"The impact of key indicators on the overall performance of Saudi Arabian telecommunication companies"

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BUSINESS PERSPECTIVES

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THE IMPACT OF KEY INDICATORS ON THE OVERALL PERFORMANCE OF SAUDI ARABIAN TELECOMMUNICATION COMPANIES

Abstract

Performance management helps organizations to ensure that they are on the right path. Thus, this requires increasing the ability of organizations to understand their own key indicators to manage and measure their performance. The purpose of this study is to determine the key performance indicators used in Saudi Arabian telecommunication companies. Moreover, it examines whether these indicators impact the overall performance of Saudi Arabian telecommunication companies. This study adopted a quantitative method based on a survey questionnaire. Participants were reached through human resources officers in the telecommunication companies. Questionnaires were distributed to 247 employees at middle and top management levels in Saudi Arabian telecommunication companies using a convenience sampling technique. However, 212 responses were returned completely filled with a response rate of 85.8%. This study used statistical software of SPSS and SmartPLS for data analysis. The results revealed that customer satisfaction, delivery reliability, learning and growth, employee satisfaction, cost, financial performance, flexibility, and quality are the key indicators used in Saudi Arabian telecommunication companies to measure performance. The results also revealed that customer satisfaction, delivery reliability, learning and growth, employee satisfaction, cost, financial performance, flexibility, and quality have an impact on the overall performance of Saudi Arabian telecommunication companies. These indicators can be used to determine the state of organizations, help measure the implementation of strategies, evaluate the organization's current performance, design strategies for improvement, and evaluate organization's departments and employees.

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JEL Classification	M10, L96, L25

INTRODUCTION

Performance is an essential factor for organizations to obtain a competitive advantage, obtain assurances regarding the achievement of their goals and organizations strategies, maintain employees inside the organization, and deliver high-quality products at lower costs while boosting diversity (Aburumman et al., 2020; Kraus et al., 2020; S. Lee & D. Lee, 2022; Zamanan et al., 2020). Simply, performance management helps organizations ensure that they are on the right path (Jetter et al., 2018). Meanwhile, this requires increasing the ability of organizations to understand their own key indicators in order to manage and measure their performance (Hristov & Chirico, 2019; Singh et al., 2019). Key performance indicators are quantitative scales utilized to evaluate performance in achieving strategic and operational objectives (Jahangirian et al., 2017).

Using key performance indicators offers an incentive for the organizations to determine their condition and help measure the strategy's implementation (Moktadir et al., 2020). Key performance indicators can be used as a management tool for assessing an organization's current performance and designing improvement strategies (Jiang et al., 2020). Moreover, these indicators can be used to assess the entire organization's function, its particular divisions, and current employees (Jahangirian et al., 2017). However, the profits and market share of Saudi Arabia's telecommunication companies are shrinking over time and losing a growing number of customers (Anaam et al., 2021). As a result, Saudi Arabian telecommunication companies are suffering from significant financial losses year after year since their establishment (Kadasah, 2014). Meanwhile, there is a decrease in the overall performance of Saudi Arabia's telecommunication companies (Almuqren & Cristea, 2022; Anaam et al., 2021). However, the use of key performance indicators may contribute to ensuring that organizations are moving in the right direction, assessing the achievement of desired strategies and objectives, and evaluating and controlling the overall business processes (Ishaq Bhatti et al., 2014; Moktadir et al., 2020; Parmenter, 2015).

1. LITERATURE REVIEW AND HYPOTHESES

Generally, the performance measurement process begins by defining the key performance indicators according to the nature of the organizational activity, whether it is commercial, service, or non-profit (Ishaq Bhatti et al., 2014; Singh et al., 2019). According to Carlucci (2010), key performance indicators include five main characteristics: accountability, assimilation, timely, relevant, and consistent. Accountability means that key performance indicators should be connected with the manager or team responsible for the test result. Assimilation means that key performance indicators should be quantifiable and reliable, as well as each employee inside the organization should understand their purpose. Timely means that key performance indicators should be frequently calculated which represent current priorities. Relevant means that key performance indicators should promote strategic organizational objectives. Finally, consistent means that key performance indicators should not interfere with any other measure of success (Carlucci, 2010).

