

The influence of project managing capability, IT integration, supply coordination, and process innovation to improve organizational performance of educational institutions

Ellysa Sri Hartati^a, Hotlan Siagian^a, Zeplin Jiwa Husada Tarigan^{a*} and Ferry Jie^b

^aSchool of Business and Management, Petra Christian University, Indonesia

^bSchool of Business and Law, Edith Cowan University, Joondalup 6027, Australia

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ABSTRACT

The organization strives to provide timely service according to customer needs. Organizations must communicate and make the right decisions quickly to improve performance. The research aims to assess the influence of project management capability, integration, and coordination in improving organizational performance. Data is collected using a questionnaire designed with a five-point Likert scale. The respondents are all suppliers or vendors of high school educational Institutions in East Java. The organization has a project manager responsible for all procurement and projects. The criteria of suppliers or vendors are those who have paid taxes, have a taxpayer number, and have an adequate bank account. Data analysis used the SEM-PLS approach employing SmartPLS software version 4.0. The data processing results showed that project management capability positively affected information technology integration by 0.712, supply coordination by 0.432, and process innovation by 0.250. Information technology integration positively impacted supply coordination by 0.445, process innovation by 0.254, and organizational performance by 0.304. Supply coordination positively affected process innovation by 0.366 and organizational performance by 0.385. Finally, process innovation had a positive effect on organizational performance by 0.234. The research provides insights for foundations to optimize the role of departments in building supply coordination using information technology. Project managers must optimize integrated information technology by maintaining investment and upgrading equipment, making a theoretical contribution to supply chain enrichment, and using a resource-based view.

1. Introduction

Globalization and competition in the increasingly industrial world require organizations to provide services appropriately and quickly using information technology processing (Wong et al., 2020). This service requires good supply coordination between various parties, which can affect the process. Hence, it requires better process innovation and later aims to improve the performance of the company/organization (Adam et al., 2020; Alosani et al., 2020). Coordination in the supply chain is also related to managing available resources (Ranta et al., 2021; Agarwal & Narayana, 2020). The resources constitute human resources, technological devices and networks, information flows, and existing systems (Akhorshaideha et al., 2024). The quick response in delivery service requires information technology, which can be shared and supported by absorptive capacity (Oke et al., 2022). Information technology accelerates the flow of information and the process and cooperation between departments (Magutu et al., 2015; Pirmanta et al., 2021). Technology makes it easier for decision-makers to design organizations to be more flexible and able to process available data well (Zhang et al., 2016; Zhu et al., 2020).

Organizations must always be able to maintain the continuity of business activities and get up-to-date information (Wong et al., 2020). Technology has provided opportunities for many companies to innovate with the availability of new, broader

* Corresponding author.

E-mail address: zeplin@petra.ac.id (Z. J. H. Tarigan)

knowledge that benefits suppliers, customers, and competitors (Alnoor et al., 2021; Zhang et al., 2016). Digital technology and soft skills owned by companies in the form of organizational skills, such as human resource management, can trigger innovation processes that require a deeper understanding of the processes already running in essential parts to implement process innovation (Zhu et al., 2020). Effective resource management is important for organizations in producing performance (Negi, 2021). The ability of the organization to optimize the use of human, financial, and physical resources in achieving the project completion goals (Akhorshaideha et al., 2024). Project management skills can ensure adequate resources are allocated carefully and adapt to changing project needs (Misbahuddin et al., 2024). Good management also minimizes the risk of wasting resources that can hinder achieving optimal results. Project management capability is essential for organizations to manage resources to carry out predetermined projects (Tarigan et al., 2018; Yazici, 2020). The project management capability owned by the organization has an impact on the management and usability of information technology in the company (Amade et al., 2023). Digital technology integrates the processing system between departments within the company in providing and managing information (Sedera et al., 2016). Companies can use digital technology to support visibility and decision-making (Yang et al., 2021). The company's technology can provide fast and accurate information for project managers to determine the optimal option (Akhorshaideha et al., 2024). Technology makes it easier for project managers to make adequate decisions. The integration of information technology in project management owned by organizations can make it easier to track material needs and availability and adjust operational needs (Tarigan et al., 2020). Technology integration has made it easier for project managers to manage routine and incidental activities quickly, making the overall task easier (Tarigan et al., 2018). The use of information technology in companies can optimize the workflow of each project implementation (Selvakumar et al., 2024). Information technology owned by organizations can provide real-time information related to monitoring and evaluating all activities that take place during the project (Amade et al., 2023). The integration of information technology allows organizations to efficiently and transparently implement activities that impact organizational performance (Ataseven & Nair, 2017).

Information technology owned by organizations can collaborate in real-time with suppliers and customers (Chang et al., 2016; Wong et al., 2015). Organizations that can collaborate with external partners tend to be more innovative in coordinating with suppliers (Wang et al., 2021; Singh & El-Kassar, 2019). Innovation is also needed to respond to customers' changing needs and desires through changes in products and services/services along with improvement/improvement of processes within the organization (Kwak et al., 2018). Organizations that realize that sharing knowledge with supplier partners can be essential in competitively gaining an advantage (Sáenz et al., 2014). Project management will build good coordination with suppliers to explain the organization's needs (Misbahuddin et al., 2024). The ability to manage good communication with suppliers can explain needs accurately and continuously (Kim et al., 2013). The formed communication can affect adequate planning (Harianto et al., 2024). This condition allows organizations to use time efficiently to manage sudden changes and organizational needs. Good coordination in sharing information with suppliers can provide control of activities so that the project can run well (Rajaguru & Matanda, 2019).

Project management capability in organizations is essential in managing change to suit needs (Adam et al., 2020). Change management is integral to management's ability to manage well (Soesetyo et al., 2024). Projects in organizations often have to adapt to changing needs by using information technology (Akhorshaideha et al., 2024). Managing change helps the project stay relevant and achieve its goals despite significant changes (Misbahuddin et al., 2024). The innovation process can improve effectiveness regarding delivering on promises, meeting standards, and dealing with problems (Kwak et al., 2018). Innovation is essential for companies to maintain competitiveness and improve organizational productivity (Alosani et al., 2020). Project management guarantees quality change results to ensure that project results are under the set standards (Tarigan et al., 2020). Organizations with high project management skills and transparent procedures to evaluate the quality of project results from each stage can produce process innovations for organizations with sustainability efforts in economic and social sustainability (Yazici, 2020). A process that involves periodic review and supervision to ensure that quality is maintained and meets expectations (Tarigan, 2018). The business innovation process has a positive influence on improving organizational performance (Schniederjans, 2018). Process innovation that can accommodate needs and developments can improve the company's performance (Wadho & Chaudhry, 2018). Process innovation for companies can be interactive and creative in producing new processes to meet customer needs (Siagian et al., 2021).

