

CUSTOMERS' PERCEPTION OF TELECOMMUNICATION BUSINESSES: NON-FINANCIAL PERFORMANCE MEASURES IN ORGANIZATIONAL SUCCESS

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Abstract

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Performance measures drive an organization's success. The measures improve strategic communication with stakeholders. Based on customer survey data, this study aimed to examine the association between the use of non-financial performance measures (NPMs) and organizational success (OS) in the Nepalese telecommunication business. The study used a descriptive strategy and a structured survey questionnaire to collect data from the targeted respondents. It gathered 385 responses based on the convenience sampling technique. The questionnaire contained two items relating to the respondent's demographics, 19 items relating to NPMs, and seven items on organizational success. The NPMs were grouped into three constructs by employing confirmatory factor analysis. The analysis indicated that the technological and innovation performance measures had the most significant contribution, followed by the social and environmental performance measures and the customers' performance measures to the organizational success. The study found that NPMs explained 62.9% of telecommunication business's success, indicating more reliance on NPMs increases performance and success. Such findings would provide crucial information for comprehending the NPMs and validate Adhikari and Chalise's (2021) conclusions that the performance evaluation system for the Nepalese telecommunications business has changed to reflect strategic goals by adding NPMs.

Keywords: Environmental, Innovation, Technology, Telecommunication, Social

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1. INTRODUCTION

Performance measurement is crucial for the implementation of organizational strategic goals and the achievement and maintenance of competitiveness (Scarpin & Brito, 2018). Performance measurement systems (PMSs) facilitate the conversion of strategy into quantifiable goals (Dahal, 2022; Pollanen et al., 2017). A performance measuring system can be used to assess the efficacy and efficiency of a business (Busco & Quattrone, 2014). Performance measures/indicators make an organization communicate the strategy to its stakeholders, making it more precise and more actionable (Melnyk et al., 2014). Such measures might be internal or external, short-term or long-term, financial or non-financial. The most prevalent typology divides the measures into financial performance measures (FPMs) and non-financial performance measures (NPMs).

Managers of organizations have placed less prominence on the FPMs in recent years since the measures do not reveal an organization's holistic performance and success (Dahal, 2022; Ishtiaque et al., 2007). Kaplan's and Johnson (1987) groundbreaking research compelled the inclusion of NPMs such as quality, flexibility, time of delivery, and innovation as the basis for performance measurement and organizational success (OS). The NPMs place a greater emphasis on an organization's long-term success and the success elements such as customer satisfaction, retention, and loyalty; internal business process proficiency; learning and growth of employees; and innovation result in enhanced organizational and financial performance (Chenhall, 2003; Kaplan & Norton, 1996; van Veen-Dirks & Wijn, 2002). A positive connotation has been recognized between the organization's success and the use of the NPMs (Banker et al., 2000). Today's business organizations are increasingly focusing on NPMs to offer additional information and knowledge to stakeholders (Ahmad & Zabri, 2016; Dahal, 2021).

On the other hand, studies indicated that there is also a challenge in linking the use of NPMs to performance and success (Dahal, 2022; Fisher, 1995). It is hard to quantify any connection between the NPMs, organizational performance (OP), and OS (Brancato, 1995). Research conclusions thus revealed mixed outcomes on performance measures and OP relationships. Kaplan and Norton (2001) suggested that the NPMs assist managers in assessing the changes in their business environments, determining and evaluating the organization's progress towards its goals, and confirming performance and success. Therefore, the aim of this study was to examine the association between the use of NPMs and OS in the Nepalese telecommunication business. More precisely, the study was an attempt to observe the strength of NPMs on OS.

