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Research paper



The Influence of Technology, Social Capital and Leadership on Entrepreneurial Performance Mediated by Innovation (Study on Msmes in Gowa District, South Sulawesi Province)

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Abstract

The population is all 57,421 MSME owners in Gowa Regency. The sample is 136 people, consisting of business owners focused on the food and beverage and mixed goods business. This research sample focuses on the food, beverage, and mixed goods business sectors. The consideration for the sample in this research is that the respondent has a minimum high school education level, the business has been running for at least three years, and the minimum turnover is IDR 5,000,000 per month. The analysis method uses SEM Amos. The results showed that Technopreneurship has a positive and significant effect on entrepreneurial performance. Technopreneurship has a significant effect on innovation. Social capital has a positive and significant effect on entrepreneurial performance. Social capital has a positive and significant effect on innovation. Leadership has a positive and significant impact on entrepreneurial performance. Leadership has a positive and significant effect on innovation. Innovation has a positive and significant effect on entrepreneurial performance. Technopreneurship has a positive and significant effect on entrepreneurial performance, mediated by innovation. Social capital, mediated by innovation, has a positive and significant effect on Entrepreneurial Performance. Leadership has a positive and significant effect on entrepreneurial performance, mediated by innovation.

Keywords: *Innovation; Entrepreneurial Performance; Leadership; Social Capital; Technopreneurship.*

1. Introduction

The development of organizational behaviour studies is increasingly developing because organizational problems, such as conflicts among employees, low productivity, and high turnover rates, are so complex due to human issues that they continue to be the main challenges managers must face in today's organizations. Organizational behaviour, according to Robbins and Judge (2021), Organizational behaviour is a study that investigates the impact of individuals, groups, and structures in organizations to apply this knowledge to increase organizational effectiveness.

Organizational Behavior focuses on a few things that make up employees' positive or negative evaluations of their work environment. According to Dessler (2015), human resource management is a process that focuses on acquiring, training, assessing, and compensating employees, as well as paying attention to their work relationships, health, security, and justice issues. The same thing was stated by Robbins and Judge (2021): HRM is part of management studies focusing on recruiting, employing, training, and retaining employees. The Ministry of Cooperatives and Micro, Small, and Medium Enterprises data shows that the MSME sector consistently contributes 60% to Indonesia's Gross Domestic Product from 2017 to 2019, a figure that is predicted to rise to 61% in 2020. The strategic role of MSMEs in the national economy is undeniable, with their dominance in the Indonesian economy. The government must continue supporting MSMEs, strengthening their role as the backbone of the nation's economy (Sarfiah, 2019).

In developing Micro, Small, and Medium Enterprises (MSMEs), which were not very good at the beginning of 2020, MSMEs in Indonesia were again tested by the emergence of the COVID-19 outbreak in Indonesian society. COVID-19 began appearing in Wuhan City, Hubei Province, China, in December 2019 and was designated a world health problem by the WHO. Judging from this case, to prevent the spread of the COVID-19 virus, it is necessary to carry out social distancing, known as Lockdown efforts. Thus, in Indonesia, the government has also tried this effort, which has directly impacted the drastic decline in the MSME economy because every citizen, even school students, has been given the day off to stay indoors. As a result, MSME companies have been hampered, which has impacted sales and products, as seen from the problems. Many MSMEs are turning to innovative use of technology and changing the existing culture to improve the performance of MSMEs, including MSMEs in the Gowa Regency.

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The Gowa Cooperative Service, a local government agency, has plans to provide counselling for MSME players to develop and market products digitally for increasingly optimal MSME performance (makassar.sindonews.com). The service plays a crucial role in supporting MSMEs in the Gowa Regency, providing them with the necessary resources and guidance to thrive in the digital market. Gowa Regency strives to continue to increase the number of MSMEs. It can be seen from the increase in the number of MSMEs in Gowa Regency. The head of the Gowa Regency Cooperatives and SMEs service released the number of MSMEs throughout 2018-2023 as follows:

Table 1.1: Development of the Number of MSMEs in Gowa Regency 2018-2023

No	Info	Unit	Year 2018	2019	2020	2021	2022	Quarterly I2023	Quarterly II2023
1.	Micro	Unit	3.945	4.028	37.341	53.045	53.931	53.931	53.931
2.	Small	Unit	2.898	2.944	3.179	3.179	3.179	3.179	3.179
3.	Medium	Unit	260	261	266	266	266	266	266
Total			7.104	7.233	40.786	56.490	57.376	57.376	57.421

Source: Gowa Regency Cooperatives and SMEs Service.

Based on Table 1.1. above shows The cultivation of numerous Micro, Small, and Medium Enterprises is accelerating, especially for micro-enterprises, which have a vast number; namely, in 2019, there were 7,233 businesses, while in 2020, it increased to 40,786 Micro, small and medium enterprises up to by a second quarter of 2023 it will increase again to 57,421 Micro, small and medium enterprises. It shows that the competitive challenges that Micro, Small, and Medium Enterprises must contend with arise from the growing prevalence of established MSMEs, particularly in Gowa Regency.