The innovations produced by manufacturing companies can meet customer demands by ensuring that the requirements of raw material specifications have been met by suppliers (Schniederjans, 2018; Yang et al., 2021). Innovation capabilities owned by startup companies in Thailand must be supported by management capabilities to improve sustainable performance (Somwethee et al., 2023). The company's innovation process must involve external partners, personal expertise owned by the company, and activities simultaneously to manage risks that occur with adequate management capability (Dhaundiya & Coughlan, 2022). Knowledge management capability project managers can maintain organizational learning and supply chain management practices (Attia & Eldin, 2018).

Project management skills enable the organization's system to make continuous improvements. Organizations formed in companies can learn from innovations made in the past to apply repeatedly to improve performance sustainably (Oke et al., 2022). Innovations made by organizations in carrying out projects can improve the process to reduce inefficiencies (Zhou & Xu, 2024). Process innovation can be redesigned to achieve desired outcomes related to improvements to improve service

quality and reduce costs. (Kwak et al., 2018). Process innovation can produce product innovations that suit customer needs and increase production capacity (Abbady et al., 2019). Companies must utilize all their resources to adapt to rapid changes using information technology and dynamic management capabilities (Qandah et al., 2021; Maley et al., 2015). Dynamic capability makes the activities carried out stable and systematically affects the company's performance more effectively (Abbady et al., 2019). Product and process innovation impacts companies so that they can change quickly according to customer needs (Costa et al., 2022). Process innovation can run smoothly so that it can improve organizational performance (Lee et al., 2019).

Strategic alignment set by the organization is vital to ensure that the projects carried out are by the organization's goals and strategies (Amade et al., 2023). With good project management skills, the selected projects add value to the organization (Selvakumar et al., 2024). Strategic project selection allows for more efficient allocation of resources and focuses on the priorities most important for business success (Misbahuddin et al., 2024). The school education association in East Java has established a department directly related to implementing all projects in carrying out the procurement and development process related to the overall needs of the association organization.

Based on the explanation above, the main objectives of the research are determined with four outlines to assess: first, the role of project management capability in improving information technology integration, supply coordination, and process innovation for education association organizations in East Java. Second, the effect of information technology integration supply coordination and process innovation. Third, the impact of supply coordination on the improvement of process innovation. Fourth, the simultaneous effect of integrating information technology in organizations, supply coordination, and process innovation on organizational performance.

2. Literature Review

2.1. Project managing capability

A project manager's capability is someone who has skills and knowledge and effectively completes projects to the end (Misbahuddin et al., 2024). Project management maturity-based capability can provide value for projects and help the organization succeed (Yazici, 2020). Managing capability is the ability of company management to involve all components in the company in carrying out their respective roles by the duties and responsibilities that have been set to achieve organizational goals (Ranta et al., 2021). Each part of the company uses management capability to generate, expand, or modify resources with the capacity they have to cope with change (Maley et al., 2015). It is essential that each part of the company can synergize and collaborate to achieve the organization's goals (Côte-Real et al., 2017). Management capability can enable a company to plan strategically by considering its internal and external needs and adapting them (Adam et al., 2020). Management capability can manage and control company resources to achieve goals efficiently and effectively (Abbady et al., 2019). Organizations must identify skills and activities to mitigate risks to fit external conditions (Dhaundiyal & Coughlan, 2022). Knowledge management capability in companies using new technology and methods can provide improvements to processes and products that meet the needs of the company (Attia & Eldin, 2018). The ability of companies to scan, explore, and assimilate knowledge in organizations can improve innovative performance (Oke et al., 2022; Sáenz et al., 2014). Management capability in companies is strategic in improving the skills, experience and knowledge organizations need to build excellence to improve operational performance (Tarigan et al., 2018; Somwethee et al., 2023). Strong management capability is important in developing the resource capabilities needed for information technology integration and supply coordination (Singh & El-Kassar, 2019). Team development on projects needs to be carried out to improve skills and communication as well as collaboration to support the achievement of project management efficiency to create a performance organization (Akhorshaidaha et al., 2024). Dhaundiyal and Coughlan (2022) stated that companies must reduce risk by identifying management capabilities of coordination, communication, bonding, distributive justice, procedural justice, resource combination, and adaptation. Maley et al. (2015) stated that managing capability has dynamic capabilities so that organizations can be more flexible. Dynamic capabilities is a concept in strategic management that refers to the ability of an organization to adapt and change itself quickly and flexibly in the face of changes in the dynamic business environment (Zhu et al., 2020). The current focused management capability is a dynamic capability that enables companies to make rapid changes with a dynamic business environment (Qandah et al., 2021). The indicators used in dynamic capability include the company's ability to change, the ability to adapt to the environment or culture, the ability to integrate various resources, the ability to configure/form available resources and the ability to carry out good basic operational activities.

2.2. Information Technology Integration

Information technology in projects with project management software can provide adequate use and efficiency (Akhorshaidaha et al., 2024). Companies adopting information systems can increase their competitive advantage through cost reduction and efficiency (Magutu et al., 2015; Harianto et al., 2024). Technology organizations can support increased product and process innovation involving supplier partners and customers (Basana et al., 2022; Alnoor et al., 2021). Organizations with an integrated information technology system affect organizational performance because they can support visibility and the ability to share information in real-time (Petruzzelli et al., 2019; Sedera et al., 2016). Integrated information technology combines various components, systems, software, and information technologies into an organization's coordinated unit

(Chang et al., 2016). The integration of information technology makes organizations more efficient and productive (Kim et al., 2013; Zhou & Xu, 2024). The ability of organizations to manage and utilize information technology to achieve key business goals (Somwethee et al., 2023). Sharing resources and capabilities in the supply chain can create competitiveness and improve company performance (Rajaguru & Matanda, 2019; Yu et al., 2021).