It is believed that the use of NPMs not only enables the improvement of the OP but also can enhance OS. Although for more than a decade, some researchers, such as Atkinson et al. (1997), promoted the significance of studying how performance affects desired behaviour, empirical research on the effect of NPMs on behaviour is

scarce. Evaluating the effect of the NPMs on the individual is important because the success of the company is not merely determined by the company's strategies but is also partly influenced by individual behaviour within the company as the assessor pursues those strategies (Otley, 1999). Customers now have access to a greater selection of telecommunication services and service providers as a result of the industry's rapid expansion (Shukla & Roopa, 2018). In a highly competitive business environment, the survival of Nepalese telecommunication businesses is a major concern, and they must develop processes that are essential for achieving operational excellence. The NPMs are essential to an organization's long-term success because they encourage enhanced operational performance and ensure effective responses to the needs of stakeholders (Alshanty et al., 2019).

The structure of this paper is as follows. Section 2 offers a literature review followed by the conceptual framework and study hypotheses. Section 3 explains the research method used. Section 4 has the results and analysis. Section 5 includes discussions of the analysis, and Section 6 notes the study's concluding remarks with the limits and implications.

2. LITERATURE REVIEW

Due to the perceived gaps in FPMs, most businesses prioritize the usage of NPMs to offer decision-makers relevant information regarding consumers and employees, product service quality, on-time metrics, market share, etc. (Ittner & Larcker, 1998b; Kaplan & Norton, 2001). NPMs are utilized to produce forward-looking information that cannot be captured by FPMs (van Veen-Dirks, 2010). For example, according to Ittner and Larcker (1998a), the increased consideration of improving service quality to increase customer satisfaction and loyalty, the NPMs can be a crucial driver to increase business value and success. Furthermore, according to Salehi and Ghorbani (2011), any organization's success is reflected in its performance, which is highly dependent upon its strategies. Success metrics should incorporate NPMs rather than traditional FPMs to reflect the organization's goals from a multidimensional perspective (Gyemang & Emeagwali, 2020).

NPMs differ from FPMs in that they allow us to capture a broader range of performance characteristics (Vaivio, 1999). It is thought that the necessity of using NPMs balances the advantage of using FPMs as short-term indicators of organizations' progress toward achieving their long-term goals and improves the performance of managers by giving better performance indications (Banker et al., 2005; Kaplan & Norton, 1992; Vaivio, 1999). Companies have been challenged to assume responsibility for the impact their operations may have on society (Dahal, 2022). Corporate image and social and environmental responsiveness have substantial competitive advantages (Gupta, 2002). Progressions in expertise and technology, particularly in the information and communication sector, make service innovation possible with speedy technological evolution (Huang, 2011).

Many researchers (Bourne et al., 2000; Cooper & Ezzamel, 2013; Garengo & Sharma, 2014; Kasperskaya & Tayles, 2013) have looked at the change from FPMs to border NPMs as a major step forward in the field of performance

measurement systems. Organizational success and efficiency can be maximized with the use of clearly established performance measures. Table 1 draws a synopsis of the literature regarding the concerned NPMs and OS.

