

Uncertain Supply Chain Management

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Exploring the relationship of supply chain transformational leadership and supply chain innovations performance on MSMEs satisfaction supply chain outcomes

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ABSTRACT

Article history:

Received April 18, 2023
Received in revised format May 29, 2023
Accepted June 18 2023
Available online
June 18 2023

Keywords:

Supply Chain Transformational Leadership
Satisfaction
Performance
Supply Chain Innovation Performance
MSMEs

In a complex digital era, innovative supply chain management is the key to success in overcoming logistical challenges. By implementing the latest technology, adopting innovative strategies, and managing risk well, Micro, Small and Medium Enterprises (MSMEs) can improve supply chain efficiency and effectiveness. The main driver of innovation is leadership in the supply chain. The supply chain network views transformational leadership and innovation as a source of competitive advantage. This study attempts to examine the direct and indirect relationship between supply chain transformational leadership, supply chain innovation performance, and satisfaction with supply chain outcomes. The main objective of this study is to analyze the mediating effect of supply chain innovation performance on the effect of supply chain transformational leadership on supply chain outcomes. The study uses structural equation modeling (SEM) with SmartPLS 3.0 software where primary data are obtained through a survey by distributing questionnaires. Respondents from this study were 507 leaders of MSMEs who were included in the purposive sampling criteria. The results of the instrument scale test used in this study met the standards of validity and reliability analysis. The results of the regression analysis of this study indicate that supply chain transformational leadership had a significant and positive effect on satisfaction of supply chain outcomes. Supply chain transformational leadership also maintained a significant and positive effect on supply chain innovation performance. Moreover, supply chain innovation performance provided a significant and positive effect on supply chain outcomes. There was also a partial support in examining the effect of mediating variables on supply chain innovation performance on the positive effect of chain transformational leadership. The theoretical implication of this research is that the results of this study support previous research studies which state that supply chain transformational leadership had a positive and significant contribution to satisfaction of supply chain performance and encourages the improvement of MSMEs. The practical implication of this research is that MSMEs managers must use transformational leadership to encourage increased performance and innovation because the results of this study have proven that transformational leadership in the supply chain will contribute to increased innovation and performance of MSMEs.

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1. Introduction

In the digital era, logistics has become a crucial aspect of business and must be managed properly so that the business can run smoothly. However, logistical challenges in the digital era are increasingly complex and require businesses to adapt quickly. To overcome logistical challenges in the digital era, companies must implement innovative supply chain management. Logistical challenges in the digital era are increasingly complex and require companies to adapt quickly. Logistics in the digital era include several things that must be considered by companies in their supply chain management. First, the speed and efficiency of delivery has become more crucial, due to increasingly demanding consumers and increasingly fierce

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competition. Therefore, companies must adopt the latest technologies, such as the Internet of Things (IoT), big data analytics, and blockchain to increase efficiency and speed of delivery. In addition, companies must also be able to integrate their entire supply chain process, from suppliers to end consumers. This integration can be performed by adopting a supply chain management system that is integrated and supports collaboration between departments, suppliers and business partners. Another challenge is the increasing risk of cyber security in the digital era. This can have an impact on financial loss and company reputation if their important data and information is taken by irresponsible parties. Therefore, companies must implement strict cyber security protocols to protect their data and information.

The Covid-19 pandemic has caused a slowdown in the economic sector in Indonesia with its various derivatives. The MSMEs sector, which is the most important part of the economic sector, is feeling the impact. Many MSMEs experience various problems such as decreased sales, capital, hampered distribution, difficulty in raw materials, decreased production and the occurrence of many layoffs for workers and laborers which then become a threat to the national economy. MSMEs as drivers of the domestic economy and absorbing labor are facing a decline in productivity which results in a significant decline in profits. The Covid-19 pandemic has reduced people's purchasing power, one of which is because the public has reduced outdoor interactions to suppress the spread of the pandemic. Thus, many consumers then keep their distance and switch purchases digitally. Currently, the interaction between humans has gone through technology, indirectly all processes that were previously carried out conventionally are now starting to switch to digital. This is one of the effects of the industrial revolution 4.0. The impact of the 4.0 industrial revolution era is that digital technology is used to enable the interconnection between physical machines and technological production systems to be a key element in the development of conventional industry towards a digital industry to be able to transfer data without human assistance and with big data to be able to assist in determining direction in business. Competitiveness can be created or enhanced by implementing the right competitive strategy, one of which is by managing resources effectively and efficiently. The determination of the right strategy must be adjusted to all activities of the company's functions, so that it will create the company's performance as expected and even more and can generate value. All companies, especially MSMEs compete to be at the forefront of the era of competition. Every MSMEs is required to have high competitiveness, so they must start improving themselves.