Gowa Regency is one of the regions in South Sulawesi Province currently experiencing rapid development, namely the National Strategy Area (KSN). The area has several new growth centres that are currently developing rapidly. Gowa Regency has various MSMEs, including food, drinks, and mixed goods. The plurality of consumer segments makes researchers interested in studying this in depth. Especially MSMEs that operate in the food, beverage, and mixed goods sectors.

Business success is defined by the features of the entrepreneur's attitudes and behavior. Various factors, both external and internal, greatly influence entrepreneurial performance. According to Ringim, Razalli, and Hasnan (2012), companies that apply IT capabilities in their business processes have better performance than competitors regarding profits and lower cost ratios. These changes encourage innovation-related activities, which are technology-based and intended to improve performance.

Organizational performance can be significantly enhanced through competitive advantage by innovating the company, modifying products, creating new products, and creating product concepts. The current use of technology, especially IT, is not just about data processing tools but has become a competitive weapon that can change the industrial structure. The rapid technological revolution in IT or ICT has made the business environment more competitive, underscoring the urgent need for technological adaptation.

Based on the phenomena that occur related to the implementation of Technopreneurship in several MSMEs in Gowa Regency, especially those operating in the retail or shop business sector, there are still many MSME actors who have not been able to innovate in the field of technology, especially their lack of insight and knowledge regarding Technopreneurship. Some of them have yet to be able to create a business that involves technology as its basis, and have yet to be able to make the right strategy for developing their business. Some MSMEs prefer to refrain from using technology as a basis for growing their business. Bringing initiative and courage from MSMEs to implement simple technology still needs support and confidence from within themselves, and government support. Some of them have yet to be able to utilize social media for promotions due to limited knowledge and use of technology. Apart from that, there are still business actors who are reluctant to use technology to create new things and innovate.

According to Abdi Sakti Walenta (2019), social capital has a positive but insignificant effect. Furthermore, what occurs about the social capital MSME actors possess in the Gowa Regency is the problem of the need for consumer trust in MSME business actors. Business actors with high social capital will open up the possibility of resolving complex problems more efficiently. With mutual trust, tolerance, and cooperation, they can build networks within and with other community groups. The loss of consumer trust in business actors is caused by low capabilities and a lack of ability to establish good relationships with consumers and other business actors. The lack of awareness among MSME actors regarding the relationships between business actors, which are supported by networks, norms, and social trust, can ultimately influence the increase in the efficiency and effectiveness of coordination and cooperation for mutual benefit.

The next factor that can influence MSME performance is leadership. The influence of leadership in a business indicates signs of success in each business. Everyone has different types of leadership, and successful leadership starts with effectiveness, decision-making, creativity, dynamic change, inspiration, and carrying out a vision. Thus, leadership is one of the keys to the success of an organization (Siti et al.; Wardani, 2020). Leadership is one of the keys to the success of an organization (Wardani, 2020).

According to Gofur & Sri Sundari (2021, the role of a leader in certain MSMEs plays a considerable role. Furthermore, according to Gofur & Sri Sundari (2021, the progress and decline of a business depend on the policies chosen by the leader; for this reason, there needs to be a leadership spirit for MSME players. Meanwhile, according to Gofur & Sri Sundari (2021, leaders who are incompetent in running a culinary business will have a negative impact because culinary businesses require the perpetrator to always be creative, innovative, and dare to take risks. Leadership is an essential factor in running an organization, where good leadership will impact the environment within the organization. Appropriate leadership can inspire workers to follow their leadership, so leaders can direct members to the company's vision and mission (Gofur & Sri Sundari, 2021).

The phenomenon that occurs related to leadership that is felt by MSME actors in Gowa Regency is the need for knowledge and ability of some MSME owners to mobilize all the abilities they have to mobilize and direct their employees to work more optimally in providing services to consumers. The problem that usually occurs is that employees are lazy and sometimes want to avoid carrying out their duties or responsibilities. However, MSME leaders need to care about this problem. They cannot carry out two-way communication and do not care about employees' attitudes and behaviour in carrying out their duties.

Meanwhile, process innovation is a way to significantly change product production and distribution processes (Bockova & Zizlavsky, 2016). The next innovation is marketing innovation, which is the application of new sales and marketing techniques (Oslo Manual, 2005). Marketing innovation can be done by opening new markets, finding out what consumers' needs are, and repositioning products to increase sales.

According to Kahn (2018), developing new methods in marketing has led to a significant increase in organizational success. Furthermore, organizational innovation is no less important than the three innovations above. The Oslo Manual (2005) states that organizational innovation is the application of new organizational methods, such as restructuring, process optimization, or adopting new technologies, in business practices, organizing the workplace, or relations with external parties. Furthermore, the Oslo Manual (2005) explains that

organizational innovation, resulting from strategic management decisions, will improve company performance by reducing administrative, transaction, and bidding costs, increasing job satisfaction, and workforce productivity.

Several prior investigations have investigated the relationship between innovation and increased company performance. Firstly, research conducted by Curatman (2016) found that product innovation has a positive influence on competitive advantage. Second, research conducted by Djodjobo and Tawas (2014) proves that entrepreneurship, product innovation, and competitive advantage positively affect marketing performance. Furthermore, research conducted by Djodjobo and Tawas (2014), supported by research by Haryono and Marniyati (2017), shows that production innovation, directly and indirectly, has a positive and significant impact on competitive advantage.

