



Print ISSN: 1738-3110 / Online ISSN 2093-7717
 JDS website: <http://www.jds.or.kr/>
<http://dx.doi.org/10.15722/jds.20.04.202204.85>

Sustainability MSMEs Performance and Income Distribution: Role of Intellectual Capital and Strategic Orientations

Singgih PURNOMO¹, Suci PURWANDARI², Ilham SENTOSA³

Received: August 20, 2021. Revised: April 04, 2022. Accepted: April 05, 2022.

Abstract

Purpose: Previous research has found that organizational performance pressures and barriers have an effect on the long-term viability of Micro, Small, and Medium Enterprises (MSMEs). Furthermore, MSMEs' intellectual capital and strategic orientation, according to recent research findings, have an impact on this. The goal of this study is to see how intellectual capital and strategic orientation affect MSMEs' performance. **Research design, data and methodology:** The performance of MSMEs is the dependent variable, with intellectual capital, market orientation, learning orientation, and technical orientation as independent factors. With a sample size of 113 respondents, this research focused on information technology-based MSMEs in Indonesia's Solo Raya area. Data was analyzed use Confirmatory Factor Analysis for the reliability test and path analysis SEM. **Results:** The interaction between intellectual capital and strategic orientation in respect to MSMEs' performance reveals that innovation capability serves as a partial mediator in the relationship between intellectual capital and technical orientation and organization performance. **Conclusions:** In general, intellectual capital and strategic orientation have a positive substantial influence on innovation, according to the findings. Furthermore, they have a considerable favorable influence on the performance of MSMEs. It's just that intellectual capital has no discernible impact on knowledge sharing.

Keywords : Intellectual Capital, Strategic Orientation, Knowledge Sharing, MSMEs Performance, Income Distribution

JEL Classification Code: M21, 010, 011, 031, 032

1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) development is one way to achieve national development goals because their contribution to the formation of Gross Domestic Product (GDP), particularly in exports and investment can be seen in an economy (Nuari, Rahmadana, & Zen, 2020). Overall MSMEs account for 99.99 percent of all business units in Indonesia, employing nearly 97.24 percent of the workforce, exporting 16 percent of all non-oil

exports, and accounting for 57.94 percent of the country's total GDP (Jaswadi, Iqbal, & Sumiadji, 2015). The importance of the MSMEs sector is recognized all over the world because it has the potential to greatly improve social and economic systems for a variety of reasons, and the growing number of MSMEs will help the economy grow (Kurniawati & Yuliando, 2015). MSMEs are critical to the development of jobs and income distribution, as well as the expansion of Asian exports (Lopes de Sousa Jabbour, Ndubisi, & Roman Pais Seles, 2020). Therefore MSMEs

1 Corresponding Author and First Author. Lecturer, Universitas Duta Bangsa Surakarta, Indonesia.
 Email: singgih_purnomo@udb.ac.id

2 Second Author, Lecturer, Politeknik Indonusa Surakarta, Indonesia, Email: sucipurwandari@poltekindonusa.ac.id

3 Lecturer, Universiti Kuala Lumpur Malaysia, Malaysia.
 Email: ilham@unikl.edu.my

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<http://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted noncommercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

sustainability is pertinent for all, from large to small enterprises in every economy (Singh, Chakraborty, Roy, & Tripathi, 2021). One approach of displaying and summarizing economic behavior and organizational performance is to look at income distribution (Fu, Villas-Boas, & Judge, 2019). The majority of previous studies found that the pressures and barriers that arise in sustainability performance affect the sustainability of MSMEs (Malesios, De, Moursellas, Dey, & Evangelinos, 2020).

The government and experts have fully acknowledged MSMEs as the primary driver of economic progress, so MSMEs Intellectual Capital (IC) management has become increasingly important for forward-thinking businesses (Todericiu & Stăniș, 2015). The term IC, which was coined for the first time by Machlup in 1962 to highlighting the importance of general knowledge as important to growth and development (Secundo, Ndou, Vecchio, & De Pascale, 2020). The relationship between IC with organization performance has been repeatedly demonstrated in previous literature (Sharabati, Jawad, & Bontis, 2010). In more detail, intellectual capital has a significant effect on knowledge sharing of individuals or other members within the organization which could support organizational overall performance (Ngah & Ibrahim, 2011; Yousef Obeidat, Bahjat Abdallah, Osama Aqqad, Akhoerschiedah, & Maqableh, 2017).

Over the last three decades, research in management, strategy, and other fields has shown that strategic orientations also have an impact on organizational performance (Kindermann, Beutel, Garcia de Lomana, Strese, Bendig, & Brettel, 2020). The strategic orientation may also clarify how the company approaches sustainability and environmental issues (Jansson, Nilsson, Modig, & Hed Vall, 2015). The basis of strategic orientation, namely market orientation, technology orientation and learning orientation, can affect innovation capabilities and organization performance (Hakala, 2011). Strategic orientations are intangible talents that are difficult to mimic and hence create a competitive advantage that lasts (Kindermann et al., 2020).

Given the limitations in the literature, the goal of this research is to examine the impact of intellectual capital and strategy orientation on MSMEs' performance, particularly in terms of knowledge sharing and innovation capabilities. Three strategy orientation qualities are market orientation, learning orientation, and technology orientation.