MSMEs Performance is the result of work in quality and quantity that is achieved by an employee in carrying out their duties in accordance with the responsibilities given to them. Employees can work well if they have high performance so that they can produce good work too. It is hoped that organizational goals can be achieved. On the other hand, organizational goals are difficult or even cannot be achieved if the employees do not have good performance so they cannot produce good work either. In this process the function of the leader has a very close role in determining the implementation of the company's organization (Prayuda, 2019). The function of the leader is not just to guide and direct subordinates, but the most important thing is how the leader is able to provide a clear vision and mission or direction where the organization will be taken. According to Abadiyah et al. (2020), leaders in companies have a strategic position, since leaders are the central point in determining the dynamics of existing resources for the creation of any goal. In essence, management is a series of activities carried out by managers who must choose leaders needed to influence the activities of a group in achieving goals. As we know, employees are ordinary people who have certain desires that are expected to be fulfilled by the company where they work. On the other hand, companies also want their employees to perform certain types of behavior (Asbari et al., 2020). The role of leaders to motivate employees is an obligation that must be carried out by company leaders.

Leadership is always described as behavior and personal traits that are unconsciously needed in influencing the process of a relationship within the organization (Purwanto et al., 2023). Leadership style is an important factor in supporting the successful implementation of supply chain leadership since supply chain leadership affects not only the organization but also the entire supply chain including suppliers. Supply is generally differentiated on transactional leadership style and transformational leadership style (Sumarsi, 2019). In literature, transformational leadership organizational behavior has been positively associated with innovation and creativity. Past research has shown that supply chain transformational leadership drives organizational leaders and members to think about organizational supply chain innovation solutions. Transformational leadership may also have a positive effect on organizational innovation. Supply chain transformational leadership may also have a positive effect on supply chain innovation performance (Putra et al., 202).

Birasnav et al. (2015) added that leaders in supply chain transformational leadership in integrated supply chain networks can find innovative partners that organizations need such as the ability to build close working relationships with other organizations, the ability to expand and integrate organizational culture, and the ability to in driving supply chain innovation performance. Supply chain transformational leaders do not need to incur high or premium costs in supporting the success of their organization's supply chain cycle because leaders in supply chain transformational leadership are leaders who understand the concept of supply chain well. Transformational leadership, supply chain can also affect satisfaction with supply chain results in the organization. Satisfaction is an important work result both at the individual and organizational level. Job satisfaction can be seen from the work attitude of employees, and this is important for the organization since employees who are satisfied with the organization's supply chain activities will have a good work attitude such that employees can be more productive than employees who are dissatisfied. When leaders encourage high innovation activity, employees are likely to feel more satisfied with the results of the supply chain in the organization (Goffnett & Goswami, 2016).

Supply chain innovation performance can also affect satisfaction with the results of an organization's supply chain (Chen et al., 2021).

Based on the understanding approach carried out through several previous studies and methodologically fulfilling the mediation concept, supply chain innovation performance may become a mediating variable on the positive influence of supply chain transformational leadership on satisfaction with results supply chain. Based on this analysis, it is hoped that this research will be able to better examine the role of leadership in relation to supply chain innovation performance and satisfaction with chain outcomes supply compared to larger organizations. Second, previous research examining the influence of supply chain transformational leadership, supply chain innovation performance, and satisfaction with supply chain results has not examined the context of SMEs.