Meanwhile, Karabulut's research (2015) examined the influence of various types of innovation on various types of performance, which showed research results that product, process, marketing, and organizational innovation had a positive influence on financial performance, consumers, internal business processes, and learning/growth. Supporting the research results of Karabulut (2015). The phenomenon regarding innovation issues for MSMEs in the Gowa Regency is that business owners must innovate continually to create sustainable performance.

In the global market competition, MSMEs in Gowa Regency must pivot towards technology, innovation, creativity, and imagination, rather than relying solely on price and quality. Sustainable performance can only be achieved through continuous innovation that aligns with environmental dynamics, such as changing consumer preferences, technological advancements, or regulatory shifts. However, due to limited human, financial, and technology resources, most MSME actors in the Gowa Regency need help building collaborative networks.

MSMEs must cultivate their own creativity and innovation to thrive in the rapidly evolving business landscape, especially in the realm of technology. The prevalent tendency among MSME actors to imitate successful businesses in the hope of replicating their success is not a sustainable strategy. Instead, they should focus on understanding the unique characteristics of their business, optimizing their resources, and securing their market share through innovation and strategic planning. This strategic approach will make them feel prepared and confident in their business decisions.

It is due to the lack of knowledge that business actors or prospective business actors have regarding business innovation, so that the business they manage is only based on instinct or perhaps only based on experience from colleagues, or simply because of motivation from family or colleagues as a strength to start and run their business. Micro, Small, and Medium Enterprises (MSMEs) players still rely on instinct, will, family experience, and motivation from friends or family without having sufficient knowledge and art in managing businesses, both in the innovation aspect.

Starting from the theoretical and empirical descriptions described above, this research analyses the influence of technopreneurship, social capital, and leadership on the performance of MSMEs mediated by Innovation. Several empirical results show that there are still inconsistencies in the relationship and influence caused by the Technopreneurship, Social Capital, Leadership, MSME Performance and Innovation variables, so there are still gaps that can be used in research, including: Referring to Future Research or research suggestions carried out by Oyedele Ola Olusegun et al. (2019), the research carried out still needs to be developed by adding other variables because, based on the results, the effect of the independent variables used is still low so that in the research the variables added Innovation, leadership and social capital are by recommendations and empirical phenomena/conditions in the research object. This research uses the Structural Equation Modeling (SEM) analysis tool, a more comprehensive and robust method for analyzing complex relationships among variables. In contrast, previous research used the multiple regression analysis tool. This research takes a novel approach to filling the gap in performance research. By using the innovation variable as a mediator it offers a fresh perspective on the influence of technopreneurship, social capital, and leadership on MSME performance. This departure from the traditional direct influence testing is not only innovative but also inspiring, encouraging researchers to explore new ways of analyzing business performance.

Although this study specifically examines MSMEs within the food, beverage, and mixed goods sectors in Gowa Regency, the underlying mechanisms identified—technopreneurship, social capital, leadership, and innovation—are broadly relevant across various industries and regions. These factors are fundamental drivers of entrepreneurial performance and are likely to influence MSMEs regardless of sector or geographic location. For example, technopreneurship, which involves leveraging technology for business innovation, is increasingly vital in sectors such as manufacturing, agriculture, and services, where digital tools and innovative practices can enhance efficiency and market reach.

Similarly, social capital—networks, relationships, and trust—plays a critical role in resource access and collaboration across different contexts. Leadership styles that foster innovation and adaptability are universally important for navigating changing market conditions. By discussing these commonalities, the study can highlight how its findings may be transferable to other MSME sectors beyond food and beverages, and to other developing regions with similar economic and cultural characteristics.

This broader applicability encourages policymakers and practitioners in various contexts to consider these factors when designing support programs for MSMEs. It also opens avenues for future research to validate and extend these findings across diverse industries and geographic settings, thus enhancing the study's overall impact and relevance.

2. Literature Review

2.1. Technopreneurship

Technopreneurship is the process of commercializing less valuable technological products, such as basic software applications, into various high-value products, like advanced AI systems, to attract consumers' interest in buying or owning them. Moreover, it is considered a concept derivative of 'Entrepreneurship', which both have the principle of seeking as much profit as possible. However, it focuses more on a business that applies a particular technology (Wicaksono & Nurnida, 2017). Technopreneurship is a creative action to overcome certain conditions based on technology (Olatunji, 2015). Technopreneurship is creativity in overcoming problems a community or company faces through technology and other resources. Technopreneurship develops when needs, new technology, and entrepreneurial elements become one in business (Ozgulbas et al., 2013).

2.2. Social capital

According to Pierre Bourdieu, social capital is the amount of resources, actual or virtual, that accumulate in an individual or group because they have a long-lasting network of reciprocal relationships of acquaintance and recognition that are more or less institutionalized (Field, 2011, p. 23). James Coleman defines social capital as the ability of people to work together to achieve common goals in various groups and organizations (Fukuyama, 2007, p. 12).

