

# The Effect of ERP Implementation on Firm Performance Through Information Technology Capability and Inventory Management During the Covid-19 Pandemic

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## Abstract

The Covid-19 pandemic impacts uncertainty in the global economy, with many policy changes set by the government, is trying to prevent the spread of the virus. The company seeks to optimize the use of information technology by using enterprise resource planning. Research using research population are manufacturing companies in East Java that have three years implemented ERP. Data collection was obtained from 85 companies using the purposive sampling technique and analyzing data using structural equation modeling with smartPLS software. The data analysis showed that the ERP system implementation did not directly impact the company's performance. ERP system implementation can improve inventory level control and information technology capabilities. The level of inventory and information technology capabilities owned by the company can impact the company's performance. Information technology capabilities affect inventory management. The indirect impact is that ERP system implementation affects company performance through inventory levels and information technology capabilities. The research contributes to supply chain integration theory to improve company performance on an ongoing basis. Practical contributions for warehouse managers and other functions can take advantage of inventory-level information to improve company performance.

**Keywords:** ERP implementation; information technology capability; inventory management; firm performance.

## 1. Introduction

The coronavirus (COVID-19) pandemic has shocked the world of business and the global economy. Ongoing uncertainty causes an uncertain situation in the cross-sectoral business and industrial area. Meanwhile, Song & Zhou (2020) stated that the COVID-19 pandemic caused increased uncertainty in the global economy. Understanding this uncertainty provides the background to analyze the impact of the pandemic on the global economy, assessing the effectiveness of policies in dealing with the pandemic so that the global economy can return to average and post-pandemic economic recovery. The steps taken to inhibit the spread of the coronavirus are to enforce social distancing, resulting in the closure of capital markets, offices, companies, and businesses. Furthermore, it was found that this social distancing hampered economic activity (Ozili & Arun, 2020).

The impact of this pandemic will certainly also affect the business world in Indonesia, but the Indonesian government has not taken steps to implement a lockdown like in other countries. Instead, the Indonesian government wisely implemented Large-Scale Social Restrictions and continued with the Enforcement of Community Activity Restrictions per region in Indonesia. Implementing an Enterprise Resource

Planning (ERP) system is an effective way to address this situation. Because by implementing an ERP system, it can integrate between departments in running a business. ERP is an information technology system that integrates all functions (accounting, finance, production, warehouse, marketing, purchasing, and human resources management) in a company in a single database (Ince et al., 2013). The ERP system that is decided to be implemented must follow the needs required of the company (Kamdjoung et al., 2019). According to Ince et al. (2013), the ERP system is an essential tool for planning business processes, information flow, decision-making, and monitoring the company's financial resources, materials, equipment, and labor that are placed differently. ERP systems and Supply Chain Management (SCM) practices benefit planning, making decisions, implementing, and improving company performance (Pirmanta et al., 2021). The study was conducted on 138 executives in Turkey and showed that SCM practices and ERP systems positively affect company performance and company competitive advantage. Ali & Miller (2017) stated that ERP system implementation brings a series of challenges for companies. Mpanga & Elbana (2019), to make an ERP implementation successful, there must be the following activities: monitoring and evaluation, contextualization,

implementation, transition, and realization. Supply Chain Orientation significantly and positively affects Operational Performance (Kristianto and Tarigan, 2019). Finally, ERP development that is carried out continuously, starting from implementation and customization, can increase the company's operational performance (Tarigan et al., 2021; Setiabudi et al., 2021).

The platform commonly used at that time was a mainframe with third-generation software, which continues to grow today. Its primary focus is tracking raw material inventory and providing inventory reports. ERP implementation on the company's inventory system can reduce waiting times for orders to suppliers, automatically determining the number of orders, determining the amount of inventory in real-time, and easy implementation procedures (Sebayang et al., 2021). In addition, improved performance from ERP is obtained from inventory level management with the separation of related divisions to access inventory data, a clear Standard Operating Procedure (SOP), and the availability of inventory levels for each product (Tarigan & Siagian, 2020).