2. Literature Review

2.1 Supply Chain Transformational Leadership

Several previous studies have shown that leadership is an important prerequisite of organizational supply chain success. Transformational leaders are leaders who advocate the vision, goals, and the potential of new people and ideas to their followers. Clifford et al. (2010) reveal that transformational leaders are capable of stimulating followers to be creative, innovative, and instill great confidence in their followers to achieve organizational goals. Transformational leadership directs followers with motivation through a change in mindset so that the expected performance can take place in the long term (Jaén et al., 2021). Transformational leadership in the supply chain plays a role in encouraging its subordinates to always be creative and innovative in improving the quality of integration with suppliers (Haq et al., 2022). Supply chain management is the integration of materials and service procurement activities, conversion into semi-finished goods and final products as well as delivery to customers through the distribution system. Another opinion states that supply chain management is a system in which an organization distributes its production goods and services to its customers. This chain is also a network of various organizations that are interconnected and have the same goal, namely, to organize the procurement of goods as best as possible. The term supply chain also includes the process of changing these goods, for example from raw materials to finished goods. From various opinions, the meaning of supply chain management is the network management of all business processes and activities that involve the procurement of raw materials, manufacture and distribution management of finished goods to the hand's consumer.

2.2 Supply Chain Innovation Performance

Organizational innovation output related to the supply chain has been proven to improve the performance of supply chain innovation and business results in a significant way overall mainly in the areas of sales, market share, and profitability (Gosling et al., 2016). Supply chain innovation performance has been measured in several different ways, such as by introducing a new product and selling a new service, but in part by the number of patents held by the organization. Supply chain management is also called the art of management providing the right product, on time, in the right place, at the right place and at the right price for consumers. The goal to be achieved from each supply chain is to maximize the value generated as a whole. The basic objective of supply chain management is to control inventory with material flow management. Inventory is the amount of material from suppliers that is used to fulfill customer requests or support the production process of goods and services. Companies can take an efficient supply chain management approach to coordinate material flows to minimize inventory and maximize company productivity.

3. Hypothesis development

3.1 Supply Chain Transformational Leadership and Satisfaction of Supply Chain Outcomes

Leadership is always described as behavior and personal traits that are unconsciously needed in influencing a process or a relationship in an organization. This causes the leadership style of a leader in an organization to be an important factor in supply chain leadership which not only affects the organization, but also covers all supply chain activities including suppliers. Transformational leadership has four components, namely influencing through ideas, providing inspiration and motivation, providing intellectual stimulation, and providing individual consideration. Supply chain transformational leadership plays a role in improving the quality of integration with suppliers, maintains long-term relationships with suppliers and plays a role in supporting supply chain management strategies broadly since transformational leadership style directs followers with motivation through mindset changes so that better performance expected to last in the long term. Supply chain transformational leadership can increase satisfaction with supply chain outcomes. According to Jermsittiparsert and Srihirun (2019), supply chain transformational leadership is able to set creative visions and develop ideas that can lead to increased perceptions of greater satisfaction with organizational supply chain outcomes.

H₁: *Supply Chain Transformational Leadership has a Positive Effect on Satisfaction of Supply Chain Outcomes.*

3.2 Supply Chain Transformational Leadership and Supply Chain Innovation Performance

Taseer and Ahmed (2022) and Wang and Feng (2022) explained that leadership is an important prerequisite of the supply chain where leaders are related to market capitalization growth and is a strategy in gaining organizational competitive advantage. Plus, leadership is an important variable in the organization with its past experience needed in drives organizational success and also has a link to success supply chain management. Transformational leadership has a lot to do with how leaders can provide a clear vision, motivate subordinates, communicative, act as agents change, train subordinates, model for subordinates, bring the agenda in every direction of change management so that organizational goals are achieved. Furthermore, According to Shin and Park (2021) and Shen et al. (2021) explain that in leadership theory transformational, leaders in principle try to motivate subordinates to be able to have performance that exceeds the expectations of the organization itself or, in other words, transformational leadership can increase trust or subordinates' self-confidence to perform beyond expectations so as to improve their performance and as well as organizational performance.

H₂: *Supply chain transformational leadership has a positive impact on supply chain innovation performance.*

3.3 Supply chain innovation performance and satisfaction of supply chain outcomes

The output of innovations that have been carried out by the organization have proven to be able to improve performance and results the organization's overall business, especially in the areas of sales, market share, and output profitability. Innovation has been measured in a number of different ways, such as by new product introductions and sales new services, but most are by the number of patents held by the organization. According to Pham et al. (2022) Supply chain innovation performance reflects the output generated because of the magnitude of the innovation of the organization's supply chain network. Past research has shown that innovation performance. According to Prabhu et al. (2023); Sanjaghi et al. (2011) supply chain positive effect on satisfaction with supply chain results reveals that the supply chain innovation performance is high reflects a good track record of organizational innovation output and