2.3. Leadership

Leadership is referred to as "leadership" in English, while in Arabic, it is referred to as "zi'amah" or "imamah" in the terminology proposed by Hamzah. Leadership involves the coordination, mobilisation, direction, and stimulation of the loyalty and motivations of individuals who are engaged in collaborative endeavours.(Hamzah Yakub, 1984). Leadership is a component of management functions that occupies a strategic position in the system, work hierarchy, and responsibilities of an organisation.(Nasharuddin Baidan et al., 2014, p.126).

2.4. Innovation

Innovation is one of the corporate choices when facing market competition and sustainable management. Freeman (2004) considers innovation to be a company's efforts to develop, produce, and promote new items in its industry using technology and information. In other words, innovation is the modification or discovery of ideas with the goal of constant improvement and development to fulfill the needs of customers. Pervaiz K. Ahmed and Charles D. Shepherd's (2010) company innovation can result in R&D (Research and Development), production, and marketing strategies, ultimately resulting in the commercialization of the idea.

2.5. Entrepreneurial performance

Suryana (2013:7) said entrepreneurial performance is the outcome of the work that an individual or group of individuals within an organisation can accomplish through their respective authority and responsibilities to achieve organisational objectives.
Conceptual Framework And Hypothesis (Figure 2.1 Research Model Framework).

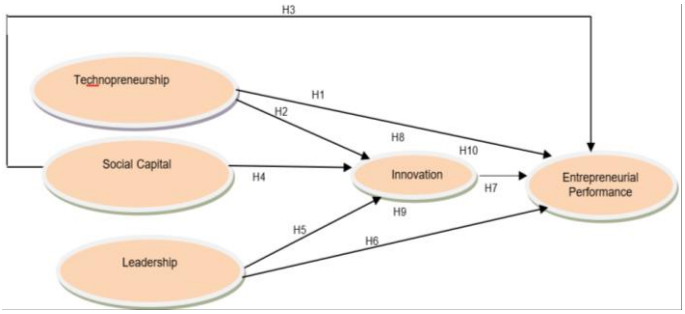


Fig. 2.1: Research Model Framework

2.6. Research hypothesis

H1. Technopreneurship has a significant effect on entrepreneurial performance in Gowa Regency, South Sulawesi Province.
H2. Technopreneurship has a significant effect on MSME innovation in Gowa Regency, South Sulawesi Province.
H3. Social Capital has a significant effect on Entrepreneurial Performance in Gowa Regency, South Sulawesi Province.
H4. Social Capital has a significant effect on MSME Innovation in Gowa Regency, South Sulawesi Province
H5. Leadership has a significant effect on entrepreneurial performance in Gowa Regency, South Sulawesi Province.
H6. Leadership has a significant effect on MSME innovation in the Gowa district, South Sulawesi province
H7. Innovation has a significant effect on entrepreneurial performance in Gowa Regency, South Sulawesi province.
H8. Innovation acts as a mediating influence of Technopreneurship on Entrepreneurial Performance in Gowa Regency, South Sulawesi Province.
H9. Innovation acts as a mediating influence of Social Capital on Entrepreneurial Performance in Gowa Regency, South Sulawesi Province
H10.Innovation, a significant factor, is expected to provide a vital mediating function in the impact of leadership on entrepreneurial performance in Gowa Regency, South Sulawesi Province.

3. Methodology

The population is all MSME owners in the Gowa Regency.

Table 3.1: Population of MSME Owners by Business Sector in Gowa Regency in 2023

No.	Business fields	Total Population
1	Food and Drink	9.231
2	Mixed Items	10.247
3	Fishery	156
4	Farm	1.287
5	Agriculture	989
6	Red stone	3.654
7	Workshop	1.321
8	ATK and Photocopy	237
9	Craft	187
10	Credit Counter	915
11	Seamstress	1.139
12	Broilers	164
13	On line	521
14	Clothes	1.737
15	Vegetable	3.046
16	Grocery	597
17	Other	21.893
	Total	57.421

The sample in this research is business owners who focus on the food and beverage and mixed goods business sector, a sector of significant relevance to our research. This sector has a huge number, and considering the time limit for completing the research, this research sample focuses on the food, beverage, and mixed goods business sector. The sample size was determined using the Slovin Formula (Umar, 2007: 78), so the number of samples obtained from the calculation results was 136 business owners.

Table 3.2: Number of Samples of MSME Owners by Business Sector in Gowa Regency in 2023

No.	Business fields	Number of Population	Number of Samples
1	Food and Drink	9.231	64
2	Mixed Items	10.247	72
	Total Sample		136

Source: Determination of sample size; data will be processed in 2023.

In this research, several sample criteria were determined, consisting of:
1) Minimum education level is high school.
2) Time to open a business: at least three years.
3) A minimum turnover is IDR 5,000,000 per month
4) Has integrated technopreneurship with company management..
5) Has integrated technopreneurship product innovation and business management.

3.1. Data analysis technique

We use the SEM technique to analyze. This technique enables us to directly analyze several dependent and independent variables.