Information technologies play a role in developing the performance of supply coordination (Huo et al., 2015; Pirmanta et al., 2021). Information technologies are crucial for cooperation between companies and supplier networks (Alnoor et al., 2021). Competence in managing the integration of information technologies can improve organizational performance (Côte-Real et al., 2017). Information technology integration with customer, supplier, and internal integration impacts organizational performance (Ataseven & Nair, 2017; Tarigan et al., 2020). The positive role of information technology in supply chains can be considered one of the drivers of supply coordination (Huo et al., 2015; Wong et al., 2020), and the management innovation process (Oke et al., 2022). Using digital technology to procure goods and services is profitable because it can reduce operational expenses (Moshtari et al., 2021). The flow of information and coordination between departments can provide decision-making to plan the right information technology integration strategy to make the organization more effective by its business goals (Soesetyo et al., 2024; Siagian et al., 2022). Moshtari et al. (2021) states that integrated information technologies can manage a company's data needs to help decision-making. The research indicators used to measure integrated information technologies by adopting the research of Tarigan et al. (2021) are reliability, objectivity, value-added, timeliness, richness, and ease of format.

2.3. Supply Coordination

Supply flow coordination is a concept in supply chain management that refers to efforts to integrate, manage, and coordinate various aspects of the supply chain to run efficiently and effectively (Attia & Eldin, 2018). Coordination involves various processes, policies, and activities designed to ensure that distributed goods and services can be carried out on time and efficiently and minimize costs (Yang et al., 2021). Coordination with external partners aims to improve the company's competitiveness and performance (Tarigan et al., 2021). Supply coordination also requires policies from leaders to encourage companies to fulfill their environmental (Tarigan, 2018) and social responsibilities and be encouraged continuously to be able to commit to maintaining sustainability practices in their supply chains (Baah et al., 2023).

Intensive coordination with suppliers can promote strong relationships and improve performance (Agarwal & Narayana, 2020). Organizations can ensure the availability of supplies of goods and services by suppliers and can monitor supplier performance (Moshtari et al., 2021). Sharing information with suppliers can effectively improve coordination so that material needs and accuracy can be estimated (Song & Liao, 2019). Sharing information with external partners about forecasts, inventory levels, and production schedules with timely material procurement (Sundram et al., 2018). Technology can improve coordination with external partners in real-time decision-making (Zhang et al., 2016; Harianto et al., 2024). The indicators used to measure supply chain coordination variables by adopting the research of Siagian et al. (2022) are the participation of external partners in the forecasting process, information sharing with external partners, improving production processes, and meeting company needs.

2.4. Process Innovation

An organization's ability to innovate can determine its competitive position compared to competitors (Tarigan et al., 2018). The company carries out process innovation to increase customer value by making the best practical operational system, namely implementing lean in company processes (Sahoo, 2021; Solaimani & Van der Veen, 2022). Process innovation is the ability of a company to produce new processes or products (Kongrode et al., 2023). Innovation for organizations increases value by increasing efficiency, productivity, and process performance (Siagian et al., 2022). The innovation process is the organizational goals set by using technology appropriate to meet external partners' needs (Schniederjans, 2018). Innovation formed in a company is a form of ability to increase competitiveness in the market by producing adequate products and innovations (Somwethee et al., 2023). Innovations that companies use by involving external and internal partners to share knowledge (Wang et al., 2021).

Process innovation refers to the steps and activities carried out by an organization to generate and implement new ideas in producing new products or processes (Alosani et al., 2020). Product and process innovations owned by organizations can provide added value (Solaimani & Van der Veen, 2022). The innovation process gives companies unique characteristics that can be a competitive advantage (Baah et al., 2023). The ability to innovate involves many organizational processes to produce innovative products (Lee et al., 2019; Wadho & Chaudhry, 2018). Product and process development in companies can generate business benefits by improving organizational performance (Taleb et al., 2023). Process innovation can improve a company's product production efficiency (Kongrode et al., 2023). The company can produce innovation with potential management, potential innovation processes, and adequate use of technology (Somwethee et al., 2023; Tarigan, 2018). Innovation is the essence of company performance (Siagian et al., 2021). The indicators used to measure the innovation process by adopting the research of Tarigan et al. (2018) are the introduction of new processes, the use of new technology, the ease of use, and the suitability of the process with the organizational culture.

2.5. Organizational Performance

The practical implementation of companies related to lean manufacturing, total quality management, and supply chain management can improve organizational performance if it is carried out properly and in the direction of organizational goals (Sahoo, 2021; Basana et al., 2022; Tarigan, 2018). The company's performance can be determined by comparing competitors' performance related to the timely delivery of products and the quality of products according to partner orders (Schniederjans, 2018; Pirmanta et al., 2021). Organizational performance is the ability of an organization to achieve goals and optimize the results it achieves (Rajaguru & Matanda, 2019; Wang et al., 2021). The ability of the organization to achieve goals by producing the right efficiency and quality at the time needed at the appropriate cost (Negi, 2021). Organizational performance in a company is determined by improving the market situation and incrementing the firm's sales volume and profit rate (Singh & El-Kassar, 2019). Firm performance in companies relative to competitors with the criteria of market share growth, sales growth, profit and return on investment (Song & Liao, 2019). Organizational performance can be financial and non-financial performance related to cost, delivery, quality, and flexibility (Sundram et al. 2018). The measurement of the success of an organization or organizational performance is financial performance, resilience, and change, culture that prevails in the organization, employee growth and employee retention. The measurement items used in organizational performance that focus on measuring operational performance by adopting Hani's (2021) research are process quality, requirements fulfillment, customer satisfaction, service timeliness, and flexibility in service.

2.6. Relationship Between Research Concepts

2.6.1. Relationship between project management capability and information technology integration

Managing capability is an organization's capacity to produce, expand or modify resources with its capacity, where the team's ability to manage information technology projects affects the process and performance of IT in integrating (Akhorshaideha et al., 2024). The speed of service requires organizations to take advantage of the increasingly developing information technology (Amade et al., 2023). The rapid development of information technology has accelerated the flow of information and the process between sections (Alnoor et al., 2021). The higher the organization's ability to manage information, data, and systems by paying attention to risks, the better IT performance is (Selvakumar et al., 2024). Dynamic capability in the company can help determine project managers' decisions using integrated information technology (Abbadly et al., 2019).