H₃: *Supply Chain innovation performance has a positive effect on satisfaction of supply chain outcomes.*

4. Method

This research method is a quantitative survey. The statements listed in the questionnaire were then measured using a Likert scale with a scale of 1 to 5 (1: strongly disagree, 2: disagree, 3: neutral, 4: agree, 5: strongly agree) to indicate the level of use (frequency) of respondents to the answer choices. The nature of this research is confirmatory with a quantitative research design. This research was conducted by collecting and processing primary data sourced from distributing questionnaires to interpret research results, so that the objectives of the research results can be used to compare and confirm the results of previous studies. The type of data used in this study is cross-sectional in nature where the data collected at a certain time is used in answering the statements or questions listed in the questionnaire. The data used in this research is primary data. This study uses primary data obtained through a survey by distributing online questionnaires. Respondents from this study were 507 leaders of Micro, Small and Medium Enterprises (MSMEs) in the trading sector who were included in the purposive sampling criteria. Processing research data using structural equation modeling (SEM) with SmartPLS 3.0 software. The results of the instrument scale test used in this study met the standards of validity and reliability analysis.

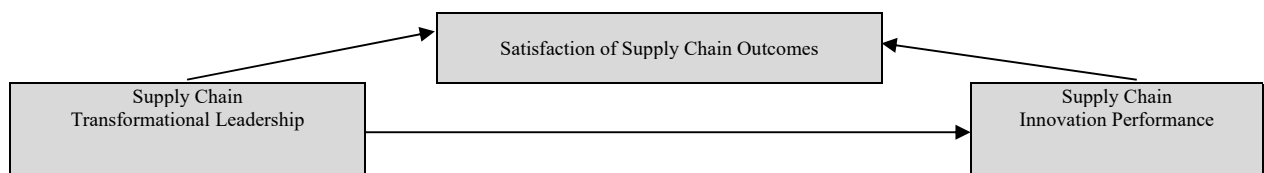


Fig. 1. Research Model

5. Result and discussion

5.1 Validity Test Results

The validity test was carried out by using a factor analysis test for each statement indicator contained in the questionnaire. Statement indicators can be said to be significant if they have a loading factor value of ≥ 0.7 and the loading factor value is not part or member of other indicators. This indicates that the indicators in the instrument are a unit of measuring instrument that provides a measure of the same construct and at the same time can provide predictions of what should be predicted.

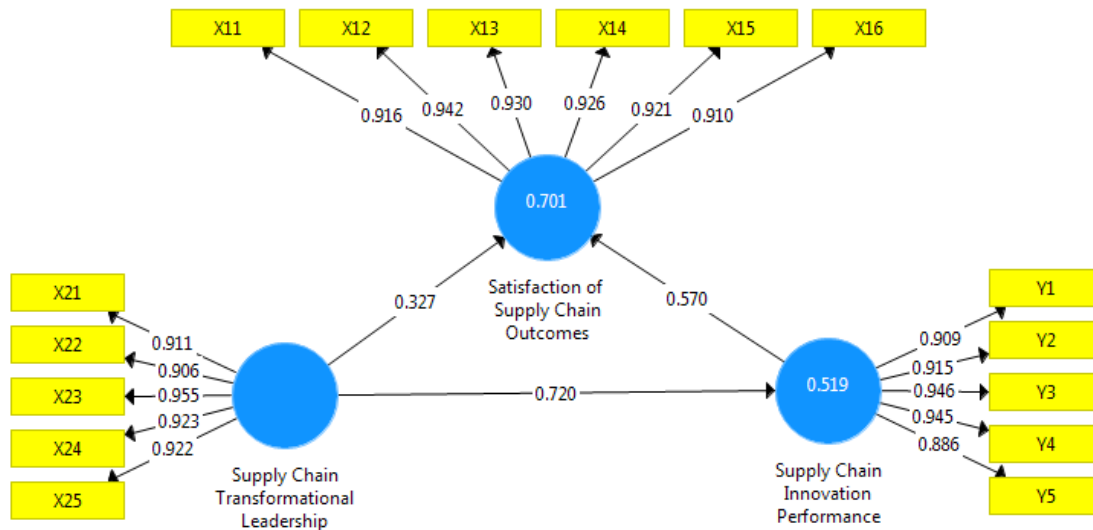


Fig. 2. The results of testing the hypotheses

5.2 Reliability Test Results

The reliability test shows the stability and consistency of an indicator variable. Reliability test can be measured by looking at the value of composite reliability and Cronbach’s alpha. This research is testing reliability using Cronbach's alpha value because it is considered better in providing estimates consistency of an indicator.