4. Results and Discussions

4.1 Structural model testing

Testing in the structural model is testing the goodness of fit model, which is expected to meet all the criteria in the goodness of fit model rules or at least have a probability > 0.05 because a structural model with a likelihood> 0.05 indicates that the model has the same covariance matrix as the population covariance so that it can show the actual condition of the population. The results of tests carried out using the AMOS program package are as follows:

4.2. Testing direct and indirect effects between variables

The direct influence between the variables in this research is the influence of technopreneurship, social capital, and leadership on the performance of MSMEs mediated by innovation. The analysis of the influences can be seen in the following diagram of the SEM model picture:

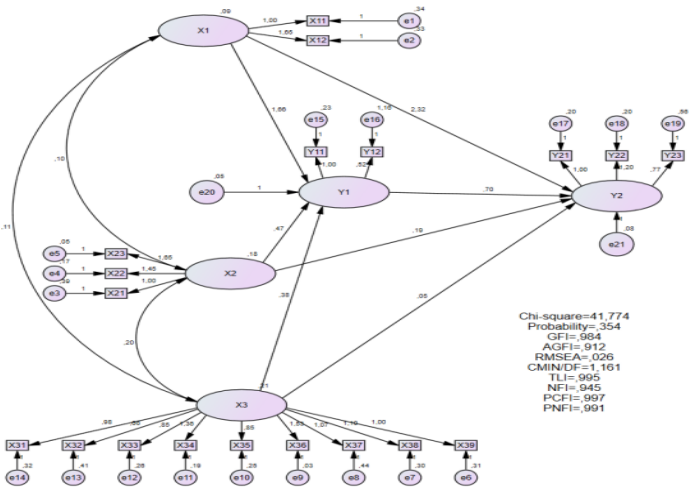


Fig. 4.1: Full Diagram of the SEM Model Test Results for Testing Direct and Indirect Influences between Variables.

Table 4.1: Evaluation of Goodness of Fit Indices Criteria

Criteria	Cut off Value	Model Evaluation	Model Results
Probability	≥ 0.05	0.354	Good
Cmin/df	≥ 0.05	1.161	Good
GFI	≥ 0.05	0.984	Good
AGFI	≥ 0.05	0.912	Good
TLI	≥ 0.05	0.995	Good
CFI	≥ 0.05	0.997	Good
RMSEA	≥ 0.05	0.056	Good

Source: Primary Data, data processed in 2023.

Based on the evaluation results, it was found that the model used met good standards. Furthermore, to determine the influence of latent variables, it can be observed through the value of the path coefficient or the lambda coefficient. The path coefficient values between variables, standard error, critical ratio, and probability as illustrated in the subsequent table:

Table 4.2: Path Coefficient (Standardized Regression) Influence between Variables

Variabel Dependent Independent	Estimate	Standard Error	C.R.	P	Info.
Innovation <--- Social Capital	,469	,148	3,169	***	Significant
Innovation <--- Technopreneurship	1,659	,465	3,568	0,00	Significant
Innovation <--- Leadership	,383	,113	3,389	0,00	Significant
Entrepreneurial Performance <--- Innovation	,704	,214	3,289	0,00	Significant
Entrepreneurial Performance <--- Technopreneurship	2,317	,746	3,106	0,00	Significant
Entrepreneurial Performance <--- Leadership	,047	,013	3,615	0,00	Significant
Entrepreneurial Performance <--- Social Capital	,191	,058	3,293	0,00	Significant

Source: Primary Data, Data processed in 2023.

After looking at the respective path coefficients between variables, the following analysis was conducted to determine the direct and indirect effects. Direct influence is the coefficient of the relationship between variables directly, without being mediated by other variables. Meanwhile, indirect influence is a relationship between variables that is mediated by one or two different variables.

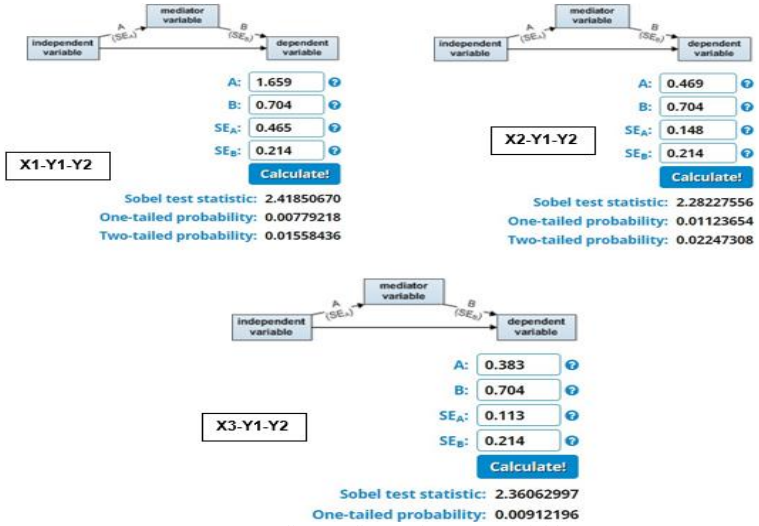


Fig. 4.2: Indirect Influence between Variables.

Source: Primary Data, Data processed in 2023.

