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Association between Performance Measurement Systems and Organisational Effectiveness

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Review

Association between Performance Measurement Systems and Organisational Effectiveness

Abstract

Purpose – The purpose of this paper is to investigate the role of Performance Measurement Systems in organisational effectiveness in the context of the financial services sector within a developing country.

Design/methodology/approach – Using the mail survey method data was collected from 69 financial institutions operating in Nepal. Multivariate analysis, in particular multiple regression analysis was employed to test the hypotheses.

Findings – The results suggest that non-financial measures and feedback are tightly intertwined with organisational effectiveness. While institutions are focused on using the performance measures concerning internal business process perspective, less emphasis is placed on using customer and employee related performance measures because they are considered less significant to organisational effectiveness. The findings also reveal that strategy related feedback is considered more critical by management, as opposed to performance and staff. The study also provides evidence that 40.58 per cent of the financial institutions in Nepal had implemented the Balanced Scorecard, which is considered to be high when compared with other developing countries.

Practical implications – The findings provide managers with valuable insights pertaining to the role of non-financial performance measures and the importance of feedback in improving organisational effectiveness, which could assist them in (re) aligning their performance measurement practices.

Originality/value – The findings of this study contributes to the limited management accounting literature on performance measurement and the impact on organisational effectiveness by providing evidence from the financial services sector within the context of a developing country.

Keywords – Performance measurement systems, Balanced Scorecard, financial services sector, organisational effectiveness, developing country.

Paper type – Research paper

1. Introduction

Since the mid-1980s, radical changes in organisational environments, such as advancements in information technologies, product innovations, and increased competition, have significantly transformed the way organisations function (Johnson and Kaplan, 1987; Kravchuk and Schack, 1996). Value creation for stakeholders has become a key focus for managers. These changes have also led academics and practitioners to argue for the need of a systematic approach to measure performance that goes beyond the scope of the individual stakeholder, and the need to integrate measures with the strategic

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3 planning process, which requires stringent management control systems (Langfield-Smith
4 et al., 2012). Without adequate and appropriate management control systems, of which
5 performance measurement system (PMS) is an important element, organisations are at risk
6 of failing (Turner and Weickgenannt, 2009), with retrenchment, downsizing and financial
7 losses. It follows that an adequate and appropriate PMS can protect organisations from
8 potential risks and losses, and improve organisational effectiveness (Fitzgerald, 2007;
9 Turner and Weickgenannt, 2009; Munir et al., 2013).
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21 A review of the literature suggests that traditionally organisations relied heavily on
22 financial measures to assess the performance of their business activities. Different financial
23 measures, such as return on assets, return on investment and earnings per share, were
24 commonly used to measure operating and financial success or failure of organisations
25 (Brignall and Ballantine, 1996; Chenhall and Langfield-Smith, 1999; Otley, 2001). These
26 measures primarily focused on cost, revenue and profit, and described financial results of
27 the business activities performed in the past. Hence, according to Langfield-Smith et al.
28 (2012), financial measures provided limited direction for future actions to ensure potential
29 growth, rather these measures mainly concentrated on reducing costs. This approach was
30 not only criticised by researchers but also by practitioners for being highly aggregated,
31 provided only a retrospective view with reliance on historical accounting data, with no
32 direction for improvement, and in some cases, obstructed improvement (Aureli, 2010;
33 Johnson and Kaplan, 1987; Kaplan and Norton, 1992; Neely et al., 1995).
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52 Langfield-Smith et al. (2012) suggest that by using financial measures alone managers are
53 likely to increase short-term profit at the cost of product quality and staff training and
54 development, which could adversely affect, often long-term, organisational effectiveness.
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3 Such consequences transpire when managers are under pressure from their shareholders to
4 maximize short-term profit. Managers also want to increase short-term profit when their
5 pay and incentives are linked with profit (Fitzgerald, 2007). There are many examples of
6 managers maximizing their own pay and incentives at the cost of the organisations'
7 profitability. Recent failures in the banking industry, such as Lehman Brothers and Bear
8 Stearns and other financial institutions in North America and Europe are primarily cited as
9 classic examples of high risk taking in these institutions due to the managers' lucrative
10 behaviour and lack of management controls (Munir et al., 2013). Therefore, there is always
11 a need for effective management controls through implementing a rigorous process of
12 performance measurement to prevent organisations from such risk takings (Simons, 2000).
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27 Given the continuously evolving technological, regulatory and competitive environment,
28 managers are expected to achieve both financial and non-financial (i.e. tangible and
29 intangible) organisational goals, while satisfying multiple stakeholders, such as customers,
30 employees, suppliers, lenders and regulators, simultaneously or/and independently. The
31 expectations of these stakeholders vary largely. For instance, more informed customers
32 may expect good quality products or services at a low price, employees may seek a pay
33 rise, while regulators and government departments demand stringent compliance with laws
34 and regulations. It follows that in order to be effective organisations have to motivate their
35 employees so that organisational goals are achieved, while meeting the multifaceted
36 expectations of external stakeholders. With these expectations coupled with the limitations
37 of the financial measures, many researchers have stressed that organisations must use
38 PMSs which applies multidimensional performance measures (i.e. the financial measures
39 and non-financial measures). A blend of financial and non-financial measures enables
40 organisations to access performance of their business activities from multiple dimensions
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3 (Kaplan and Norton, 1992), which according to Neely et al. (2005) and Kaplan and Norton
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5 (2001) is the most appropriate way to achieve organisational effectiveness.
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10 Evidence suggests that despite the perceived benefits of using multidimensional
11
12 performance measures, a recent survey suggests that only 47 per cent of organisations
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14 worldwide have used or are planning to use multidimensional measures to assess the
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16 performance of their business activities by the end of 2010 (Rigby and Bilodeau, 2011),
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18 with the Balanced Scorecard (BSC) as one of the most commonly used PMS (Atkinson et
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20 al., 2012; Behn, 2003; Fitzgerald, 2007). These conflicting findings suggests that some
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22 organisations consider the role of multidimensional performance measures as important in
23
24 achieving organisational effectiveness, while others still rely on financial measures alone,
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26 and believe them effective to achieve their organisational goals. While it is accepted that a
27
28 PMS can make a positive contribution to organisational effectiveness, there is less clarity
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30 regarding the nature of performance measures (i.e. financial or/and non-financial) and how
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32 they can enhance the effectiveness of an organisation. Accordingly, this study contributes
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34 to this gap in the literature by examining the role of PMSs in organisational effectiveness.
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40 While a few studies have been undertaken to examine the role of PMSs in organisational
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42 effectiveness, most of the studies have been conducted in the context of developed
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44 countries, with very limited research undertaken in the context of developing countries (De
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46 Waal and Frijns, 2009; Ismail, 2007; Joshi, 2001; Khan et al., 2011), thereby leaving an
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48 empirical gap in this area. Existing literature suggest that the political, social, economic
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50 and technological environment of developed countries fundamentally differ from the
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52 developing countries, it is, therefore, likely that studies conducted in the context of
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54 developed countries only provide a one-sided view about the role of PMSs in
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3 organisational effectiveness. This argument is more relevant when it is applied within the
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5 context of the financial services sector. For instance, many developed countries have
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7 restructured their financial sectors according to the international standards including more
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9 sophisticated technology, while developing countries are still in the emerging stage in
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11 terms of information system adoption, use of contemporary technology and human
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13 resource development (Munir et al., 2013). Further, financial institutions operating in
14
15 developing countries face many challenges compared to their counterparts of developed
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17 countries (Bascom, 1997). An unstable economic and political environment, lack of
18
19 technically competent staff, and the absence of risk management systems are some of the
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21 key examples. Apart from these challenges, huge non-performing loans and pressures from
22
23 politically motivated labour unions are common in developing countries (Khanal, 2007).
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25 Accordingly, the objective of this study is to contribute to the literature by examining the
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27 role of PMSs on organisational effectiveness in the context of the financial services sector
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29 within a developing country.
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36 Based on the literature outlined above, the following research question is examined in this
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38 study: What is the role of PMSs in achieving organisational effectiveness in the context of
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40 financial services sector within a developing country?
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44 The remainder of the paper is structured as follows. Section 2 reviews the literature and
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46 develops the hypotheses. Section 3 discusses the method followed by the results in Section
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48 4. Finally, the conclusion is presented in Section 5.
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51 **2. Literature Review and Hypothesis development**

