

The effect of key user capability on supply chain digital and flexibility in improving financial performance

Sautma Ronni Basana^a, Sahnaz Ubud^b, Mariana Ing Malelak^a and Zeplin Jiwa Husada Tarigan^{a*}

^aFaculty Business, and Economics, Petra Christian University, Jl.Siwalankerto 121-131, Surabaya, Indonesia

^bEntrepreneurship Department, BINUS Business School Undergraduate Program, Bina Nusantara University, Jakarta, Indonesia 11480

ABSTRACT

Article history:

Received July 26, 2022

Received in revised format

August 20, 2022

Accepted September 30 2022

Available online

September 30 2022

Keywords:

Key user capability

Digital supply chain

Supply chain flexibility

Financial performance

Organizational competitiveness is enhanced by implementing supply chain integration. Organizations, through information technology, can integrate internal and external cross-functional. The team assigned to run the integration system in its function is designated as the key user who can implement and maintain an ongoing basis. Key user capabilities are needed to maintain a digital supply chain in information technology systems to integrate internally and externally. Data analysis using Partial least squares (PLS) on 89 hotel organizations with a one-star category or more shows that key user capability significantly affects internal cross-functional integration ($\beta = 0.728$) and external cross-functional integration ($\beta = 0.127$). Key user capability has an impact on supply chain flexibility ($\beta = 0.370$) while internal cross-functional integration influences increasing supply chain flexibility ($\beta = 0.373$) and financial performance ($\beta = 0.421$). External cross-functional integration increases supply chain flexibility ($\beta = 0.316$) and financial performance ($\beta = 0.441$). Lastly, supply chain flexibility impacts increasing financial flexibility ($\beta = 0.192$). The research contributes enrichment to the theory of digital supply chain and practical contribution to enlighten top management in information technology investment.

© 2023 Growing Science Ltd. All rights reserved.

1. Introduction

Changes in the global order impact organizational structuring with company partners in increasing competitiveness simultaneously compared to similar companies. The company has implemented a lot of information technology to integrate internal and external companies to quickly predict changes in the external environment into internal operations (Chunsheng et al., 2020). The manufacturing industry has implemented a lot of information technology in enterprise resource planning (ERP). ERP technology can be used as a digital supply chain by integrating cross-functional internal and external companies. The implementation of the digital supply chain is carried out by determining the implementer in the company, called the key user. Implementing the digital supply chain in the company contributes to the timely implementation of internal and external cross-functional integration systems, appropriate implementation costs, and adequate quality of integrated information systems (Zhao et al., 2021). Companies can build external integration by sharing information with partners, joint programs with partners, automation processes with partners, joint plans with partners, and others (Jafari et al., 2021). Implementation of information technology in the company's internal and external parties requires the expertise of key users (Tarigan et al., 2021).

The digital supply chain implemented in the company can accelerate the implementation of the company's supply chain management by integrating internal cross-functional, namely departments within the company, and external cross-functional that can be integrated with suppliers in material procurement and customers in making order predictions and order fulfillment

* Corresponding author

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

© 2023 Growing Science Ltd. All rights reserved.
doi: 10.5267/j.uscm.2022.9.016

(Lee et al., 2016). Companies can also implement digital supply chains that company partners use to make transactions faster, have more transparent financial management, reduce product or service cycle times, and can use integration between plants (Cheng et al., 2016). A digital supply chain is implemented to support internal and external integration, making it easier for companies to carry out the supply chain management integration function (He et al., 2014). The company's ability to run a digital supply chain to increase the efficiency and effectiveness of the company in procuring products/services on time and in the right quantity has an impact on firm performance (Pirmanta et al., 2021). In addition, the company can manage product volume and variance by controlling the flexibility system to meet changing customer orders (Chaudhuri et al., 2018). Flexibility and stability are essential for companies implementing supply chain integration to compete quickly and respond to customer needs (Shukor et al., 2020). Hotels build supplier relationships to improve company performance (Tanuwijaya et al., 2021). The supply chain integration implemented by the company in hotels by making the company's systems in internal integration, upstream integration, and downstream integration able to have an impact on green hotel performance (Basana et al., 2022).

The company's ability to accommodate cross-functional integration can increase the company's flexibility and competitiveness and keep up with changes in the external environment (Pham & Doan, 2020). For example, the company's supply chain integration can make integration with suppliers and customers able to impact supply chain flexibility and improve business performance by increasing sales growth (Siagian et al., 2021). In addition, key user empowerment with apparent authority, authority, and responsibility in the company impacts the integration process between functions by producing complete and relevant data information (Tarigan et al., 2019). The role of key users is to maintain a balance between the organization's and the provider's needs in developing integrated information technology to suit the company's needs to support the company's performance, especially in organizational innovation (Maas et al., 2016).