2. Literature Review

A Structured Literature Review (SLR) reveals that the extant literature is predominantly focused on three areas of

research (1) Intellectual capital (IC) component for Private Sector Sustainable Development; (2) IC for Knowledge Economy Sustainable Regional Development; and (3) IC for Public Sector Sustainable Development (Secundo et al., 2020). IC is the sum of what is created by the organization's three primary aspects (human capital, structural capital, and customer capital) in terms of knowledge and technology that adds value to the firm and gives it a competitive advantage (Sulastri, Fitria, & Andriani, 2021). The efficient use of ICs can lead to key innovation choices in the current economy of knowledge and technical advancement, because a company's potential to innovate is directly proportional to the IC at its disposal (Alvino, Di Vaio, Hassan, & Palladino, 2021). However, the relationship between intellectual capital and SMEs' strategic innovation has received little attention in the current literature, therefore the findings revealed that IC is the organization's hidden treasure through strategic innovation (AlQershi, Abas, & Mokhtar, 2021).

Strategic orientation as a technique for aligning an organization's environment, processes, rules, and procedures in order to make better decisions (Zaman, Nadeem, & Nawaz, 2020). Strategic orientation has been shown to improve organizational innovation and marketing effectiveness, particularly in the MSMEs according to certain study (Muafi, 2020). Furthermore, strategic orientation displays a company's emphasis for certain operations while dealing with the outside world to develop capabilities (Jiang, Mavondo, & Zhao, 2020). This research aims to investigate 11 possibilities, which will be discussed more below.

Intellectual capital is considered an influential factor that affects the success of a company. This capital becomes increasingly important because of the shift in the economic paradigm from the traditional industrial economy to the knowledge-based economy. In order to cope with the rapidly changing customer demands and needs within the global competition, corporations need to continue to develop solutions. Because the corporation relies on intellectual capital to accomplish such long-term success, the company's innovation capabilities is intimately linked to it. Urgal, Quintás, & Arévalo-Tomé (2013) discover positive and significant correlations between internal knowledge sources and innovation capabilities. Another research conducted by (Ngah & Ibrahim, 2011; Osman, Gilbert, Tan, Zainol, & Jizat, 2014) that intellectual capital has a significant effect on innovation capability.

H1: Intellectual capital affects the innovation capability of MSMEs.

Consumers are more likely to esteem a market-oriented firm that is focused on its customers or potential customers who assist the company deliver innovations. Such

occurrences would indicate that market orientation would facilitate and increase the innovation capability of the company gained through continuous supply of customer information provided by the day to day operations and activities of such company which at the end of the process would generate recognition of new opportunities. The benefits of market orientation on innovation have been established in several research. For example, Osman et al (2014) argue that the success of innovations is the result of market orientation undertaken by the company. Provide actual proof that the company's innovation skills have improved as a result of its market focus (Christa, Wardana, Dwiatmadja, & Kristinae, 2020; Mahmoud, Blankson, Owusu-Frimpong, Nwankwo, & Trang, 2016; Ngo & O'Cass, 2012; Sulyanto & Rahab, 2012).

H2: Market orientation affects the innovation capability of MSMEs.

Three factors make the companies determined to learn to advance their innovation capability. First, companies are more likely to focus on innovation and use cutting-edge technology in the process. Furthermore, these businesses would be able to develop and commercialize their technical achievements. Secondly, the organization now has the knowledge and ability to comprehend and anticipate client wants and needs as a result of the learning process, so that the company may not miss such opportunities that exist in the market for example SMEs should use Information, Communication, and Technology (ICT) to increase their understanding of the global market (Nurchim & Santoso, 2020). Third, these businesses must be aware of their competitors' strengths and shortcomings in order to learn from their successes and mistakes. According to Yang (2012), the potential to innovate is enhanced by commitment to the learning process.. Therefore, organizations should consider the learning process as an investment rather than merely as a cost, and develop their commitment to the learning process to promote and sustain their innovation capability (Mahmoud et al., 2016; Sulyanto & Rahab, 2012; Wahyono & Hutahayan, 2020).

H3: Learning orientation affects the innovation capability of MSMEs.

The significance of technical orientation in terms of creativity and performance has gotten a lot of press. One of the most critical strategic orientations that influences long-term corporate performance is technological orientation (Baierle, Benitez, Nara, Schaefer, & Sellitto, 2020). This has been proven and supported by a well-known researcher (Grinstein, 2008), the primary premise driving the technology orientation is the creation of innovative technical

solutions, end products, and services that may contribute to long-term success. As an example, the internet has evolved into a technology that is critical to information distribution and economic growth in recent years (Wijiyanto & Nurchim, 2021). In short, companies can gain product differentiation and cost advantages as part of development and adaptation to the new technologies. The findings show that technological orientation has a significant influence on innovation capability (Osman et al., 2014; Valdez-Juarez & Castillo-Vergara, 2021).

H4: Technological orientation affects the innovation capability of MSMEs.

In a knowledge-based economy, intellectual capital has become a critical aspect for organizations to generate long-term profit and success (Hsu & Fang, 2009). Well established level of experience and knowledge gained by the companies could prevent them from repeating the same mistakes and therefore would ultimately improve their level of performance. In addition, minimizing errors and mistakes would practically increase the speed to market new products and services. The advantage of storing information in the company's databases and systems is that staff will be able to access it more quickly and correctly to address customer problems or stay current with client preferences and demands. A study conducted by (Cabrita & Bontis, 2008; Hashim, Osman, & Alhabshi, 2015) showed that intellectual capital had significant effects on performance.