Furthermore, innovation affects the company's performance positively. So, it is emphasized that innovation is a capability that stands between IT capabilities and company performance (Turulja & Bajgorić, 2016). According to Tarigan & Siagian (2020), the right inventory level according to the company's needs can be identified with the alignment of IT capabilities and business processes. Company performance is a condition of the company during a specific period and the results of operational activities in utilizing its resources (Siagian et al., 2020). Tarigan et al. (2018) company performance is a broad concept that includes various dimensions: operations, management, and the company's competitive advantage and activities. ERP technology is the main thing companies need to increase capabilities in today's era by increasing efficiency and effectiveness. The manufacturing industry requires data integration between departments using ERP to improve company performance through technology capabilities and continuous company inventory control. Based on the explanation above, no research has simultaneously used construct ERP implementation, technology capability, inventory management, and firm performance to the researcher's knowledge.

## 2. Literature Review

### 2.1. Enterprise Resources Planning

ERP system implementation is a strategic decision driven by technical and business factors to improve processes, build a common platform, improve

relationships with customers and suppliers, or reduce data errors (Setiabudi et al., 2021). According to Kamdjoug et al. (2019) is a decision to adopt commercially available software or develop an existing internal application for later implementation. Ali & Miller (2017) revealed that ERP is part of a strategy for optimizing the company's internal business activities or as a stage of applying ERP software functions to operational activities that occur in the company. The ERP implementation process can take anywhere from one to three years, and significant efforts are required to be successful because the probability of failure in implementation is quite large. ERP implementation in manufacturing companies integrates all departments in the company (Setiabudi et al., 2021). ERP implementation is a strategic step set by management to implement an internal company integration system using information technology with a single database in manufacturing companies (Tarigan et al., 2020).

Implementing ERP technology in organizations is generally seen as a complicated and complex thing that causes top management and users to be reluctant to implement it (Tarigan et al., 2019). Key users will also specialize in parts of the ERP system and act as trainers, educators, advisors, help desk resources, and agents for end-users (Tarigan et al., 2020). The indicators set to measure ERP implementation are conformity with the company's business processes, easy system customization, key user empowerment, and top management support.

### 2.2. Inventory Management

Inventory management requires appropriate steps to cope with drastically changing demand by implementing information technology to automatically carry out the system to support company performance (Laosirihongthong et al., 2018). Inventory management is determining the right amount to be ordered and stored at a specific time related to costs. Holding too much inventory will result in much capital being spent because there is a chance the inventory is damaged, obsolete, and lost (Orobia et al., 2020). Inventory management balances customer service, product availability, and inventory costs. Inventory management is an essential part of making all decisions in inventory handling in a company, such as inventory management policies and procedures for handling inventory to ensure enough of each item is stored in the warehouse (Shen et al., 2017). Inventory management indicators are used by adopting the indicators set by Laosirihongthong et al. (2018), namely the data warehouse's accuracy level, the warehouse's resource allocation, the efficient operational cost of the warehouse, and the level of flexibility of the inventory.

### 2.3. Information Technology (IT)

Information technology capabilities refer to an organization's ability to acquire, deploy, combine, and reconfigure IT resources to achieve a competitive advantage. The three most relevant IT capabilities are IT infrastructure, aligning IT, and proactive IT and business capabilities (Cepeda & Arias-Perez, 2018). IT Capability reflects the ability of the company to acquire, deploy, combine, and reconfigure IT resources to improve business strategies and work processes (Cai et al., 2016). The company obtains information technology capabilities by implementing integrated information technology with an increase in system capabilities in the company and the individual knowledge capabilities of company employees in using information technology (Tarigan et al., 2021; Kristianto and Tarigan, 2019). Information technology capabilities are always necessary for companies to build and develop company systems to explore increasing the company's potential on an ongoing basis (Chae et al., 2017). In addition, IT capabilities enable companies to identify changes in the environment, control internal information, and make fast and innovative decisions by aligning internal processes and increasing agility (Melian-Alzola et al., 2020). Information system capability is the ability of the company to meet its needs for information and the availability company's business strategy (Tarigan & Siagian, 2020). Information technology capability is measured by indicators that adopt research by Fernando et al. (2020), namely: the capability to handle problems related to the function of information technology, the company has qualified information technology resources, the company's ability to share knowledge with key partners, the information technology owned by the company can increase productivity.