Table 1
Reliability Testing

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Supply Chain Transformational Leadership	0.812	0.827	0.743	0.623
Satisfaction of Supply Chain Outcomes	0.816	0.818	0.843	0.613
Supply Chain Innovation Performance.	0.824	0.824	0.814	0.613

Table 1 shows the results of the reliability test with the Cronbach's alpha value for each variable, which can be said to be valid or reliable. A variable can be said to be valid or reliable if the Cronbach's alpha value is ≥ 0.6 . It can be concluded that the answers given by each respondent to the statements in the chain transformational leadership variable consistent supply chain innovation performance and satisfaction with supply chain results helps each indicator to measure the concept it measures.

5.3 Coefficient of Determination

Table 2
The results of the R-Square

	R Square	R Square Adjusted
Satisfaction of Supply Chain Outcomes.	0.701	0.700
Supply Chain Innovation Performance.	0.519	0,502

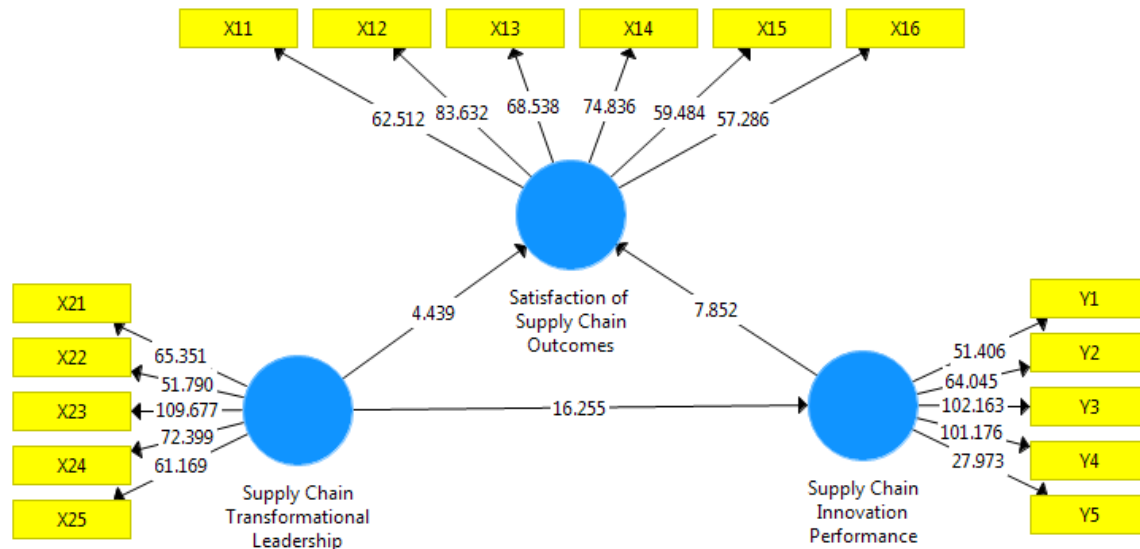
Based on the data presented in Table 2, the R-Square value for Satisfaction of Supply Chain Outcomes. variable is 0.701. The obtained value explains that the percentage of Satisfaction of Supply Chain Outcomes can be explained by Supply Chain Transformational Leadership and Supply Chain Innovation Performance is 70 % and the remaining 0 % is explained by other factors not discussed in this study.

5.4 Hypothesis Testing

Hypothesis testing in this study was carried out by looking at the T-Statistics value and the P-Values value. The research hypothesis can be declared accepted if the P-Values < 0.05

Table 3**Direct Hypothesis testing**

Hypothesis	T Statistics	P Values	Result
Supply Chain Transformational Leadership - Satisfaction of Supply Chain Outcomes.	4.439	0.000	Supported
Supply Chain Transformational Leadership - Supply Chain Innovation Performance.	16.255	0.000	Supported
Supply Chain Innovation Performance - Satisfaction of Supply Chain Outcomes	7.852	0.000	Supported

**Fig. 3.** Hypothesis Testing*The Relationship of Supply Chain Transformational Leadership and Satisfaction with Supply Chain Outcomes*