The proof of Mediation Hypothesis H8-H10: Y1 is proven to mediate X1 X2 X3 against Y2 because the probability value is <0.05

4.3. Research discussion

4.3.1. The effect of technopreneurship on entrepreneurial performance

The results of this study showed that technopreneurship has a significant positive effect on entrepreneurial performance. It shows that implementing creative actions supported by business and technological capabilities will substantially increase entrepreneurial performance, especially for MSME owners engaged in the food, beverage, and mixed business sectors. Rusliati et al. (2022) indicate that technopreneurship positively influences market penetration, product development, and innovation in micro and small enterprises. Similarly, a study by Prasetyo et al. (2024) highlights the role of artificial intelligence adoption in improving MSME performance, particularly in enhancing competitiveness and innovation.

4.3.2. The effect of technopreneurship on MSME innovation

The results show that technopreneurship has a significant effect on innovation. It indicates that implementing creative actions supported by business and technological capabilities will substantially impact the innovation of MSME owners engaged in the food, beverage, and mixture business sector. Technopreneurship is an organizational approach that emphasizes innovation, identifies core issues, resolves difficulties, and applies solutions to enhance competitiveness in the global market (Okorie, 2014). Technopreneurship is the self-development of an entrepreneur who uses technology to make discoveries or innovations to generate economic value.

For instance, many MSMEs use e-commerce platforms like Tokopedia, Shopee, or Bukalapak to reach broader markets beyond their local regions. These platforms enable small businesses to showcase their products online, manage orders, and handle payments securely. By embracing e-commerce, MSMEs can increase sales and reduce dependency on physical storefronts, which is especially important in developing areas where infrastructure might be limited.

Another common innovation practice is the use of social media marketing through platforms such as Instagram, Facebook, or WhatsApp Business. MSMEs actively engage customers by posting product photos, running promotions, and collecting feedback directly through social channels. This approach helps build social capital by fostering closer relationships and trust with customers, while also providing real-time market insights.

According to Lumpkin and Dess (2005), technopreneurs generally reflect entrepreneurs who combine existing production factors to produce goods and services innovatively and technologically while ignoring existing risks. Furthermore, Mintardjo & Christoffel (2008) stated that technopreneurs are new-age entrepreneurs who are interested in technology, are creative, innovative, dynamic, dare to be different when taking paths that have not been explored, and are very passionate about their work.

4.3.3. The effect of social capital on entrepreneurial performance

The results show that social capital significant impact on entrepreneurial performance. It means that the better the application of social capital to society, especially among employees and consumers, will increase entrepreneurial performance. Social capital is any relationship that occurs and is accumulated by trust, mutual understanding, and shared values that bind group members together to enable joint action to be carried out efficiently and effectively. Social capital is organized into structural, relational, and cognitive dimensions (Chow & Chan, 2008).
According to Abdi Sakti Walenta (2019), social capital has a positive but insignificant impact. In contrast to the research results presented by G. Oka Warmana and I Wayan Widnyana (2018), social capital positively and significantly affects entrepreneurial performance. It shows that social capital implemented by M.S.M.E.s can impact increasing entrepreneurial performance.
According to Menike L.M.C.S. (2019), cognitive and social capital have a significant and positive effect on the performance of small businesses. Relational social capital has demonstrated a statistically significant negative impact on the success of small enterprises.

4.3.4. The effect of social capital on MSME innovation

The results show that social capital has a significant and positive effect on innovation, which means that the application of social capital to society, especially employees and consumers, will increase the innovation of MSME owners. Social capital is a set of informal values or norms that enable cooperation among group members. Social capital is a capacity that is derived from the general trust in a society or specific segments of it. (Fukuyama, 2002).
According to Wulandari and Malik (2014), social capital positively and significantly affects innovation. Farmers' attitudes and activeness in extension positively impact the adoption of shallot cultivation innovations. At the same time, social capital, age, education, motivation, land, access to mass media, and mass media credibility do not significantly influence the adoption of shallot cultivation innovations.

4.3.5. The effect of leadership on entrepreneurial performance

The results show leadership has a significant and positive effect on entrepreneurial performance. that means the better the implementation of leadership towards society, especially for employees and consumers, the better the performance of M.S.M.E. owners will be. The influence of leadership in a business indicates signs of success in each industry. Everyone has different types of leadership; successful leadership starts with effectiveness, decision-making, creativity, dynamic change, inspiration, and carrying out a vision. Thus, leadership is one of the keys to the success of an organization (Siti et al.; Wardani, 2020). Leadership is one of the keys to the success of an organization (Wardani, 2020).
According to Gofur & Sri Sundari (2021), the role of a leader in certain M.S.M.E.s plays a considerable role. The progress and decline of a business depend on the policies chosen by the leader; for this reason, there is a need for a leadership spirit for M.S.M.E. players. The leaders who are incompetent in running a culinary business will have a negative impact because culinary businesses require the perpetrator to always be creative, innovative, and dare to take risks. Leadership is an essential factor in running an organization, where good leadership will impact the environment within the organization.

4.3.6. The effect of leadership on innovation

The results show that leadership has a significant and positive effect on innovation. that means the better the application of leadership to employees, the innovation of MSME owners. Alharbi et al. (2025) found that inclusive and transformational leadership significantly enhance innovative performance through their impact on employee innovative behavior, whereas autonomy and laissez-faire styles show limited influence. This suggests that leadership styles play a crucial role in fostering innovation in MSMEs.