Through the comprehensive literature review, there are ten measures of performance indicators and most firms utilize these performance indicators to assess and manage their performance namely customer satisfaction, delivery reliability, social performance, learning and growth, employee satisfaction, cost, financial performance, safety, flexibility, and quality (Alanne, 2021; Bassen & Kovács, 2020; Dipura & Soediantono, 2022; Hristov & Chirico, 2019; Ishaq Bhatti et al., 2014; Khalifa & Khalid, 2015; Krauth et al., 2005; Madushika et al., 2020; Parmenter, 2015; Prajogo et al., 2018; Sarkheil, 2021; Toor & Ogunlana, 2010).

Several researchers have suggested two categories of indicators that are utilized to measure performance, namely (1) financial measures and (2) non-financial measures (Al-Mamary et al., 2020; Carlucci, 2010; Chatterji & Levine, 2006; Dossi & Patelli, 2010; Hristov & Chirico, 2019; Narkunienė & Ulbinaitė, 2018). However, some researchers identified other indicators to measure performance. For example, Parmenter (2015) indicated that employee satisfaction, learning and growth, customer satisfaction, and financial performance are key performance indicators. Sinclair and Zairi (1995) indicated that quality, financial performance, delivery reliability, satisfaction of employees and customers, and safety are key performance indicators. Rolstadås (1998) found that quality of work-life, efficiency, profitability, quality, and innovation are key performance indicators to measure performance.

Customer satisfaction is the extent to which customers are satisfied with the products and services offered by organizations (Fida et al., 2020; S. Lee & D. Lee, 2022). Increased customer satisfaction contributes to enhancing financial performance by strengthening current customer loyalty, reducing price elasticity, lowering marketing expenses through favorable word-of-mouth advertising, lowering transaction costs, and improving the company's reputation (Almuqren & Cristea, 2022; Wu, 2012). Delivery reliability is the number of products or services delivered on the date of delivery divid-

ed by the number of products or services ordered. It also indicates the organization's ability to deliver the products and services on a predetermined date (Ahmad & Dhafr, 2002; Heckl & Moormann, 2010). Social performance is the ethical responsibility of organizations and transparency of stakeholders while setting goals that are reconcilable with the sustainable development of society. It also includes reducing social inequalities and preserving the culture and available environmental resources (Jahangirian et al., 2017; Siltaoja, 2009).

Learning and growth contribute to helping organizations gain and retain top talent, get a competitive advantage, improve productivity, and help organizations earn more profit (Aburumman et al., 2022; Al-Omari et al., 2020; Alanne, 2021). Employee satisfaction is defined as the pleasurable emotional state resulting from the appraisal of one's job as achieving or facilitating the achievement of one's job values (Bauman & Skitka, 2012; Salleh et al., 2020; Zamanan et al., 2020). Organizations are very concerned with performance measures based on cost. They compete with their competitors based on cost, which means providing products or services at the lowest price in the market through cost reduction, lowering input costs, and using information technology to enhance productivity and efficiency (Al-Mamary et al., 2020; Bang et al., 2019). Financial measures are the best for evaluating organizations' performance, including the physical values of sales and profits or the percentage return on equity and assets (Chatterji & Levine, 2006; Grosswiele et al., 2013). Financial measures aim to provide decision-makers with information that enables them to take practical actions and evaluate whether a company is progressing in line with its strategy (Bouslah et al., 2018; Grosswiele et al., 2013).