H5: Intellectual capital affects MSMEs performance.

Market orientation is also considered to be a facilitator for companies to monitor and make a timely adjustment towards customer needs and preferences that always changes over time. Thus, market orientation has enabled the provision of such high-quality products and services, which means it would also create the ability to satisfy customers and deliver such a high-level of performance. Several studies have shown a significant positive correlation between market orientation and performance with various means of measurements such as profitability and overall company performance (Beneke, Blampied, Dewar, & Soriano, 2016; Cambra-Fierro, Florin, Perez, & Whitelock, 2011; Christa et al., 2020; Di Zhang & Bruning, 2011; González-Benito, González-Benito, & Muñoz-Gallego, 2009; Tjahjadi, Soewarno, Hariyati, Nafidah, Kustiningsih, & Nadyaningrum, 2020).

H6: Market orientation affects MSMEs performance.

Companies could also develop their integrated organizational systems. This evidently could lead to a more

superior corporate performance. Several pieces of research have found evidence to support the idea that there is a positive correlation between learning orientation and business performance (Wang, 2008). Basically, the accumulation of the learning process can lead to a significant decrease in production costs. Therefore, developing the learning process could lead to the creation of a better level of performance gained through better innovation which could lead to lowering the cost of production of goods or by developing the overall service to customers.

H7: Learning orientation affects MSMEs performance.

Study of Jeong, Pae, and Zhou (2006) and Osman et al., (2014) focused on the examination of the relationship between technological orientation and new product performance, found that technological orientation had a strong positive influence on the technical performance and profitability of new products. The study results suggest that technological orientation had placed important implications towards performance and in general could be viewed as an effective strategic choice for the companies (Jin & Lee, 2020).

H8: Technological orientation affects MSMEs performance.

Companies are set to be able to improve their overall performance through improvement of their profit level, or growth in their market share and also the overall growth rates along with the developments of new ideas, or through the creation of new products and services, or even through the discoveries of new ways of working thus creating more creative thinking in their day to day operations. (Ferreira, Coelho, & Moutinho, 2020; Putri, Udin, & Djastuti, 2019; Rajapathirana & Hui, 2018; Suliyanto & Rahab, 2012; Yang, 2012) suggests that the ability of a corporation to innovate has a direct influence on its performance growth. Dadfar, Dahlgaard, Brege, & Alamirhoor (2013) had also researched innovation capability and its correlations with the company's performance concluded that the development of innovation capability would be an absolute necessity for improving the overall company performance.

H9: Innovation capability affects MSMEs performance.

Knowledge sharing is a form of activity that involves knowledge exchange within the organizational units designed for current and future benefits. Ruta and Macchitella (2008) highlight these dimensions of intellectual capital could affect the individual motivation to share knowledge with other members of the organization. The research of (Ngah & Ibrahim, 2011; Yousef Obeidat et

al., 2017) shows that intellectual capital has a significant effect on knowledge sharing and knowledge sharing has significant effects on the overall organizational performance.

H10: Intellectual capital affects knowledge sharing.

H11: Knowledge sharing affects MSMEs performance.

Based on the overall hypothesis, the research framework can be developed in Figure 1

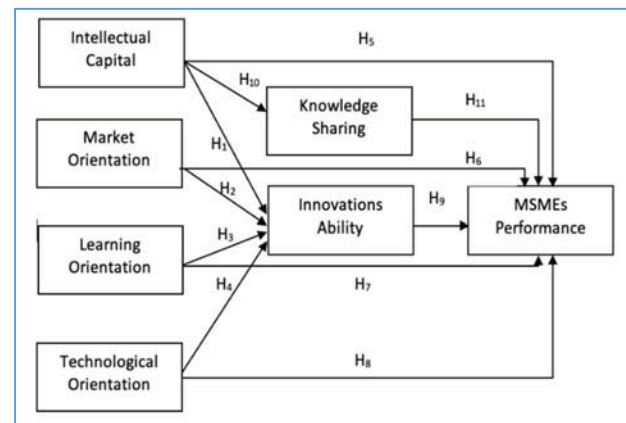


Figure 1: Research Framework

3. Methodology

This researcher has chosen the survey method that is conducted through gathering the primary data obtained directly from the source through questionnaires. This method requires direct contact between the researcher and the research subject or the respondent to obtain the necessary data. In this study, the dependent variable is determined to be the performance of MSMEs, and the independent variables are set to be the intellectual capital, market orientation, learning orientation, and technological orientation in conjunction with the mediation of innovation and knowledge sharing.

These variables are defined and measured according to the indicators set and used by (Osman et al., 2014). MSMEs performance is the ability of MSMEs in generating sales or profits. In this study performance measurements are set to use the following indicators are sales growth, labor growth, revenue growth, net profit margin, product/service innovation, innovation process, adoption of new technology, quality of product/service, differentiation of product/service and consumer satisfaction. Intellectual capital is the creation of value gained through the management of intellectual capital. Indicators of intellectual capital are human capital, organizational capital and social capital. Market orientation is the company's ability in understanding the market. Market

orientation is measured through customer orientation and competitor orientation. Learning orientation is the perception of MSMEs in delivering their commitments and visions. The dimension of learning orientation is measured through a commitment to the learning process, sharing vision and openness. Technological orientation is the company's view on technology utilization. Dimensions of technological orientation are measured through the importance of research and development activities, the degree of technology integration, gaining new technology development initiatives, the level of company's product technology, activities in the development of new technologies, awareness of the solutions to the new technology development, comparison of technological knowledge with existing competitors and determination in product development. Innovation capability is the ability of MSMEs in developing innovation within the company. The dimension of innovation capabilities is measured through client-focused innovation capability, innovation capabilities focused on marketing and Innovation capability focused on technology. Knowledge sharing is a transfer of knowledge process conducted by the practitioners of MSMEs. The indicators of knowledge sharing are management knowledge sharing and technology knowledge sharing.

