Contemporary Management Accounting Techniques and Organizational Performance

Rewan Kumar Dahal
Lecturer, Nepal Commerce Campus, T.U.
Email: dahalrewan@gmail.com

Abstract

The study's purpose was to observe the degree of association of contemporary management accounting techniques (CMATs) with organizational performance (OP). A survey questionnaire instrument was employed to collect data and followed a descriptive research design. The populace comprised 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 had partaken in the survey using a random sampling technique, and 387 responses were filled correctly up for further analysis. The survey questionnaire had two questions relating to the respondents' general information, 12 questions regarding CMATs, and five questions relating to the effect of the study variables on OP. The study uncovered a negative and significant association between the variables that indicated the Nepalese manufacturing companies (NMCs) need to focus on fitting CMATs into organizational context. Researchers and professionals may utilize this study's outcome to upturn their insights, which thusly encourages them to assist the NMCs in improving organizational efficacy.

Keywords: accounting practices, managers, manufacturing companies, organizational efficiency, performance measures

Introduction

Management accounting (MA) is an accounting system that aims to inform management about business matrices and management accounting techniques (MATs) concern with the utilization of data to facilitate managers to make informed business decisions effectively. The MATs are organizational information systems that provide pertinent information to its stakeholders and organizations (Langfield-Smith, 2009). Based on the development and/or features, MATs are classified into traditional management accounting techniques (TMATs) and contemporary management accounting techniques (CMATs).

TMATs have 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) and were developed before the 1980s (Johnson & Kaplan, 1987). Johnson and Kaplan (1987) pointed out the inappropriateness of TMATs, which offered little capacity for providing valuable and timely information for better decision and control in the contemporary environment of rapid technological change and vigorous competition. The ongoing fashion of MA has shifted from history-based planning and control to future-oriented decisions, strategic planning, and control (Dahal et al., 2020). CMATs are viewed as those MATs that can relate operations, processes and/or activities with strategic consequences (Hyvonen, 2005).
Technology and innovation have changed the managers' conventional role of providing information to more role effectiveness, placing within the integrated management team that tries to plan and take appropriate decisions to accomplish better organizational performance (OP). MA is a set of techniques and a set of values and norms that provide information to stakeholders, especially for developing manufacturing companies (Tuan Mat et al., 2016). In the current business environment, the Nepalese manufacturing companies (NMCs) are also confronting intensified competition locally and globally due to fast changes in customers' demands/tests and technological advancement. So, the NMCs must be outfitted with proper MATs for them to boost OP. Therefore, the study had an issue to address: Is there any significant association between CMATs and OP in the NMCs? The study aimed to contribute MA literature by offering a pragmatic insight into the prevalence and efficacy of CMATs. Focusing on the common existence of the CMATs, the objective of the study was to measure the association between CMATs and OP in the NMCs.

The adoption of CMATs in the organizational system enables companies to collaborate the efficient usage of available resources to achieve the desired goals and search for the best of those usages. CMATs play a crucial role in managing various organizational activities in the manufacturing industry, leading to better OP. However, there is an absence of pragmatic evidence in the MA literature on the role of CMATs on OP. Therefore, the study observed the association between CMATs on OP and filled the gap in the NMCs. The paper is structured as follows: it begins with a general introduction followed by a literature review and formulates the study hypothesis. The consequent sections presented methodology, outcomes and analysis, discussion and conclusion, limitations and implications, respectively.

**Literature Review and Hypothesis Formulation**

Since the early 1980s, many organizations have experienced several waves of improvement programs, starting with just-in-time (JIT) and passing on to total quality management (TQM), process reengineering (PR), and various other CMATS. When the improvement programs are properly executed, these can upgrade quality, reduce cost, increase output, eliminate delays in responding to customers, and ultimately enhance OP (Garrison et al., 2015). CMATS have been transforming from limited to more executive capacities.

Activity-based costing (ABC) provides more accurate ways of assigning the costs of indirect and support resources to activities, business processes, products, services, and customers (Atkinson et al., 2014). The study of Wegman (2013) showed that the ABC system's logic remains the best to improve the MA systems to lead the strategic decisions. JIT production/inventory system goes beyond the stock's control to include the whole production system. It removes all waste sources and any activity that does not add value to the production by producing the right product in the right place at the right time (Schroeder, 2016). TQM focuses on serving customers and solving problems systematically using teams (Garrison et al., 2015). PR is the rethinking and redesign of business processes to improve critical performance measures such as cost, quality, service, speed, and customer satisfaction (Horngren et al., 2005).

