

Analysis of the Impact of Organizational Learning and Inter-Firm Resources on Firm Performance with Innovation, Dynamic Resilience, and Managed Service Quality (Msq) as Intervening Variables at PT. Telkom Akses

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ABSTRACT

This study analyzes the effect of Organizational Learning and Inter-firm Resources on Firm Performance, with Innovation, Dynamic Resilience, and Managed Service Quality (MSQ) as intervening variables at PT Telkom Akses. Using quantitative methods with the SEM-PLS approach and SmartPLS tools, data was obtained from 61 General Managers and Managers. The results show Organizational Learning has no significant effect on Firm Performance (T-Value 0.950; P-Value 0.342), while Inter-firm Resources has a significant effect (T-Value 2.234; P-Value 0.026). These findings emphasize the importance of external collaboration and service quality management in improving firm performance.

INTRODUCTION

As human needs as social creatures increase in the current era of globalization, telecommunication service providers are competing to provide features that make it easier for people to communicate and obtain information (Ariawan and Solikahan, 2021). Community life itself is not spared from internet access to make it easier for people to interact online, where internet access can help employees in working to make it easier for school students to do their homework. The growth of the telecommunications sector in Indonesia is experiencing rapid development in line with the increasing demand for communication and internet services. This is driven by increased internet penetration, the adoption of digital technology, and government policies that support the development of telecommunication infrastructure, such as 4G and 5G networks. In addition, the increasing number of smartphone users and lifestyle changes that lead to digitalization have also accelerated the expansion of this sector. This growth creates new opportunities for telcos to develop technology-based services, including e-commerce, digital financial services, and online entertainment.

As a pioneer in the development of telecommunication infrastructure, PT Telkom Indonesia focuses on three pillars: Digital Connectivity, Digital Platform and Digital Services. These measures support digital acceleration in various industrial sectors. With a focus on digital transformation, the company is committed to supporting the progress of the digital economy in Indonesia and strengthening its position as a market leader in the Southeast Asian region (Telkom.co.id, 2022). Digitalization not only affects the way companies operate, but also how they interact with customers, business partners, and other external environments. As one of the subsidiaries of PT Telkom Indonesia which plays an important role in providing telecommunication infrastructure, PT Telkom Akses faces the challenge of staying competitive in this digital era. In the face of these challenges, companies must leverage dynamic capabilities to adapt to rapid changes in the market.

The implementation of innovation at PT Telkom Akses is very important to remain competitive in the increasingly tight telecommunications market, because innovation not only improves operational efficiency, but also creates new solutions that can meet customer needs, strengthen the company's position, and expand market share amid growing competition challenges. PT Telkom Akses in the Dir. HC & IT section implements Innovation Culture & Innovation Management, by implementing innovations that are key for the Company, it is hoped that PT Telkom Akses will remain competitive and maintain the Company's competitiveness.

In addition, the Operations Director at PT Telkom Akses also implements innovations to problems that occur by mapping problem identification, analysis and solutions to problems with solution mapping & implementation as follows: Although PT Telkom Akses (PT TA) has made various innovations in a number of directors, such as the Directorate of Human Capital (Dir HC) and the Directorate of Operations (Dir Operation), the company still experienced a decline in revenue. This condition shows that the innovations carried out have

not been able to have a significant impact in facing the existing challenges. In other words, PT TA still faces difficulties in implementing dynamic resilience. This indicates the need for a more in-depth evaluation of the innovation and change management strategies implemented. One of the services offered by PT Telkom Akses is a telecommunication service provider such as the installation of Indihome Wi-Fi, where PT Telkom Akses has spread across 7 regions and 61 regions throughout Indonesia. In accordance with the vision of PT Telkom Akses which is a subsidiary of PT Telkom Indonesia, namely "To Serve Network Company in Providing Excellent Digital Infrastructure", PT Telkom Akses always strives to provide superior digital infrastructure services.

The development of information and communication technology in the digital era has changed the way companies operate and interact with their customers. In the midst of rapid technological innovation, telecommunications companies such as PT Telkom Akses are faced with significant challenges, including declining revenue. This decline reflects changes in consumer behavior that are shifting to more flexible and innovative digital services as well as increasing competition from new companies offering more attractive and affordable telecommunications solutions.

The situation at PT Telkom Akses highlights the need to strengthen organizational resilience through organizational learning and dynamic capabilities to address market changes. Organizational learning fosters innovation through knowledge sharing, while dynamic capabilities enhance competitiveness. Adaptive resilience enables the company to respond to external changes while maintaining performance through operational efficiency and core competency development. PTTA is committed to service excellence by implementing ISO 9001:2008-based quality management, ensuring stakeholder satisfaction, improving performance, and regularly evaluating policy adequacy. Achieving customer satisfaction is essential, as satisfied consumers tend to remain loyal, while dissatisfied ones may quickly spread negative experiences (Mononimbar, 2013).