The first hypothesis states that supply chain transformational leadership has a positive effect on satisfaction with chain results supply. That is, if the leader also applies a supply chain transformational leadership style in the supply chain cycle of his business, then the MSMEs will get satisfaction with the results of the supply chain because supply chain actors also feel happy with style transformational leadership applied by leaders in MSMEs so that this can increase satisfaction with supply chain outcomes. The results of this study support the research conducted by Xi et al. (2020). Transformational leadership has four characteristics, namely influencing through ideas, inspiring and motivating, providing intellectual stimulation, and providing individual consideration to their subordinates and this can increase satisfaction with supply chain results. According to Abadiyah et al. (2020) and Abdalla Nakagawa (2022), supply chain transformational leadership has a role in efforts to support the success of an organization's supply chain management strategy since the transformational leadership style directs followers with motivation through changing mindsets so that supply chain activities which is expected to last in the long term and support the success of the organization which will ultimately provide satisfaction with the results of the organization's supply chain. Chen et al. (2021) describe leaders in the concept of supply chain transformational leadership able to set creative visions and develop ideas which can lead to a greater perception of satisfaction with the results of an organization's supply chain.

MSMEs strategic leadership that has a high sense of change, can act proactively, creatively, and innovatively. As a change agent, basically we must have three main characteristics, namely: (1) creative and innovative; (2) capable of being intrapreneurship and entrepreneurship for the organization, and (3) having adequate networking capacity. These three characters together will become the basis for leaders to take a proactive stance to change. This attitude will foster the leader's skills to predict the present and the future and skills in dealing with the dynamics of changing situations. In general, these characteristics tend to lead to the characteristics of transformational leadership in MSMEs, namely the leader is not only a motivator and driving force for the group but also has the capacity to be agile in adapting to changes on a national and global scale.

The Relationship of Supply Chain Transformational Leadership and Supply Chain Innovation Performance

The second hypothesis states that supply chain transformational leadership has a positive effect on supply chain innovation performance. The positive support for the effect of supply chain transformational leadership on supply chain innovation

performance means the leader of several SMEs can apply the transformational leadership behavior, especially in activities related to the chain supply chain and this can support supply chain innovation performance. In organizational behavior transformational leadership has been positively associated with innovation and creativity. According to Birasnav (2013) and Lee et al. (2011), supply chain transformational leadership can foster a superior-subordinate relationship as an emotional bonding relationship in the form of trust and confidence in the influence of the leadership of his superiors. The establishment of a strong emotional bond between leaders and subordinates can assist leaders in providing innovative supply chain solutions and ultimately improve supply chain innovation performance. According to Mokhtar et al. (2019), supply chain transformational leaders with vision, motivation and intellectual stimulation can integrate existing supply chain activities within the organization and seek innovative partners needed by organizations to drive supply chain innovation performance. The results of this study support research conducted by Pham et al. (2023) and Lee et al. (2011) which shows that supply chain transformational leadership has a positive effect on supply chain innovation performance.

Appropriate leadership style is also included in the important factors in motivating employees. By using the right leadership style, employees can be motivated to work. But often MSME leaders fail to develop their business, which is the main factor causing failure in MSMEs is inadequate and weak leadership. Therefore, in a business activity, both economy on a large scale and economy on a scale small, the role of the leader greatly influences the success of a business. Leaders themselves have a style of leadership that characterizes leadership employees. There are three forms, namely roles that are interpersonal, roles of informational nature, and decision-making roles. In addition to the role of leader, leadership style as well influential in running a micro, small and business medium. As the environment changes, business becomes increasingly complex and competitive. This requires ready leaders for the business to survive. The MSMEs structure is simpler so that the relationship between leaders and their employees is very close. The leader or leaders will determine the purpose of its business, and employees simply follow instructions from the leader. Therefore, a leader in small and medium enterprises must have a style that can influence employees to be motivated.

The Relationship of Supply Chain Innovation Performance and Supply Chain Outcome Satisfaction

The third hypothesis states that supply chain innovation performance has a positive effect on satisfaction with supply chain outcomes. This supports the research that has been conducted by Zhang et al. (2018) and Zhu et al. (2012) which shows that supply chain innovation performance has positive influence on satisfaction with supply chain results. A good strategy stems from innovative supply chain activities so that MSMEs have an advantage in competing in terms of new thoughts, new ideas, being able to improve services related to supply chain activities, and this can provide satisfaction with the results of the supply chain received by SMEs. Furthermore, according to Yoon et al. (2016), a high score describes a good organizational innovation output activity and this can increase satisfaction over the results of the organization's supply chain.