### 2.4. Company Performance

Company performance is a broad concept in which the concept includes various dimensions of operations, management, and competitive advantage of the company and its various activities (Tarigan et al., 2018). Company performance measurement systems have been expanded to include financial and non-financial criteria (Ayatse et al., 2017). Company performance can be reflected in company growth, company survival or failure, job creation, product research and development, revenue growth or sales, business funding sources, and network or alliance capabilities (Ayatse et al., 2017). Company performance is a complete condition of the company for a certain period, which is the result or achievement that

is influenced by the company's operational activities in utilizing its resources and can be classified into financial and non-financial performance. Operational performance indicators are used in this study by adopting the research indicators of Tarigan et al. (2021) and Pirmanta et al. (2021), namely the quality of products produced by the company, decreased production costs, reduced production process lead times, and reduced product returns/returns from customers.

### 2.5. The Relationship Between Concepts

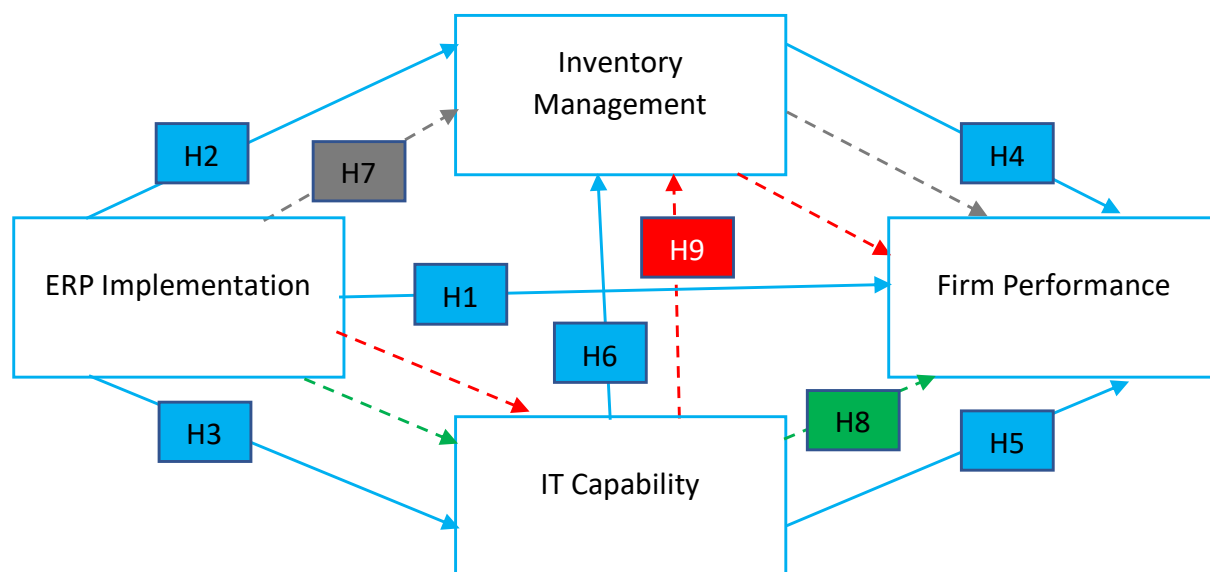
The implementation of the ERP system helps companies to achieve their competitive advantage, resulting in increased company performance in 148 executives of Indonesian companies (Handoko et al., 2015). The study conducted on 138 executives in Turkey showed that SCM practices and ERP systems positively affect company performance and competitive advantage (Jiputra et al., 2020; Ince et al., 2013; Setiabudi et al., 2021). Ali & Miller (2017) stated that implementing an ERP system brings challenges to the company. Meanwhile, according to Mpanga & Elbana (2019), to make an ERP implementation successful.