Based on the above background, it can be concluded that the success of a company in facing challenges and dynamic changes depends on the application of organizational learning, effective human resource management (inter-firm resource), sustainable innovation, and well-managed Managed Service Quality. All of these elements play an important role in improving firm performance, which in turn strengthens the dynamic resilience of the company, allowing the company to survive and thrive in an increasingly competitive and uncertain business environment. Thus, the author has an interest in researching with the title "Analysis of the Influence of Organizational Learning & Inter-Firm Resources on Firm Performance with Innovation, Dynamic Resilience And Manages Service Quality (Msq) as Intervening Variables in PT. Telkom Access".

LITERATURE REVIEW

Strategic management is an important process in determining the long-term direction of the organization through environmental analysis, preparation, implementation, and evaluation of strategies. According to Rizan et al. (2023) and Pahlevi & Musa (2023), the right strategy allows companies to maintain a

competitive advantage as well as achieve stable profitability amid market dynamics. In this context, a sustainable strategy is the foundation for maintaining consistent company growth.

Digital transformation is also a crucial aspect in the modern business world. Moreno et al. (2024) and Anwar et al. (2023) emphasize that the adoption of technology and a digital mindset is the foundation in building a culture of innovation in organizations. This transformation requires not only technology, but also the support of an organizational culture that is adaptive, flexible, and able to take risks, as outlined by Mulya et al. (2023).

Organizational Learning or learning organizations play an important role in creating a sustainable work process. This concept involves building individual and team capacity through experiential learning and collective reflection. Dovbischuk (2022) and Kabul & Muh (2016) identify important elements in organizational learning, such as learning commitment, shared vision, open-mindedness, and knowledge sharing. The application of these principles allows organizations to adapt and create a competitive advantage.

In addition to internal learning, the use of Inter-firm Resources or inter-company resources also plays a strategic role. Through external collaboration and co-etation, companies can expand market reach, improve operational efficiency, and strengthen competitiveness. Long-term mutually beneficial business relationships support the development of innovation and service improvement.

Organizational resilience is defined as the ability to survive and recover from disruptions or crises. Linnenluecke (2015) states that resilience includes adaptation to uncertain environmental changes. In crisis conditions, organizations need to display flexibility, innovation, and quick response to external pressures, as also explained by Aula et al. (2022) and Enasta et al. (2022).

Firm performance is the main indicator of organizational success. Suryani & Foeh (2018) emphasize the importance of effectiveness and efficiency in achieving organizational goals. Factors such as HR management, line manager support, organizational fairness, and operational effectiveness have a significant impact on organizational performance (Kamaroellah, 2014; Wijdjarnoko & Suratna, 2020).

In the context of rapid change, the concept of dynamic resilience is becoming increasingly relevant. Dynamic resilience reflects the ability of organizations and individuals to adapt temporarily and contextually to pressures and stressors (Holloway et al., 2022; Putri & Priyatama, 2024). This involves the ability to maintain performance in unstable conditions through flexible monitoring and response.

Furthermore, dynamic capabilities refer to the ability of an organization to strategically rearrange resources to create a new advantage in the market. This theory is explained by Purwatiningsih et al. (2022) and Evayani et al. (2022), who mention that dynamic capabilities allow companies to blend with external changes and develop strategies that are aligned with market needs.

Innovation plays a central role in creating a competitive advantage. Diharto (2022) raises the success stories of Apple and Google in managing innovation as the key to long-term growth. In organizations, innovation not only

creates new products or services, but also becomes a mechanism for adaptation to uncertainty (Dovbischuk, 2015).

Innovation intermediaries are often recognized as entities that play an important role in creating strategic value for various institutions and the wider community involved in the innovation ecosystem. They bridge the process of collaboration, knowledge exchange, and the development of new ideas that support the creation of transformation and progress in the innovative system (Noviaristanti, 2023).

Finally, managed service quality (MSQ) contributes greatly to customer satisfaction and loyalty. According to Wardhana (2024) and Chandra et al. (2020), service quality that is free from deviation and based on consistent operational standards is essential in improving customer experience and supporting the overall success of the business.