52 *2.1 The nature of organisational effectiveness*

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3 Organisation theorists claim that given the conceptual complexities of organisational
4 effectiveness, a simple definition is difficult to provide. For instance, Nord (1983, p.95)
5 suggests, "*The definition of organizational effectiveness requires some explicit normative*
6 *statement about what the organisation should be doing for whom*". Jackson (1998) note
7 that organisational effectiveness is the measure by which an organisation can depict how
8 well it is performing. Similarly, Merchant and Simons, (1986) asserts that managers
9 perform their activities with the intent to attain competitive advantage, which, in turn, leads
10 to organisational effectiveness. It follows that performance is very close in meaning to
11 effectiveness. While numerous researchers (e.g., Evan, 1976; Scott, 1977; Cameron, 1986;
12 Daft, 1998) use these terms interchangeably, Porter (1996) states that effectiveness is
13 essential to superior performance. Clearly, the boundaries between the meaning of the
14 terms 'performance' and 'effectiveness' have been rather unclear in the literature.
15 However, it becomes clear from the literature that organisational effectiveness is primarily
16 about measuring performance of organisations using different criteria. These criteria have a
17 host of different labels such as financial, social, economic, input, output, productivity and
18 efficiency. For the purpose of this study, it is assumed that assessing organisational
19 effectiveness corresponds to measuring its performance and appropriate PMSs encourage
20 actions that contribute to successful operation and profitability of the organisation.
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45 According to Wesley (2008), organisational effectiveness can be viewed from three
46 perspectives: whether an organisation is a rational system or a natural system or an open
47 system. While rational systems act in a mechanical order to achieve specific goals in order
48 to be effective, natural systems adapt the environmental changes to stay competitive (Scott,
49 2003). Unlike rational and natural systems, open systems claim that organisations are
50 formed by many different small partial systems and those systems are connected to the
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3 main organisation in different ways and they all operate differently with the aim to attain
4 organisational goals (Scott and Davis, 2006). While effectiveness is considered a desirable
5 feature in all three perspectives, according to Steers (1975), an understanding of an
6 organisation's operational and environmental uniqueness is a precondition to assessing its
7 effectiveness. In this context, Cameron (1980) has suggested a four dimensional criteria to
8 evaluate organisational effectiveness, which include (i) whether an organisation
9 accomplishes its objectives, (ii) the ability to acquire vital resources to sustain, (iii) if the
10 organisation has effective management systems, and (iv) if the organisation has satisfied
11 stakeholders.
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25 Using this criteria, Ford and Schellenberg (1982) have proposed three models for assessing
26 organisational effectiveness, namely the goal-based model, multiple constituency model
27 and systems model. While the goal-based model proposes an organisation is effective
28 when it accomplishes its own unique set of goals, the multiple constituency model view
29 organisational effectiveness in the context of an organisation's ability to meet the
30 objectives of stakeholders who provide resources to the organisation. The systems model
31 suggests that performance is multidimensional, and must be examined using
32 multidimensional measures simultaneously, which are appropriate to the phenomenon of
33 interest, to allow comparison across organisations. Having described the nature of
34 organisational effectiveness, the rest of this section reviews literature concerning
35 performance measurement and develops hypotheses.
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51 ***2.2 The use of financial measures and organisational effectiveness***

52 Financial performance measures such as profit, cash flows and return on investment are
53 important tools, which play a central role in business organisations (Merchant and Van der
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3 Stede, 2003; Otley, 2007). The role of finance is very important in any organisation
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5 regardless of whether it has a for-profit or not-for-profit motive. Either to create value
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7 through earning profit, or through rendering services, organisations have to manage their
8
9 financial resources, efficiently and effectively to meet their financial needs. Being unable
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11 to manage such resources effectively, organisations may always be at risk of suffering
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13 financial losses, potentially leading to a complete failure. This shows the importance of the
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15 rigorous use of financial performance measures.
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20 Financial measures provide important financial information to investors, financial analysts,
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22 auditors and the government through annual reports, such as balance sheets, profit and loss
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24 accounts, and cash flow statements (Atkinson et al., 2012; Merchant and Van der Stede,
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26 2003; Otley, 2007; Sawalqa, 2011). These reports are audited and their disclosures are
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28 mandatory, which can be useful information for potential shareholders or investors because
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30 organisations' audited financial disclosures reflect external as well as internal performance
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32 measures. Compared to the other management control tools, financial measures represent a
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34 common language or a unit of measurement of different organisational activities (Otley,
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36 2007), which are more accurate (Chow and Van Der Stede, 2006), and less expensive to
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38 implement as well as easy to understand (Merchant and Van der Stede, 2003).
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45 However, using financial measures alone is criticised by many researchers (Atkinson et al.,
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47 2012; Van der Stede et al., 2006). For instance, Evan (1976, p.25) criticised using financial
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49 measures and posits that "*... such measures as earnings per share, return on investment,*
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51 *and profit as a percentage of sales emphasize output or relation between input and output;*
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53 *however, they ignore transformation processes and feedback effect*". Fitzgerald (2007)
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55 suggests that financial measures reward short-term behaviours because these measures
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3 look at short-term results, ignoring the long-term organisational effectiveness. The
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5 limitations of using financial measures alone encouraged organisations to move towards
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7 using a mix of financial and non-financial measures. Kaplan and Norton (1992) stressed
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9 that financial and non-financial measures should not be viewed as substitutes for each
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11 other; rather their combination is very useful to produce the desired outcomes. The
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13 empirical evidence suggests that the use of both the financial and non-financial measures
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15 enhance organisational effectiveness (Davis and Albright, 2004; Lingle and Schiemann,
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17 1996).
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23 Despite the perceived benefit of using a mix of financial and non-financial measures, the
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25 most recent survey conducted by Rigby and Bilodeau (2011) showed that only 47 per cent
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27 of organisations worldwide were using both the financial and non-financial measures (the
28
29 BSC in this case). Similarly, De Geuser et al. (2009) could not find any evidence to
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31 support the fact that a combination of financial and non-financial measures generates
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33 value, while Adler et al. (2000) found that financial measures were still very popular
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35 among business organisations in New Zealand. In the context of developing countries,
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37 Khan et al. (2011), reported that financial measures are still widely used in Bangladesh.
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39 Based on these findings, it can be argued that a number of organisations still consider the
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41 financial measures highly relevant for achieving organisational effectiveness, which lead to
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43 the first hypothesis of this study:
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50 H1: The use of financial measures is positively associated with organisational
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52 effectiveness.