H<sub>1</sub>: There is a relationship between ERP system implementation on company performance.

Customer orders will be delivered on time, indirectly increasing customer satisfaction, trust, and loyalty (Wei et al., 2017). In addition, conformity in ERP implementation impacts the company's inventory system, namely reducing waiting time for orders to suppliers, determining the number of orders automatically, determining the amount of inventory in real-time, and easy implementation procedures (Sebayang et al., 2021). Its primary focus is tracking raw material inventory and providing inventory reports (Nagpal et al., 2015). Inventory level management by separating related divisions to access inventory data, and the company has determined inventory levels for each product can help improve ERP performance (Tarigan & Siagian, 2020).

H<sub>2</sub>: There is a relationship between ERP system implementation and inventory level regulation.

Tarigan & Siagian (2020) stated that the leader's commitment influences ERP performance through information technology capabilities and inventory management. Where information technology capabilities align with the company's business processes, it will lead to integration between departments within the company that will affect proper inventory levels and ERP performance. Excellent information technology capabilities enable companies to obtain information about the internal and external environment to make



**Figure 1.** Research Concept Framework

innovative and competitive changes to the company's new business model (Abdinnour & Saeed, 2015). Users' skill level and knowledge influence the success in implementing the ERP system to operate the ERP system's features during the process. It was found that knowledgeability significantly affects the success of ERP implementation in 150 top management people who work in multinational companies that use ERP (Candra, 2012).

H<sub>3</sub>: There is a relationship between ERP system implementation and information technology capabilities.

Mohamad et al. (2016) stated a positive relationship exists between inventory management and company performance at textile companies in Malaysia. Laosirihongthong et al. (2018) state that inventory management used by information technology can make an automated system in the company to improve company performance through effectiveness and efficiency. Managers must be more innovative and improve their skills to adapt to a rapidly changing environment (Orobia et al., 2020). Top management needs to compare inventory with its competitors to find an optimal inventory level that can improve company performance (Elsayed & Wahba, 2016).

H<sub>4</sub>: There is a relationship between inventory level settings on company performance.

Chae et al. (2017) state that there is an unexpected but reasonable dynamic between information technology capabilities and company performance. The company's operational needs are not integrated with its internal business processes and do not see its external supply chain management capabilities (Peng et al., 2016; Pirmanta et al., 2021). The use of information

technology in companies as a form of capability in information technology can improve company performance, especially in increasing profits and, at the same time, reducing the risk of the company's stock price (Mishra et al., 2013). Information technology capabilities in manufacturing companies can increase company performance (Chae et al., 2017; Jiputra et al., 2020).

The general relationship between IT capabilities and innovation is that IT capabilities facilitate innovation. Furthermore, innovation positively affects the company's performance (Turulja & Bajgorić, 2016). According to Zhang et al. (2016), IT capability creates a unique competitive advantage, is an intangible asset for companies, and maintains performance on a sustainable basis compared to average industry performance.

H<sub>5</sub>: There is a relationship between information technology capabilities on company performance.

According to Tarigan & Siagian (2020), the right inventory level according to the company's needs can be identified in line with information technology capabilities and business processes. Information technology capabilities play an essential role when companies adopt an effective inventory management practice. Innovations in information and communication technology will improve inventory management practices (Mat et al., 2018). Information technology capabilities play an essential role in inventory efficiency in manufacturing companies listed on the stock exchange (Mishra et al., 2013). Operational excellence can be achieved by strengthening the organization's perspective and continuously redesigning the inventory system to achieve a certain efficiency level (Fernando et al., 2020).

H<sub>6</sub>: There is a relationship between information technology capabilities and inventory level regulation.

Based on the explanation of the background and literature review, it can be determined the research model in Figure 1.

Based on Figure 1, it can be determined the hypotheses seventh (H7), hypotheses eighth (H8), and hypotheses ninth (H9)

H<sub>7</sub>: There is a relationship between ERP system implementation on company performance through inventory level regulation.