METHODOLOGY

Research Characteristics

Quantitative research follows a deductive approach, where to answer the research question, relevant concepts or theories are used to formulate a hypothesis. This hypothesis was then tested by collecting data in the field. After the data is collected, the analysis is carried out quantitatively using descriptive or inferential statistics to determine whether the proposed hypothesis can be proven or not (Amruddin et al., 2022:4). Meanwhile, according to Darwin et al., (2021:20) quantitative research adheres to a positivistic approach, which assumes that each event or event contains different elements and can undergo changes between one observation and another. These elements are called variables. The characteristics of quantitative research are characteristics that are only found in quantitative research and are not found in other types of research. In general, quantitative approaches tend to use data in the form of numbers, tables, graphs, or other information presented in numerical format (Syamsul et al., 2023:38).

Causal describes the "cause-effect" relationship between concepts or variables. In a causal explanation, one or more factors can affect or impact the other. Examples are a ball that moves and hits another ball, so that the ball moves (Darwin et al., 2021:68). According to Nilawati and Fati (2023:10), the causal research method aims to explore potential cause-and-effect relationships, by comparing factors suspected as causes through observation of their influences.

Population and Sample

Population

Population refers to a set of individuals or objects that have certain characteristics or characteristics that have been determined by researchers to be studied and analyzed. (Darwin et al., 2021:23). Meanwhile, according to Amruddin et al., (2022:81) Etymologically, the word population comes from the Latin "populatio," which means a large group of people or numbers. "Populatio" itself is a derivative of the classic Latin word "populus," which means nation, community, or group of people. Thus, literally, a population can be defined as a group of people or part of a region. Population in the context of statistics refers to the entire group of individuals, objects, or elements that are the center of

attention in statistical research or analysis. Population is a collection of all elements that have certain characteristics or attributes that are to be studied, measured, or understood. Populations can include different types of entities, such as humans, animals, products, geographic regions, certain time periods, or others, according to the purpose of the research or analysis conducted (Syamsul et al., 2023:99). Which 61 areas above are the main focus of this study to describe various characteristics or attributes that are relevant to the purpose of the research.

Sample

According to Darwin et al., (2021:106) a sample is a small fraction of the objects or subjects present in the study population that are used as representations for research purposes. A sample is a part of a population taken for the purpose of observation or statistical analysis, which aims to research and deduce the characteristics of the population. In statistics, samples are used to generalize or draw conclusions about populations in a more efficient way than collecting data from the entire population. The use of samples allows for savings in the time, cost, and resources needed in the data collection process (Syamsul et al., 2023:101).

The author will use saturated samples in this study which means that the total sample or respondents are 61 (sixty-one), where according to Darwin et al., (2021:116) Saturated Sampling (saturated sampling) is a sampling method in which all members of the population are used as research samples. This technique is applied when a population meets predetermined criteria but has a small number (relatively small population). This approach is often known as a census, in which the entire population is involved in research.

Data Collection

The author collects data in the background using interview techniques and takes from the results of the director's report from PT Telkom Akses, which means that the author uses secondary data and primary data. For the research survey part, the author distributed questionnaires to respondents with General Manager characteristics in 61 regions within the scope of PT Telkom Akses.

Data collection is a stage in research where the researcher interacts directly with the object being studied to obtain information or data. The data collected can be in the form of primary data from the research object as well as secondary data if needed according to the research objectives. In the data collection process, the researcher provides questions or statements that must be answered directly by the respondents, or through filling out the questionnaire/questionnaire provided (Darwin et al., 2021:149).

In quantitative research, data can be obtained from both primary and secondary sources. Primary data refers to information collected directly from the research object. The most commonly used methods for collecting primary data in quantitative research are experiments and surveys. Meanwhile, secondary data is information that pre-exists and is collected from indirect sources, such as written documents owned by the government or libraries (Amruddin et al., 2022:121). According to Syamsul et al., (2023:49) Theoretical sources can be

obtained from written materials that include secondary sources (such as learning materials and textbooks) as well as primary sources (such as monographs, research journals, bibliographies, abstracts, and statistical data).