The contemporary view of safety explains that organizations must be able to proactively assess and manage the safety of their activities (Sarkheil, 2021). Various safety indicators significantly provide information on current organizational safety performance (Donnelly, 2022). There has also been an increasing focus on the role of indicators in providing information for use in predicting and developing organizational performance (Ma et al., 2011). Flexibility is the ability of organizations to respond to market changes within a shorter period and at a lower cost (Reichmuth et al.,

2021). Flexibility reflects responding to changing customer requirements, changes in production, changes in product mix, changes in design, and changes in quantity (Amrina & Yusof, 2011; Ante et al., 2018). Quality is a major source of competitive advantage for organizations by meeting customer requirements and reflecting the competitive strategies of organizations (Donnelly, 2022; Kadasah, 2014), where quality goes through an evolutionary process from the operational level to the strategic level (Gosselin, 2005; Phusavat et al., 2007). Therefore, the purpose of this study is to determine the key performance indicators used in Saudi Arabia's telecommunication companies, as well as to examine whether these indicators impact the overall performance of Saudi Arabia's telecommunication companies. Based on the above discussion, this study suggests the following hypotheses:

H1: Customer satisfaction has an impact on the overall performance of Saudi Arabian telecommunication companies.

H2: Delivery reliability has an impact on the overall performance of Saudi Arabian telecommunication companies.

H3: Social performance has an impact on the overall performance of Saudi Arabian telecommunication companies.

H4: Learning and growth have an impact on the overall performance of Saudi Arabian telecommunication companies.

H5: Employee satisfaction has an impact on the overall performance of Saudi Arabian telecommunication companies.

H6: Cost has an impact on the overall performance of Saudi Arabian telecommunication companies.

H7: Financial performance has an impact on the overall performance of Saudi Arabian telecommunication companies.

H8: Safety has an impact on the overall performance of Saudi Arabian telecommunication companies.

H9:   *Flexibility has an impact on the overall performance of Saudi Arabian telecommunication companies.*

H10:   *Quality has an impact on the overall performance of Saudi Arabian telecommunication companies.*

2. METHODOLOGY

2.1. Sample and procedures

This study adopted a quantitative method based on a survey questionnaire (cross-sectional study). Saudi Arabian telecommunication companies have been visited in order to gain approval to distribute the questionnaire to employees. Participants were reached through human resources officers in telecommunication companies. The study objectives and procedures have been explained through an accompanying letter describing the study and soliciting voluntary participation. However, all participants consented to partake in this study by filling out a questionnaire. The technique of convenience sampling was used to collect the data. This technique helps easily collect data from an available set of respondents, providing helpful information for answering questions and hypotheses (Karim et al., 2021). It is also the most widely used sampling technique because it is fast, uncomplicated, and inexpensive (Etikan et al., 2016).

Questionnaires were distributed to 247 employees at middle and top management levels in Saudi Arabia telecommunication companies. However, 212 responses were returned completely filled. The survey questionnaire included three sections. The first section contains the demographic information of respondents. The second section measures key performance indicators (customer satisfaction, delivery reliability, social performance, learning and growth, employee satisfaction, cost, financial performance, safety, flexibility, and quality). The third section contains items to measure overall performance.

2.2. Measures

Key performance indicators were measured by ten dimensions which were developed by Ishaq Bhatti et al. (2014), namely (1) customer satisfaction (e.g.,

customer loyalty index), (2) delivery reliability (e.g., perceived delivery reliability), (3) social performance (e.g., donate to the community), (4) learning and growth (e.g., number of internal promotions), (5) employees satisfaction (e.g., turnover rate), (6) cost (e.g., cost relative to competitors), (7) financial performance (e.g., net income), (8) safety (e.g., level of risk and safety perceived), (9) flexibility (e.g., expansion flexibility), and (10) quality (e.g., product features). Each dimension has three items to measure it. Respondents were required to respond to these items based on a five-point Likert scale from 1 "very high" to 5 "very low."

Overall performance was measured using a scale of Khan et al. (2019). This scale includes eleven items. One of these items is "My organization quality of product/services of the organization increase within the last 3 years." Respondents were required to respond to these items based on a five-point Likert scale from 1 "strongly disagree" to 5 "strongly agree."