The population in this research is MSMEs based on information technology established within the Solo region. The sample of this research is the direct practitioners of MSMEs in the Solo region. The sampling technique used is purposive sampling and snowball sampling. The criteria are MSMEs entrepreneurs in Solo of Indonesia who have owned and run business for more than 2 years of experience and the Entrepreneur of MSMEs having considered running and gained good company performance. The type of business practitioners of IT based MSMEs respondents in this study are as follows:

Table 1: MSMEs respondents

Business Type	Percentage
Online Shop	37,2
Web Developer	7,1
Software Developer	2,7
IT Consultant	2,7
Communication shop	22,1
Computer shop	13,3
Internet shop	8,8
Digital Printing	6,2
Total	100

The validity test deployed in this study is CFA (Confirmatory Factor Analysis) and for the reliability test, this study has chosen the Cronbach Alpha technique. Construct validity evaluation, response pattern comparison, and competing model comparison are the three primary

applications of CFA in psychometric evaluation research (Alavi, Visentin, Thapa, Hunt, Watson, Cleary, 2020). The main criteria in the reliability test are as follows: when the Alpha coefficient is less than 0.60 indicates a low level of reliability. But when the Alpha Coefficient is more than 0.60 or approaching 1.00, it can be concluded as high reliability. Data analysis employed in this research is using path analysis. Path analysis is a type of Structural Equation Modeling (SEM) in which there is no latent variable (i.e., all variables in the model are measured variables) (Park, Fitzpatrick, Das, & Avelar, 2021). Path analysis is a type of multiple regression analysis that examines the links between a dependent variable and two or more independent variables to assess causal theories (Dong, Gerdle, Bernfort, Levin, & Dragioti, 2020). This path analysis was developed as a method to study the direct or indirect effects of the independent variable towards the dependent variable.

4. Results

Respondents of this study are MSMEs based on information technology, based on the results of questionnaires gathered and obtained from 113 respondents. The type of business practitioners of IT-based MSMEs respondents in this study are most respondents in this study have the type of business in the form of online shopping or online store on the internet that amounted to 37.2%, then followed by the owner of the communications equipment online store that amounted to 22.3%, followed by the Online computer shop owner 13.3%, and internet cafe owner shows 8.8%, web developer 7.1%, digital printing 6.2% and at the bottom in the form of software and web developers respectively amount to 2.7%. Furthermore, the result of the validity test using the confirmatory factor analysis (CFA) shows that the correlation value of each factor has a loading factor above 0.5 and is extracted perfectly, which indicates that all question items are valid. The reliability test results as confirmed in the Table 2. And the path analysis results can be seen from Table 3.

Table 2: The result of validity test using the confirmatory factor analysis (CFA)

Variable	Cronbach's Alpha	Conclusion
Intellectual capital (IC)	0.992	Reliable
Market orientation (MO)	0.993	Reliable
Learning Orientation (LO)	0.990	Reliable
Technology Orientation (TOR)	0.993	Reliable
Innovation Capability (IN)	0.650	Reliable
Knowledge Sharing (KS)	0.995	Reliable
MSMs Performance (FO)	0.984	Reliable

Table 3: The result of path analysis

Regression Weight	Standardized estimate	Estimate	S. E	C.R	P value
IN $\leftarrow$ IC	0.350	0.418	0.084	5.005	0.000
IN $\leftarrow$ MO	0.159	0.141	0.050	2.840	0.005
IN $\leftarrow$ LO	0.231	0.294	0.083	3.563	0.000
IN $\leftarrow$ TOR	0.284	0.399	0.087	4.573	0.000
KS $\leftarrow$ IC	-0.031	-0.003	0.010	-0.333	0.739
FO $\leftarrow$ IN	0.463	0.298	0.064	4.670	0.000
FO $\leftarrow$ TOR	0.132	0.120	0.064	1.858	0.063
FO $\leftarrow$ LO	0.010	0.008	0.059	0.142	0.887
FO $\leftarrow$ MO	0.097	0.056	0.035	1.603	0.109
FO $\leftarrow$ IC	0.276	0.213	0.063	3.412	0.000
FO $\leftarrow$ KS	-0.005	-0.036	0.294	-0.122	0.903

5. Discussion

5.1. The Influence of Intellectual Capital on Innovation Capability

Intellectual capital is seen as a factor affecting the success of the company. Because of the economic transformation from a conventional industrial economy to a knowledge-based economy, this capital has become increasingly significant. Companies must continue to create solutions to meet the ever-changing wants and needs of customers in the global marketplace. Knowledge, rather than traditional resources like tangible assets, is a crucial source for ensuring the company's success in this setting. Intellectual capital is essential to facilitate innovation processes and enhance innovation capabilities. The company's innovation capability is closely related to intellectual capital as it utilizes this capital to achieve such sustainable success. The analytical results showed that intellectual capital had a positive and significant influence. Positive influence means that the higher intellectual capital owned by MSMEs will increase its innovation capability. The results of this study have proven to support the research of (Ngah & Ibrahim, 2011; Osman et al., 2014; Ural et al., 2013).