Target costing (TC) is one of the cost management tools that reduce the total production cost during the product's life cycle with the help of those in charge of production and designing engineering (Sakurai, 2008). Supply chain management (SCM) coordinates and integrates all operational activities into a unified process (Sotiris, 2000). Enterprise resources planning (ERP) organizes and integrates operation processes, and information flows to make optimum use of available resources (Sheikh, 2003). Life-cycle costing (LCC) is a method of tracking and accumulating costs attributable to a product from its inception to the point that it is withdrawn (Bhimani et al., 2012).

Benchmarking (BM) is a continuous and systematic process of comparing products, services, processes and outcomes with other organizations to improve outcomes by identifying, adapting and implementing best practice approaches (Kelessidis, 2000). Environmental costing (EC) supports the management of human activities to prevent the adverse effects on nature and natural resources, making sure that the modifications caused to the environment do not produce harmful
effects. Customer profitability (CA) analyzes the revenue streams and service costs associated with particular customers or customer groups and as enabling the allocation of revenue and costs to an individual customer or customer group (Sridhar & Corbey, 2015). The balanced scorecard (BSC) contributes to accomplishing the work, placing a strategy of the work, the connection of the strategy with the work, and the coordination between the individual and organizational performance (Kaplan & Norton, 2004).

Innovation in MA has changed MATs noticeably (Abdel-Kader & Luther, 2006; Ittner & Larcker, 2001). According to Preda and Watts (2004), innovation in MA has broadened the descriptive objects, the causal variability factors, and the periods of analysis that simultaneously impacting organizational applications. The examples of CMATs include value-based management (VBM), non-financial performance measurement systems (NFPMS), TQM, BSC, ABC, activity-based management (ABM). Further, CMATs such as ABC, BSC, JIT inventory system, SCM, TQM are the practices that have gained widespread attention in accounting, particularly since the latter decades of the 20th century (Kaplan & Norton, 1992; Scapens et al., 1996). In the study of Chenhall and Euske (2007), ABM, TC, LCC, economic value-added (EVA), shareholder value analysis (SVA), value-based management (VBM), and BSC were the most significant CMATs in manufacturing companies.

Saaydah and Khatatneh (2014) led an examination on the association of the CMATs with OP in the Jordanian manufacturing companies and found that the techniques like ABC system, JIT inventory system, TC, KC, and the BSC were being employed and had a positive and significant impact on OP. CMATs help executives to serve consumer needs, facilitate decision-making and manage the corporate value chain (Dahal, 2019). Integration of CMATs into organizational strategies supports to manage the operational activities (Wahyuni & Triatmanto, 2020). Some previous studies (like Baines & Langfield-Smith, 2003; Bisbe et al., 2007; Laitinen, 2014) indicated that CMATs in an organization worked as a catalyst to motivate employees. OP is considered as a contextual factor in an organization that may have a relationship with CMATs. OP factors are the result of the CMATs within the organization. If there are appropriate MATs, it will enhance OP (Baines & Langfield-Smith, 2003). In this regard, the study intended to observe the association between CMATs as an independent variable and OP 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 positively and significantly affect OP of the manufacturing companies.

**Methodology**

The quantitative research design was used to extract information for the study. Required data acquired through a structured questionnaire survey and employed a statistical package for social sciences (SPSS) and analysis of moment structure (AMOS) for dissecting and deciphering the data. The populace of the study
encompassed all the manufacturing companies that were functioning in Nepal and their employees. Nineteen listed manufacturing companies in Nepal Stock Exchange and their employees were the samples of the study. Thirty targeted participants of each sample company were approached from October to November 2020. Altogether 570 employees were reached to conduct a field survey and followed a random sampling technique to collect the data. A sampling plan was used as proposed by Krejcie and Margan's (1970) generalized scientific guideline and collected 387 correctly filled up respondents' responses representing 67.90% of the response rate.