H<sub>8</sub>: There is no relationship between ERP system implementation and company performance through IT capabilities.

H<sub>9</sub>: There is a relationship between ERP system implementation on company performance through IT capabilities and inventory level management.

### 3. Methods

**Methods** The research method used in this study is quantitative. This quantitative method is based on the positivism philosophy, which is used to examine specific populations or samples (Sekaran & Bougie, 2016). The sampling technique was carried out randomly, with data collection using research instruments and statistical data analysis to test the researcher's hypotheses. Researchers decided to use quantitative methods because researchers wanted to know the effect of ERP implementation on company performance through IT capabilities and inventory management during the Covid-19 pandemic.

The population is the number of elements to be studied with specific characteristics, namely units, individuals with their characteristics, and units called units of analysis, which can be people, organizations, groups, transactions, and others (Sekaran & Bougie, 2016). The characteristics of the sample used in this study are respondents who meet the requirements to answer the research objectives, namely managers or supervisors who work in consumer goods manufacturing companies in East Java or staff who have worked for more than three years. Data collection and collection must comply with predetermined criteria in selecting the sample to be used. The sample selection is based on specific criteria or characteristics applied based on the research objectives because not all samples meet the criteria following what has been determined. The sample selection criteria in this study are as follows: first, medium and large-scale consumer goods manufacturing companies in East Java. Second, consumer goods manufacturing companies in East

Java have or are currently implementing or have not implemented ERP.

The data analysis technique is Structural Equation Modeling to test the existing hypotheses. It uses the Smart Partial Least Square (SmartPLS) software to manage and analyze the data in this study. Partial Least Square (PLS) is an equation model of the component or variance-based SEM. PLS is an alternative approach that shifts from a covariance-based SEM approach to a variance-based approach. PLS aims to assist researchers in doing predictive research (Ghozali & Latan, 2015).

### 4. Results

Data retrieval was carried out with the help of enumerators, namely employees in the company, to meet the specified number of samples. Until the processing was carried out, data were obtained from as many as 85 companies. For a reliable research instrument, it is necessary to test the validity and initial reliability of the measuring instrument to obtain representative data in this study. Respondents appointed to fill out the questionnaire were from departments related to ERP technology, namely information technology applied to the company's operational departments.

#### 4.1. Respondent Profile

Characteristics of respondents who were used as research samples can be classified based on gender, length of service in the company, position/position in the department, the origin of the department, type of ERP in the company, and duration of ERP implementation (enterprise resources planning). Table 1 shows the characteristics of respondents by gender.

**Table 1.** Respondents' Profile Based on Gender

Department	Total	Percentage
Female	24	28 %
Male	61	82 %
Total	85	100%

Characteristics of respondents are reviewed based on gender in the company listed in Table 1, which explains that the number of male workers is more dominant, namely 61 respondents (82%). Female respondents as workers were 24 respondents (28%). This shows that the male gender prioritizes work related to ERP implementation projects in companies due to the large number of jobs that exceed working hours and use many logically related computer programs.

Characteristics of respondents based on the position or position in the department are shown in Table 2.

**Table 2.** Respondent Profile Based on Position

Position	Total	Percentage
Owner	1	1 %
Director	14	16 %
Manager	38	45 %
Supervisor	23	27 %
Staff	9	11 %
Total	85	100%

Characteristics of respondents are reviewed based on the position or position in the department contained in Table 2. It explains that the two positions with the highest scores are supervisor, manager, and director, with 75 respondents (88%). This illustrates that the respondent is in the middle manager position in coordination and operational responsibility and can be said to have known the company's condition so that he could represent the company in filling out this research questionnaire. In addition, the three positions also have tremendous responsibility so that the implementation of ERP as a data integration system in the company can be carried out. The characteristics of the respondents determined by division/department of work in the company are shown in Table 3.

