strategy concept is an efficient tool when the investment process of a company ought to be examined and improved.
The manufacturing strategy directs the various individual decisions associated with improving the company's manufacturing system. Strategic planning might be one management instrument that organizations use to increase benefits (Baker & Leidecker, 2001).

Cost-benefit analysis is the strategy that depends on relative comparisons of costs and benefits; as such, the achievement of its practice relies upon the ability to correctly account for potential costs and benefits that might be associated with the decision (Dompere, 1995). Product costing is one of the cost management tools that manage and control the total production cost during the product's life cycle with the help of those accountable for production and planning designing (Sakurai, 2008). Product profitability analyzes the revenue streams and service costs associated with a particular product and enables the allocation of revenue and costs to the specified product (Sridhar & Corbey, 2015). Product benchmarking is an ongoing and methodological process of comparing products, services, processes, and outcomes with other organizations to improve outcomes by identifying, adapting, and implementing best practice approaches (Kelessidis, 2000). Responsibility accounting is a framework that incorporates identifying responsibility centers and their targets, developing performance measurement schemes, and getting ready and examining performance reports of the responsibility centers.

In Mazumder's (2007) study, the MATs such as cash flow analysis, ratio analysis, standard costing/variance analysis were widely used, followed by variable/absorption costing, break-even analysis, budgetary control, and capital budgeting. Such findings imparted credence to Wijewardena and De Zoysa's (1999) findings, where the study revealed that Australian manufacturing companies placed more emphasis on cost control tools such as budgeting, standard costing, and variance analysis. OPE is considered as a contextual factor in an organization that may have a relationship with CMATs. OPE factors are the result of the CMATs within the organization. If there are appropriate MATs, it will enhance OPE (Baines & Langfield-Smith, 2003). In this regard, the study intended to observe the relevance of CMATs as an independent variable and OPE as a dependent variable presented in Figure 1.

Figure 1: The hypothesized model
Within the framework of the literature review, the study has the following hypothesis:

*Study hypothesis:*

H1: CMATs are relevant, so they positively and significantly affect OPE of the manufacturing companies.

**Methodology**

*Population and Sample*

The study's general population included all the manufacturing companies that were operating in Nepal and their employees. Eighteen listed manufacturing companies in Nepal Stock Exchange and their employees were the samples of the study. Necessary data were assimilated through a structured questionnaire survey, and the quantitative examination configuration was utilized to extract information for the study. A statistical package for social sciences (SPSS) and analysis of moment structure (AMOS) programming were employed to analyze and interpret the information. Thirty targeted participants of each sample company were approached from October to November 2020. Altogether 540 employees were reached to conduct a field survey and followed a random sampling technique to gather the data. A sampling plan was used as proposed by Krejcie and Margan's (1970) generalized scientific guideline and gathered 391 appropriately filled up respondents' responses representing 72.40% of the response rate.

*Survey Instrument*

The survey questionnaire consisted of 20 questions and was organized into three parts. Two questions concerning the general details of the respondents were requested in the first part. Thirteen CMATs variables and five OPE variables-related questions were presented in the second and the final part of the questionnaire. The last two parts' questions were composed of a series of close-ended questions estimated in a 5-point Likert-type scale varying from 1 = not beneficial to 5 = highly beneficial, and from 1 = considerably lower to 5 = considerably higher, respectively.

*Measurement Variables*

CMATs and OPE were the latent measures of the study. Thirteen test measures for CMATs and five test measures for OPE were derived from the review of earlier studies, as presented in Table 1.
Table 1

Test Variables

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Test Variables</th>
<th>Latent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>VAR_3 Cash Flow Analysis (CFA)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>VAR_4 Ratio Analysis (RA)</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>VAR_5 Standard Costing/Variance Analysis (SC_VA)</td>
<td>CMATs</td>
</tr>
<tr>
<td>4.</td>
<td>VAR_6 Absorption/Variable Costing (AC_VC)</td>
<td></td>
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<tr>
<td>5.</td>
<td>VAR_7 Break-even Analysis (BA)</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>VAR_8 Budgetary Control (BC)</td>
<td></td>
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<tr>
<td>7.</td>
<td>VAR_9 Capital Budgeting (CB)</td>
<td></td>
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<tr>
<td>8.</td>
<td>VAR_10 Strategic Planning (SP)</td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>VAR_11 Cost Benefit Analysis (CBA)</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>VAR_12 Product Costing (PC)</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>VAR_13 Product Profitability (PP)</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>VAR_14 Product Benchmarking (PB)</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>VAR_15 Responsibility Accounting (Rܣ)</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>VAR_16 Sales Growth (SG)</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>VAR_17 Profit Growth (PG)</td>
<td>OPE</td>
</tr>
<tr>
<td>16.</td>
<td>VAR_18 Cost Reduction (CR)</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>VAR_19 Operational Processes (OPs)</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>VAR_20 Operational Efficiency (OE)</td>
<td></td>
</tr>
</tbody>
</table>

