



{ MUDIMA }



## The Effect of Technology Utilization on Operations Performance with Process Innovation as a Mediator

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### ABSTRACT

This study aims to investigate the effect of technology utilization on operating performance, considering process innovation as a mediator in an organizational context, using the Smart Partial Least Squares (Smart PLS) analysis tool. The study involved 72 respondents from various industries and business sectors in Indonesia. The results showed that technology utilization has a positive and insignificant effect on operating performance. In addition, process innovation proved to be a strong mediator in the relationship between technology utilization and operating performance. This indicates that organizations that are able to utilize technology effectively are more likely to improve their operating performance, especially if they can generate innovation in their business processes. This research provides a deeper understanding of how technology can be a catalyst in improving an organization's operating performance, especially when supported by strong process innovation efforts. These results have important implications for organizations in their efforts to compete effectively in the ever-changing digital age. This research also contributes to the theoretical understanding of the relationship between technology utilization, process innovation, and operating performance in a business context. The practical implication of this study is that organizations should consider technology utilization and process innovation as an integral part of their strategy to improve operating performance

## INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) play a very important role in the Indonesian economy. They are the backbone of the economy, creating jobs, increasing per capita income, and contributing to regional development. While MSMEs have great potential, they are also faced with various challenges, including global competition, limited access to markets, and the need for improved operating performance. Businesses with high levels of innovation will be better equipped to gain a competitive advantage and perform at a higher level (O’Cass & Weerawardena, 2010)

In the rapidly developing digital era, information and communication technology (ICT) has become the main driver of business transformation around the world. The utilization of technology is the key to overcoming various problems faced by MSMEs, including increasing efficiency, reducing costs, improving the quality of products and services, and achieving sustainable growth. Because it is critical for firms to compete successfully in domestic and global markets, innovation is considered one of the most important components of organizational strategy (Ardillah, 2022). This research is focused on the effect of technology utilization on the operating performance of MSMEs in West Java, Indonesia. In addition, this study will also examine the role of process innovation as a mediator in the relationship between technology utilization and operating performance. This research theme is particularly relevant given that West Java is one of the provinces with a significant number of MSMEs and a large contribution to the national economy.

The development of information and communication technology (ICT) has changed the way MSMEs operate and interact with the market. MSMEs that are able to utilize technology well can experience significant business transformation, create differentiation, and gain competitive advantage. According to research Antasari (2015), the use of technology has a good and significant impact on individual performance. Technology can improve productivity or information exchange by

increasing accuracy, effectiveness, and efficiency. Process innovation is a key element in technology-driven business transformation. It involves changes in the way MSMEs conduct their operational activities with the aim of improving efficiency, productivity, and end results. Nugraha (2020) shows how process innovation and other forms of innovation help a firm's operating performance. In the context of this study, process innovation will be identified as a mediator between technology utilization and operating performance of MSMEs. For any business to thrive, innovation is essential (Dewi, 2019). The overall innovation approach, in accordance with Fahmila (2018), has a favorable effect on operational performance.

West Java is one of the provinces in Indonesia that plays an important role in the national economy. The province has a significant number of MSMEs and a diverse range of industries. Despite West Java's strong economic potential, there are still challenges faced by MSMEs in the region, including intensifying competition and rapid consumer changes.

This study chose West Java as the research location for several reasons. First, the diversity of industries in the province allows researchers to gain richer insights into the impact of technology utilization on operating performance across different sectors. Second, as one of the most populous provinces in Indonesia, West Java has great potential to contribute to the increase of MSMEs that can support national economic growth. Third, West Java also represents a diverse set of social, economic and cultural conditions that are relevant for this research.

This research will make an important contribution to understanding how technology affects MSMEs in the context of West Java, as well as how process innovation can be a key factor in linking technology utilization with better operating performance. The results of this research are expected to provide useful guidance and recommendations for stakeholders, government, and MSMEs themselves to improve the competitiveness and growth of small and medium-sized businesses in West Java and beyond.

**METHODS**

To test the hypothesis that technology utilization affects the operating performance of MSMEs with process innovation as a mediator, this study will adopt a quantitative approach. The following are the methodological steps used:

**Data Collection:** Data was collected from MSMEs in various sectors in West Java with a total sample of 72 respondents. The data includes information on the level of technology utilization in their business, the level of process innovation that has been adopted, and operating performance indicators, namely production efficiency, cost reduction, improved product or service quality, and customer response.

**Research Variables:**

Independent variable: Technology Utilization (in various aspects such as information systems, e-commerce, and process automation).

Mediator variable: Process Innovation (technology-induced changes in the way of operating).

Dependent variable: Operating Performance (measures of operational performance of MSMEs).

**Data Analysis:** Data will be analyzed using smart to examine the effect of technology utilization on operating performance, with process innovation as a mediator. This analysis will help in measuring the extent to which technology utilization has a direct impact on operating performance, as well as the extent to which process innovation plays a mediating role in the relationship.