**4.2. Research Analysis**

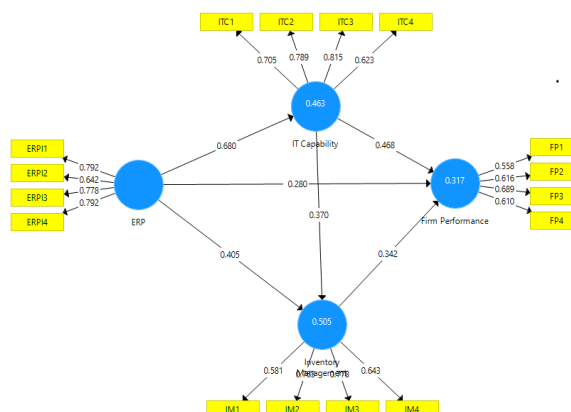
Furthermore, using the SmartPLS software program. Research data analysis includes evaluating the outer and inner models related to their latent variables. The outer model will test the validity. The discriminant validity test for ERP Implementation measured using ERPI1 (Compatibility with company business processes), ERPI2 (Ease of customizing the system), ERPI3 (Key user empowerment), and ERPI4 (Top management support) have the smallest value of 0.642 > 0.5. It implies that all measurement items on the ERP Implementation have met and are acceptable. IT Capability is measured using four indicators: ITC1, ITC2, ITC3, and ITC4. The smallest factor loading value is 0.623 > 0.5. Hence, all indicators are considered valid. Moreover, Inventory management is measured using four indicators: IM1, IM2, IM3, and IM4, with the smallest value of 0.581 and above 0.5. Hence, all measurement items in the Inventory management have met and are acceptable. The last variable, Firm performance, is assessed using FP1, FP2, FP3, and FP4 with the smallest factor loading of 0.558 > 0.50. and the value has been above 0.5. Therefore, all measurement items on firm performance have been met and are acceptable. The reliability test

was conducted to prove the instrument's accuracy, consistency, and accuracy in proving the construct. The reliability test uses the composite reliability method. The use of composite reliability to test construct reliability if the composite reliability value is said to be reliable if it has a composite reliability value of more than 0.7. The greater the composite reliability value, the better the accuracy, consistency, and reliability of the variables in these indicators. Composite reliability results can be seen in Table 4.

**Table 3.** Reliability Test

Variable	Cronbach's Alpha	rho_A	Composite Reliability
ERP	0.749	0.770	0.839
Firm Performance	0.766	0.758	0.813
IT Capability	0.713	0.715	0.825
Inventory Management	0.742	0.764	0.878

Table 3 shows Cronbach's alpha values, rho\_A, and composite reliability for each ERP, firm performance, IT capability, and inventory management. Cronbach's alpha values, rho\_A, and composite reliability are said to be reliable because their values have exceeded 0.70. The structural or inner model aims to predict the relationship between latent variables shown in the research hypothesis. The testing result of the hypothesis is shown on the t-statistical value. If the value of the t-statistical hypothesis testing is above 1.96 or the significance value (p-value) is below 0.05 (5%), it is stated that the alternative hypothesis is accepted. Conversely, if the t-statistic value is below or equal to 1.96 or the significance value (p-value) is above or equal to 0.05 (5%), the alternative hypothesis is rejected. Based on the results of the tests carried out on the research model with partial least squares (PLS) obtained, the path coefficient value or inner model is shown in Figure 1, and the results of the research hypothesis testing are shown in Table 4.



**Figure 1.** Research Model and Analysis Results



**Table 4.** Direct Hypothesis Test Results

Direct Effect	Path Coefficient	T Statistics	P-Values
ERP → Firm Performance	0.280	1.827	0.065
ERP → Inventory Management	0.405	2.818	0.005
ERP → IT Capability	0.680	9.757	0.000
Inventory Management → Firm Performance	0.342	1.983	0.039
IT capability → Firm Performance	0.468	2.637	0.017
IT capability → Inventory Management	0.370	1.994	0.029

Based on Figure 1. and Table 4, it was found that the first hypothesis test shows the ERP implementation affects firm performance with a path coefficient value of 0.280, a t-statistic of 1.827 < 1.96, or a p-value of 0.065 > 0.05. Therefore, there is no significant direct effect between ERP implementation on firm performance in the company. This means that ERP implementation did not impact the firm performance. However, in the case of a significance level of 10%, this result indicates that ERP implementation does affect the firm performance. This condition indicates that the ERP implementation affects firm performance at the significant level of 0.1 or the t-statistic of 1.65.