RESEARCH RESULT

Research Results

Descriptive Statistics

Descriptive analysis is a statistical analysis method used to describe or summarize data in a more understandable form. This analysis aims to provide an overview of the characteristics of the data obtained without making inferences or decision-making on the wider population. The author used the SPSS analysis test tool to conduct a Descriptive analysis, with the following results:

Table 1. Descriptive Statistics

Variable	N	Minumium	Maximum	Mean	Std. Deviation
<i>Organizational Learning</i>	61	3.00	4.00	3.6745	.35679
<i>Inter-Firm Resources</i>	61	2.14	4.00	3.5995	.44326
<i>Innovation</i>	61	3.00	4.00	3.6754	.36545
<i>Dynamic Resilience</i>	61	2.78	4.00	3.6066	.38521
<i>MSQ</i>	61	3.00	4.00	3.6426	.39852
<i>Firm Performance</i>	61	3.00	4.00	3.6754	.37623

Source: Author's Processed Data Through SPSS (2025)

Minimum values vary, with Inter-Firm Resources have the lowest minimum score (2.14) and Dynamic Resilience (2.78), while other variables have a minimum value of 3.00. This shows that respondents' perceptions of Inter-Firm Resources and Dynamic Resilience more varied than other variables. Organizational Learning (3.6745), Innovation (3.6754), and Firm Performance (3.6754) had the highest mean value, indicating that these aspects received the most positive ratings from respondents. Inter-Firm Resources (3.5995) has the lowest mean, indicating that this aspect is slightly lower than the other variables.

Inter-Firm Resources (0.44326) has the highest standard deviation, which indicates that respondents' responses to this variable are more varied than those of other variables. Organizational Learning (0.35679) and Innovation (0.36545) has a lower standard deviation, indicating that respondents' responses tend to be more consistent on these variables.

Organizational Learning

There are seven (7) total statement items in the Organizational Learning variable, the results of descriptive statistical calculation can be seen in the following table:

Table 2. Descriptive Statistics of Organizational Learning

Variable	Items	Respondent's Answer				Total Score	Percentage
		4	3	2	1		
	X1.1	46	15			229	93,85%
	X1.2	41	20			224	91,80%

<i>Organizational Learning</i>	X1.3	38	22	1		220	90,16%
	X1.4	38	22	1		220	90,16%
	X1.5	46	15			229	93,85%
	X1.6	45	16			228	93,44%
	X1.7	43	18			226	92,62%
Flat - Flat							92,27%

Source: Author's Processed Data (2025)

Based on the table above, an average of 92.27% was obtained, of which the percentage was in the category "Very good" with a range of percentages 81.26% to 100% in the Descriptive Analysis Percentage Value table found in CHAPTER 3.

The results of the analysis show that Organizational Learning at PT Telkom Akses has an average of 92.27%, which reflects the organization's excellent learning culture. Employees have implemented continuous learning, shared knowledge, and adapted to change effectively. This high score shows that the learning system in the company is optimal in supporting innovation and human resource development. However, companies still need to maintain and improve training programs and the use of technology to remain relevant to industry developments.

Inter-Firm Resources

There are seven (7) total statement items in the variable Inter-Firm Resources with two (2) dimensions, namely: 1) Collaboration and 2) Coopetition, the results of the descriptive statistical calculation can be seen in the following table:

Table 3. Descriptive Statistics of Inter-Firm Resources

Variable	Dimension	Items	Respondent's Answer				Total Score	Percentage
			4	3	2	1		
Inter-Firm Resources	Collaboration	X2.1	43	18			226	92,62%
		X2.2	37	24			220	90,16%
		X2.3	46	15			229	93,85%
		X2.4	43	18			226	92,62%
	Coopetition	X2.5	34	25	2		215	88,11%
		X2.6	35	23	3		215	88,11%
		X2.7	31	27	3		211	86,48%
Flat - Flat								90,42%

Source: Author's Processed Data (2025)

Based on the table above, an average of 90.42% is obtained, of which the percentage is in the category "Very good" with a range of percentages 81.26% to 100% in the Descriptive Analysis Percentage Value table found in CHAPTER 3.

The results of the analysis show that Inter-Firm Resources at PT Telkom Akses has an average of 90.42%, indicating excellent utilization of resources between companies. This reflects the effectiveness of strategic cooperation, technology sharing, and supply chain efficiency in supporting the company's operations. To maintain this performance, PT Telkom Akses needs to continue to strengthen synergies with business partners, develop adaptive partnership strategies, and increase innovation in resource utilization.

Innovation

There are five (5) total statement items in the variable Innovation, the results of the descriptive statistical calculation can be seen in the following table:

Table 4. Descriptive Statistics of Innovation

Variable	Items	Respondent's Answer				Total Score	Percentage
		4	3	2	1		
<i>Innovation</i>	Z1.1	42	19			225	92,21%
	Z1.2	37	24			220	90,16%
	Z1.3	40	21			223	91,39%
	Z1.4	42	19			225	92,21%
	Z1.5	48	13			231	94,67%
Flat - Flat							92,13%

Source: Author's Processed Data (2025)

Based on the table above, an average of 92.13% was obtained, of which, the percentage is in the category "Very good" with a range of percentages 81.26% to 100% in the Descriptive Analysis Percentage Value table found in CHAPTER 3.