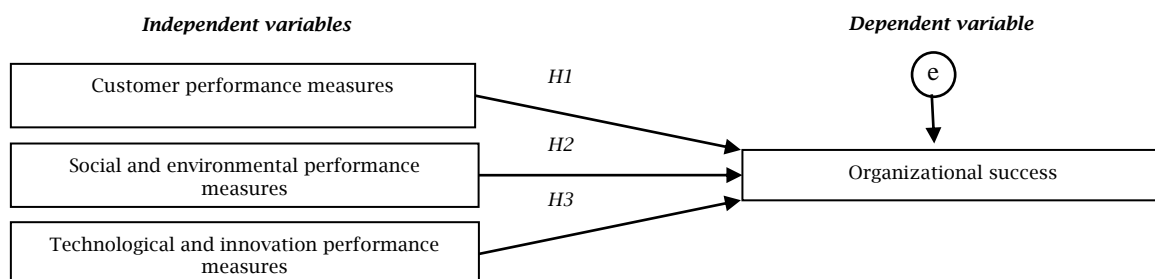
Table 1. Literature review summary

<i>Measures</i>	<i>Assessing theme</i>	<i>Citation/(s)</i>
CPMs (customer performance measures)		
1. Service quality	Serves customers efficiently.	Al-Weshah et al. (2019)
2. Service reliability	Delivers services consistently and accurately.	Wang and Lo (2002)
3. Responsiveness	Effects corporate success and customers' pleasure.	Khan (2010)
4. Customer service	Enhances customer happiness and compliance.	Joshi et al. (2010); Shukla and Roopa (2018)
5. Commitment	Builds long-term engagements and customer loyalty.	Sánchez and Iniesta (2004)
6. Effective communication	Fosters long-term relationships with customers.	Sharma and Patterson (1999); Al-Weshah et al. (2019)
7. Trust	Strengthens customer loyalty and retention.	Lin and Wang (2005)
8. Value-added services	Offers benefits and promotional deals by distinguishing from competitors.	Atkinson et al. (2011)
SEPMs (social and environmental performance measures)		
1. Social responsiveness	Relates to being innovative, trustworthy, and professional and comprises of its social contribution and client appreciation.	Vranakis et al. (2012)
2. Social disclosure	Improves transparency and resource allocation.	Hamid and Atan (2011); Hossain et al. (2015)
3. Environmental disclosure	Enhances corporate value and performance.	Lynch and Cross (1991)
4. Corporate environmental disclosure	Accepts environmental obligations and discloses outcomes.	Feng et al. (2017)
5. Electronic waste management	Encourages organizations to take care of their own e-waste.	Öztürk and Marşap (2018)
TIPMs (technological and innovation performance measures)		
1. Network and service quality	Play a crucial influence on the effectiveness of telecommunication service providers.	Saha et al. (2016)
2. Signal strength and coverage	Affect positively on customer satisfaction and the organization's reputation.	Dahal et al. (2020); Woo and Fock (1999)
3. Voice quality	Has always been a crucial aspect of getting into the service.	Saha et al., (2016); Woo and Fock, (1999)
4. Calls drop	Effects on customer loyalty and satisfaction.	Saha et al. (2016)
5. Product/service innovation	Converts invention or concept into a product/service and improves business value.	Dotzel et al. (2013); Salunke et al. (2013)
6. Competitive innovation	Focuses on generating innovative and sustainable ideas	Sood and Tellis (2009)
OSMs (organizational success measures)		
1. Customer satisfaction	Arises from the notion that the product or service exceeded its performance.	Atkinson et al. (2011)
2. Customer retention	Effects on performance since obtaining new consumers are more costly than retaining current customers.	Reichheld and Sasser (1990)
3. Customer loyalty	Considers a business's competitive advantage.	Lin and Wang (2005)
4. Social performance	Achieving sustained performance excellence and significant competitive advantages.	Gupta (2002); Rahman (2014)
5. Environmental performance	Provides management with the environmental data needed for decisions.	Williams (1998)
6. Technological performance	Presents new service challenges and opportunities and differentiates from competitors.	Dahal et al. (2020); Yeh and Fu (2013)
7. Innovation performance	Transforming an invention or idea into a product/service benefits its providers.	Rahman (2014)

The development and growth of an organization can be tracked by its OS. The NPMs variables are evaluated here in light of OS as a

criteria variable. The research model's hypothesized courses are shown in Figure 1.

Figure 1. The hypothesized paths of the NPMs to OS



The study formulates the following hypotheses:
H1: Customer performance measures significantly and positively influence organizational success.

H2: Social and environmental performance measures significantly and positively influence organizational success.

H3: Technological and innovation performance measures significantly and positively influence organizational success.

3. RESEARCH METHODOLOGY

The study used an organized survey questionnaire to gather quantitative data from one of the largest privately held telecommunication service provider companies — Ncell's mobile Subscriber Identity Module (SIM) holders. The survey questionnaire contained two sections with 26 questions. The first section consisted of 19 questions pertaining to NPMs, and the latter section consisted of seven questions pertaining to the OS. All the questions utilized a 6-point Likert scale, ranging from 6 = agree strongly to 1 = disagree strongly. Finally, two questions regarding the respondent's gender and age group were offered.