3. RESULTS

Data analysis started with demographic information analysis and descriptive analysis of constructs using SPSS (version 25). Then, the assessment of the measurement model and structural model was conducted using SmartPLS (version 3.3.7). As indicated in Table 1, most respondents were male (75.5%), while 24.5% were female. Moreover, the largest group of respondents aged were between 31-40 years, which represented 42.9%, followed by the group between 41-50 years (26.4%), 21-30 years (18.9%), 51-60 years (9%), and more than 60 years (2.8%). Regarding status, 32.1% of respondents were single, 62.7% were married, 4.7% were divorced, and 0.5% were widows/widowers. Regarding working experience, 2.8% of respondents have working experience of less than 1 year, 47.6% of respondents have 1-10 years, 42% have 11-20 years, and 7.5% have more than 20 years of experience.

On the other hand, the majority of respondents had an undergraduate degree (56.1%), 29.2% of respondents had a postgraduate degree, and 14.6% had a diploma degree or less. Regarding the workplace, most respondents were in the central region

(64.2%), 18.4% were in the southern region, and 17.5% were in the northern region. In terms of position, the majority of respondents were in the middle level of management (76.4%), while 23.6% were in the top level of management.

Table 1. Demographic information of respondents

Construct	Category	Frequency	Percentage (%)
Gender	Male	160	75.5
	Female	52	24.5
Age	21-30 years	40	18.9
	31-40 years	91	42.9
	41-50 years	56	26.4
	51-60 years	19	9.0
	More than 60 year	6	2.8
Status	Single	68	32.1
	Married	133	62.7
	Divorced	10	4.7
	Widow/Widower	1	0.5
Working Experience	Less than 1 year	6	2.8
	1-10 years	101	47.6
	11-20 years	89	42.0
	More than 20 years	16	7.5
Education	Diploma or less	31	14.6
	Undergraduate	119	56.1
	Postgraduate	62	29.2
Workplace	Northern region	37	17.5
	Central region	136	64.2
	Southern region	39	18.4
Position	Top-level management	50	23.6
	Middle-level management	162	76.4

Table 2 shows the descriptive analysis of constructs using SPSS (version 25). Customer satisfaction achieved a value of 3.83 for mean, 1.302 for standard deviation, and 1.696 for variance. Delivery reliability achieved a value of 4.05 for mean, 1.072 for standard deviation, and 1.149 for variance. Furthermore, social performance achieved a value of 3.89 for mean, 1.060 for standard deviation, and 1.125 for variance. Learning and growth achieved a value of 4.12 for mean, 1.007 for standard deviation, and 1.014 for variance.

Moreover, employee satisfaction achieved a value of 3.53 for mean, 1.064 for standard deviation, and 1.132 for variance. Cost achieved a value of 3.65 for mean, 1.017 for standard deviation, and 1.034 for variance. In addition, financial performance achieved a value of 3.34 for mean, 1.239 for

standard deviation, and 1.535 for variance. Finally, safety achieved a value of 3.38 for mean, 1.394 for standard deviation, and 1.943 for variance.

Meanwhile, flexibility achieved a value of 3.46 for mean, 1.304 for standard deviation, and 1.700 for variance. Quality achieved a value of 3.63 for mean, 1.092 for standard deviation, and 1.192 for variance. Finally, overall performance achieved a value of 3.68 for mean, 1.127 for standard deviation, and 1.271 for variance.

According to the above results, these factors are the key indicators used in Saudi Arabia's telecommunication companies to measure performance because these constructs achieved value above the satisfactory level (Sekaran & Bougie, 2016).

Table 2. Descriptive analysis of constructs

Construct	Mean	Standard Deviation	Variance
Customer satisfaction	3.83	1.302	1.696
Delivery reliability	4.05	1.072	1.149
Social performance	3.89	1.060	1.125
Learning and growth	4.12	1.007	1.014
Employee satisfaction	3.53	1.064	1.132
Cost	3.65	1.017	1.034
Financial performance	3.34	1.239	1.535
Safety	3.38	1.394	1.943
Flexibility	3.46	1.304	1.700
Quality	3.63	1.092	1.192
Overall performance	3.68	1.127	1.271

The assessment of the measurement model included internal consistency reliability, convergent validity, and discriminant validity. Table 3 demonstrates the results of internal consistency reliability and convergent validity, whereby all items have loadings ranging between 0.709 to 0.938; thus, all these items have been retained based on the recommendations of Hair et al. (2016). Additionally, all constructs achieved values between 0.738 to 0.936 for Cronbach's alpha, as well all constructs achieved values between 0.841 to 0.949 for composite reliability. Thus, these results are consistent with the suggestions of Hair et al. (2019), who indicated that satisfactory values of Cronbach's alpha and composite reliability should be ranged between 0.70 to 0.95. Meanwhile, all constructs achieved values ranging between 0.640 to 0.852 for average variance extracted (AVE), which are well within the recommended more than 0.5 (Henseler et al., 2016).