**RESULTS AND DISCUSSION**

**Path Coefficients**

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
PI -> OP	0,387	0,412	0,163	2,380	<b>0,018</b>
TU -> OP	0,053	0,056	0,170	0,315	<b>0,753</b>
TU -> PI	0,783	0,785	0,057	13,827	<b>0,000</b>

Table 1. Path Coefficients

Table 2. Specific Indirect Effect

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics ( O/STDEV )	P Values
TU -> PI -> OP	0,303	0,325	0,135	2,240	<b>0,026</b>

## **DISCUSSION**

### **The Effect of Technology Utilization has a Positive Effect on Operational Performance**

The results of this study indicate that technology utilization has a positive but not significant effect on the operational performance of MSMEs in West Java. The results of this study are supported by research by Maysharah (2018) which show that technology has a positive effect on operational performance. These findings have important practical implications in supporting the growth and competitiveness of MSMEs in this digital era. In an increasingly competitive business environment, investing in technology and using it wisely can be the key to success for MSMEs in achieving better operational performance. The use of technology can automate routine tasks, reduce human errors, and speed up business processes. For example, the use of inventory management software can help MSMEs manage their stock more efficiently. This contributes to improved operational efficiency. The utilization of technology also allows MSMEs to be more responsive to changes in the business environment. They can quickly adapt to changes in market demand, industry trends or regulations.

### **The Effect of Process Innovation has a Positive Effect on Operational Performance**

In order to achieve a positive impact of process innovation on operational performance, companies need to be committed to constantly identifying opportunities to improve their processes and investing in improvement efforts. The results of this study are supported by research by Djashan (2018) and Fahmila (2018) which show the results that process innovation affects operational performance. Process innovation must also be integrated with broader business strategies and company goals. Thus, companies can achieve higher and sustainable operational performance in the long term. In a highly competitive business environment, process innovation can provide a significant competitive advantage. Companies that are able to produce products or services at a lower cost or faster

than their competitors can have a stronger position in the market.

### **The Effect of Technology Utilization on Process Innovation**

Using technology wisely can spur process innovation throughout an organization. However, it is important to remember that technology is just a tool, and effective process innovation also requires a corporate culture that supports change, team collaboration, and creativity. Integrating technology with a strong innovation strategy can lead to continuous improvements in operational efficiency and effectiveness. Technology enables companies to be more responsive to changes in the market, industry trends, or customer needs. With rapid adaptation to these changes, companies can introduce process innovations that support these changes. The results of this study are supported by research by Masyarah (2018) and Tripathy et al (2016) which show the results that technology utilization has a positive effect on process innovation.

### **The Effect of Technology Utilization on Operating Performance with Process Innovation as a Mediator**

The results showed that technology utilization directly has a positive impact on the operational performance of an organization. The results of this study are supported by research by Romadhon (2019) and Bukhori (2016) which show the results that there is a significant effect of technology utilization on operational performance. This means that companies that are more active in applying technology in their operations tend to achieve higher levels of operational performance. This can be seen in the form of increased efficiency, productivity, reduced costs, or improved product or service quality. Process innovation plays an important role in explaining the relationship between technology utilization and operational performance. The results show that process innovation acts as an intermediary or mediator in this relationship. In other words, technology utilization not only has a direct impact on operational performance, but also through changes and improvements in business processes

generated by the technology. The results highlight the importance of technology utilization in modern business and how process innovation can be the key to optimizing its benefits. This relationship reinforces the argument that technology is not just a tool, but also a driver of change in the way organizations conduct their operations. The results of this study provide valuable guidance for business owners, managers, and stakeholders in their efforts to improve their operational performance and competitiveness through technology and process innovation.

## CONCLUSION

This study has uncovered findings regarding the effect of technology utilization on the operational performance of MSMEs, with an important role played by process innovation as an intermediary in this relationship. The results show that there is a insignificant positive influence between technology utilization and operational performance of MSMEs in West Java. The use of technology, including hardware, software, and digital platforms, directly impacts the efficiency, productivity, and quality of products or services produced by MSMEs. Process innovation plays an important role as an intermediary in the relationship between technology utilization and operational performance. Changes and improvements in the way MSMEs run their operations, including automation, workflow changes, and process optimization, help link technology use with better outcomes in operations. The results of this study provide valuable guidance for MSMEs in West Java and similar regions. Increasing technology utilization wisely and focusing efforts on process innovation are strategies that can help MSMEs improve their competitiveness in an increasingly complex and changing market. The research also highlights the importance of a culture of innovation in MSME organizations. The ability to adapt to new and rapidly changing technologies is key in achieving success in leveraging technology and generating impactful process innovations. While this research provides valuable insights, there is still potential for further

research. Further case studies, sector-specific analysis, or field research could go deeper into understanding the factors that influence process innovation in MSMEs. Technology utilization and process innovation are important components in the efforts of MSMEs in West Java to achieve better operational performance. In the ever-evolving digital era, MSMEs that can integrate technology with effective process innovation strategies will have a significant competitive advantage. Thus, the results of this study can help support the growth and sustainability of MSMEs in the region.

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