Table 4
Indirect Hypothesis testing

Hypothesis	T Statistics	P Values	Result
Supply Chain Transformational Leadership - Supply Chain Innovation Performance - Satisfaction of Supply Chain Outcomes	3.234	0.001	Supported

Supply Chain Innovation Performance Mediates on the Positive Influence of Supply Chain Transformational Leadership on Satisfaction with Supply Chain Outcomes

The results of the fourth hypothesis test show that supply chain innovation performance mediates the positive influence of supply chain transformational leadership on satisfaction with supply chain outcomes. There is partial support for the positive influence of supply chain transformational leadership on satisfaction with supply chain outcomes mediated by Supply chain innovation performance shows that supply chain transformational leadership, which is an independent variable, does not necessarily directly affect satisfaction with supply chain results. In this study, supply chain innovation performance only partially mediates the positive effect of supply chain transformational leadership on satisfaction with supply chain outcomes and this suggests that there will be other factors that may contribute.

There is a partial support for testing the positive influence of supply chain transformational leadership on satisfaction with supply chain outcomes mediated by supply chain innovation performance in line with the theory of dynamic capabilities put forward by Mokhtar et al. (2019) and Ojha et al. (2018). The leader's activity in driving supply chain innovation is one of the dynamic capabilities of the organization and part of organizational innovation which is very important because it relates to the optimization of its resources valuable for achieving competitive advantage, can help organizations in dealing with increasingly rapid changes in the organizational environment, can improve the performance of chain innovation supply. According to Khiong (2023) and Lee et al. (2011), the concept of a leader in supply chain transformational leadership is a leader who is sensitive to changes in the organizational environment and play a role in driving supply chain innovation performance which is one of the dynamic capabilities of the organization which can ultimately help the organization in increasing satisfaction with the results of the organization's supply chain.

Supply chain transformational leadership also plays an important role in enhancing the dynamic capabilities of the organization. With good leadership, the organization will have the ability to integrate resources to develop strategic new products and services. Furthermore, through leadership that is in accordance with the needs of the organization, the organization will be able to align the behavior and innovation activities both internal and external to the organization to increase the output of innovation performance. In organizational behavior, supply chain transformational leadership has been positively associated with innovation and creativity. It can encourage leaders and followers to think about innovative supply chain solutions. Previous studies have shown a positive effect of transformational leadership on support for organizational innovation. Previous research has also shown that supply chain transformational leadership has a positive effect on supply chain innovation performance. Supply chain transformational leadership can play a role in driving the formation of integrated networks with innovative partner organizations to build close working relationships to broaden and integrate organizational culture and capabilities in implementing supply chains and jointly improve supply chain innovation performance. Under these conditions, organizations do not need to incur high or premium costs to implement their supply chain strategy. Supply chain transformational leadership can drive supply chain innovation performance due to its vision, motivation, and intellectual stimulation present in the transformational leadership component is able to drive improvements in supply chain innovation which in turn can improve supply chain innovation performance.

The first and most fundamental innovation if we want the MSMEs business scale to increase is to make product improvements. There are four product improvement strategies that can be carried out by MSMEs businesses. These four things are creativity, use of quality raw materials, competitive prices and service which will affect product competitiveness in the market. For creativity, it is usually related to packaging, logos to product taglines related to branding. Then, quality raw materials will make MSMEs products saleable in a more prestigious environment. Of these two things, there will be an adjustment in the selling price, but it must still be competitive where usually the profit is determined at 30% of production costs. It's a good idea for us to do some research on determining the selling price so we can compete in the market while still guaranteeing quality service. This is the last innovation that can be made so that the MSME business scale increases, namely using an ERP system, especially for financial affairs and business inventory. Through this ERP system, we as business owners can easily monitor the products that are still available to the best-selling products. Later the actual connected data can be processed for future marketing needs.