5.2. The Influence of Strategic Orientations on Innovation Capability

The strategic orientations in this research are measured through three constructions: market orientation, learning orientation and technological orientation. The result of the analysis indicates that market orientation has a positive and significant influence on innovation capability. The positive influence could be translated to the better market strategic orientation deployed by MSMEs which will result in better and further improvements towards its capability to innovate.

Market-oriented organizations that focus on customer or projected consumer demand are able to provide a better alternative for innovations that are most likely to be valued by their customers. This means that by gathering client information that the firm generates on a regular basis, market orientation will help or boost the capabilities of corporate innovation. The results of this study support the research conducted by (Ngo & O'Cass, 2012; Osman et al., 2014) show that market orientation positively influences innovation capability.

The second strategic orientation analyzed in this study is the learning orientation. The result of the analysis shows that learning orientation has a positive and significant influence on innovation capability. Positive influence indicates that the better learning orientation conducted by the practitioners of MSMEs will further improve its ability to innovate. These results can also be interpreted that companies that apply the learning orientation tend to focus on innovations and apply the cutting-edge technology during the innovation process and by applying the learning process, the company would acquire the knowledge and ability to understand and anticipate customer demand and needs, therefore would develop further ability in capturing the opportunities within the market. The results of this study agreed with the research of (Osman et al., 2014; Yang, 2012) concluded that learning orientation has a positive and significant impact on innovation capability.

One of the most critical strategic orientations that affects long-term corporate success is technological orientation. As supported by the well-known researcher (Grinstein, 2008), The fundamental concept underpinning technical orientation is the development of new technological solutions, new goods, and services that lead to long-term success. The result of the analysis shows that technological orientation has a positive and significant influence on innovation capability. The positive influence could be translated as the greater awareness of MSMEs on technological orientation will increase the innovation capability of MSMEs. The results of this study support the research of (Osman et al., 2014) which indicates that technological orientation has a positive effect on corporate innovation.

5.3. The Influence of Intellectual Capital on MSMEs Performance

Intellectual capital has become an important factor for companies to achieve such sustainable profit and level of performance in a knowledge-based economy. Companies would be able to avoid repeating the same mistakes as a result of their experience and information obtained, thus improving their performance. Furthermore, reducing errors and blunders will speed up the time it takes for new goods

and services to reach market. Employees can access data more quickly and correctly to handle client problems or stay up with current consumer preferences and wants when information is maintained within the company's databases and systems. The results of this study indicate the intellectual capital has a positive influence on the performance of MSMEs. Positive influence should be translated into better intellectual capital owned and gained by MSMEs, and would further increase the company's performance. These results support the main ideas of (Cabrita & Bontis, 2008; Hashim et al., 2015), as the research results indicate that intellectual capital has a significant effect on company performance.

5.4. The Influence of Strategic Orientation on MSMEs Performance

Market orientation is considered as a catalyst for businesses to track and respond to changing and variable consumer needs and preferences throughout time. Market orientation facilitates the supply of high-quality products and services, therefore meeting the demands of consumers and achieving such high levels of performance. The result of the analysis shows that market orientation has no significant effect on the level of performance of MSME. The lack of significance of market orientation on the performance of MSMEs can be caused by the reduced level of the MSMEs entrepreneur in monitoring and adjusting of its products to meet the customer needs preferences that are always changing. The results of this study support the findings of (Osman et al., 2014), but do not support the research of (Di Zhang & Bruning, 2011; González-Benito et al., 2009).

5.5. The Influence of Innovation Capability on MSME Performance

One method that could be implemented by companies to improve their performance is by developing its innovations through the discovery of new ideas, gained through creating new products or services, finding new ways of working and being creative in their day-to-day operations. The results of this research analysis state that the innovation capability has provided a positive and significant influence on the level of performance of MSMEs. Positive influence involved would take the form as the better the innovation capability owned by MSMEs will significantly increase its overall performance. The results provided by this study go into the same directions towards the research of (Dadfar et al., 2013; Osman et al., 2014; Yang, 2012) as the research indicates that the innovation capability has a significant effect on the performance of the company.

5.6. The Influence of Intellectual Capital on Knowledge Sharing and Performance of MSMEs

Sharing knowledge means sharing knowledge activity or transferring experience between different organizational units. The results of the analysis in this study show that intellectual capital has no significant effect on knowledge sharing, it shows that the practitioners of MSME have not fully understood the importance of sharing knowledge in improving the performance of their company. The results of this study also show that knowledge sharing has no significant effect on the performance of MSMEs. This shows the weakness of the knowledge-sharing culture owned by MSME. The results of this study do not support the finding of (Ngah & Ibrahim, 2011; Yousef Obeidat et al., 2017) which discovers a positive and significant relationship between intellectual capital with knowledge sharing and level of performance.

5.7. The Mediation Effect of Innovation Capability and Knowledge Sharing on The Relationship Between Intellectual Capital and Strategic Orientations Toward MSMEs Performance

Mediation influence on innovation capability towards the relationship between intellectual capital and strategic orientation against the performance of MSMEs shows that the innovation capability provides partial mediation towards the relationship between intellectual capital and technological orientation in conjunction with company performance. The ability to innovate served as a complete mediator in the link between market orientation and learning orientation. This would mean that the intellectual capital and technological orientation have a direct influence on the performance of MSMEs, whilst the market orientation and learning orientation have an indirect effect on the level of performance of MSMEs. The results of this study show that knowledge sharing would not be a mediating variable because it has no significant effect on MSMEs performance.