Survey Instrument

The intended questionnaire for the survey comprised 19 survey questions and structured into three sections. In the first section, two questions were requested relating to the general information of the respondents. In the second section, there were 12 study variables questions relating to CMATs. In the final section, there were five questions relating to the association of the study variables with OP. The last two sections' 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

The latent indicators of the examination were CMATs and OP and the test items of the latent indicators were drawn from the review of earlier studies. The study focused on 12 CMATs and five OP test items, as presented in Table 1.

<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 Activity-based Costing (ABC)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>VAR_4 Just-in-time production/inventory (JIT) System</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>VAR_5 Total Quality Management (TQM)</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>VAR_6 Process Reengineering (PR)</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>VAR_7 Target Costing (TC)</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>VAR_8 Supply Chain Management (SCM)</td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>VAR_9 Enterprise Resources Planning (ERP)</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>VAR_10 Life Cycle Costing (LCC)</td>
<td>CMATs</td>
</tr>
<tr>
<td>9.</td>
<td>VAR_11 Benchmarking (BM)</td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>VAR_12 Environmental Costing (EC)</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>VAR_13 Customer Profitability (CP)</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>VAR_14 Balance Scorecard (BSC)</td>
<td></td>
</tr>
<tr>
<td>13.</td>
<td>VAR_15 Sales Growth (SG)</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>VAR_16 Profit Growth (PG)</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>VAR_17 Cost Reduction (CR)</td>
<td>OP</td>
</tr>
<tr>
<td>16.</td>
<td>VAR_18 Operational Processes (OPs)</td>
<td></td>
</tr>
<tr>
<td>17.</td>
<td>VAR_19 Operational Efficiency (OE)</td>
<td></td>
</tr>
</tbody>
</table>

The entirety of the observed variables' standardized regression loads was determined utilizing confirmatory factor analysis (CFA) inside the particular latent construct. As Hair et al. (2006) suggested, the observed variable stacking 0.50 and more were considered examination. Two variables (VAR_11, and VAR_14) were disregarded from the CMATs construct since they had a lower factor stacking value.
than 0.50. The CMATs construct having with 10 observed variables yielded agreeable model fit statistics (for example, Normed chi-square, $\chi^2 / df = 2.395$; Root Mean Square Error of Approximation, RMSEA = 0.060; RMSEA associated p-value, PCLOSE = 0.157; Adjusted Goodness of Fit Index, AGFI = 0.937; Comparative Fit Index, CFI = 0.973; Normed Fit Index, NFI = 0.955; and Tucker Lewis Index, TLI = 0.962). The observed variables of the OP construct were retained since they had a higher factor stacking value than 0.50. The OP construct had also an agreeable model fit statistics (for example, $\chi^2 / df = 1.405$; RMSEA = 0.032; PCLOSE = 0.583; AGFI = 0.978; CFI = 0.999; NFI = 0.998; and TLI = 0.998).

**Common Method Bias (CMB) Variance**

The study attempted the Harman Single-factor assessment to decide the prevalence and scale of the CMB as suggested by Podsakoff et al. (2003). From the 15 engaged observed variables, the single-factor yielded 34.1 % of the variance, which was far below the threshold value of 50 % as recommended by Cho and Lee (2012) and permitted to proceed.

**Reliability and Validity**

The study utilized SPSS version 23 and AMOS version 21 programming to examine the constructs' reliability and validity before assessing the hypothesized model. The measurement statistics presented in Table 2.

**Table 2**

**Reliability and Validity Statistics**

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Reliability Test</th>
<th>Validity Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach's Alpha</td>
<td>Composite Reliability</td>
</tr>
<tr>
<td>CMATs</td>
<td>0.886 ≥ 0.7</td>
<td>0.869 ≥ 0.7</td>
</tr>
<tr>
<td>OP</td>
<td>0.951 (Nunnally, 1993)</td>
<td>0.943 (Fornell &amp; Larcker, 1981)</td>
</tr>
</tbody>
</table>

The statistics as presented in Table 2 fulfilled the recommended edge values. Therefore, the observed variables and the latent constructs were trustworthy and usable for further analysis.

**Outcomes and Analysis**

The examination surveyed the employees' perceptual assessment towards the degree of association of CMATs with OP. Each survey company's available responses ranged from 53.33 % (i.e., 16 responses) to 76.67 % (i.e., 23 responses). In the study, 45.0 % of females and 55.0 % of males contributed. The respondents' current holding position in their respective companies was as follows: 4.9 % of board members, 15.0 % of executives/managers, 28.9 % of officers, 41.1 % of assistants, and 10.1 % of others.