The results of the analysis show that the Innovation at PT Telkom Akses has an average of 92.13%, reflecting an excellent level of innovation. This shows that the company has successfully encouraged creativity, technology utilization, and the development of new solutions. To maintain this advantage, PT Telkom Akses needs to continue to strengthen its innovation, research and development (R&D) strategy, as well as collaboration with external partners to face the challenges of the evolving industry.

Dynamic Resilience

There are nine (9) total statement items in the variable Dynamic Resilience with two (2) dimensions, namely: 1) Robustness and 2) Dynamic Recovery, the results of the descriptive statistical calculation can be seen in the following table:

Table 5. Descriptive Statistics of Dynamic Resilience

Variable	Dimension	Items	Respondent's Answer				Total Score	Percentage
			4	3	2	1		
Dynamic Resilience	Robustness	Z2.1	40	21			223	91,39%
		Z2.2	37	24			220	90,16%
		Z2.3	32	25	4		211	86,48%
		Z2.4	42	19			225	92,21%
	Dynamic Recovery	Z2.5	42	19			225	92,21%
		Z2.6	37	24			220	90,16%
		Z2.7	31	30			214	87.70%
		Z2.8	38	23			221	90.57%
		Z3.9	38	23			221	90.57%
Flat - Flat							90.16%	

Source: Author's Processed Data (2025)

Based on the table above, an average of 90.16% is obtained, of which, the percentage is in the category "Very good" with a range of percentages 81.26% to 100% in the Descriptive Analysis Percentage Value table found in CHAPTER 3.

The results of the analysis showed that respondents in general had a very positive perception of Dynamic Resilience in the context under review. This indicates that the organization or individual that is the subject of the study has a strong capacity to deal with and adapt to changes or disruptions.

Robustness reflects the extent to which the system or organization is able to survive and remain stable in the face of disruption. Therefore, it can be concluded that the organization has a solid foundation in maintaining its operational stability. Dynamic Recovery refers to the ability to recover quickly and adapt after facing external challenges or changes. If the value in this dimension is also high, then the organization is not only able to survive, but also able to adapt to new conditions effectively.

MSQ

There are five (5) total statement items in the variable MSQ, the results of the descriptive statistical calculation can be seen in the following table:

Table 6. MSQ Descriptive Statistics

Variable	Items	Respondent's Answer				Total Score	Percentage
		4	3	2	1		
MSQ	Z3.1	37	24			220	90,16%
	Z3.2	38	23			221	90.57%
	Z3.3	35	26			218	89.34%
	Z3.4	46	15			229	93.85%
	Z3.5	42	19			225	92,21%
Flat - Flat							91.23%

Source: Author's Processed Data (2025)

Based on the table above, an average of 91.23% is obtained, of which, the percentage is in the category "Very good" with a range of percentages 81.26% to 100% in the Descriptive Analysis Percentage Value table found in CHAPTER 3.

The results of the analysis show that average 91.23%, It can be concluded that Managed Service Quality Be at an excellent level, reflects quality, reliable, and customer-specific services. However, continuous monitoring and innovation are still needed to ensure that these quality standards can be maintained and improved in the future.

Firm Performance

There are five (5) total statement items in the variable Firm Performance, the results of the descriptive statistical calculation can be seen in the following table:

Table 7. Descriptive Statistics of Firm Performance

Variable	Items	Respondent's Answer				Total Score	Percentage
		4	3	2	1		
Firm Performance	Y.1	39	22			222	90.98%
	Y.2	38	23			221	90.57%
	Y.3	42	19			225	92,21%
	Y.4	40	21			223	91,39%
	Y.5	42	18		1	223	91,39%
Flat - Flat							91.31%

Source: Author's Processed Data (2025)

Based on the table above, an average of 91.31% is obtained, of which the percentage is in the category "Very good" with a range of percentages 81.26% to 100% in the Descriptive Analysis Percentage Value table found in CHAPTER 3.

The results of the analysis showed an average value of 91.31%, indicating that the company had excellent performance in various aspects measured. However, companies still need to maintain and improve their strategies for innovation, efficiency, and customer satisfaction to ensure sustainable growth in the future.