4.3.7. The effect of innovation on entrepreneurial performance

The results show innovation has a significant effect on entrepreneurial performance. Process innovation is a way to make significant changes in product production and distribution processes (Bockova & Zizlavsky, 2016). The next innovation is marketing innovation, which is the application of new sales and marketing techniques (Oslo Manual, 2005). Marketing innovation can be done by opening new markets, finding out what consumers' needs are, and repositioning products in the market to increase sales.
According to Kahn (2018), developing new methods in marketing has led to a significant increase in organizational success. Furthermore, organizational innovation is no less important than the third innovation above. The Oslo Manual (2005) states that organizational innovation is the application of new organizational methods in business practices, such as organizing the workplace or relations with external parties. Furthermore, the Oslo Manual (2005) explains that organizational innovation, which results from strategic management decisions, will improve company performance by reducing administrative costs, transaction costs, and bidding costs, as well as increasing satisfaction with workplace conditions and workforce productivity. Curatman (2016) found that product innovation has a positive influence on competitive advantage. Second, research conducted by Djodjobo and Tawas (2014) proves that entrepreneurship, product innovation, and competitive advantage positively affect marketing performance.

4.3.8. Innovation linkages act as a mediating influence of technopreneurship on entrepreneurial performance

The research findings underscore the pivotal role of innovation in the relationship between technopreneurship and entrepreneurial performance. It's revealed that technopreneurship, when coupled with innovation, significantly enhances entrepreneurial performance. Technopreneurship, with its potential to boost a company's productivity and market share, is further amplified by innovation. This combination not only assists in introducing new products and services but also fosters a customer-centric approach, better response to market changes, and overall innovation for improved company performance (Change & Shuntu, 2020).
On the operational side, MSMEs may adopt digital inventory management systems or simple accounting software like Moka POS or Jurnal.id to streamline business processes, improve accuracy, and reduce manual errors. These innovations allow small businesses to manage resources better and make informed decisions based on data.
Furthermore, some MSMEs innovate by developing unique products or services tailored to local preferences, incorporating traditional knowledge with modern techniques. For example, food MSMEs in Gowa Regency may experiment with new recipes, packaging innovations, or healthier alternatives that differentiate them from competitors.

Innovation serves as a critical mediator in the relationship between leadership, technopreneurship, social capital, and MSME performance. A systematic literature review by Nasir et al. (2024) identified that innovation mediates the effect of various factors on MSME performance, emphasizing its central role in driving business success..

4.3.9. Innovation linkages act as a mediating influence of social capital on entrepreneurial performance

The research findings affirm that social capital exerts has positive and significant on entrepreneurial performance, a relationship that is effectively mediated by innovation. This mediation underscores the instrumental role of innovation in leveraging social capital to enhance entrepreneurial performance. Social capital, characterized by trust, mutual understanding, and shared values, fosters efficient and effective joint action among group members. Innovation serves as a critical mediator in the relationship between leadership, technopreneurship, social capital, and MSME performance. A systematic literature review by Nasir et al. (2024) identified that innovation mediates the effect of various factors on MSME performance, emphasizing its central role in driving business success..

4.3.10. Innovation linkages act as a mediating influence of leadership on entrepreneurial performance

The results of this study showed that leadership has a positive and significant effect on entrepreneurial performance, a relationship that is effectively mediated by innovation. This mediation highlights the potential of innovative leadership to enhance entrepreneurial performance. As Sudiyani et al. (2021) noted, leadership's positive and significant effect on performance is further bolstered by its influence on innovation behaviour, which in turn positively affects performance. This emphasis on the mediating role of innovation in the application of leadership instils confidence in the audience about the potential of innovative leadership to drive entrepreneurial performance.
Leadership approaches in administration and knowledge are required for each leadership trait, characteristic, and style (Almatrooshi et al., 2020). Different leadership styles, such as transformational and transactional, benefit organizational commitment and performance. Across broad industries, companies that emphasize the speed of innovation can increase their market share. When developing, producing, or selling new products faster than competitors, companies can build market segments regarding service quality and operational efficiency because the knowledge contained in these innovations is not available to competitors (Liao et al., 2010).
Therefore, innovation guarantees a faster response to the environment by launching new products with lower time and costs, ultimately improving company performance (Almatrooshi et al., 2020). The quality of innovation is another critical factor that influences company performance. The research conceptual framework was prepared based on theoretical concepts and previous research. Entrepreneurial performance is the most critical component for measuring the level of success and failure of an organization. Entrepreneurial performance is used in empirical studies as the result of many variables that influence it. Entrepreneurial performance is defined as an indicator to measure the extent to which an entrepreneur, in this case, an MSME owner, achieves their goals. Researching performance to improve an entrepreneur's performance, especially that of MSME owners, is essential.
Innovation serves as a critical mediator in the relationship between leadership, technopreneurship, social capital, and MSME performance. A systematic literature review by Nasir et al. (2024) identified that innovation mediates the effect of various factors on MSME performance, emphasizing its central role in driving business success..