53 ***2.3 The use of non-financial measures and organisational effectiveness***

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55 As eluded in the preceding section, given the changes in organisational environments
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57 during the last two decades organisations started using PMSs that accommodate financial
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3 measures as well as non-financial measures to overcome the limitations of using financial
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5 measures alone. Unlike financial measures Non-financial measures generally include
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7 customer satisfaction, employee motivation, quality, productivity and market share. Kaplan
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9 and Norton (1992) grouped these non-financial measures into three categories: customer,
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11 learning and growth, and internal business process.
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16 Ittner and Larcker (1998a) suggest that there is a direct relationship between customer
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18 satisfaction and financial performance because it increases customer loyalty, reduces
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20 marketing costs through word of mouth advertising, and enhances brand image which
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22 lowers price elasticity. Organisations are placing greater emphasis on customer measures
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24 because it is believed that these measures are drivers of future financial performance
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26 (Atkinson et al., 2012; Banker et al., 2000; Ittner and Larcker, 2001). This statement is
27
28 supported by Banker et al.'s (2000) empirical study of the hospitality industry, where
29
30 researchers have investigated a chain of 18 four-star hotels and found significant
31
32 correlations between customer satisfaction and financial performance. Ittner and Larcker
33
34 (1998a) used customer and business unit data in their study and found that customer
35
36 satisfaction helped to increase the revenue, profit margins, and return on sales.
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43 According to Kaplan and Norton (1996), employees are also integral parts of organisations
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45 and are represented in the BSC as '*learning and growth perspective*'. Learning and growth
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47 focuses on employees' satisfaction, retention, and training and development programs.
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49 Yeung and Berman (1997) suggest that satisfied employees can serve customers better,
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51 which, in turn, result in improved customer satisfaction and loyalty. They have further
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53 suggested that increased customer satisfaction may also increase an organisations' revenue
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55 through repeat sales. In this way, employee satisfaction plays a key role in improving
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3 organisations effectiveness in the long run. Lee and Yang (2010) have also found
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5 significant relations between employee satisfaction and organisational performance.
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10 The internal business process focuses on innovation with unique products and services that
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12 provide an organisation with a sustainable competitive advantage (Langfield-Smith et al.,
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14 2012). Being the main driver of operating performance, Kaplan and Norton (2001) found a
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16 direct association between the internal business process perspective and the financial
17
18 performance measures. Similar association was also found by Lee and Yang (2010) in their
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20 study. In the context of the banking sector, Davis and Albright (2004) examined the impact
21
22 of combining financial and non-financial measures and reported that by using a mix of
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24 financial and non-financial measures as compared to using financial measures alone, banks
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26 improved their performance. Other supporting evidence is provided by Van der Stede et al.
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28 (2006), who claim that higher diversity in a PMS is directly associated with higher
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30 performance. In contrast, Ittner et al. (2003) found no relationship between the mixed use
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32 of financial and non-financial measures and enhanced organisational performance. While
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34 Griffith and Neely (2009) found a mixed result of the non-financial measures on
35
36 organisational performance, Perera et al. (1997) found no relation between the use of non-
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38 financial measures and increased manufacturing performance. Hence, these mixed and
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40 contradictory findings lead to the second hypothesis:
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47 H2: The use of non-financial measures is positively associated with organisational
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49 effectiveness.

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51 H2a: Financial institutions, whose performance measurement system uses more customer
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53 related measures, will have greater organisational effectiveness.

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55 H2b: Financial institutions, whose performance measurement system uses more learning
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57 and growth related measures, will have greater organisational effectiveness.
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3 H2c: Financial institutions, whose performance measurement system uses more internal
4 business process related measures, will have greater organisational effectiveness.
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7 ***2.4 Performance measurement feedback and organisational effectiveness*** 8

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10 Feedback is the mechanism, which differentiates between an effective and ineffective PMS
11 (De Geuser et al., 2009; Forza and Salvador, 2000; Kaplan and Norton, 1996a; Lynch
12 and Cross, 1991). An effective PMS provides constant and up to date feedback, whereas
13 using financial measures alone, organisations evaluate organisational and employee
14 performance at the end of the financial year, at times, in some cases, three months after the
15 years completion. Late feedback may not be very useful to take corrective action (Davis
16 and Albright, 2004; Neely et al., 2005; Fitzgerald, 2007).
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27 Feedback can be provided on overall organisational performance, or it could relate to the
28 strategy being used by an organisation and on staff related outcomes. Feedback can be
29 received from different sources, such as from supervisors, peers, and subordinates or may
30 come from customers. Complaints and criticism about the product or services can be taken
31 as an informal type of feedback. Although it cannot provide the actual information on the
32 nature and degree of the problem that exists, it can be regarded as a reliable source. While
33 strategy or objectives of the organisation are communicated in the planning phase,
34 feedback identifies opportunities for development. When such opportunities are identified,
35 a corrective action can be taken for improvement. Forza and Salvador (2000) stress that the
36 overall purpose of feedback should be to enhance organisational performance by
37 communicating vital information within the organisation.
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54 Feedback also helps employees to analyse their achievements against given business goals.
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56 Business managers generally use feedback to motivate and evaluate employees in the
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3 organisation (Langfield-Smith et al., 2012). Feedback allows managers to track employees'
4 progress towards achieving the strategic goals. Lingle and Schiemann (1996) claim that
5 feedback is the largest single measurement area that distinguishes successful companies
6 with the less successful ones. Based on the above discussion the study develops the
7 following three hypotheses:
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16 H3: Financial institutions, whose performance measurement system provides feedback on
17 performance, will have increased organisational effectiveness.