SEM-PLS Measurement Model

This study uses Measurement Models and Structural Models which are analyzed using SmartPLS tools, Measurement Models consist of Convergent Validity, Discriminant Validity & Reality as below:

Convergent Validity

Convergent Validity in SmartPLS (Partial Least Squares Structural Equation Modeling) is a form of construct validity that measures the extent to which the indicators of a latent variable are strongly related to each other and consistently represent the concept in question, below is the Outer Loadings / Loading Factor of the research results that can be used as a measurement of Convergent Validity

Table 8. Table Outer Loadings

Variable	Items	Convergent Validity	Information
		Loading Factor / Outer Loading	
Organizational Learning	X1.1	0.852	Valid
	X1.2	0.692	Invalid
	X1.3	0.696	Invalid
	X1.4	0.695	Invalid
	X1.5	0.649	Invalid
	X1.6	0.783	Valid
	X1.7	0.729	Valid
Inter-Firm Resources	X2.1	0.732	Valid
	X2.2	0.655	Invalid
	X2.3	0.720	Valid
	X2.4	0.796	Valid
	X2.5	0.756	Valid
	X2.6	0.849	Valid
	X2.7	0.768	Valid
Innovation	Z1.1	0.697	Invalid
	Z1.2	0.707	Valid
	Z1.3	0.848	Valid
	Z1.4	0.804	Valid
	Z1.5	0.882	Valid
Dynamic Resilience	Z2.1	0.749	Valid
	Z2.2	0.771	Valid
	Z2.3	0.656	Invalid
	Z2.4	0.829	Valid
	Z2.5	0.701	Valid

	Z2.6	0.782	Valid
	Z2.7	0.777	Valid
	Z2.8	0.697	Invalid
	Z2.9	0.660	Invalid
MSQ	Z3.1	0.806	Valid
	Z3.2	0.842	Valid
	Z3.3	0.813	Valid
	Z3.4	0.865	Valid
	Z3.5	0.803	Valid
Firm Performance	Y.1	0.701	Valid
	Y.2	0.835	Valid
	Y.3	0.874	Valid
	Y.4	0.844	Valid
	Y.5	0.669	Invalid

Source: Author's Processed Data Through SmartPLS (2025)

From the table above, it can be seen that there are several invalid data, namely: items X1.2, X1.3, X1.4 and X1.5 in the Organizational Learning variable, item X2.2 in the Inter-Firm Resources variable, item Z1.1 in the Innovation variable, items Z2.3, Z2.8 and Z2.9 in the Dynamic Resilience variable, item Y.5 in the Firm Performance variable. While the other items are categorized as valid because the item value is >0.70 .

Discriminant Validity

Discriminant Validity in SmartPLS is one aspect of construct validity that is used to ensure that each latent variable in the model is unique and does not overlap with other constructs. That is, the indicator of a construct should have a stronger relationship to its own construct than to a different construct.

Discriminant Validity

The results of the Discriminant Validity analysis in the table above show that: all constructs in the model have a good ability to distinguish themselves from other constructs. This can be seen from the results of cross loadings which show that each indicator has the highest loading on the construct it measured, compared to other constructs. Thus, it can be concluded that the discriminant validity in this model has been well fulfilled and shows a strong relationship between indicators in measuring different constructs consistently.

Reliability

Reliability in SmartPLS, as seen from Cronbach's Alpha, Composite Reliability, and Average Variance Extracted (AVE). All three are used to ensure that research instruments (indicators used to measure constructs) have good internal consistency and are reliable. Below is a table of the results of the research that can be used as a measurement of Reliability:

Table 9. Reliability Table

Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE).	Information
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<i>Organizational Learning</i>	0.853	0.888	0.534	Good Reliability & Reliability
<i>Inter-Firm Resources</i>	0.874	0.903	0.571	Good Reliability & Reliability
<i>Innovation</i>	0.848	0.892	0.626	Good Reliability & Reliability
<i>Dynamic Resilience</i>	0.895	0.915	0.545	Good Reliability & Reliability
<i>MSQ</i>	0.884	0.915	0.682	Good Reliability & Reliability
<i>Firm Performance</i>	0.844	0.915	0.545	Good Reliability & Reliability

Source: Author's Processed Data Through SmartPLS (2025)

Based on the table above, it is known that the Cronbach's Alpha and Composite Reliability values for each variable show a number of >0.70, which indicates that the entire construct has a good level of reliability. In addition, the Average Variance Extracted (AVE) value of each variable is also >0.50, which indicates that each construct is able to explain more than 50% of the variance of its indicators. Thus, all variables in this model can be said to be statistically reliable.

SEM-PLS Structural Model

The structural model is part of the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach which is used to describe and test the relationships between latent constructs (latent variables) according to the hypotheses proposed in the study. In other words, structural models serve to show the direction and strength of causal influence between one construct and another being analyzed.