Structural equation modeling and path analysis were employed for dissecting and deciphering the information. Figure 2 demonstrated the standardized estimates and the fitness of the structural model. The model had adequate 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 stood within the recommended cut-off values as shown in Figure 2.
The relationship of each observed variable was established in the test of the model. The outcome of the test for the relation between CMATs with OP ($\beta = -0.169$, $CR = -2.885$, $p = 0.004$) showed a negative and significant association between the variables. The hypothesized model presumed the positive and significant association between the variables; hence the study hypothesis was not acknowledged.

**Discussion and Conclusion**

The literature review recognized 12 CMATs that were applied in the NMCs. Two CMATs, BM and BSC, 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 Laitinen, 2014; Wahyuni & Triatmanto, 2020). Thus, the CMATs construct was assessed from 10 observed variables: ABC ($\beta = 0.593$, $p < 0.01$); JIT ($\beta = 0.672$, $p < 0.01$); TQM ($\beta = 0.654$, $p < 0.01$); PR ($\beta = 0.503$, $p < 0.01$); TC ($\beta = 0.784$, $p < 0.01$); SCM ($\beta = 0.594$, $p < 0.01$); ERP ($\beta = 0.723$, $p < 0.01$); LCC ($\beta = 0.504$, $p < 0.01$); EC ($\beta = 0.613$, $p < 0.01$); and CP ($\beta = 0.494$, $p < 0.01$). The OP construct was assessed from five observed variables: SG ($\beta = 0.938$, $p < 0.01$); PG ($\beta = 0.895$, $p < 0.01$); CR ($\beta = 0.873$, $p < 0.01$); OPs ($\beta = 0.851$, $p < 0.01$); and OE ($\beta = 0.826$, $p < 0.01$). As contradictory with earlier studies (like Chenhall & Euske, 2007; Moores & Yuen, 2001; Nor et al., 2016; Polnaya et al., 2018; Seal, 2006) the outcome showed that CMATs had negative yet a significant association with OP ($\beta = -0.169$, $p = 0.004$) in the Nepalese manufacturing industry at a 5 % level of significance. Such outcome was consistent with Sharkar et al. (2006) study that had given an overview of the MATs in the listed manufacturing companies in Bangladesh. The analysis revealed that all sectors failed to practice newly developed MATs. This study was furthermore consistent with Bidhan (2007) study who had inspected the status of utilization of MATs in the manufacturing enterprises of Bangladesh and uncovered that the most of the CMATs were not applied in public and private sector manufacturing enterprises.

CMATs are intended to provide useful information to OP. The study outcome indicated that the NMCs need to focus on fitting CMATs into relevant organizational context variables (such as resources, information, structure, environment, etc.,) for strategic purposes and better OP. The NMCs seemed to be
far behind the expected situation due to the lack of information on utilizing the proper MATs to benefit OP. If CMATs are embraced as a component of an overall organizational strategy, the study outcome can improve OP. It needs a superior comprehension of factors influencing variations in acknowledging recently developed MATs among industries.

**Limitations and Implications**

Using a quantitative survey with a structured questionnaire to collect the necessary information was the significant limitation of the study. The study netted only 12 CMATs however, large numbers of techniques are being practiced worldwide. The structured questionnaire denies the opportunity to travel various appropriate responses, yet all the checks have been embraced to choose the legitimacy and dependability of the data accumulated. The outcomes' trustworthiness may be contingent on the respondents' number that might have been improved further by a larger sample. A larger sample size would have expanded the legitimacy and consensus of the outcomes. More sectors and industries may be examined to improve the generalizability.

The study may have specific significance in the Nepalese scenario since it would assist with perceiving the effect of CMATs on OP. Potential researchers may pull in the concerned personnel's attention towards the CMATs to make effective managerial decisions, improve the organization's innovative capacity, and adaptability to change the environment consistently and improve the OP. Policymakers can distinguish which of the CMATs needs support regarding policies, regulation, and practices. Therefore, researchers and professionals may utilize this study to upturn their insights, which thusly encourages them to assist the NMCs in improving organizational efficacy.

**References**