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19 H4: Financial institutions, whose performance measurement system provides feedback on
20 strategy, will have increased organisational effectiveness.

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22 H5: Financial institutions, whose performance measurement system provides feedback on
23 staff, will have increased organisational effectiveness.
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27 **3. Research Method**

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29 To collect the data a mail survey (questionnaire) method was used. Nepal's financial
30 services sector was selected because the sector has witnessed a radical improvement in the
31 performance of financial institutions after the enactment of Nepal Rastra Bank (NRB) Act
32 2002. For example, prior to the implementation of this Act, the entire financial sector had a
33 non-performing loan portfolio of over 59 per cent with a deficit of approximately US\$435
34 million, which was equivalent to 7 per cent of the gross domestic product (World Bank,
35 2004). However, after financial sector reforms beginning in 2002, such as the introduction
36 of a credit monitoring system, implementation of human resource development programs,
37 establishment of IT platforms, and setting up accounting and auditing practices, and a new
38 performance measurement culture, the non-performing loans of the entire financial
39 services sector declined to 10.85 per cent with significant performance improvement of
40 financial institutions in recent years (Adhikary et al., 2007; Dhungana, 2005; World
41 Bank, 2004; Ministry of Finance, 2012).
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5 The questionnaires were mailed to the Chief Financial Officers of the financial services
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7 institutions operating in Nepal. The Chief Financial Officers were selected as respondents
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9 because they were expected to have relevant knowledge concerning PMSs being used in
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11 their institutions. Their contact details were gathered from the websites of the financial
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13 institutions. While there are 300¹ financial institutions in Nepal, questionnaires were
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15 distributed to 243² institutions. 57 institutions were excluded from the sample because
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17 these institutions were classified by the central bank of Nepal as small operating in the
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19 remote areas of the country and were not expected that have a formal PMS. These
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21 institutions were excluded to avoid the expected bias in the results.
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27 The Dillman (2000) tailored design method was used to administer the survey. In total, 69
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29 responses were received with a response rate of 28.40 per cent. Using Cohen's (1988)
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31 standard power calculations to estimate the number of responses that are required to
32
33 validate the results (with 80% power at the 5% significance level) a validation sample of
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35 58 responses was required to conduct the regression analysis. The response rate is in line
36
37 with the other management accounting studies, such as Baines and Langfield-Smith (2003)
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39 20 per cent, Hall (2008) 22.5 per cent, and Lee and Yang (2010) 25.19 per cent. However,
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41 the response rate is quite high in comparison with other studies from developing countries,
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43 such as Jusoh et al. (2008) 12.3 per cent and Anand et al. (2005) 8.52 per cent. Non-
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45 response bias was assessed by comparing dependent and independent variable values and
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47 no significant difference was noted.
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55 ¹ These include: 31 commercial banks, 87 development banks, 79 finance companies, 21 micro-finance
56 companies, 25 insurance companies, 16 cooperatives, 38 licensed NGOs, 1 provident fund, 1 investment
57 trust, and 1 postal saving bank (Nepal Rastra Bank, 2012).

58 ² These include: 31 commercial banks, 87 development banks, 79 finance companies, 21 micro finance
59 institutions, and 25 insurance companies.
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3 There were six sections in the questionnaire. The first section required the demographic
4 response. Descriptive statistics including gender, qualification, and working experience
5 were asked to obtain background information. It was ensured that respondents and their
6 organisations were not identified in the questionnaire. The second section required
7 information on whether the participating organisation was using the BSC. The third section
8 contained questions about reasons for using the PMS and the perceived organisational
9 effectiveness. The fourth section was focused on identifying the type of performance
10 measures being used in respondents' institutions, and the fifth section required respondents
11 to describe how they perceive the role of PMS in the overall organisational effectiveness.
12 In the final section, respondents were asked three open-end questions: (i) What are the best
13 aspects of the performance measurement system being used in your bank/institution? (ii)
14 Are there any aspects, which you disliked about the performance measurement system
15 used in your bank/institution? (iii) What are the aspects of your current performance
16 measurement system that can be improved? These specific open-ended questions were set
17 to obtain the respondent's opinion that could not be expressed in the close-ended questions.
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38 *3.1 Variables and measurement*

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40 The organisational effectiveness was assessed using two approaches. First, organisational
41 effectiveness was measured by assessing the extent to which 20 outcomes of PMS were
42 attained. These measures of outcomes were developed based on the review of existing
43 literature concerning PMSs and organisational effectiveness (Bourne et al., 2000; Neely et
44 al., 1995). Respondents were required to indicate on a five point Likert type scale, with
45 anchors ranging from 1 'not effective' to 5 'very effective' the extent to which the use of
46 PMS contributes to organisational effectiveness. Second, respondents were required to
47 indicate if they found their PMS 'highly ineffective' or 'highly effective'. Respondents
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3 were also asked to indicate reasons for which their institutions were using PMS, with
4 anchors ranging from 1 'not at all' to 5 'to a great extent'. This approach was used to
5 complement respondents' understanding of the reasons for using PMS.
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10 Reliant upon respondents' understanding, the respondents were also required to indicate
11 the extent to which their institutions were using 25 different measures to assess their
12 performance. Using the BSC approach these measures were categorised into financial and
13 non-financial performance measures (customer, internal business process, and learning and
14 growth). These measures were further categorised into feedback related measures, with
15 three sub-categories: (i) performance related feedback, (ii) strategy related feedback, and
16 (iii) staff related feedback. Organisational effectiveness was operationalised and converted
17 into the dependent variable, while financial measures Non-financial measures and
18 feedback also followed the same process to convert into the independent variables.
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32 *3.2 Data analysis*

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34 Cronbach's (1951) alpha was used to test the reliability of the survey instrument. After
35 collecting the data, the reliability test was conducted, which indicated that all the scores of
36 the Cronbach's alpha were well above the acceptable point (Table 1) i.e., 0.6 or higher
37 (Bryman, 2012). The Statistical Package for Social Sciences program (SPSS; Version 20)
38 was applied to perform the data analysis. Descriptive statistics, Pearson correlation and
39 multiple regression analysis were used to test the hypotheses.
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49 **4. Results**

50 *4.1 Descriptive statistics*

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52 Table 1 presents the descriptive statistics for all the independent and dependent variables.
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54 The mean score of the financial performance measure (40.1) is unexpectedly below its
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midpoint of the minimum and maximum scores. The finding suggests that responding organisations do not regard financial measures alone contribute to organisational effectiveness. The mean score of non-financial performance measure (38.8) is at 99.5 per cent of its midpoint range (almost at its midpoint range), which suggests that organisations recognise non-financial performance measures as an important part of PMS compared to the financial measures. However, in particular, when three different perspectives of non-financial measures (customer, internal business process and learning and growth) were assessed, it was found that only the mean score of internal business process achieved its midpoint, while the mean scores of customer, and learning and growth perspective were relatively below the midpoint range (Table 1). The findings indicate that performance measures used for internal business processes are regarded as an integral part of non-financial measures, whereas very important perspectives of non-financial measures; i.e. customers and employees (represented by learning and growth) are found to be less significant.