Convenience and purposive sampling technique was employed to take respondents who were supposed to understand the significance of NPMs to OS. By directing a self-administered field survey in Kathmandu Valley from January to August 2022, 385 properly filled-up responses were gathered. The study captured 53.5% female and 46.5% male respondents' responses. Of the total respondents, 32.5% were between the ages of 16 to 30 years old, 55.1% were between the ages of 31 to 45 years old, and the remaining 12.2% were above the age of 45 years old.

Based on the study's literature review and conceptual framework, the observed variables were grouped into four constructs and used Cronbach's alpha approach to evaluate the variables' reliability. All the constructs' Alpha values exceeded the suggested cut-off value of 0.70 and proved that the variables were consistent within the construct. Table 2 presents the variables' reliability statistics.

Table 2. Reliability measures of the constructs

Constructs	Cronbach's Alpha	Variables included	Total variables
CPMs	0.771	VAR_1, 2, 3, 4, 5, 6, 7, 8	8
SEPMs	0.802	VAR_9, 10, 11, 12, 13	5
TIPMs	0.778	VAR_14, 15, 16, 17, 18, 19	6
OSMs	0.796	VAR_20, 21, 22, 23, 24, 25, 26	7
Cut-off value	≥ 0.7	Total no of observed variables	26
Suggested by	Hair et al. (2006), Nunnally and Bernstein (1994)		

Construct reliability (CR) and average variance extracted (AVE) were utilized to evaluate convergent validity. As suggested by Hair et al. (2006), each variable's standardized regression weights equal to 0.5 and more were taken into account. Four observable variables under the CPMs construct (*V_5_commitment*, *V_6_efficient communication*, *V_7_trust*, and *V_8_value added services*); one variable under the SEPMs (*V_13_electronic waste management*); two variables under the TIPMs construct (*V_18_product/service innovation*, and *V_19_competitive innovation*); and two variables under OSMs (*V_24_environmental performance* and *V_26_innovation performance*) were overlooked because of the smaller standardized weights than the cut-off value of 0.50.

Variables' multi-collinearity was checked through inter-construct correlations. There was no indication of multi-collinearity because the inter-construct correlations did not reach the cut-off value of 0.7, as suggested by Meyers et al. (2006). Discriminant validity was verified using Fornell and Larcker's (1981) criterion. It was observed that the AVE's square root (shown in bold in Table 3) was higher than inter-construct correlations. Furthermore, Harman single-factor variance was calculated to assess the common method bias variance. All the computed values are presented in Table 3.