The second hypothesis, ERP implementation on inventory management, is supported with a coefficient value of 0.405, which has a t-statistic of 2.818 > 1.96 or a p-value of 0.005 < 0.05. Therefore, it can be concluded that ERP implementation significantly influences inventory management in the company. The third hypothesis testing result shows a coefficient value of 0.680, a t-statistic of 9.757 > 1.96, or a p-value of 0.000 < 0.05. Therefore, ERP implementation affects IT capability. Moreover, the result shows that the fourth hypothesis, inventory management affects the firm performance, is supported by a coefficient value of 0.342, a t-statistic of 1.983 > 1.96, or a p-value of 0.039 < 0.05. This result implies that inventory management can significantly increase firm performance. Furthermore, the fifth hypothesis, IT capability influences firm performance, is accepted with a coefficient value of 0.468, a t-statistic of 2.637 > 1.96, or a p-value of 0.017 < 0.05. Therefore, IT capability influences firm performance. Lastly, the sixth hypothesis is supported by the path coefficient value of 0.370, a t-statistic of 1.994 > 1.96, or a p-value of 0.029 < 0.05.

Meanwhile, based on indirect path coefficient testing is shown in Table 5. Therefore, the seventh hypothesis stating that ERP implementation indirectly affects firm performance through inventory management is accepted with a coefficient value of 0.126, a t-statistic of 0.865 < 1.96, or a p-value of 0.387 > 0.05.

Therefore, there is no significant effect between ERP implementation on firm performance through inventory management in the company. This means that in this study, inventory management cannot mediate between ERP implementation and firm performance with a significant level of 0.05.

**Table 5.** Indirect Hypothesis Test Results

Indirect Path	Path Coefficient	T Statistics	P Values
ERP → Inventory Management → Firm Performance	0.126	0.865	0.387
ERP → IT capability → Firm Performance	0.543	3.342	0.001
ERP → Inventory Management → IT Capability → Firm Performance	0.251	1.967	0.043

The eighth hypothesis, ERP implementation influences firm performance through IT capability, is supported by a coefficient value of 0.543, a t-statistic of 3.342 > 1.96, or a p-value of 0.001 < 0.05. This means that IT Capability can mediate between ERP implementation and firm performance in this study. Finally, the ninth hypothesis, ERP implementation affects firm performance through IT Capability and inventory management, is supported by a coefficient value of 0.251, a t-statistic of 1.967 > 1.96, or a p-value of 0.043 < 0.05. This means that in this study, IT capability and inventory management can mediate between ERP implementation and firm performance with a significant level of 0.05.

## 5. Discussion

ERP implementation on firm performance in the manufacturing industry. The company's ability to implement ERP by conforming to business processes with the ERP system (ERP1) and top management support for ERP implementation (ERP4) did not directly impact company performance. The company's efforts in implementing ERP cannot directly reduce the lead time of the production process because the ERP implementation in the company is still internal; not many companies have integrated ERP by involving suppliers. ERP in companies in East Java has not provided access rights and authorization for the use of ERP for suppliers. Therefore, the integration that was built to reduce lead time has not been carried out so that ERP implementation can reduce inventory levels and increase capabilities to provide lead time reduction. ERP implementation of inventory management in the manufacturing industry. The suitability of the business process with the ERP system in the warehouse can see the overall material inventory and supporting material

to make resource allocation (MP2). With top management's support, the ERP system can be run properly, and build an operational system in the warehouse properly so it can run efficiently. This shows that ERP implementation is beneficial for adequately controlling raw and supporting materials in the warehouse. The effect of ERP implementation on IT capability in the manufacturing industry. The company's ability to implement ERP impacts increasing IT capability, as seen from the ability to share knowledge with key partners (IK3), and the company has the resources qualified for information technology (IK2). In addition, the company's ability to implement ERP, which impacts IT capability, can make it rely on the ERP system to build good internal integration.