The standardized regression loads of the test measures were determined within the basic latent construct using confirmatory factor analysis (CFA). As Hair et al. (2006) suggested, the test measure stacking 0.50 and more were retained in the examination. Six test measures (VAR_6, VAR_10, VAR_11, VAR_13, VAR_14, and VAR_15) were disregarded from the CMATs construct since they had a lower factor stacking value than 0.50. Construction of CMATs with seven test measures yielded agreeable model fit statistics (i.e., Normed chi-square, $\chi^2/df = 2.330$; Root Mean Square Error of Approximation, RMSEA = 0.058; RMSEA associated p-value, PCLOSE = 0.274; Adjusted Goodness of Fit Index, AGFI = 0.952; Comparative Fit Index, CFI = 0.986; Normed Fit Index, NFI = 0.977; and Tucker Lewis Index, TLI = 0.978). All five test variables of the OPE construct were retained since they had a higher factor stacking value than 0.50. The OP construct had also an agreeable model fit statistics (i.e., $\chi^2/df = 1.527$; RMSEA = 0.037; PCLOSE = 0.546; AGFI = 0.977; CFI = 0.997; NFI = 0.996; and TLI = 0.996).

**Common Method Bias (CMB) Variance**

The study endeavored the Harman Single-factor assessment to evaluate the CMB variance's prevalence and scale as suggested by Podsakoff et al. (2003). From the 12 engaged test variables, the single-factor yielded 37.8 % of the variance, which was far below the threshold value of 50 % as recommended by Cho and Lee (2012) and allowed to continue.
Reliability and Validity

The study used SPSS version 23 and AMOS version 21 programming to evaluate the constructs' reliability and validity prior to assessing the hypothesized model. The statistics for measurement presented in Table 2.

Table 2
Reliability and Validity Statistics

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Reliability Test</th>
<th>Validity Test</th>
<th>No of items</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach's Alpha</td>
<td>Composite Reliability</td>
<td>Average Variance Extracted</td>
</tr>
<tr>
<td>CMATs</td>
<td>0.871 (Nunnally, 1993)</td>
<td>0.884 (Nunnally, 1993)</td>
<td>0.526 (Hair et al., 2006; Awang, 2015)</td>
</tr>
<tr>
<td>OPE</td>
<td>0.947 (Fornell &amp; Larcker, 1981)</td>
<td>0.938 (Fornell &amp; Larcker, 1981)</td>
<td>0.753 (Hair et al., 2006; Awang, 2015)</td>
</tr>
</tbody>
</table>

The reliability and validity statistics as set out in Table 2 met the recommended edge values. The test variables and the latent constructs were thus trustworthy and usable for further study.

Outcomes and Analysis

The study examined the perception of the employees on the relevance of CMATs in conjunction with the OPE. The response available to each survey organization varied between 50.0% (i.e., 15 responses) to 80.0% (i.e., 24 responses). The respondents' present standing position in their respective organizations was as follows: 4.3% of board members, 15.1% of executives/managers, 29.4% of officers, 40.0% of assistants, and 10.2% of others. 46.3% of females and 53.7% of males contributed to the study.

For the dissection and decryption of the details, structural equation modeling and path analysis were used. The standardized estimates and fitness of the structural model were shown in Figure 2. The model yielded satisfactory fitness statistics ($\chi^2$/df = 1.371; RMSEA = 0.031; PCLOSE = 0.993; AGFI = 0.947; CFI = 0.992; NFI = 0.970; TLI = 0.990) and all were remained inside the suggested cut-off values as demonstrated in Figure 2.
Figure 2 The study model

The relevance of each test variable had been defined in the model. The test results showed a negative and significant correlation between the variables in comparison between CMATs with OPE ($\beta = -0.112$, CR = -2.033, $p = 0.042$). The hypothesized model assumed the positive and significant relationship between the variables; hence the study hypothesis was not recognized.