H₁: *Project managing capability positively impact information technology integration.*

2.6.2. Relationship between managing capability and supply coordination

Project management capability owned by the organization to produce, expand or modify resources with the capacity plays a role in project management until completion (Misbahuddin et al., 2024). Project management capability reflects the organization's ability to manage resources to effectively achieve project goals in decision-making by building coordination (Abbadly et al., 2019). Project management capability in companies in planning and executing projects needs to coordinate with supply chain components in material procurement (Agarwal & Narayana, 2020). Absorptive capacity in organizations by conducting exploration, assimilation, and exploitation processes influences supply coordination with the existence of buyer-supplier relationships (Sáenz et al., 2014). The higher the company's ability to coordinate, communicate, and share information both with external and internal parties, the better the supply coordination will be obtained (Somwethee et al., 2023). Good capability management in a company can ensure the right decision-making in the supply chain (Tarigan et al., 2018). Good supply chain coordination can reduce barriers to material procurement and product delivery. Success in executing projects shows the synergy between flexible managerial skills and strong supply chain coordination, resulting in operational efficiency and adequate organizational needs (Tarigan et al., 2020).

H₂: *Project managing capability positively affects supply coordination.*

2.6.3. Relationship between project management capability and process innovation

Project management capability that an organization has to generate, expand or modify resources with its capacity plays a role in the management of supply chain flows (Wang et al., 2021). Project knowledge management capability in organizations with new knowledge, exploration, and employee expertise impacts processes and product innovation (Attia & Eldin, 2018). Companies' innovation process requires employees with talent and adequate capabilities (Kongrode et al., 2023). The ability of company employees to apply knowledge can produce an innovation process that provides value to the organization (Oke et al., 2022). Top management's ability to produce organizational capability positively impacts entrepreneurs in producing new products or services that start from creating ideas (Somwethee et al., 2023). The higher the organization's ability to manage and process its resources, the more process innovations in its supply flow will develop (Moshtari et al., 2021). Managing capability allows organizations to have adequate process innovation by creating more adaptive processes and utilizing new technology to meet the company's needs (Scuotto et al., 2017). The ability to use the technology considered aims for efficiency and productivity in controlling operations as a form of innovation (Solaimani & Van der Veen,

2022). Project management capability allows organizations to innovate processes that run adequately (Wadho & Chaudhry, 2018).

H₃: *Project management capability has a positive effect on process innovation.*

2.6.4. Relationship of information technology integration and supply coordination

Information technology in companies that can form information sharing, information quality, and information frequency results from integration and can improve supply coordination with external partners (Agarwal & Narayana, 2020). Kim et al. (2013) found that information technology capability that is carried out in an integrated manner affects supply chain integration and impacts improving company performance. The use and processing of data in information technology can help companies make the right decisions (Magutu et al., 2015). When used properly with accurate data, integrated information technology in companies makes coordinating easier (Amade et al., 2023). Integrated information technology improves coordination to produce supply chain performance (Huo et al., 2015; Soesetyo et al., 2024). Information flow, physical flow, and financial flow are forms of supply chain integration with partners that influence supply chain coordination and collaborative relationships (Rajaguru & Matanda, 2019). Li (2015) emphasized that information technology can efficiently manage processes for all parties from upstream and downstream throughout the supply chain. Effective information technology is an important key to achieving supply coordination and building an optimal buyer-supplier relationship process between companies (Scuotto et al., 2017). The application of information technology in companies can build rapid data integration and intensive cooperation with all parties in the supply chain (Pirmanta et al., 2021). Integrating digital technology into a company's supply chain can improve efficiency (Singh & El-Kassar, 2019; Yang et al., 2021).

H₄: *Information technology integration positively influences supply coordination.*

2.6.5. Relationship between information technology integration and process innovation

Integrated information technology influences the innovation process in companies because it enables them to automate well (Zhou & Xu, 2024). The organization's ability to manage information technology can provide better data analysis so that companies can determine the innovation process that suits the company's needs (Kongrode et al., 2023). Information technology in companies makes it easier to collaborate with all supply chain components that play a role in process innovation in the company (Zhang et al., 2016). Supplier and customer integration using information technology can impact process innovation (Siagian et al., 2022). IT integration is one of the drivers in the supply chain in producing innovation processes (Oke et al., 2022). Information sharing with buyers about product innovation can use integrated information technology (Song & Liao, 2019). Information technology can produce quality products and services according to the needs of the company so that it can reduce operational costs (Rajaguru & Matanda, 2019). Companies can improve operational processes more quickly so that there is an increase in effectiveness.

H₅: *Information technology integration has a positive effect on process innovation.*

2.6.6. Relationship between information technology integration and organizational performance

The ability of organizations to use integrated information technology to manage information sources and build relationships with partners impacts firm performance (Magutu et al., 2015; Harianto et al., 2024). Internal and external integration in the organization impacts organizational performance by improving cost, quality, delivery, and flexibility (Ataseven & Nair, 2017). Information technology can support the speed and ease of the coordination process to improve organizational performance (Yu et al., 2021). Organizations that already use digital data in network integration positively influence organizational performance because it can support the visibility and sharing of information in real-time (Petruzzelli et al., 2019; Sedera et al., 2016). Information technology integration in organizations with increased information sharing and information quality impacts organizational performance with increased customer satisfaction (Agarwal & Narayana, 2020). Supply chain integration using integrated information technology internally and externally can influence firm performance with lower-cost production (Chang et al., 2016; Wong et al., 2015). Supply chain process integration in information and physical flow integration impacts operational performance (Rajaguru & Matanda, 2019; Basana et al., 2022). Supply chain integration in companies impacts improving the innovation system with continuous product development and introduction speed for new products (Siagian et al., 2021).