Inventory management on firm performance in the manufacturing industry. The company's ability to have an impact on optimizing inventory management by determining the resource allocation of the warehouse very well (MP2) and efficient operational cost warehouse (MP3) can improve firm performance. The company can manage the warehouse system properly by reducing operational costs (FP2) and production lead time (FP3). The warehouse can reduce the lead time for receiving raw materials by providing a location for unloading raw materials, providing a location for storing raw materials, and providing labor resources and means of transportation when receiving materials or supporting materials.

Increasing IT Capability owned by manufacturing companies can share knowledge with key partners (KT3), and the company has qualified information technology resources (KT2). The company's IT capability can improve firm performance by reducing operational costs (FP2) with the company's ability to provide adequate information technology. Companies can quickly provide production reports on production results, and the production process provides information to management inadequately determining the company's operations. Increasing the IT capability of manufacturing companies can improve inventory management control correctly and appropriately. The company's IT capability can maintain the company's inventory level well. IT capability can also manage the company's resource allocation, especially in the warehouse (MP2), and operational costs in the warehouse are more efficient (MP3). The company's IT capability can contribute to the inventory of each material item in the warehouse and the position of the material stock in the warehouse so that the company can implement the ROP (Re-order point) of raw materials automatically.

The study's hypotheses were indirectly obtained between ERP implementation and firm performance, and there are three hypotheses, with two accepted and one rejected hypothesis. The accepted hypothesis is;

first, ERP implementation affects firm performance through IT capability, and second, ERP implementation affects firm performance through IT Capability and inventory management. ERP implementation influences firm performance through IT capability, indicating that the company can improve performance by increasing IT capability. The ERP implementation through building ERP conformity with the company's business processes (ERP11) and the support from top management (IERP4) can impact the company in terms of being able to share knowledge with key partners (KTI3) and qualified information technology resources (KTI2) resulting in a decrease in the company's production operating costs (FP2) and a reduction in the lead time of the production process. When a company implements ERP correctly, it will provide an accurate, complete, and fast information system that enables the company to reduce operational costs. The research contributes to supply chain integration theory to improve company performance on an ongoing basis. Practical contributions for warehouse managers and other functions can take advantage of inventory-level information to improve company performance. Through ERP technology, managers can use warehouse inventory data to anticipate demand and supply imbalances.

## 6. Conclusion

Several conclusions can be drawn based on the discussion on ERP system implementation research on company performance through IT capabilities and inventory level regulation. First, ERP implementation can positively impact optimizing inventory management because ERP implementation that follows business processes can maintain inventory levels to make warehouse operations efficient and resource allocation. Second, ERP implementation influences increasing IT Capability. ERP implementation under business processes enables companies to share data with partners, and the company's information system can handle all company operations. ERP implementation has no direct effect on firm performance.

ERP implementation that follows business processes cannot directly reduce the company's lead time and operational costs due to the need for actual activities to be operated as intermediaries. However, IT capability can have a positive influence on firm performance. The company can improve IT capability so that data integration occurs between functions to facilitate data sharing with key partners, reducing company operational costs and lead time. IT Capability can have a direct influence on inventory management significantly. A qualified IT capability for the company will be able to maintain its inventory level to optimize



inventory and resource allocation, which impacts warehouse operational efficiency. As a result, the company's inventory management directly impacts firm performance. The company's ability to manage and manage inventory levels properly can reduce operational costs and lead time for material procurement. ERP implementation can have an impact on firm performance through qualified IT capability. ERP implementation is not able to have an impact on firm performance through optimal inventory management. ERP implementation can impact firm performance through optimal inventory management with strong IT capability.

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