MSMEs are expected to be able to increase cooperation with suppliers and intermediaries, not only suppliers of raw materials but also suppliers of supporting materials. This can be done by establishing new partnerships with more suppliers and intermediaries. MSME actors have a greater opportunity to choose raw materials and auxiliary materials at affordable prices and good quality and can increase product sales. (b) For product innovation variables that need to be taken into consideration, namely the Product Style and Design indicators where respondents still feel the need to be further developed. MSMEs are also expected to be able to develop the forms of the products they produce. The shape of the product should be made more neat, attractive and if possible, made in such a way that it has its own uniqueness compared to competing products. Innovation in products is intended so that consumers can easily recognize products so that products have their own place in the minds of consumers. (c) SMEs must always be aware of the existence of competitors in the same industry. MSMEs must continue to improve their competitiveness to remain ahead of the competition. Some of them are through business network expansion, ensuring the smooth distribution of products to ensure product availability in the market and increasing product innovation so that their products have uniqueness that differentiates them from competitors' products. Thus, MSME products will be difficult to replace because products are always available on the market and consumers can easily recognize these products.

In a complex digital era, innovative supply chain management is the key to success in overcoming logistical challenges. By implementing the latest technology, adopting innovative strategies, and managing risk well, MSMEs can improve supply chain efficiency and effectiveness. MSMEs must pay attention to the latest technological developments, such as Internet of Things (IoT) technology and blockchain technology, to facilitate monitoring and tracking of goods in the supply chain. In addition, MSMEs must also adopt innovative strategies, such as leveraging big data and machine learning, to improve operational efficiency and make better decisions. Effective risk management is also very important in innovative supply chain management. MSMEs must identify and analyze risks that may occur in the supply chain and take action to minimize these risks. Good risk management can help MSMEs avoid losses and maintain business continuity. Therefore, MSMEs must continue to update the strategies and technologies used in supply chain management to ensure successful business continuity in the ever-evolving digital era. By implementing innovative supply chain management, companies can improve competitiveness, reduce costs and increase customer satisfaction.

6. Research Implications

The theoretical implication of this research is that the results of this study support previous research studies which state that supply chain transformational leadership has a positive and significant contribution to Satisfaction of Supply Chain Performance and encourages the improvement of MSMEs Supply Chain Innovations. The practical implication of this research is that MSMEs managers must use transformational leadership to encourage increased performance and innovation because the results of this study have proven that transformational leadership in the supply chain will contribute to increased innovation and performance of MSMEs. In facing logistical challenges in the digital era, companies must continue to innovate

and adapt to changes in technology and consumer needs. This can be done by adopting innovative strategies and the latest technology in their supply chain management. Innovation in supply chain management is an important factor in overcoming logistics challenges in the digital era. Companies must update the strategy and technology used in supply chain management in order to face increasingly fierce business competition.

7. Conclusion

The results of this study are that supply chain transformational leadership has a significant and positive effect on satisfaction of supply chain outcomes. Supply chain transformational leadership has a significant and positive effect on supply chain innovation performance. Supply chain innovation performance has a significant and positive effect on supply chain outcomes. Through the existing process in the supply chain transformational leadership concept, MSMEs leaders are able to encourage the involvement of members of the organization to be jointly active in driving supply chain innovation performance and in the end can increase satisfaction with the results of the organization's supply chain. This study used a purposive sampling technique which would be better if future studies used a larger number of samples so that it could be generalized. In this study, not all samples in the population have the same opportunity to be selected as a sample, because it uses a non-random technique of sampling. Consequently, the generalization of research results must be done with caution. Therefore, future research should use this technique of random sampling so that the level of generalization of research results becomes higher. Subsequent research can use or add variables other than those used in this research. Future researchers may consider using a moderating variable, namely supply chain innovation capability so that it produces more diverse research. MSMEs leaders are expected to apply supply chain transformational leadership in running its business supply chain cycle because it is proven to be able to drive supply chain innovation performance and, in the end, can also increase customer satisfaction supply chain results. The government should conduct a full supply chain review to identify which industries are important suppliers for supply chain processing facilities. The government should facilitate the distribution of goods to avoid delays in the supply process to wholesalers and retailers. The government must check areas that are certain to be safe from the spread of the virus and allow MSMEs to restart distribution activities but still follow the applicable health protocols. The government must pay attention to raw material prices so they don't spike during a pandemic and must normalize the prices of goods to make it easier for MSME players to get the maximum profit. The government must provide a platform for MSME players to order goods so that the supply chain is fulfilled.

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