Table 3. Internal consistency reliability and convergent validity

Construct	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Customer satisfaction	CS1	0.902	0.821	0.879	0.709
	CS2	0.722			
	CS3	0.891			
Delivery reliability	DR1	0.893	0.879	0.925	0.804
	DR2	0.913			
	DR3	0.884			
Social performance	SP1	0.763	0.738	0.841	0.640
	SP2	0.881			
	SP3	0.749			
Learning and growth	LG1	0.850	0.876	0.910	0.772
	LG2	0.924			
	LG3	0.815			
Employee satisfaction	ES1	0.938	0.913	0.945	0.852
	ES2	0.912			
	ES3	0.920			
Cost	Cost1	0.771	0.761	0.860	0.673
	Cost2	0.883			
	Cost3	0.802			
Financial performance	FP1	0.819	0.878	0.923	0.801
	FP2	0.932			
	FP3	0.929			
Safety	Safety1	0.771	0.855	0.909	0.769
	Safety2	0.932			
	Safety3	0.919			
Flexibility	Flexibility1	0.833	0.850	0.906	0.762
	Flexibility2	0.914			
	Flexibility3	0.871			
Quality	Quality1	0.917	0.889	0.931	0.818
	Quality2	0.868			
	Quality3	0.928			
Overall performance	OP1	0.756	0.936	0.949	0.653
	OP2	0.743			
	OP3	0.817			
	OP4	0.860			
	OP5	0.810			
	OP6	0.886			
	OP7	0.791			
	OP8	0.784			
	OP9	0.856			
	OP10	0.851			
	OP11	0.709			

Discriminant validity was evaluated based on the Heterotrait-Monotrait Ratio (HTMT). Henseler et al. (2015, p. 14) indicated that the new HTMT criteria, which are based on a comparison of the heterotrait-monotrait correlations, identify a lack of discriminant validity effectively, as evidenced by their high sensitivity rates. The main difference between the HTMT criteria lies in their specificity. Of the three approaches, HTMT 0.85 is the most conservative criterion, as it achieves the lowest specificity rates of all the simulation conditions. This means that HTMT 0.85 can point to discriminant validity problems in research situations in which HTMT 0.90 and HTMT inference indicate that discriminant validity has been established. Table 4 demonstrates that the HTMT values were all smaller than 0.85 for each construct and within the range of 0.048 to 0.831 (Henseler et al., 2015).

Table 5 shows hypothesis testing based on bootstrapping techniques of Preacher and Hayes (2008) embedded with SmartPLS (version 3.3.7). The re-

Table 4. Discriminant validity

	CS	DR	SP	L&G	ES	Cost	FP	SA	FL	QU	OP
CS											
DR	0.629										
SP	0.724	0.831									
L&G	0.342	0.501	0.603								
ES	0.190	0.140	0.218	0.060							
Cost	0.153	0.075	0.163	0.243	0.261						
FP	0.116	0.139	0.169	0.222	0.127	0.819					
SA	0.256	0.223	0.323	0.061	0.194	0.259	0.258				
FL	0.077	0.064	0.110	0.091	0.067	0.121	0.119	0.364			
QU	0.048	0.054	0.039	0.275	0.050	0.612	0.459	0.141	0.092		
OP	0.153	0.150	0.251	0.109	0.216	0.268	0.241	0.360	0.159	0.271	

sults indicated that customer satisfaction has a positive direct effect on overall performance (Path Coefficient = 0.141; T-Value = 1.807; P-Value = 0.029), therefore H1 was supported. Delivery reliability has a positive direct effect on overall performance (Path Coefficient = 0.222; T-Value = 2.461; P-Value = 0.007), therefore H2 was supported.