The mean score of feedback on strategy is 25.03, which is highly above its midpoint of the minimum and maximum scores (Table 1) among the five independent variables, while feedback on staff is just above its midpoint. However, feedback on performance is below its midpoint score. The findings indicate that while feedback, in general, is regarded as a central part of the PMS, the significant aspect of performance related feedback is considered as less important indicators of the PMS.

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Insert Table 1 about here
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4.2 Correlation matrix

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3 Table 2 presents the correlation coefficient matrices of all the variables. All the
4 independent variables (financial, Non-financial, performance related feedback, strategy
5 related feedback and staff related feedback) are positively related to the dependent variable
6 organisational effectiveness, which is significant at $p < .001$. The result presented in Table
7 2 shows that strategy related feedback and organisational effectiveness are highly
8 positively correlated ($r = .854, p < .001$). Although there is a positive correlation between
9 overall effectiveness of PMS and organisational effectiveness ($r = .394, p < .01$), the
10 relation seems quite weaker compared to other associations. On the other hand, financial
11 performance measure is unexpectedly moderately correlated with organisational
12 effectiveness ($r = .658, p < .001$), while non-financial performance measures and
13 organisational effectiveness are strongly significantly correlated ($r = .756, p < .001$).
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29 **Insert Table 2 about here**
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35 *4.3 Multiple regression analysis and hypotheses testing*

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37 Table 3 and 4 present the multiple regression analysis results produced through SPSS
38 (version 20). Table 3 shows the overall regression model is statistically significant ($F_{5, 60} =$
39 68.401; $p < .001$), where 85.1 per cent of the variance (adjusted 83.8 per cent) in the
40 dependent variable (organisational effectiveness) is explained by the five predictor
41 variables; financial Non-financial, performance related feedback, strategy related feedback
42 and staff related feedback.
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51 *4.3.1 The use of financial measures and organisational effectiveness*

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53 The prediction in H1 is that the use of financial measures is positively associated with
54 organisation effectiveness. The result (Table 3) suggests that the use of financial measures
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3 is not statistically significant to organisational effectiveness ($F_{5, 60} = 68.401$; $p > .05$),
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5 where standardized coefficient beta (β) is -.009. The standardized beta value revealed by
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7 the result is negative, which indicates that the use of financial measures alone is negatively
8
9 related to the organisational effectiveness; however, this association is not significant at p
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11 $< .05$. It can be concluded that the H1 is not supported by the evidence supplied by the
12
13 multiple regression analysis at the significant level of $p < .05$ (obtained p - value = .906).
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15 Hence, contrary to prediction, the hypothesis (H1) is rejected.
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20 This finding is consistent with several previous studies (Atkinson et al., 2012; Ittner and
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22 Larcker, 1998b; Kaplan and Norton, 1992; Van der Stede et al., 2006). However,
23
24 contrary to prediction, this finding is not in line with previous studies conducted in the
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26 context of the developing countries, such as Joshi (2001) and Khan et al. (2011). The result
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28 also contradicts with the findings of Adler et al.'s (2000).
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32 *4.3.2 The use of non-financial measures and organisational effectiveness*

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34 H2 states that the use of non-financial measures is positively associated with organisational
35
36 effectiveness. The results (Table 3) show that the use of non-financial measures is
37
38 statistically significant to organisational effectiveness ($F_{5, 60} = 68.401$; $p < .001$), where
39
40 standardised coefficient beta (β) is .323. Therefore, it can be concluded that H2 is
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42 empirically fully supported, as predicted, at 1 per cent of significant level.
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53 This result is consistent with the previous studies of Banker et al. (2000), Davis and
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55 Albright (2004), and Hoque and James (2000). On the other hand, the positive beta value
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57 (β) of .323, and t value of 4.480 (Table 3) show that the use of non-financial measure is
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3 strongly (but not negatively) significant to organisational effectiveness at 1 per cent
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5 significant level. The finding contradicts with prior studies of Ittner et al.'s (2003) results ,
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7 where non-financial measure has significant but negative association with sales growth.
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10 11 *4.3.3 The use of customer, learning and growth and internal business process and* 12 *organisational effectiveness*

13
14 H2a, H2b, and H2c predict that organisations, whose PMS uses more customer, learning
15
16 and growth and internal business process related measures, will have greater organisational
17
18 effectiveness. To assess the association between the independent variables (customer,
19
20 learning and growth, and internal business process) and dependent variable (organisational
21
22 effectiveness), an additional multiple regression analysis is performed (Table 4). The result
23
24 shows that the overall regression model is statistically significant ($F_{3, 63} = 31.405$; $p <$
25
26 $.001$), where 59.9 per cent of variance (adjusted 58.0 per cent) in the dependent variable is
27
28 explained by customer, learning and growth, and internal business process perspectives.
29
30 Contrary to prediction, customer, and learning and growth perspective reveal the lack of
31
32 statistical significance to organisational effectiveness ($F_{3, 63} = 31.405$; $p > .05$), where
33
34 standardised coefficient beta (β) of customer and learning and growth are .060 and .150,
35
36 respectively. The obtained p -values for both predictor variables are $>.05$ (p -value of
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38 customer = .657, and learning and growth = .256). Therefore, both hypotheses H2a and
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40 H2b are rejected.
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47 The rejection of H2a contradicts with the previous empirical study of Ittner and Larcker
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49 (1998a) and Lee and Yang (2010). The prior studies support the fact that there is a direct
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51 relation between customer satisfaction (customer perspective) and increased organisational
52
53 effectiveness. However, the results obtained from this study (Table 4) do not support H2a
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55 because of the lack of statistical significance. The rejection of H2b also contradicts with
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57 the previous empirical studies of Yeung and Berman (1997) and Lee and Yang (2010). The
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3 results (Table 4) show that only internal business process perspective is statistically
4
5 significant to organisational effectiveness ($F_{3, 63} = 31.405; p < .001$), where standardised
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7 coefficient beta (β) is .601. As predicted, H2c is fully supported at the significant level of 1
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9 per cent. This result is consistent with Kaplan and Norton's (2001) BSC framework, and
10
11 also in line with the findings by Lee and Yang (2010).
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13 14 15 *4.3.4 Performance related feedback and organisational effectiveness*