6. Conclusion, Limitations and Recommendations

Looking at the study as a whole, IC and strategic orientation have a positive significant impact on innovation capability. In addition, there are also have a positive significant impact on the MSMEs performance. The sustainability of MSME performance will certainly be in line with the income distribution of MSME and even the country. It is just, IC has no significant effect on knowledge sharing. However, there are significant limitations to this study that point to future research areas. First, the research region is limited to the Solo raya area, and the sample

utilized is limited to MSMEs in the information technology industry. Second, this study was conducted in Indonesia and did not take into account substantial cultural or demographic variations in order to predict organizational behavior. Future research might broaden the scope of the study, examine the influence of cultural and demographic characteristics, and include MSMEs from a variety of industries as a sample.

References

- Alavi, M., Visentin, D. C., Thapa, D. K., Hunt, G. E., Watson, R., & Cleary, M. (2020). Chi-square for model fit in confirmatory factor analysis. *Journal of Advanced Nursing*, 76(9), 2209–2211. <https://doi.org/10.1111/jan.14399>
- AlQershi, N., Abas, Z. Bin, & Mokhtar, S. S. M. (2021). How Intellectual Capital Dimensions Impacts Strategic Innovation In Manufacturing Smes. *Academy of Strategic Management Journal*, 20(2), 1–8.
- Alvino, F., Di Vaio, A., Hassan, R., & Palladino, R. (2021). Intellectual capital and sustainable development: a systematic literature review. *Journal of Intellectual Capital*, 22(1), 76–94. <https://doi.org/10.1108/JIC-11-2019-0259>
- Baierle, I. C., Benitez, G. B., Nara, E. O. B., Schaefer, J. L., & Sellitto, M. A. (2020). Influence of open innovation variables on the competitive edge of small and medium enterprises. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–17. <https://doi.org/10.3390/joitmc6040179>
- Beneke, J., Blampied, S., Dewar, N., & Soriano, L. (2016). The impact of market orientation and learning orientation on organisational performance: a study of small to medium sized enterprises in Cape Town, South Africa. *Journal of Research in Marketing and Entrepreneurship*, 18(1).
- Cabrita, M. D. R., & Bontis, N. (2008). Intellectual capital and business performance in the Portuguese banking industry. *International Journal of Technology Management*, 43(1–3), 212–237. <https://doi.org/10.1504/IJTM.2008.019416>
- Cambra-Fierro, J., Florin, J., Perez, L., & Whitelock, J. (2011). Inter-firm market orientation as antecedent of knowledge transfer, innovation and value creation in networks. *Management Decision*, 49(3), 444–467. <https://doi.org/10.1108/00251741111120798>
- Christa, U. R., Wardana, I. M., Dwiatmadja, C., & Kristinae, V. (2020). The role of value innovation capabilities in the influence of market orientation and social capital to improving the performance of central Kalimantan bank in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–14. <https://doi.org/10.3390/joitmc6040140>
- Dadfar, H., Dahlgaard, J. J., Brege, S., & Alamirhoor, A. (2013). Linkage between organisational innovation capability, product platform development and performance: The case of pharmaceutical small and medium enterprises in Iran. *Total Quality Management and Business Excellence*, 24(7–8), 819–834. <https://doi.org/10.1080/14783363.2013.791102>
- Di Zhang, D., & Bruning, E. (2011). Personal characteristics and strategic orientation: Entrepreneurs in Canadian manufacturing companies. *International Journal of Entrepreneurial Behaviour and Research*, 17(1), 82–103. <https://doi.org/10.1108/13552551111107525>
- Dong, H. J., Gerdle, B., Bernfort, L., Levin, L. Å., & Dragioti, E. (2020). Pain catastrophizing in older adults with chronic pain: The mediator effect of mood using a path analysis approach. *Journal of Clinical Medicine*, 9(7), 1–15. <https://doi.org/10.3390/jcm9072073>
- Ferreira, J., Coelho, A., & Moutinho, L. (2020). Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation. *Technovation*, 92–93(February 2017), 0–1. <https://doi.org/10.1016/j.technovation.2018.11.004>
- Fu, Q., Villas-Boas, S. B., & Judge, G. (2019). Entropy-based China income distributions and inequality measures. *China Economic Journal*, 12(3), 352–368. <https://doi.org/10.1080/17538963.2019.1570620>
- González-Benito, Ó., González-Benito, J., & Muñoz-Gallego, P. A. (2009). Role of entrepreneurship and market orientation in firms' success. *European Journal of Marketing*, 43(3–4), 500–522. <https://doi.org/10.1108/03090560910935550>
- Grinstein, A. (2008). The relationships between market orientation and alternative strategic orientations: A meta-analysis. *European Journal of Marketing*, 42(1–2), 115–134. <https://doi.org/10.1108/03090560810840934>
- Hakala, H. (2011). Strategic Orientations in Management Literature: Three Approaches to Understanding the Interaction between Market, Technology, Entrepreneurial and Learning Orientations. *International Journal of Management Reviews*, 13(2), 199–217. <https://doi.org/10.1111/j.1468-2370.2010.00292.x>
- Hashim, M. J., Osman, I., & Alhabshi, S. M. (2015). Effect of Intellectual Capital on Organizational Performance. *Procedia - Social and Behavioral Sciences*, 211(September), 207–214. <https://doi.org/10.1016/j.sbspro.2015.11.085>
- Hsu, Y. H., & Fang, W. (2009). Intellectual capital and new product development performance: The mediating role of organizational learning capability. *Technological Forecasting and Social Change*, 76(5), 664–677. <https://doi.org/10.1016/j.techfore.2008.03.012>
- Jansson, J., Nilsson, J., Modig, F., & Hed Vall, G. (2015). Commitment to Sustainability in Small and Medium-Sized Enterprises: The Influence of Strategic Orientations and Management Values. *Business Strategy and the Environment*, 26(1), 69–83. <https://doi.org/10.1002/bse.1901>
- Jaswadi, Iqbal, M., & Sumiadji. (2015). SME Governance in Indonesia – A Survey and Insight from Private Companies. *Procedia Economics and Finance*, 31(15), 387–398. [https://doi.org/10.1016/s2212-5671\(15\)01214-9](https://doi.org/10.1016/s2212-5671(15)01214-9)
- Jeong, I., Pae, J. H., & Zhou, D. (2006). Antecedents and consequences of the strategic orientations in new product development: The case of Chinese manufacturers. *Industrial Marketing Management*, 35(3), 348–358. <https://doi.org/10.1016/j.indmarman.2005.06.010>
- Jiang, W., Mavondo, F., & Zhao, W. (2020). The impact of business networks on dynamic capabilities and product innovation: The moderating role of strategic orientation. *Asia Pacific Journal of Management*, 37(4), 1239–1266. <https://doi.org/10.1007/s10490-018-9628-2>
- Jin, S., & Lee, K. (2020). The government R&D funding and