H₆: *Information technology integration positively influences organizational performance.*

2.6.7. The relationship between supply coordination and process innovation

Supply coordination synchronizes throughout supply chain activities to run efficiently and effectively (Baah et al., 2023). Coordinating all supply chain components can create a conducive environment for process innovation (Singh & El-Kassar, 2019). Good and agile coordination between supply chain partners can identify areas that need improvement in producing

more innovative processes (Solaimani & Van der Veen, 2022). Well-formed cooperation can affect the innovation process in the organization. Good coordination with suppliers allows the adoption of new concepts to generate innovations that improve the company's performance. Collaboration in a single unit in the supply chain allows various parties to share knowledge to produce innovations for the company (Siagian et al., 2021). Companies can involve external partners to sustainably accelerate innovation (Solaimani & Van der Veen, 2022).

H7: *Supply coordination has a positive effect on process innovation.*

2.6.8. The relationship between supply coordination and organizational performance

Supply coordination plays a role in integrating, managing, and coordinating various aspects of the supply chain to run efficiently and effectively (Wong et al., 2015). Supply coordination maintains the continuity of the process to be successful and smooth in the company's operational activities, which impacts organizational performance (Ataseven & Nair, 2017). Supply coordination organizations still involve suppliers in the process to maintain the continuity of the process in the supply chain. Supply coordination allows companies to use their resources optimally to produce improved performance (Sundram et al., 2018). Good supply chain coordination can improve efficiency by reducing inventory and maintaining proper material delivery (Yu et al., 2021). Effective coordination allows companies to respond quickly to changes in market demand. Sharing information between companies and external partners in real-time can improve company performance because it can adjust products and distribution (Agarwal & Narayana, 2020). Coordination with external partners in determining supplier criteria, involving partners in solving operational problems, and improving supplier product quality impact organizational performance (Attia & Eldin, 2018). Supply chain coordination and integration between companies and partners can create a competitive position and organizational performance (Chang et al., 2016). Supply coordination in companies positively influences organizational performance (Ataseven & Nair, 2017; Rajaguru & Matanda, 2019).

H8: *Supply coordination positively affects organizational performance.*

2.6.9. The relationship between process innovation and organizational performance

Process innovation in organizations can improve organizational performance (Sahoo, 2021). Innovations obtained by empowering employees and generating new ideas in operations can impact organizational performance (Alosani et al., 2020). As shown by innovative vehicles, packages, and processes, logistics and supply chain innovation can impact organizational performance (Baah et al., 2023). A company's marketing orientation, process and product innovation can produce firm performance (Lee et al., 2019). Innovation that is determined with two dimensions, namely radical process innovation and incremental process innovation, does not have an impact on improving the performance of manufacturing companies (Schniederjans, 2018). Process innovation is an effort to improve efficiency, productivity, flexibility, and quality in an organization's business processes. Process innovation can positively affect organizational performance (Singh & El-Kassar, 2019). Process innovation often leads to more efficient processes, which can reduce the time, effort, and resources required to complete specific tasks (Wang et al., 2021). Process innovation can reduce operational costs and increase business profitability (Taleb et al., 2023). By updating or changing existing processes, organizations can improve the quality of the products or services they offer customers (Zhou & Xu, 2024). Higher quality can increase customer satisfaction and strengthen the company's reputation (Wadho & Chaudhry, 2018). Process innovation allows organizations to be more responsive in adapting to changes in the business environment (Corte-Real et al., 2017). Organizations can respond to opportunities more effectively and can increase competitiveness (Tarigan, 2018). Process innovation can increase employee productivity by eliminating inefficient tasks or automating routine processes (Yu et al., 2021). Process innovation involves using better data analytics and monitoring, which can help organizations make better and more informed decisions that can improve organizational performance (Siagian et al., 2021).

H9: *Process innovation has a positive effect on organizational performance.*

The research concept framework can be determined in Figure 1 based on the explanation above.

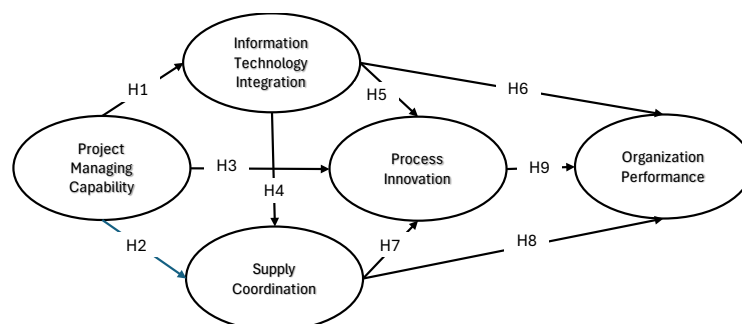


Fig. 1. Research Conceptual Model

3. Research Methods

The type of research set out in this study is causal quantitative, which examines the causal relationship between variables. The assessment was carried out to obtain the magnitude and direction of the influence of the independent variable on the dependent variable. This study examines the influence of project management capability, IT integration, supply coordination, and process innovation on organizational performance. The population in the study was 150 suppliers or vendors who supply products and services to projects at educational foundation institutions in East Java. The selection of samples in the study is determined by judgmental sampling, with the criteria of being active in transactions in the last two years, having a taxpayer identification number, having proof of tax payment, and a bank account number as the purpose of payment for transactions. Project management capability is an organization's capacity to generate, expand or modify resources with the capacity it must overcome the needs in working on educational foundation projects in East Java. The indicators adopted Qandah et al. (2021) which include five measurement items: the company's ability to change, the ability to adapt to the environment or culture, the ability to integrate various resources, the ability to configure available resources, and the ability to carry out good basic operational activities. Information technology integration combines various components, systems, software, and different information technologies into a coordinated unit in an organization or business environment. Information technology integration aims to improve organizations' efficiency, productivity, and ability to manage and utilize information and technology to achieve their business goals. The measurement items adopted the research of Tarigan et al. (2021) with six items: reliability, objectivity, value-added, timeliness, richness, and ease of format.