Table 3. Validity and CMB measures

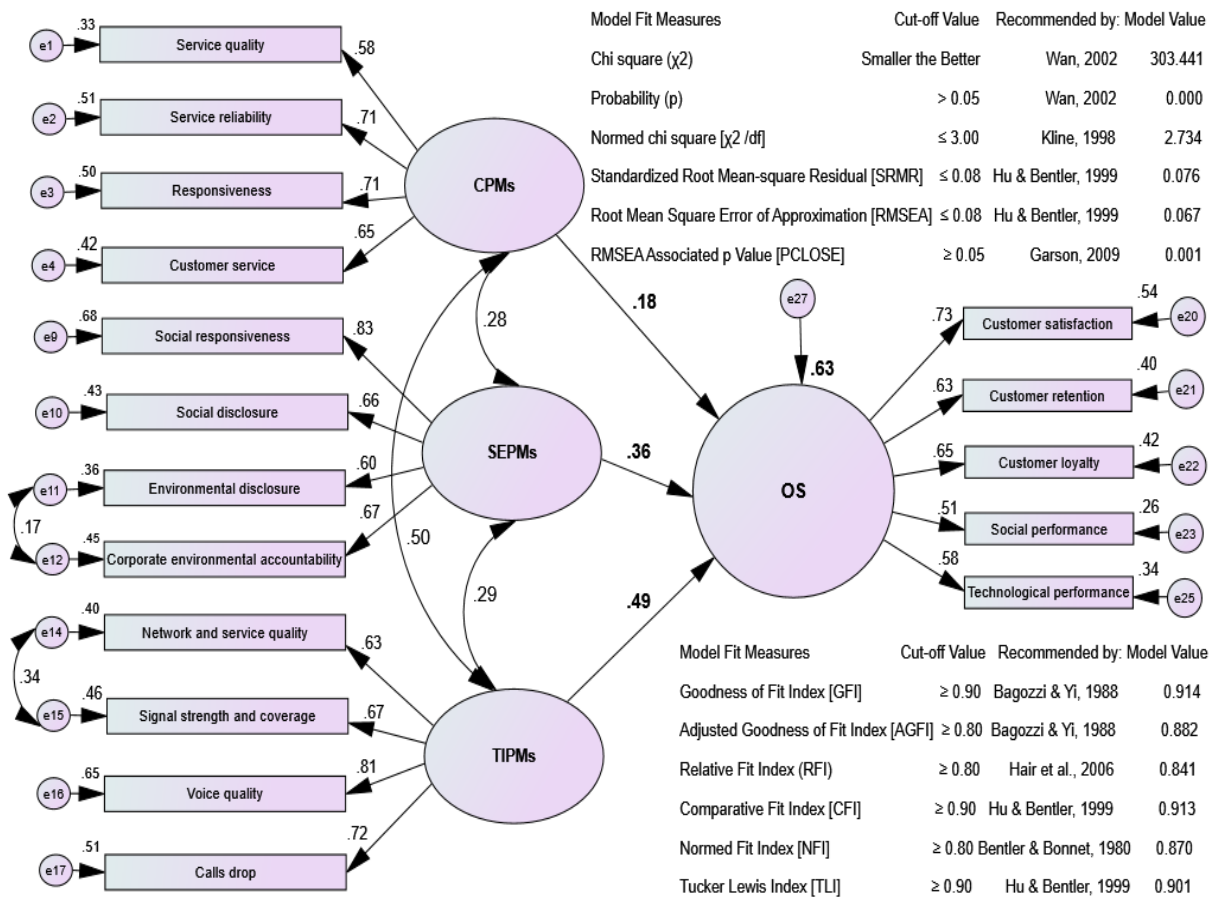
Particulars	Convergent validity		Discriminant validity				Common method bias (CMB) variance of 17 variables
	CR	AVE	Square root of AVE (in bold) and inter-construct correlations				
			CPMs	SEPMs	TIPMs	OSMs	
CPMs (4)	0.765	0.451	0.672	-	-	-	0.3186
SEPMs (4)	0.791	0.489	0.277	0.699	-	-	
TIPMs (4)	0.805	0.511	0.505	0.293	0.715	-	
OSMs (5)	0.768	0.401	0.524	0.554	0.686	0.633	
Cut-off value	≥ 0.7	≥ 0.40	AVE's square root > Inter-construct correlations				
Suggested by	Fornell and Larcker (1981)	Bagozzi and Baumgartner (1994)	Fornell and Larcker (1981)				Cho and Lee (2012)

The reliability, validity, multi-collinearity, and CMB screening values exceeded their respective recommended cut-off values and promoted 17 variables within four constructs for more analysis and discussion.

4. OUTCOMES AND ANALYSIS

Structural equation modelling and path analysis was used to assess the power of the NPMs on OS. The model was evaluated by 17 observable NPMs within four constructs, as presented in Figure 2, and model fit indices along with the corresponding recommended cut-off values.

Figure 2. The NPMs to OS model



The path analysis examined how well each observable and latent measure contributed to the model. Furthermore, Table 4 shows the key parameter estimates of each model's path.