- management performance: The mediating effect of technology innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–13. <https://doi.org/10.3390/joitmc6040094>
- Kindermann, B., Beutel, S., García de Lomana, G., Strese, S., Bendig, D., & Brettel, M. (2020). Digital orientation: Conceptualization and operationalization of a new strategic orientation. *European Management Journal*. <https://doi.org/10.1016/j.emj.2020.10.009>
- Kurniawati, D., & Yuliando, H. (2015). Productivity Improvement of Small Scale Medium Enterprises (SMEs) on Food Products: Case at Yogyakarta Province, Indonesia. *Agriculture and Agricultural Science Procedia*, 3, 189–194. <https://doi.org/10.1016/j.aaspro.2015.01.037>
- Lopes de Sousa Jabbour, A. B., Ndubisi, N. O., & Roman Pais Seles, B. M. (2020). Sustainable development in Asian manufacturing SMEs: Progress and directions. *International Journal of Production Economics*, 225. <https://doi.org/10.1016/j.ijpe.2019.107567>
- Mahmoud, M. A., Blankson, C., Owusu-Frimpong, N., Nwankwo, S., & Trang, T. P. (2016). Market orientation, learning orientation and business performance: The mediating role of innovation. *International Journal of Bank Marketing*, 34(5), 623–648. <https://doi.org/10.1108/IJBM-04-2015-0057>
- Malesios, C., De, D., Moursellas, A., Dey, P. K., & Evangelinos, K. (2020). Sustainability performance analysis of small and medium sized enterprises: Criteria, methods and framework. *Socio-Economic Planning Sciences*, 100993. <https://doi.org/10.1016/j.seps.2020.100993>
- Muafi, M. (2020). A nexus among strategic orientation, social network, knowledge sharing, organizational innovation, and MSMEs performance. *Journal of Asian Finance, Economics and Business*, 17(6), 327–338. <https://doi.org/10.13106/jafeb.2020.vol7.no6.327>
- Ngah, R., & Ibrahim, A. R. (2011). The influence of intellectual capital on knowledge sharing: Small and Medium Enterprises' perspective. *Communications of the IBIMA*. <https://doi.org/10.5171/2011.444770>
- Ngo, L. V., & O'Cass, A. (2012). In search of innovation and customer-related performance superiority: The role of market orientation, marketing capability, and innovation capability interactions. *Journal of Product Innovation Management*, 29(5), 861–877. <https://doi.org/10.1111/j.1540-5885.2012.00939.x>
- Nuari, R., Rahmadana, M. F., & Zen, Z. (2020). Analysis of Factors Affecting Economic Growth in the SMEs Sector in Indonesia. *Proceedings of the 5th Annual International Seminar on Transformative Education and Educational Leadership (AISTEEL 2020)*, 488, 338–343. <https://doi.org/10.2991/assehr.k.201124.071>
- Nurchim, N., & Santoso, T. D. (2020). Improving the Competitive Advantages of Indonesian SMEs through Sharing Internet and Sharing Cost : Insights from Applied Action Design Research. *TEST Enginerring & Management*, 83(May-June), 25128–25135.
- Osman, J., Gilbert, D., Tan, C., Zainol, Z., & Jizat, J. E. M. (2014). The Significance of Intellectual Capital and Strategic Orientations on Innovation Capability and Firm Performance. *ICMEI 2014 : International Conference on Management and Education Innovation Conference*.
- Park, E. S., Fitzpatrick, K., Das, S., & Avelar, R. (2021). Exploration of the relationship among roadway characteristics, operating speed, and crashes for city streets using path analysis. *Accident Analysis and Prevention*, 150(December 2020), 105896. <https://doi.org/10.1016/j.aap.2020.105896>
- Putri, E. R., Udin, & Djastuti, I. (2019). Structural empowerment and service-oriented organizational citizenship behavior: The mediating roles of innovativeness and job satisfaction. *Quality - Access to Success*, 20(170), 112–117.
- Rajapathirana, R. P. J., & Hui, Y. (2018). Relationship between innovation capability, innovation type, and firm performance. *Journal of Innovation and Knowledge*, 3(1), 44–55. <https://doi.org/10.1016/j.jik.2017.06.002>
- Ruta, C. D., & Macchitella, U. (2008). Fostering intellectual capital through communication technologies: An analysis of knowledge-sharing determinants. *International Journal of Learning and Intellectual Capital*, 5(2), 123–152. <https://doi.org/10.1504/IJLIC.2008.020148>
- Secundo, G., Ndou, V., Vecchio, P. Del, & De Pascale, G. (2020). Sustainable development, intellectual capital and technology policies: A structured literature review and future research agenda. *Technological Forecasting and Social Change*, 153(January), 119917. <https://doi.org/10.1016/j.techfore.2020.119917>
- Sharabati, A. A. A., Jawad, S. N., & Bontis, N. (2010). Intellectual capital and business performance in the pharmaceutical sector of Jordan. *Management Decision*, 48(1), 105–131. <https://doi.org/10.1108/00251741011014481>
- Singh, M. P., Chakraborty, A., Roy, M., & Tripathi, A. (2021). Developing SME sustainability disclosure index for Bombay Stock Exchange (BSE) listed manufacturing SMEs in India. *Environment, Development and Sustainability*, 23(1), 399–422. <https://doi.org/10.1007/s10668-019-00586-z>
- Sulastris, Fitria, Y., & Andriani, C. (2021). Internalization of Intellectual Capital Model Conception of MSMEs for MSME Entrepreneurs. *Proceedings of the Sixth Padang International Conference On Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2020)*, 179(Piceeba 2020), 495–505. <https://doi.org/10.2991/aebmr.k.210616.077>
- Suliyanto, & Rahab. (2012). The role of market orientation and learning orientation in improving innovativeness and performance of small and medium enterprises. *Asian Social Science*, 8(1), 134–145. <https://doi.org/10.5539/ass.v8n1p134>
- Tjahjadi, B., Soewarno, N., Hariyati, H., Nafidah, L. N., Kustiningsih, N., & Nadyaningrum, V. (2020). The role of green innovation between green market orientation and business performance: its implication for open innovation. *Journal of Open Innovation: Technology, Market, and Complexity*, 6(4), 1–18. <https://doi.org/10.3390/joitmc6040173>
- Todericiu, R., & Stăniț, A. (2015). Intellectual Capital – The Key for Sustainable Competitive Advantage for the SME's Sector. *Procedia Economics and Finance*, 27(15), 676–681. [https://doi.org/10.1016/s2212-5671\(15\)01048-5](https://doi.org/10.1016/s2212-5671(15)01048-5)
- Urgal, B., Quintás, M. A., & Arévalo-Tomé, R. (2013). Knowledge resources and innovation performance: The mediation of innovation capability moderated by management commitment. *Technology Analysis and Strategic Management*, 25(5), 543–