Supply Coordination is the ability of a company to try to integrate, manage, and coordinate various aspects of the supply chain to run efficiently and effectively with external suppliers of Christian education businesses in Surabaya. The indicators used to measure supply coordination adopted the research of Siagian et al. (2022) with four items: the participation of external partners in the forecasting process, information sharing with external partners, improving production processes, and meeting company needs. Process innovation is the ability of a company to produce new processes or products by the organization's goals that have been set by using technology that is appropriate to meet the needs of external partners (Schniederjans, 2018). The indicators used to measure the innovation process by adopting five items of the research of Tarigan et al. (2018) are the introduction of new processes, the use of new technology, the ease of use, and the suitability of the process with the organizational culture. Organizational Performance is the ability of an organization to achieve goals and optimize the results it achieves. Organizational performance can also be defined as the organization's ability to achieve goals even in a constantly changing situation. The measurement of the success of an organization or organizational performance is financial performance, resilience and change, the culture that prevails in the organization, employee growth, and retention. The measurement items used in organizational performance that focus on measuring operational performance by adopting Hani's (2021) research with five items: process quality, requirements fulfillment, customer satisfaction, service timeliness, and flexibility in service. Data collection uses questionnaires that will be distributed to vendors who supply goods and services. The collection was carried out from December 2023 to November 2024. The respondent will determine the answer according to the conditions they have to choose: 1 to 5 for each question given, where the number 1 means "strongly disagree", the number 2 means "disagree", the number 3 means "neutral", the number 4 means "agree" and the number 5 means "strongly agree". The data analysis technique used in this study is Structural Equation Modelling Partial Least Square (SEM-PLS) using the Smart-PLS software version 4.0. The analysis is determined with an outer model to ensure the indicators are valid and reliable. The value of the outer model obtained is at least factor loading of 0.50 for convergent validity. Determinant validity analysis is carried out on each indicator to obtain a cross-loading value if it is related to the construct. The cross-loading value of each indicator must be higher than other variables for the indicator to be declared valid. Analysis with composite reliability and Cronbach Alpha provided that the number exceeds 0.700. The hypothesis was assessed whether accepted or rejected by analysis from the path coefficient with a P-value value less than 0.05 or t-statistics greater than 1.96, which had a significant influence.

4. Analysis and Discussion

The distribution of questionnaires given to vendors at educational foundations in East Java in completing projects is centralized and controlled by project managers and purchasing. The deployment results obtained from 76 vendors with the characteristics of the respondent profiles are shown in Table 1. Table 1 shows that the number of respondents is majority the Owner/Top management, with as many as 31 people (40%) and managers as many as 21 people (28%). The yearly business value in these transactions is relatively large, so the company's top leadership directly regulates it. As additional information, there are more than 50 schools under the coordination of the foundation. Products or services suppliers provide to educational foundation schools in East Java, especially in the needs of facilities and infrastructure as many as 45 people representing the company (60%), and libraries and computers as many as 14 people (18%). This condition shows that the supplier provides the equipment schools need to support the learning process. The length of time the project information technology used by suppliers when offering the most significant goods or services in more than 10 years was 53 people (69%). These results show that a close relationship has been established with the supplier. The results of primary data processing to obtain the outer model values are shown in Table 2.

Table 1
Respondent Profile Description.

Profile	Descriptive	Frequency	Percentage
Gender	Male	53	70 %
	Female	23	30 %
The position of the respondent supplying goods to the foundation organization	Staff	15	20 %
	Supervisor	9	12 %
	Manager	21	28 %
	Owner/Top management	31	40 %
Products or services provided by suppliers	Office	7	9 %
	Education	4	5 %
	Health Services	6	8 %
	Library & Computers	14	18 %
	Facility & Infrastructure	45	60 %
Education	High School	12	16 %
	Diploma	4	5 %
	Graduate	51	67 %
	Postgraduate	9	12 %
Number of employees in the supplier company	Less than 20 workers (Small)	36	47 %
	20-100 workers (Medium)	19	25 %
	More than 100 employees (Large)	21	28 %
Length of use of information technology by suppliers	< 3 Years	8	11 %
	5 - ≤ 7 Years	9	12 %
	7 - ≤ 10 Years	6	8 %
	> 10 Years	53	69 %
Length of work of respondents as suppliers	< 2 Years	5	7 %
	3 - ≤ 5 Years	7	9 %
	5 - ≤ 7 Years	11	14 %
	7 - ≤ 9 Years	3	4 %
	> 9 Years	50	66 %

Table 2
Indicator Validity and Reliability

Item of Research	Factor loading	Cronbach Alpha	Composite Reliability	AVE
Project Managing Capability (MC)		0.872	0.873	0.663
Management always emphasizes change to adapt to developments (MC1)	0.828			
Management makes internal changes to adapt to external changes (MC2)	0.901			
Management can integrate its resources (MC3)	0.808			
Management can configure the resources owned as needed (MC4)	0.785			
Management can carry out the company's operational activities adequately and well (MC5)	0.741			
Information technology integration (ITI)		0.897	0.902	0.708
Information technology is reliable (ITI1)	0.873			
The information technology owned has clear goals for the company (ITI2)	0.817			
The information technology owned has provided added value or benefits to the company (ITI3)	0.834			
The information technology owned has been updated as needed (ITI4)	0.813			
The information technology owned is complete as needed (ITI5)	0.867			
Supply coordination (SCC)		0.890	0.892	0.647
The company involves external partners in determining the company's needs forecasting (SCC1)	0.842			
Companies share information with external partners (SCC2)	0.709			
The company involves external partners in solving the problems faced (SCC3)	0.816			
The company involves external partners in establishing long-term planning (SCC4)	0.788			
The company engages external partners in the improvement of the production process (SCC5)	0.845			
The company engages external partners in needs planning (SCC6)	0.819			
Process innovation (Proc. In)		0.903	0.903	0.775
The company strives to produce new processes according to internal functions (Proc.In1)	0.852			
The company uses cutting-edge technology to meet the needs (Proc.In2)	0.862			
The technology that the company uses is easily understandable (Proc.In3)	0.894			
The company has new processes that suit the needs of the organization (Proc.In4)	0.912			
Organization performance (Org. P)		0.917	0.919	0.752
The company can produce quality products/services according to customer orders (Org.P1)	0.890			
The company can produce products/services according to customer requirements (Org.P2)	0.823			
The company can provide products/services that satisfy customers (Org.P3)	0.865			
The company can produce products/services to customers promptly (Org.P4)	0.905			
The company has sufficient flexibility in providing products/services to customers (Org.P5)	0.852			

Table 2 shows that the outer loading value has met the criteria set by PLS. Namely, the loading factor value for all variables has been above the minimum cut of value of 0,50. The lowest value of the loading factor was in the variable supply coordination (SCC), with the item of the Company sharing information with external partners (SCC2) of 0.709. The validity value also shows that the AVE (average variance extracted) value is more significant than 0.500. Testing for the reliability values shown in Table 2, with Cronbach Alpha values, shows that composite reliability has exceeded 0.700. The lowest value was found in the variable Project Management Capability (MC) with Cronbach Alpha 0.872 composite reliability 0.873 above 0.700. The validity and reliability test has met the set criteria. Furthermore, the test was set to examine the research hypothesis. The results of the hypothesis test are shown in the inner model test in Figure 2, the path coefficient, and in Table 3, the inner model test of the research hypothesis.