Social performance has not effect on overall performance (Path Coefficient = 0.026; T-Value = 0.316; P-Value = 0.376), therefore H3 was not supported. Learning and growth have a positive direct effect on overall performance (Path Coefficient = 0.304; T-Value = 3.139; P-Value = 0.001), therefore H4 was supported. Employee satisfaction has a positive direct effect on overall performance (Path Coefficient = 0.154; T-Value = 1.920; P-Value = 0.027), therefore H5 was supported. Cost has a positive direct effect on overall performance (Path Coefficient = 0.138; T-Value = 2.054; P-Value = 0.020), therefore H6 was supported.

Financial performance has a positive direct effect on overall performance (Path Coefficient = 0.403; T-Value = 5.201; P-Value = 0.000), therefore H7 was supported. Safety has no effect on overall performance (Path Coefficient = –0.016; T-Value = 0.184; P-Value = 0.427), therefore H8 was not supported. Flexibility has a positive direct effect on overall performance (Path Coefficient = 0.172; T-Value = 2.019; P-Value = 0.022), therefore H9 was supported. Quality has a positive direct effect on overall performance (Path Coefficient = 0.301; T-Value = 3.511; P-Value = 0.005), therefore H10 was supported.

4. DISCUSSION

The results of this study revealed that customer satisfaction, delivery reliability, learning and growth, employee satisfaction, cost, financial performance, flexibility, and quality are the key indicators used in Saudi Arabian telecommunication companies to measure performance. These results are consistent with previous findings (Alanne, 2021; Bouslah et al., 2018; Dipura & Soediantono, 2022; Donnelly, 2022; Jetter et al., 2018; Moktadir

Table 5. Hypothesis testing

H	Independent variable	Dependent variable	Path coefficient	T-Value	P-Value	Result
H1	CS	OP	0.141	1.807	0.029*	Accepted
H2	DR	OP	0.222	2.461	0.007**	Accepted
H3	SP	OP	0.026	0.316	0.376	Rejected
H4	L&G	OP	0.304	3.139	0.001**	Accepted
H5	ES	OP	0.154	1.920	0.027*	Accepted
H6	Cost	OP	0.138	2.054	0.020*	Accepted
H7	FP	OP	0.403	5.201	0.000***	Accepted
H8	SA	OP	-0.016	0.184	0.427	Rejected
H9	FL	OP	0.172	2.019	0.022*	Accepted
H10	QU	OP	0.301	3.511	0.005**	Accepted

Note: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

et al., 2020; Moons et al., 2019; Panicker et al., 2019; Reichmuth et al., 2021). Saudi Arabian telecommunication companies use key performance indicators to determine their current status, measure the implementation of their strategies, and evaluate the current performance of the organization. Moreover, these indicators help design strategies to improve performance, evaluate the function of the entire organization, evaluate current employees, obtain a competitive advantage, evaluate and control the overall business operations, and compare the organization's performance with other organizations inside and outside the sector. Thus, key performance indicators should form a balanced set of indicators by combining the customer satisfaction indicator against the financial performance indicator, and the cost against quality and flexibility indicator. Moreover, key performance indicators should be set in the work context, showing trends and absolute performance. Logically, when organization objectives are reviewed, the key performance indicators will change over time; thus, they must be checked and updated accordingly.

The results also revealed that customer satisfaction, delivery reliability, learning and growth, employee satisfaction, cost, financial performance, flexibility, and quality impact the overall performance of Saudi Arabian telecommunication companies. Increased customer satisfaction contributes to enhancing financial performance by strengthening current customer loyalty, reducing price elasticity, lowering marketing expenses through positive word-of-mouth advertising, lowering transaction costs, and improving the company's reputation. This result is consistent with Almuqren and Cristea (2022) and Fida et al. (2020). Delivery reliability contributes to increased customer loyalty and reliability through an organization's ability to deliver products and services on a predetermined date. This result is consistent with Ahmad and Dhafr (2002) and Heckl and Moormann (2010).