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17 H3 predicts the relation between organisations using PMS that provide feedback on
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19 performance and greater level of organisational effectiveness. The results (Table 3)
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21 indicate that the association between increased organisational effectiveness and
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23 organisations using PMS, which provide feedback on performance is statistically
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25 significant ($F_{5, 60} = 68.401; p < .05$), where standardized coefficient beta (β) is .268. It is,
26
27 therefore, concluded that the prediction made in H3 is empirically fully supported at 5 per
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29 cent of significant level. This result is in line with not only the PMS literature, but also
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31 with the findings of Forza and Salvador (2000).
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36 37 *4.3.5 Strategy related feedback and organisational effectiveness*

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39 H4 predicts the relation between organisations; whose PMS provide feedback on strategy,
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41 and higher level of organisational effectiveness. The results (Table 3) suggest that there is
42
43 a statistically significant impact of the organisations; whose PMS provides feedback on
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45 strategy, to organisational effectiveness ($F_{5, 60} = 68.401; p < .05$), where standardized
46
47 coefficient beta (β) is .252. The prediction of H4 is fully empirically supported, as
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49 predicted, at the significant level of 5 per cent. The finding is consistent with the findings
50
51 of Lee and Yang (2010). Their findings revealed that organisations with a greater use of
52
53 the PMS with linkage to strategy have increased organisational performance. The study,
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55 undertaken by De Geuser et al. (2009), has the similar results.
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Insert Table 4 about here
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4.3.6 *Staff related feedback and organisational effectiveness*

The hypothesis (H5) predicted that there is an association between the independent variable (feedback on staff) and dependent variable (organisational effectiveness). The result (see Table 3) presents strong evidence to support the fact that the feedback on staff is statistically significant to organisational effectiveness ($F_{5, 60} = 68.401; p < .05$), where standardized beta (β) is .214. The association between the organisations, whose PMS provides feedback on staff, and increased organisational effectiveness is positively and statistically significant. As predicted, H5 is empirically fully supported at the significant level of 5 per cent. The result is consistent with findings of Lingle and Schiemann (1996) and Yeung and Berman (1997).

4.4 *The Balance Scorecard Usage*

To find the adoption rate of the BSC in the context of financial services sector in Nepal, respondents were required to indicate whether their institution was using the BSC approach. In response, 28 respondents out of 69 (40.58 per cent) indicated that they were using the BSC approach. The finding was quite unexpected because of the worldwide BSC usage rate of 47 per cent (Rigby and Bilodeau, 2011). Very few developing countries had such a high BSC usage rate. For instance, the BSC adopters in Bangladesh are only 10 per cent (Khan et al., 2011), while the usage rate is relatively low in Malaysian organisations, i.e. 8.7 per cent (Jusoh et al., 2008).