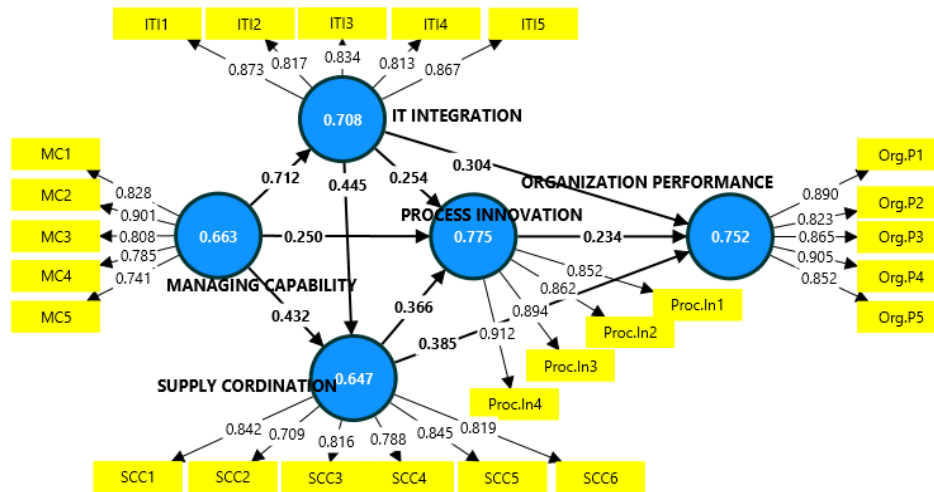


Fig. 2. Research Model and Test Result

Table 3

Research Hypothesis Assessment Result

Direct Path Coefficient	Coefficient	T statistics	P values
Project Managing Capability → IT Integration (H1)	0.712	12.209	0.000
Project Managing Capability → Supply Coordination (H2)	0.432	3.935	0.000
Project Managing Capability → Process Innovation (H3)	0.250	2.136	0.033
IT Integration → Supply Coordination (H4)	0.445	4.331	0.000
IT Integration → Process Innovation (H5)	0.254	2.252	0.024
IT Integration → Organization Performance (H6)	0.304	2.275	0.023
Supply Coordination → Process Innovation (H7)	0.366	3.064	0.002
Supply Coordination → Organization Performance (H8)	0.385	2.752	0.006
Process Innovation → Organization Performance (H9)	0.234	2.009	0.045

Table 3 shows the inner model testing to answer the research hypothesis. The first hypothesis, namely, project management capability has a positive effect on information technology integration, was obtained with a t-statistics value of 12,209 (>1.96) and a P-value of 0.000 (<0.05) declared accepted. This result shows that project management capability positively affects information technology integration by 0.712. Project management capability in foundation education organizations in East Java with the presence of management making internal changes to adjust to external changes and being able to integrate the resources owned can increase information technology integration. This condition results in the formation of information technology that makes it easy to provide reports as needed and complete them according to the organization's needs. The study confirms research that states that project management capability has a positive effect on information technology integration (Akhorshaideha et al., 2024; Amade et al., 2023; Selvakumar et al., 2024; Abbady et al., 2019). The second hypothesis (H2) stated that project management capability has a positive effect on supply coordination was obtained with a t-statistical value of 3,935 (>1.96) and a P-value of 0.000 (<0.05) was declared accepted. This result shows that project management capability positively affects supply coordination by 0.432. Project management capability in the organization so that it can configure its resources as needed, impacting supply coordination. Educational foundation organizations have involved external partners in determining needs forecasting and involving external partners in solving the problems faced. The results of the study support the results of the survey which states that project management capability has a positive effect on supply coordination (Misbahuddin et al., 2024; Abbady et al., 2019; Agarwal & Narayana, 2020; Sáenz et al., 2014; Somwethee et al., 2023; Tarigan et al., 2020). The third hypothesis (H3) stated that project management capability has a positive effect on process innovation was obtained with a t-statistics value of 2,252 (>1.96) and a P-value of 0.033 (<0.05) was declared accepted. This result shows that project management capability positively affects process innovation by 0.250. Project management capability in the foundation organization by always emphasizing changes to adjust to developments and carry out the company's operational activities adequately affects process innovation to produce

new processes according to internal functions. The results of the study support the results of the study which state that project management capability has a positive effect on process innovation (Wang et al., 2021; Attia & Eldin, 2018; Kongrode et al., 2023; Oke et al., 2022; Somwethee et al., 2023; Moshtari et al., 2021; Scuotto et al., 2017; Solaimani & Van der Veen, 2022; Wadho & Chaudhry, 2018).