565. <https://doi.org/10.1080/09537325.2013.785514>
- Valdez-Juarez, L. E., & Castillo-Vergara, M. (2021). Technological Capabilities , Open Innovation , and Eco-Innovation : Dynamic Capabilities to Increase Corporate Performance of SMEs. *Journal of Open Innovation: Technology, Market, and Complexity*, 7(8).
- Wahyono, & Hutahayan, B. (2020). The relationships between market orientation, learning orientation, financial literacy, on the knowledge competence, innovation, and performance of small and medium textile industries in Java and Bali. *Asia Pacific Management Review*, (xxxx). <https://doi.org/10.1016/j.apmr.2020.07.001>
- Wang, C. L. (2008). Entrepreneurial Orientation, Learning Orientation, and Firm Performance. *Entrepreneurship Theory and Practice*, 32(4), 635–656.
- Wijiyanto, W., & Nurchim, N. (2021). Digital Village : Modelling of Public Wireless Internet Development using Supply Chain Structure Approach. *IOP Conf. Series: Materials Science and Engineering* 1077, 012010. <https://doi.org/10.1088/1757-899X/1077/1/012010>
- Yang, J. (2012). Innovation capability and corporate growth: An empirical investigation in China. *Journal of Engineering and Technology Management - JET-M*, 29(1), 34–46. <https://doi.org/10.1016/j.jengtecman.2011.09.004>
- Yousef Obeidat, B., Bahjat Abdallah, A., Osama Aqqad, N., Akhoershiedah, A. H. O. M., & Maqableh, M. (2017). The Effect of Intellectual Capital on Organizational Performance: The Mediating Role of Knowledge Sharing. *Communications and Network*, 09(01), 1–27. <https://doi.org/10.4236/cn.2017.91001>
- Zaman, U., Nadeem, R. D., & Nawaz, S. (2020). Cross-country evidence on project portfolio success in the Asia-Pacific region: Role of CEO transformational leadership, portfolio governance and strategic innovation orientation. *Cogent Business and Management*, 7(1). <https://doi.org/10.1080/23311975.2020.1727681>