Table 4. Parameter estimates of the NPMs to OS model

Indicators	Unstandardized req. weight	Standardized req. weight	Standard error	Critical ratio	p-value
CPMs --> OS	0.139	0.175	0.053	2.632	0.008
SEPMS --> OS	0.273	0.361	0.049	5.619	***
TIPMS --> OS	0.364	0.492	0.057	6.331	***
Service quality <--- CPMs	0.890	0.577	0.099	8.946	***
Service reliability <--- CPMs	0.958	0.713	0.093	10.317	***
Responsiveness <--- CPMs	1.085	0.708	0.106	10.281	***
Customer service <--- CPMs	1.000	0.646			
Social responsiveness <--- SEPMS	1.278	0.825	0.113	11.328	***
Social disclosure <--- SEPMS	0.970	0.656	0.093	10.448	***
Environmental disclosure <--- SEPMS	0.819	0.599	0.075	10.847	***
Corporate environmental accountability <--- SEPMS	1.000	0.673			
Network service and quality <--- TIPMS	0.942	0.635	0.087	10.791	***
Signal strength and coverage <--- TIPMS	0.966	0.675	0.084	11.436	***
Voice quality <--- TIPMS	1.155	0.807	0.089	13.021	***
Calls drop <--- TIPMS	1.000	0.718			
Customer satisfaction <--- OS	1.337	0.733	0.132	10.132	***
Customer retention <--- OS	1.075	0.631	0.116	9.258	***
Customer loyalty <--- OS	1.110	0.649	0.118	9.428	***
Social performance <--- OS	0.926	0.513	0.116	7.985	***
Technological performance <--- OS	1.000	0.581			
CPMs <--> SEPMS	0.167	0.277	0.043	3.892	***
SEPMS <--> TIPMS	0.189	0.293	0.045	4.218	***
CPMs <--> TIPMS	0.310	0.505	0.050	6.192	***
e11 <--> e12	0.131	0.172	0.052	2.518	0.012
e14 <--> e15	0.268	0.336	0.055	4.868	***

Note: *** = Significant at 0.01 level.

As shown in Table 4, all quantified observable variables, error terms, covariance relationships, and hypothesized model paths exhibited statistically significant critical ratios at $p \leq 0.05$. The findings indicated that the *TIPMs* contributed the most to the OS ($\beta = 0.492$, $p < 0.01$), followed by the *SEPMs* ($\beta = 0.361$, $p < 0.01$), and the *CPMs* ($\beta = 0.175$, $p < 0.01$). Overall model's square multiple correlations of 0.63 (actually 62.9%) exposed the independent variables' collective explanation for the dependent variable.

5. DISCUSSION

Prior research has demonstrated the significance of NPMs to OP. The implementation of NPMs must also be considered to enhance OS. As explained by Kaplan and Norton (1996) that the reliance on FPMs fails to enhance performance and success. Due to the inadequacies of relying on FPMs as a single indication, various experts have proposed implementing NPMs in order to collect more comprehensive information about businesses. Moreover, the effect of employing NPMs is not only useful for balancing the benefit of FPMs as a short-term indicator of progress toward long-term goal achievement of enterprises (Banker et al., 2005; Dahal, 2022; Bourne et al., 2013), but it is also suitable for stakeholders' purposes that FPMs do not provide (Davis & Albright, 2004). NPMs enable managers to examine business environment changes, evaluate progress toward company goals, and confirm performance and success.