4.4. Research limitations

1) Research data uses the perceptions of MSME owners operating in the food, beverage, and mixture business sector through self-assessment. Apart from that, due to the busy schedule of MSME owners and time constraints, researchers found it difficult to dig up more in-depth information regarding research. Furthermore, the research is limited to the food, beverage, and mixture business sector in Gowa Regency. It has the potential to restrict the generalisability of research findings.
2) The researcher exclusively analysed a single agency in the food, beverage, and mixture business sector in Gowa Regency, as the research object. Hence, the generalization of the research results still needs to be improved. Future research should use different research objects by describing every other variable influencing entrepreneurial performance.

5. Conclusion and Suggestion

5.1. Conclusion

1) Technopreneurship has a significant effect on entrepreneurial performance. It shows that implementing creative actions supported by business and technological capabilities will significantly increase entrepreneurial performance, especially for MSME owners engaged in the food, beverage, and mixed business sectors.
2) Technopreneurship has a significant effect on innovation. It shows that implementing creative actions supported by business and technological capabilities will significantly impact the innovation of MSME owners engaged in the food, beverage, and mixed business sectors.
3) Social capital has a significant impact on entrepreneurial performance. that means the better the application of social capital to society, especially employees and consumers, will increase entrepreneurial performance.
4) Social capital has a significant effect on innovation. that means the better the application of social capital to society, especially among employees and consumers, will increase the innovation of MSME owners.
5) Leadership has a significant impact on entrepreneurial performance. that means the better the application of leadership to employees will increase entrepreneurial performance.
6) Leadership has a significant effect on innovation. that means the better the implementation of leadership towards employees, the innovation of MSME owners.
7) Innovation has a significant impact on entrepreneurial performance. that means the better the implementation of innovation by MSME owners, the more impact it will have on improving the performance of MSME owners.
8) Technopreneurship has a positive and significant effect on entrepreneurial performance, mediated by innovation. It means that innovation plays a mediating role in applying technopreneurship, which can improve entrepreneurial performance.
9) Social capital positively and significantly affects entrepreneurial performance, mediated by innovation. It means that innovation plays a mediating role in applying social capital, which can improve entrepreneurial performance.

10) Leadership positively and significantly affects entrepreneurial performance, mediated by innovation. Innovation mediates the application of leadership, which can improve entrepreneurial performance.

5.2. Suggestion

1) MSME owners need to give attention to the application of Technopreneurship, especially the development of technological skills, because it is based on respondents' responses regarding this being an indicator with a lower average.
2) Regarding social capital to pay attention to the Norm indicator, which has the lowest average value. MSME owners must be able to implement norms well and be role models for employees.
3) MSME owners also need to pay attention to applying leadership in managing their business and engaging people to fulfil their duties and attain optimal performance.
4) Apart from that, MSME owners need to develop product innovations in their business sector to compete and sustain corporate viability in an age of accelerating technological advancement.

5.3. Implication

To enhance the practical impact of the study's findings, it is important to translate insights into actionable policy recommendations that support MSMEs in leveraging technopreneurship, social capital, leadership, and innovation. Governments play a crucial role in creating enabling environments that foster entrepreneurship and business growth, particularly in developing regions.

One key policy measure is the implementation of government-led digital training programs tailored specifically for MSME owners and employees. These programs should focus on building digital literacy, including the use of e-commerce platforms, social media marketing, basic accounting software, and data analytics. Training can be delivered through local community centers, online courses, or mobile training units to reach remote or underserved areas. By equipping MSMEs with the skills to adopt and effectively utilize digital technologies, governments can significantly improve their competitiveness and market reach.

Another vital policy recommendation is the introduction of financial incentives and subsidies for technology adoption. This could take the form of grants, low-interest loans, or tax breaks that lower the cost barrier for MSMEs to invest in hardware, software, and innovative tools. Such incentives encourage small businesses to experiment with new technologies, which might otherwise seem risky or expensive.

Governments could also establish innovation hubs or incubators that provide MSMEs with access to mentorship, networking opportunities, and technical support. These hubs facilitate the development of social capital by connecting entrepreneurs with peers, investors, and experts. They can also serve as testing grounds for new technologies and business models, accelerating innovation diffusion within local economies.

Furthermore, policies promoting public-private partnerships can foster collaborations between technology providers, financial institutions, and MSMEs, ensuring that solutions are affordable, relevant, and sustainable. Encouraging MSMEs to participate in digital ecosystems enhances knowledge sharing and resource access, which are critical for sustained growth.

Authors' Contributions

This article is the outcome of collaborative academic work between the research scholar and the supervisor. Syahrir Sultan conceptualized the study, conducted the literature review, collected and analyzed the data using structural equation modeling (SEM) with the AMOS program, and drafted the manuscript. Cepi Pahlevi, Wahda, and Wardhani Hakim, as the research supervisor, provided critical guidance in refining the research framework, improving methodological clarity, reviewing the manuscript drafts, and offering valuable suggestions throughout the writing and revision process. All authors read and approved the final version of the manuscript.

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Data Availability Statement

The dataset generated and analyzed during the current study is available from the corresponding author upon reasonable request.

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