Coefficient of Determination

The coefficient of determination in SmartPLS is known as R^2 (R-Square). This is one of the important measures in Partial Least Squares Structural Equation Modeling (PLS-SEM) because it shows the extent to which independent variables are able to explain dependent variables in a structural model. Below is an R-Square table of the research results that can be used as a measurement of the Coefficient of Determination:

Table 10. R-Square Table

Variable	R-Square	R-Square Adjusted
<i>Dynamic Resilience</i>	0.409	0.399
<i>Firm Performance</i>	0.492	0.484
<i>Innovation</i>	0.315	0.292
<i>MSQ</i>	0.646	0.640

Source: Author's Processed Data Through SmartPLS (2025)

Based on the table above, it can be seen that:

1. Dynamic Resilience obtained an R-square value of 0.409, which shows that 40.9% of the variability in Dynamic Resilience can be explained by the variables in this research model. Meanwhile, the remaining 59.1% was influenced by other factors outside the variables studied, which may have come from external and internal aspects of the organization that have not been covered in this study.
2. Firm Performance obtained an R-square value of 0.492, which indicates that 49.2% of the variation in company performance can be explained by the variables in this research model. The rest, which is 50.8%, is influenced by other factors that are not included in this study, such as market conditions, management strategies, or other external factors.
3. Innovation obtained an R-square value of 0.315, which shows that 31.5% of the variation in innovation can be explained by the variables in this research model. Meanwhile, the remaining 68.5% were influenced by other factors not examined in this study, such as the company's innovation culture, technology support, or employee involvement in the creative process.
4. MSQ obtained an R-square value of 0.646, which means that 64.6% of the variation in the quality of managed services can be explained by the variables in this study model. Meanwhile, the remaining 35.4% were influenced by factors outside the research model, such as technical competence, customer satisfaction, or operational process effectiveness that had not been studied in this study.

Hypothesis Testing (Direct Contact)

The direct effect hypothesis in SmartPLS is the core of structural model testing, direct effect is the influence of one latent variable on another latent variable directly, without going through an intermediate variable (mediator).

Table 11. Direct Relationship Hypothesis

No.	Variable	Standard Deviation (STDEV)	T-Value	P-Value	Information
1.	Dynamic Resilience MSQ→	0.065	12.697	0.000	Accepted
2.	Innovation Dynamic Resilience→	0.071	9.939	0.000	Accepted
	Inter-Firm Resources Innovation→	0.158	2.710	0.007	Accepted
3.	MSQ Firm Performance→	0.077	9.348	0.000	Accepted
4.	Organizational Learning Innovation→	0.193	1.069	0.285	Rejected

Source: Author's Processed Data Through SmartPLS (2025)

The hypothesis directly from the research using the SmartPLS tool obtained the results as below:

1. Dynamic Resilience → MSQ, with a T-Value of 12,967 which exceeds the critical limit of 1.96, and a P-Value of 0.000 which is below the significance

level of 0.05. These findings indicate that there is an influence between Dynamic Resilience and MSQ which means that the relationship is statistically significant.

2. Innovation → Dynamic Resilience, with a T-Value of 9,939 which exceeds the critical limit of 1.96, and a P-Value of 0.000 which is below the significance level of 0.05. These findings indicate that there is an influence between Innovation and Dynamic Resilience, which means that the relationship is statistically significant.
3. Inter-Firm Resources → Innovation, with a T-Value of 2,710 which exceeds the critical limit of 1.96, and a P-Value of 0.007 which is below the significance level of 0.05. These findings indicate that there is an influence between Inter-Firm Resources on Innovation which means that the relationship is statistically significant.
4. MSQ → Firm Performance, with a T-Value of 9,348 which exceeds the critical limit of 1.96, and a P-Value of 0.000 which is below the significance level of 0.05. These findings indicate that there is an influence between MSQ on Firm Performance which means that the relationship is statistically significant.
5. Organizational Learning → Innovation, the test results show that the influence of Organizational Learning on Innovation is not statistically significant, as shown by a T-Value of 1.069 (less than the critical limit of 1.96) and a P-Value of 0.285 (greater than the significance level of 0.05).

Hypothesis Testing (Indirect Relationship)

The indirect effect hypothesis in SmartPLS is very important, especially if the research model involves a mediator variable, which is a variable that bridges the relationship between independent and dependent variables.