The fourth hypothesis (H4) stated that information technology integration has a positive effect on supply coordination was obtained with a t-statistical value of 4,331 (>1.96) and a P-value of 0.000 (<0.05) declared accepted. This result shows that information technology integration positively affects supply coordination by 0.445. Information technology integration owned by organizations with their information technology has provided added value or benefits for the company and quickly provides reports as needed, impacting supply coordination. Reports available on the company's information system can be shared with external partners, making it easy to plan according to the organization's needs. The study confirms the results of the survey which states that information technology integration has a positive effect on supply coordination (Agarwal & Narayana, 2020; Kim et al., 2013; Magutu et al., 2015; Amade et al., 2023; Huo et al., 2015; Soesetyo et al., 2024; Rajaguru & Matanda, 2019; Li, 2015; Scuotto et al., 2017; Pirmanta et al., 2021; Singh & El-Kassar, 2019; Yang et al., 2021). The fifth hypothesis (H5) stated that information technology integration has a positive effect on process innovation was obtained with a t-statistics value of 4,331 (>1.96) and a P-value of 0.024 (<0.05) declared accepted. These results show that information technology integration positively affects process innovation by 0.254. Information technology integration that has clear goals or objectives for the company and provides added value or benefits can improve process innovation. The information technology owned by the company is complete as needed and can produce new processes according to internal functions and new processes that suit the organization's needs. The results of the study support the results of previous research, which stated that information technology integration has a positive effect on process innovation (Zhou & Xu, 2024; Kongrode et al., 2023; Zhang et al., 2016; Siagian et al., 2022; Oke et al., 2022; Song & Liao, 2019; Rajaguru & Matanda, 2019).

The sixth hypothesis (H6), which stated that information technology integration has a positive effect on organizational performance, was obtained with a t-statistics value of 2,275 (>1.96) and a P-value of 0.023 (<0.05) and was declared accepted. This result shows that information technology integration positively affects organizational performance by 0.304. Information technology integration can produce services that suit customer needs and satisfy customers because it provides convenience. The results of the study support the results of the survey that state that information technology integration has a positive effect on organizational performance (Magutu et al., 2015; Harianto et al., 2024; Ataseven & Nair, 2017; Yu et al., 2021; Petruzzelli et al., 2019; Sadera et al., 2016; Agarwal & Narayana, 2020; Chang et al., 2016; Wong et al., 2015; Rajaguru & Matanda, 2019; Basana et al., 2022; Siagian et al., 2021). The seventh hypothesis (H7) stated that supply coordination has a positive effect on process innovation was obtained with a t-statistical value of 3.064 (>1.96) and a P-value of 0.002 (<0.05) declared accepted. This result shows that supply coordination positively affects process innovation by 0.366. Supply coordination owned by the organization involves external partners in solving the problems faced, establishing long-term planning, and improving the production process, which impacts process innovation. The results confirm the results of the study, which states that supply coordination has a positive effect on process innovation (Baah et al., 2023; Singh & El-Kassar, 2019; Solaimani & Van der Veen, 2022; Siagian et al., 2021).

Hypothesis eight (H8) stated that supply coordination has a positive effect on the organizational performance obtained with a t-statistics value of 2.752 (>1.96) and a P-value of 0.006 (<0.05) declared accepted. This result shows that supply coordination positively affects organizational performance by 0.385. Supply coordination shows that the organization involves external partners in determining the forecast of the company's needs and solving the problems faced by the organization, influencing organizational performance by improving the quality of products/services according to customer orders and providing customer satisfaction. The results of the study confirm the results of the study that stated that supply coordination has a positive effect on organizational performance (Wong et al., 2015; Ataseven & Nair, 2017; Sundaram et al., 2018; Yu et al., 2021; Agarwal & Narayana, 2020; Attia & Eldin, 2018; Chang et al., 2016; Rajaguru & Matanda, 2019). Hypothesis nine (H9) stated that process innovation has a positive effect on organizational performance obtained with a t-statistics value of 2,009 (>1.96) and a P-value of 0.045 (<0.05) declared accepted. This result shows that process innovation positively affects organizational performance by 0.234. Process innovation in the organization produces new processes according to internal functions, using cutting-edge technology to meet the needs. New processes that suit the organization's needs can improve organizational performance. The organization can produce products/services according to customer requirements and on time. The results of the study confirm the results of the study which states that process innovation has a positive effect on organizational performance (Sahoo, 2021; Alosani et al., 2020; Baah et al., 2023; Lee et al., 2019; Schniederjans, 2018; Singh & El-Kassar, 2019; Wang et al., 2021; Taleb et al., 2023; Zhou & Xu, 2024; Corte-Real et al., 2017; Yu et al., 2021; Siagian et al., 2021).

The project manager's capability in educational foundation organizations in East Java has carried out all activities related to school needs well. The project manager's capability is supported by information technology integration to manage all project planning and implementation activities. The Foundation has established a department that handles the overall procurement of goods and the completion of facilities and infrastructure projects to maintain the continuity of the education process. The project manager needs to coordinate well with supplier partners in providing materials and other equipment to meet the needs and on time. Project managers can produce a good innovation process during the project implementation

process. The ability of the organization to carry out the innovation process supported by information technology integration and supply coordination can produce organizational performance. Research contributes to project managers in companies and educational foundations' ability to choose managers with strong project management capabilities. Organizations must maintain the role of information technology, so it is necessary to continuously update by continuing to invest in facilities and equipment to ensure the integration function runs well. The project manager maintains coordination with external supplier partners to ensure timely delivery. The project manager needs to build synergy with internal partners, namely all school leaders, so that they can understand the needs. The research makes a theoretical contribution by enriching human resource theory to improve capability as a resource-based view.

5. Conclusion

This study examines the role of project management capability in improving organizational performance with the mediating role of information technology, supply coordination, and process innovation. Four research questions are established in the Introduction section. The first is the role of project management capability in improving information technology integration, supply coordination, and process innovation. Second, the effect of information technology integration supply coordination and process innovation. Third, the impact of supply coordination on the improvement of process innovation. Fourth, the simultaneous effect of integrating information technology in organizations, supply coordination, and process innovation on organizational performance. The analysis demonstrates the summarized result as follows. Data supported all nine hypotheses. The project management capability, such as making internal changes to adjust to external changes and integrating the resources owned, can improve information technology integration, supply coordination, and process innovation. The ability of project managers to use integrated information technology has provided added value to the company. It quickly provides reports as needed, impacting supply coordination, process innovation, and organizational performance. Strong supply coordination by involving external partners in solving the problems faced, establishing long-term planning, and improving production processes to impact process innovation and organizational performance. Process innovation in organizations produces new processes according to internal functions, using cutting-edge technology to meet the needs and new processes that suit the organization's needs, which can improve organizational performance. The research results increase the company's competitiveness by increasing profits through an efficient and effective process controlled by the project manager.

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