5. Conclusion

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3 The aim of this study was to investigate the role of PMS in organisational effectiveness in
4 the context of financial services sector within a developing country. The study assessed
5 organisational effectiveness in the context of the financial services sector by evaluating the
6 extent to which 20 different outcomes were attained, thereby contributing to the literature
7 concerning PMSs as most of the prior literature has only assessed organisational
8 effectiveness of manufacturing organisations. Further, the findings of the study also
9 contribute to the literature concerning PMSs by providing evidence on the adoption of the
10 BSC in a developing country. The findings reveal that 40.58 per cent of the financial
11 institutions in Nepal had implemented the BSC by the end of 2012. The BSC usage rate in
12 the financial services sector of Nepal can be considered quite high compared to the BSC
13 adoption rate in some other developing countries, such as 10 per cent in Bangladesh by the
14 end of year 2011 (Khan et al., 2011) and 8.7 per cent in Malaysia by the end of year 2008
15 (Jusoh et al., 2008).
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33 The first aim of the study was to examine the association between the financial measures
34 and organisational effectiveness (Hypothesis 1). While existing literature indicates that the
35 financial measures are quite popular in the developing countries (Khan et al., 2011), the
36 study found contradictory results in the context of financial institutions of Nepal. The
37 finding is also in line with the empirical evidence of Van der Stede et al. (2006). However,
38 the result contradicts with the empirical findings of Adler et al. (2000), where financial
39 measures were found quite popular in the New Zealand based manufacturing organisations.
40 While financial institutions are under tremendous pressure to improve their financial
41 performance, which requires applying financial measures, such as profitability, the
42 financial institutions were more successful in improving organisational effectiveness by
43 placing greater emphasis on the non-financial measures. It follows that the nature of
44 performance measures may not depend only on the nature of organisations or countries.
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3 Rather, the nature and use of performance measures is more influenced by the
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5 organisational desire of achieving efficiency and effectiveness (Merchant and Simons,
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7 1986). Accordingly, the findings suggest that a good PMS should incorporate more
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9 forward-looking performance measures, which are less prone to manipulation from the
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11 markets. This may require a reconsideration of short term incentives for management.
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16 The second aim of this study was to examine the association between the non-financial
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18 measures and organisational effectiveness (Hypothesis 2). While this study found support
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20 for the positive impact of overall non-financial performance measures usage on
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22 organisational effectiveness, results of this study are rather diverse when taking the three
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24 non-financial perspectives of the BSC perspectives separately (Hypothesis 2a, 2b, and 2c).
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26 The results indicate that the financial institutions with greater usage of internal business
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28 process oriented performance measures will experience better organisational performance
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30 (Hypothesis 2c supported empirically). However, the usage of customer and learning and
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32 growth oriented measures were found to have no significant impact on organisational
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34 effectiveness (rejection of Hypothesis 2a and 2b). These results are in line with the
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36 previous findings of Banker et al. (2000) and Davis and Albright (2004). The positive
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38 association between the internal business process and organisational effectiveness is in line
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40 with Kaplan and Norton's (2001) BSC and also consistent with the findings of Lee and
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42 Yang (2010). However, the results contradict with the findings of Ittner et al. (2003),
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44 where non-financial measure has significant but negative association with sales growth.
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46 Non-financial measures therefore are critically important for financial institutions in
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48 developing countries for achieving organisational effectiveness.
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55 Merchant and Simons (1986) suggest the importance of using internal business process
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57 measures to improve competitive advantage. Hence, the findings show that financial
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3 institutions in Nepal are placing greater emphasis on the internal business process as
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5 compared to the customers and employees for achieving competitive advantage. Given the
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7 rapidly changing business environment in Nepal and ensuing competitive pressures on the
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9 financial institutions it seemed obvious that they would focus on efficient business
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11 processes to survive. However, managers should not underestimate the importance of
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13 employee and customer related performance measures, because they are important
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15 stakeholders of the organisation and, according to Yeung and Berman (1997), closely
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17 associated with organisational effectiveness in the long run. The performance measures
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19 relating to these two perspectives should be embodied in the design of a PMS. The open-
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21 ended responses also provide support for this finding. One respondent suggested,
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23 *“Employee development and customer satisfaction are the major aspects that can be*
24
25 *improved”*. Another respondent wrote, *“Staff complaints need to be addressed more*
26
27 *effectively”*.
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33 The third aim of this study was to examine the association between PMSs providing
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35 performance, strategy and staff related feedback and organisational effectiveness
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37 (Hypotheses 3, 4 and 5). The empirical results support all of three hypotheses (Hypotheses
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39 3, 4 and 5), which indicate that the financial institutions in Nepal consider feedback, as a
40
41 whole, a significant factor of PMS. The findings also suggest that the financial institutions,
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43 which provided strategy related feedback, were more successful in achieving
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45 organisational effectiveness than those that only provided performance and staff related
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47 feedback. The result is consistent with the previous findings of Forza and Salvador (2000),
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49 De Geuser et al. (2009) and Lingle and Schiemann (1996). Kaplan and Norton (1996)
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51 suggest that linking performance measures to strategy and providing strategy related
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53 feedback is a key feature that makes a PMS highly effective. This study provides evidence
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55 to support this proposition. The study found that the strategy related feedback is positively
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3 associated with organisational effectiveness, and the additive effect of this type of
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5 feedback on organisational effectiveness is greater when a direct link exists.
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10 The above findings also suggest that the financial institutions in Nepal tend to use the PMS
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12 primarily as a strategic tool, while using it to a lesser extent as a management tool. The
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14 emphasis on achieving strategic goals may have resulted from the intense regulatory
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16 pressures on the financial institutions from the central bank after the adoption of Basel
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18 Accords and the comprehensive financial sector reforms by the government in the mid-
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20 2000. This finding infers that industries, in particular operating in developing countries,
21
22 having stringent regulatory controls focus more on strategic goals to comply with
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24 regulations and secure legitimacy (Munir et al., 2013).
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29 Ford and Schellenberg (1982) emphasised that an organisation is effective when it
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31 accomplishes its own unique set of goals, the multiple constituency model view of
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33 organisational effectiveness in the context of an organisation's ability to meet the
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35 objectives of stakeholders who provide resources to the organisation. It appears that the
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37 increased focus of the financial institutions in Nepal on using non-financial measures and
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39 providing strategy related feedback indicate that these institutions are centred on achieving
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41 organisational effectiveness by accomplishing their organisational goals (Cameron, 1980;
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43 Ford and Schellenberg, 1982). Other very important dimensions, such as implementing an
44
45 effective management system and the responsibility of satisfying multiple stakeholders
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47 (customers and employees) are less emphasised, which is not surprising in the context of a
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49 developing country. From this perspective, the financial institutions in Nepal could be
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51 viewed as a rational system, where these institutions seem to act in a mechanical order to
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53 achieve specific goals in order to be effective (Wesley, 2008). The finding in this study
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3 supports Cameron's (1980) suggestion that in order to be effective an organisation should
4 have effective management systems, and satisfy stakeholders. In the context of the
5 financial services sector in Nepal, organisational effectiveness could be further enhanced if
6 more emphasis is placed on the customers and employees.
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13 The study contributes to the management accounting literature by examining the role of
14 PMSs in organisational effectiveness. While numerous studies have been undertaken on
15 this notion, they have either focused on the manufacturing organisations or have been
16 conducted in the context of developed countries, thereby leaving an empirical gap in this
17 literature. This study addressed this gap in the literature by providing evidence from the
18 financial services sector within a developing country. In addition, exiting literature has
19 mostly focused on investigating the role of PMSs, in its holistic sense, on organisational
20 effectiveness. While numerous studies have investigated the role individual category of
21 performance measures (i.e. financial vs non-financial, tangible vs intangible, hard vs soft
22 performance measures), this study also investigated the role of both financial and non-
23 financial performance measures coupled with the role of feedback on organisational
24 effectiveness. The study considers feedback as an important dimension of an effective
25 PMS.
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44 The study provides important insights for practitioners in the financial services sector, in
45 general, and financial services sector in Nepal, in particular. The financial services sector
46 plays a significant role in the development of any economy (Bank of England, 2012). In
47 the context of the financial services sector in Nepal, this study is important because the
48 financial sector in Nepal constitutes 90 per cent of the companies listed on the Nepal Stock
49 Exchange (Ministry of Finance, 2012). While several initiatives have been undertaken by
50 the central bank after implementing Basel Accord II (2004) to improve performance
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3 measurement practices and internal controls, given the rapidly evolving business
4 environment the role of using prudent PMS and the need to use the appropriate
5 performance measures is much higher than ever before. Hence, practitioners need to re
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7 (align) their PMSs to focus on using multidimensional performance measures and enhance
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9 the level of feedback on strategy, customers as well as staff and performance, to enable
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11 organisations to enhance their performance effectively across different areas of
12
13 organisational performance with a longer term focus.
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18 19 20 *5.1 Limitations and future research*

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22 While the findings of this study are expected to have important practical and theoretical
23 implications, the study is subject to a few limitations. Firstly, use of surveys entails
24 restricted inference for causation among the relationships of interest. In spite of following
25 Dillman's (2000) guidelines for a representative sample, response bias may still occur.
26
27 Additionally, measurement error could arise based on reliance on self-reported measures
28 for the variables examined. Secondly, this study has focused only on choice of
29 performance measures influencing organisational effectiveness. It is likely that there are
30 other contextual factors that could have an impact on an institution's choice of
31 performance measures and also other variables that might have a mediating effect. While
32 the magnitude of the indirect effects found is significant, the study is unable to account for
33 all the effects of organisational effectiveness. Nevertheless, organisational effectiveness is
34 likely to be affected by more than choice of performance measures and feedback which
35 provides opportunities for further research in this important area.
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53 Thirdly, this study represents the views presented by the Chief Financial Officers of the
54 financial institutions in Nepal at a given point of time and setting. In terms of different
55 time and settings, such as in the future, views may change and yield different results,
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which provides an avenue for future research that could be conducted using a longitudinal case study and may include a larger sample size. Compared to the survey method, where the researcher remains absent, by conducting interviews researchers can prompt participants to obtain the first hand opinions. Further, the case study could be conducted to obtain rich contextual data so that further insights can be provided on the research area underpinning this study.