Learning and growth contribute to increasing the employees' ability to be creative and innovative, through the development of new projects and products, the introduction of new technological developments into the organization's environment, the continuous increase of training courses, and the interest in the research field to increase

employees' knowledge of everything new. This result is consistent with Al-Omari et al. (2020) and Alanne (2021). A high level of employee satisfaction contributes to organizational success, where if employees are satisfied, there will be satisfied customers. On the other hand, it seems logical that those employees who enjoy a higher level of satisfaction have a high intention to stay longer in the job with a higher level of performance, which contributes to enhancing the overall performance. This result is consistent with Bauman and Skitka (2012) and Salleh et al. (2020). Organizations compete with their competitors on the basis of cost, which means providing products or services at the lowest price in the market through cost reduction, lowering input costs, and use of information technology to enhance productivity and efficiency. This result is consistent with Al-Mamary et al. (2020) and Bang et al. (2019).

Financial measures contribute to providing decision-makers with information that enables them to take effective actions and evaluate whether a company is progressing in line with its strategy. On the other hand, financial measures are the best for evaluating organizations' performance, including the physical values of sales and profits or the percentage return on equity and assets. This result is consistent with Bouslah et al. (2018) and Grosswiele et al. (2013).

Flexibility contributes to increasing the ability of organizations to respond to market changes within a shorter period and at a lower cost. On the other hand, flexibility reflects responding to changing customer requirements, changes in production, changes in product mix, changes in design, and changes in quantity. This result is consistent with Ante et al. (2018) and Reichmuth et al. (2021). Quality contributes to achieving a competitive advantage for organizations by meeting customer requirements and reflecting the competitive strategies of organizations. This result is consistent with Donnelly (2022), Kadasah (2014), and Phusavat et al. (2007). These indicators can be used to determine the state of the organization, help measure the implementation of strategies, evaluate the current performance of the organization, design strategies for improvement, and evaluate the function of the entire organization, its particular divisions, and current employees.

Despite the many contributions of this study, there are some limitations that should be reported. First, this study employed a survey questionnaire based on a cross-sectional study as the primary technique for data collection. However, the use of secondary data may contribute to obtaining accurate and detailed results. Therefore, this study recommends examining the model of study using secondary data as the primary technique for data collection. Second, this study was limited to ten main indicators to measure performance, including customer satisfaction, delivery reliability, social performance, learning and growth, employee satisfaction, cost, financial performance, safety, flexibility, and quality. Thus, future studies may use more indicators to measure performance. Finally, this study focused on telecommunication companies; thus, it is difficult to generalize the results to other sectors. Therefore, future studies should address the above limitation by examining the model of this study in other sectors such as hospitals, hotels, and banking.

CONCLUSION

The purpose of this study is to determine the key performance indicators used in Saudi Arabian telecommunication companies, as well as to examine if these indicators affect the overall performance of Saudi Arabia telecommunication companies. The results of this study revealed that customer satisfaction, delivery reliability, learning and growth, employee satisfaction, cost, financial performance, flexibility, and quality are the key indicators used in Saudi Arabian telecommunication companies to measure performance. Moreover, the results revealed that customer satisfaction, delivery reliability, learning and growth, employee satisfaction, cost, financial performance, flexibility, and quality impact the overall performance of Saudi Arabia's telecommunication companies.

Saudi Arabian telecommunication companies use key performance indicators to determine their current status, help measure the implementation of the strategies, and evaluate current performance. In addition, they help design strategies to improve performance, evaluate the function of the entire organization, evaluate current employees, obtain a competitive advantage, evaluate and control the overall business operations, and compare own performance with other organizations inside and outside the sector. Thus, key performance indicators should form a balanced set of indicators by combining the customer satisfaction indicator against the financial performance indicator, and the cost against quality and flexibility indicator. Moreover, key performance indicators should be set in the work context, showing trends and absolute performance. Logically, when organization objectives are reviewed, the key performance indicators will change over time; thus, they must be checked and updated accordingly.

AUTHOR CONTRIBUTIONS

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