Discussion and Conclusion

The literature review recognized 13 CMATs that were applied in the NMCs. Six CMATs (i.e., VAR_6_AC_VC; VAR_10_SP; VAR_11_CBA; VAR_13_PP; VAR_14_PB; and VAR_15_ResA) were not acknowledged in the study since they had a lower factor stacking value than 0.50 however they were influential in the earlier studies (like Mazumder, 2007; Wijewardena & De Zoysa, 1999). Thus, the CMATs construct was assessed from seven observed variables: VAR_3_CFA ($\beta = 0.706$, $p < 0.01$); VAR_4_RA ($\beta = 0.766$, $p < 0.01$); VAR_5_SC_VA ($\beta = 0.756$, $p < 0.01$); VAR_7_BA ($\beta = 0.834$, $p < 0.01$); VAR_8_BC ($\beta = 0.557$, $p < 0.01$); VAR_9_CB ($\beta = 0.534$, $p < 0.01$); and VAR_12_PC ($\beta = 0.839$, $p < 0.01$). The OPE construct was assessed from five observed variables: SG ($\beta = 0.930$, $p < 0.01$); PG ($\beta = 0.885$, $p < 0.01$); CR ($\beta = 0.861$, $p < 0.01$); OPs ($\beta = 0.845$, $p < 0.01$); and OE ($\beta = 0.811$, $p < 0.01$). As contradictory with earlier studies (like Bidhan, 2007; Mazumder, 2007; Moores & Yuen, 2001; Nor et al., 2016; Polnaya et al., 2018; Seal, 2006; Sharkar et al., 2006; Wijewardena & De Zoysa, 1999) the result showed that CMATs had negative yet a significant association with OPE ($\beta = -0.112$, $p = 0.042$) in the Nepalese manufacturing industry at a 5 % level of significance.
With respect to specific MAT, the outcome of the study was consistent with the earlier studies, for example, the study by Angelakis et al. (2010), which found that budgeting practices were widely used in manufacturing companies where budgeting for the financial role, management of business operations, cash flow, and performance evaluation was most relevant. Despite the criticisms leveled at standard costing/variance analysis, many companies still found it is still useful for planning and control purposes (Joshi, 2001). Literature pointed that contemporary MATs take a long time to adopt in the organizational system. So, conventional MATs are still relevant. Joshi’s (2001) study also indicated that the benefits accruing to conventional MATs were higher than those of contemporary MATs.

The key theme of this study was to assess the role of conventional/traditional MATs in the manufacturing sector of Nepal and their significance. CMATs were intended to provide useful information to OPE. However, in the Nepalese context, MATs were not handled properly, and there might be high costs involved in implementing MA tools and techniques. The outcome of the study envisaged the package of CMATs had a negative impact on the overall OPE system. Researchers and professionals may utilize this study's outcome to upturn their insights, which thusly encourages them to assist the NMCs in the deployment towards modern and innovative management accounting techniques and practices.

**Limitations and Implications**

The study evidenced some limitations. It depended upon a questionnaire survey that was not free from biases so that the future study may be included questionnaires, interviews, case studies, etc. The organized questionnaire survey refuses the opportunity to respond in a number of ways. However, there is a huge number of CMATs used globally, the study observed only 13 MA techniques. The findings were based on a cross-sectional study, highlighting the current status of CMATs, not before or after, so the longitudinal study may attract the attention of potential researchers with more sophisticated analytical tools and techniques.

In the Nepalese scenario, the analysis may have particular relevance as it would help to interpret the effects of traditional MATs with OPE. Potential researchers can draw the concerned personnel's attention to make effective management decisions, adapt to the changing environment, and improve the OPE system. Policymakers should differentiate which of the CMATs needs to be supported in laws, legislation, and procedures. Therefore, researchers and practitioners will use this study to educate their perspectives, thereby enabling them to help NMCs enhance their organizational effectiveness. Consequently, the global similarities perspective of MAPs is undoubtedly an area that is worth examining.
References