The literature review identified 26 observed variables within four constructs: *CPMs* (eight variables), *SEPMs* (five variables), *TIPMs* (six variables), and *OSMs* (seven variables). Out of them, the first three assessed the strength of NPMs and treated them as independent constructs to the dependent construct of OS. The study did not recognize seven NPMs: *V_5_commitment*, *V_6_efficient communication*, *V_7_trust*, *V_8_value added services*, *V_13_electronic waste management*, *V_18_product/service innovation*, and *V_19_competitive innovation* though they were relevant and significant on the previous studies like commitment (Sánchez & Iriarte, 2004), efficient communication (Al-Weshah et al., 2019; Sharma & Patterson, 1999), trust (Lin & Wang, 2005), value-added services (Atkinson et al., 2011), electronic waste management (Kim-Soon & Zulkifli, 2012; Öztürk & Marşap, 2018), product/service innovation (Dotzel et al., 2013; Salunke et al., 2013), and competitive innovation (Sood & Tellis, 2009). Therefore, the study assessed 12 observable NPMs within three constructs. On the other hand, two observables under *OSMs* (*V_24_environmental performance* and *V_26_innovation performance*) were overlooked though they were relevant and noteworthy in the previous studies (Rahman, 2014; Williams, 1998).

The multiple regression analysis between NPMs and OS showed that *TIPMs* had the greatest importance ($\beta = 0.492$, C.R. = 6.331, $p = 0.000$), followed by *SEPMs* ($\beta = 0.361$, C.R. = 5.619, $p = 0.000$), and *CPMs* ($\beta = 0.175$, C.R. = 2.632, $p = 0.008$). Studies showed that customers are more likely to stay with a company and buy from it again if the service is better and more reliable

(Anderson, 1998). Customer retention has a financial impact on a company that assumes that getting new customers is costlier than keeping current customers (Reichheld & Sasser, 1990). Retention enhances market share growth and reduces cost (Fornell & Wernerfelt, 1987). Customers are kept, and new ones are brought in to increase sales and market share (Rust et al., 1995). Corporate reputation differentiates the company from its competitors (Gupta, 2002). Social responsiveness and disclosure took preference in the services sector, particularly regarding those offering little differentiation and those contending in aggressive circumstances, such as the telecommunication businesses (Santouridis & Trivellas, 2010). Environmental disclosure increased public awareness and the organization's reputation. The technological and innovation performance gives business people competence, new service encounters, and opportunities to offer consumers innovative services that lead to better organizational performance (Dahal et al., 2020; Yeh & Fu, 2013). It also makes itself different from other rivals and increases competitiveness (Saco & Goncalves, 2008). The study's results showed that the observed NPMs were responsible for explaining 62.9% of Ncell's success.

6. CONCLUSION

The study was the assessment of customers as to which NPMs were responsible for the Nepalese telecommunication business's OS. To accomplish the objectives of the study, various approaches were followed to validate the hypothesized structural equation model, and the hypothesized relationships were recognized to be statistically significant at $p \leq 0.05$. The model fit indices demonstrated an excellent fit to the data. These findings, therefore, were consistent with previous studies and revealed that the NPMs had a positive and substantial impact on the organization's performance and success of the Nepalese telecommunication businesses. Hence, greater reliance on NPMs is associated with increased performance and success.

However, the conclusions were contingent on some constraints. The constraints inspire future studies. The first constraint concerns unobserved heterogeneity associated with the measurement of variables, which is common in all cross-sectional studies. A time-series analysis of comparable business components encountering different circumstances thus can mitigate this limitation. The study's sample size (385 responses) from Global System for Mobile (GSM) subscribers was too small for drawing conclusions and generalizing to the entire industry or population.

Furthermore, the responses were selected using a purposive and convenient sampling technique. Future studies might use a larger sample size and a new sampling methodology and undertake a similar investigation on other service sectors and the public sector. Various contingent variables, like organization size, competitive strategy, organization structures, the strength of competition, leadership technique and style, client profile, etc., have not been observed, and future research can discourse on such issues. The study was limited to the Nepalese context; thus, it is feasible that corporations in other foreign contexts may behave differently. Previous

research has suggested a methodological improvement for contingency-based investigations to ensure methodological rigour. In future research endeavours, the mixed methodology would be

a viable option for obtaining specific contextual concepts coupled with survey evidence anchored in triangulation.

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