Table 12. Indirect Relationship Hypothesis

No.	Variable	Standard Deviation (STDEV)	T-Value	P-Value	Information
1.	Organizational Learning Innovation Dynamic Resilience MSQ Firm Performance → → → →	0.091	0.950	0.342	Rejected
2.	Inter-Firm Resources Innovation Dynamic Resilience MSQ Firm Performance → → → →	0.080	2.234	0.026	Accepted

Source: Author's Processed Data Through SmartPLS (2025)

There are 2 hypotheses expected in this study, namely:

1. H1: Organizational Learning has a significant and positive influence on firm performance with innovation, dynamic resilience and MSQ as intervening variables. It can be seen in the table above in No. 1 that this hypothesis is rejected, because the T-Value is 0.950 (less than the critical limit of 1.96) and the P-Value is 0.342 (greater than the significance level of 0.05).

Thus, it can be said that: Organizational Learning does not have a significant and negative influence on firm performance with innovation, dynamic resilience and MSQ as intervening variables

2. H2: Inter-firm Resources have a significant and positive influence on firm performance with innovation, dynamic resilience and MSQ as intervening variables. Which can be seen in the table above in No. 2 that this hypothesis is accepted, because the T-Value of 2.234 which exceeds the critical limit of 1.96, and the P-Value of 0.026 which is below the significance level of 0.05. Thus, it can be said that: Inter-firm Resources has a significant and positive influence on firm performance with innovation, dynamic resilience and MSQ as intervening variables

DISCUSSION

Influence of Organizational Learning on Firm Performance through Innovation, Dynamic Resilience, and MSQ

Organizational Learning at PT Telkom Akses is implemented through structured programs like leadership training and innovation culture via the Fiber Academy. These initiatives aim to foster innovation (e.g., AI integration, service portfolio expansion) and build resilience through business diversification. However, SEM-PLS analysis revealed that several indicators of Organizational Learning did not meet validity criteria, leading to the rejection of the first hypothesis (H1). This suggests that the company's learning processes are not yet effectively supporting performance outcomes. Improvements are needed in leadership development and the institutionalization of a continuous learning culture. These findings align with Kabul and Muh's (2016) framework that emphasizes five learning disciplines for sustainable organizational performance.

Influence of Inter-firm Resources on Firm Performance through Innovation, Dynamic Resilience, and MSQ

PT Telkom Akses effectively utilizes Inter-firm Resources through strategic partnerships (e.g., Tower Bersama, VSAT, MyRepublic) to enhance innovation, diversify services, and improve MSQ. These collaborations contribute to operational efficiency and strengthen the company's ability to adapt to market changes. The study confirmed that Inter-firm Resources significantly affect Firm Performance both directly and indirectly via Innovation, Dynamic Resilience, and MSQ (H2 accepted). Descriptive analysis also shows that all variables are rated "Excellent," reflecting well-managed internal and external dynamics. These findings are supported by Dovbischuk (2021), who highlighted the role of innovation-oriented capabilities and partnerships in improving performance. Meanwhile, studies like Mulya et al. (2023) suggest that HR management policies need to be tailored to different employee levels to enhance resilience effectively.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research from descriptive statistics,

1. All variables studied were in the very good category. Organizational Learning obtained an average of 92.27%, Inter-Firm Resources of 90.42%,

Innovation of 92.13%, Dynamic Resilience of 90.16%, MSQ of 91.23%, and Firm Performance of 91.31%. These results show that all variables studied have been implemented very optimally by PT Telkom Akses. Although all variables in this study showed excellent results in the category, continuous maintenance and maintenance efforts are needed so that the quality of each aspect can be maintained and maintained at an optimal level, as well as avoid potential declines in the future.

As for the hypothesis,

2. H1: Organizational Learning has a significant and positive influence on firm performance with innovation, dynamic resilience and MSQ as intervening variables.

H1 was declared rejected, because the T-Value was 0.950 (less than the critical limit of 1.96) and the P-Value was 0.342 (greater than the significance level of 0.05).

3. H2: Inter-firm Resources have a significant and positive influence on firm performance with innovation, dynamic resilience and MSQ as intervening variables.

4. H2 was declared accepted, because the T-Value was 2.234 which exceeded the critical limit of 1.96, and the P-Value of 0.026 which was below the significance level of 0.05.

Based on the results of the research in Chapter IV, the following results can be concluded: the variables that have a direct effect are Dynamic Resilience → MSQ, Innovation → Dynamic Resilience, Inter-Firm Resources → Innovation, MSQ → Firm Performance and Organizational Learning → Innovation.

ADVANCED RESEARCH

Further research is needed to examine why organizational learning does not significantly impact firm performance, possibly by exploring moderating factors such as organizational culture or digital readiness. Future studies could also use longitudinal designs and cross-sector comparisons to better understand the indirect effects of innovation, dynamic resilience, and MSQ in strengthening firm performance.

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