For Peer Review

Appendix:**Measurement of dependent and independent variables****Dependent variable: Organisational effectiveness**

Achieve financial goals
Control day-to-day activities
Provide means of communication
Motivate employees
Evaluate the performance of specific initiatives
Long-term planning
Short-term planning
Organise resources
Evaluate the effects of change
Determine reward distribution
Provide information for decision-making
Identifying which aspects of performance need improvement
External reporting purposes
Compare with other similar banks
Communicate the bank's values and priorities to employees
Achieve financial objectives only
Revise organisational strategies
Identify best practices
Evaluate the performance of individual employee
Evaluate the performance of sub-units

Independent variables:**1. Financial measures:**

Profitability
Capital adequacy
Liquidity
Working capital
Assets utilisation
Non-performing loans
Classification of assets
Deposits
Investments / loans / advances
Dividend and share prices
Marketing and advertising cost
Wages and salary

2. Non-financial measures:**Customer perspective**

Customer satisfaction
Number of new customers / accounts
Number of customers returned
Number of complaints from customers

Learning and growth perspective

Hours of training provided
Number of complaints from staff
Number of complaints resolved

Internal business process perspective

Quality of service
Cycle time of service
New product developed

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3 Improvements in facilities
4 Investment in automation and computerisation
5 Productivity
6

7 **3. Feedback**

8 **Performance related feedback**

9 Achieve financial goals
10 Control day-to-day activities
11 Provide means of communication
12 Motivate employees
13 Identifying which aspects of performance need improvement
14 External reporting purposes
15 Compare with other similar banks
16 Achieve financial objectives only
17 Evaluate the performance of sub-units
18

19 **Strategy related feedback**

20 Evaluate the performance of specific initiatives
21 Long term planning
22 Short term planning
23 Organise resources
24 Evaluate the success/effects of change
25 Provide information for decision-making
26 Revise organisational strategies
27 Identify best practices

28 **Staff related feedback**

29 Determine reward distribution
30 Communicate the bank's values and priorities to employees
31 Evaluate the performance of individual employee
32

33 **Open-ended questions**

- 34 Q1. What are the best aspects of the PMS being used in your bank/institution?
35 Q2. Are there any aspects, which you disliked about the PMS used in your
36 bank/institution?
37 Q3. What are the aspects of your current PMS that can be improved?
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Table: 1 Descriptive statistics

| Variables | N* | Minimum | Maximum | Mean | SD | Cronbach's α |
|------------------------------|----|---------|---------|---------|---------|---------------------|
| Financial | 67 | 29.00 | 56.00 | 40.0746 | 7.5825 | .854 |
| Non-financial | 68 | 16.00 | 62.00 | 38.7941 | 10.0292 | .932 |
| Customer | 68 | 6.00 | 19.00 | 12.3235 | 3.5637 | |
| Internal Business Process | 68 | 6.00 | 24.00 | 15.1029 | 3.7502 | |
| Learning and Growth | 68 | 3.00 | 14.00 | 7.8971 | 2.6267 | |
| Performance related feedback | 68 | 18.00 | 41.00 | 28.3088 | 5.2554 | .936 |
| Strategy related feedback | 69 | 12.00 | 37.00 | 25.0290 | 5.8561 | |
| Staff related feedback | 69 | 4.00 | 15.00 | 9.6377 | 2.6732 | |
| Overall effectiveness of PMS | 69 | .00 | 5.00 | 3.0435 | 1.1303 | |

*Number of responses varies, as all questionnaire items were not completed by the respondents

Table: 2 Correlations

| | | Overall Effectiveness | Financial | Non Financial | Performance Related Feedback | Strategy Related Feedback | Staff Related Feedback | Organisational Effectiveness |
|------------------------------|---------------------|-----------------------|-----------|---------------|------------------------------|---------------------------|------------------------|------------------------------|
| Overall Effectiveness | Pearson Correlation | 1 | | | | | | |
| | Sig. (2-tailed) | | | | | | | |
| | N | 69 | | | | | | |
| Financial | Pearson Correlation | .427** | 1 | | | | | |
| | Sig. (2-tailed) | 0.000 | | | | | | |
| | N | 67 | 67 | | | | | |
| Non-financial | Pearson Correlation | .303* | .675** | 1 | | | | |
| | Sig. (2-tailed) | 0.012 | 0.000 | | | | | |
| | N | 68 | 67 | 68 | | | | |
| Performance Related Feedback | Pearson Correlation | .344** | .654** | .624** | 1 | | | |
| | Sig. (2-tailed) | 0.004 | 0.000 | 0.000 | | | | |
| | N | 68 | 66 | 67 | 68 | | | |
| Strategy Related Feedback | Pearson Correlation | .302* | .597** | .592** | .851** | 1 | | |
| | Sig. (2-tailed) | 0.012 | 0.000 | 0.000 | 0.000 | | | |
| | N | 69 | 67 | 68 | 68 | 69 | | |
| Staff Related Feedback | Pearson Correlation | .327** | .568** | .540** | .786** | .838** | 1 | |
| | Sig. (2-tailed) | 0.006 | 0.000 | 0.000 | 0.000 | 0.000 | | |
| | N | 69 | 67 | 68 | 68 | 69 | 69 | |
| Organisational Effectiveness | Pearson Correlation | .394** | .658** | .756** | .851** | .854** | .803** | 1 |
| | Sig. (2-tailed) | 0.001 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | |
| | N | 68 | 66 | 67 | 68 | 68 | 68 | 68 |

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Table: 3 Result of multiple regression analysis

| Predictor variable | Beta ¹ | t | Sig. |
|---|---|--------------------------------|--------------------------------|
| Financial | -.009 | -.119 | .906 |
| Non-financial | .323 | 4.480 | .000 |
| Performance related feedback | .268 | 2.573 | .013 |
| Strategy related feedback | .252 | 2.246 | .028 |
| Staff related feedback | .214 | 2.191 | .032 |
| $R = .922^a$; $R^2 = .851$ | Adjusted $R^2 = .838$ | $F = 68.401$ | $P = .000^b$ |

^a. Dependent Variable: Organisational effectiveness.

^b. Predictors: (Constant), Financial Non-financial, Performance outcomes, Strategy outcomes, and Staff outcomes.

Table: 4 Result of multiple regression analysis

| Predictor variable | Beta | t | Sig. |
|---|---|--------------------------------|--------------------------------|
| Customer | .060 | .446 | .657 |
| Internal business process | .601 | 3.776 | .000 |
| Learning and growth | .150 | 1.145 | .256 |
| $R = .774^a$; $R^2 = .599$ | Adjusted $R^2 = .580$ | $F = 31.405$ | $P = .000^b$ |

^a. Dependent variable: Organisational effectiveness

^b. Predictors: (Constant), Customer, Internal business process, and Learning and growth

¹ 'The unstandardized b -values and their significant are important statistics to look at, however, the standardized version of the b -values are in many ways easier to interpret (because they are not dependent on the units of measurement of the variables' (Field, 2005, p. 193). Therefore, in this study, standardized β values are chosen instead of unstandardized b -values to interpret the result.