Companies use digital supply chains to integrate data in the company's procurement, operations, and logistics, from the procurement of raw materials from suppliers to the company's finished materials that are handed over to customers (Pirmanta et al., 2021). Internal integration in the company impacts external integration to improve the company's finances (Zhao et al., 2021; Chunsheng et al., 2020; Fariz, 2022). The integration built by the company increases resilience to respond quickly to customer needs, ultimately impacting financial performance (Yu et al., 2019). This condition impacts good efficiency and effectiveness between the company and its partners to increase the productivity and profitability of the company. Companies can produce increased financial performance by increasing sales and growth and company efficiency (Chang et al., 2016). Supply chain flexibility in companies can impact increasing financial performance (Pham & Doan, 2020). Companies can build business integration to improve financial performance to compete with competitors (Jafari et al., 2021). Several objectives determine the structure of the article writing, namely, to get the magnitude of the influence of key user capability on the digital supply chain and supply chain flexibility. Second, get the magnitude of the effect of key user capability on financial performance. Third, get the magnitude of the influence of the digital supply chain on supply chain flexibility and financial performance. Finally, the fourth is the influence of supply chain flexibility on financial performance.

2. Literature Review

The implementation of enterprise resources planning (ERP) in the company, which is said to be a digital supply chain for the organization, is a big project in the use of company resources, the time spent in implementing and business processes between the company's internal and external functions (Zhao et al., 2021). The company's ability to build a well-integrated digital supply chain system can make an excellent supply chain integration. Organizational supply chain integration by combining external integration (downstream and upstream integration) and internal integration (Basana et al., 2022). Digital supply chain implementation projects in companies are closely related to the implementation time and budget issued in accordance with the functions expected by the company (Tarigan et al., 2021). Using an ERP system according to the needs of all the company's internal functions can provide non-financial and financial impacts. Project ERP is how the company can develop to keep it in line with the company's development (Badewi & Shehab, 2016). ERP development is used to update the company's software and hardware on an ongoing basis. The implementation of ERP into a project in a company is carried out in four stages, namely the first stage of selecting the ERP package by the top management and company key users, the second stage of the ERP project planning stage, analysis of ERP products and the company's operational conditions and ERP configuration, the third stage is testing and refinement, and finally the fourth stage of post-implementation. ERP can also be called supply chain integration (Tarigan et al., 2018). Companies use ERP to integrate the company's internal functions and effectively integrate internal operations with external suppliers, customers, and other members of the supply chain flow (Lee et al., 2016). Supply chain integration can impact the company's competitiveness by producing efficient processes and effective coordination to shorten (Jafari et al., 2021).

2.1. Cross-Functional Integration

Enterprise resources planning for companies can integrate cross-functional between the departments of marketing, production, material procurement, warehouse, accounting, and human resources management (Tarigan et al., 2021). The cross-functional that occurs can facilitate an integrated planning and control system to support the operational configuration system needed by the company's internals in providing the products that customers need (Basana et al., 2022). Internal cross-

functional integration organizations can provide real-time data and respond quickly with accurate data according to the needs of manufacturing companies (Zhao et al., 2021). Cross-functional internal integration allows companies to produce effective and efficient internal processes in carrying out activity-based processes (Jafari et al., 2021; Fariz, 2022). The company's ability to provide internal cross-functionality can be an advantage for companies in increasing competition (Siagian et al., 2021; Chunsheng et al., 2020). Internal integration allows companies to coordinate quickly between functions and plants (Khalaf & Mokadem, 2019; Cheng et al., 2016). Cross-functional integration refers to how the organization can build coordination, cooperation, and collaboration to determine the right decisions in solving problems (Lee et al., 2016). The measurement items used in internal cross-functional integration are data integration between departments is going well (ICFI.1), data integration in real-time (ICFI.2), reliable financial reports (ICFI.3), and easy access to operational data (ICFI.4).

2.2. External Cross-Functional Integration

External cross-functional has been widely applied in organizations. External cross-functional can build integration with suppliers and customer integration in the supply chain management flow (He et al., 2014). The company's integration with partners will have a positive impact on both parties in reducing transaction costs (Siagian et al., 2021; Tanuwijaya et al., 2021). Increasing transparency of the needs of both parties, transparent transactions between both parties, product costs or cheaper services, flexibility in determining product prices according to the agreement of both parties and lowering inventory costs for both parties (Jafari et al., 2021). The company's ability to synchronize with external parties, both suppliers and customers, can improve performance on an ongoing basis (Basana et al., 2022). The company always tries to control the system in supplier operations to provide for the company's needs (Pirmanta et al., 2021). On the other hand, the company always builds an integration system with customers so that it is easy to understand customer needs and follow changes that occur in the company's customers (Chunsheng et al., 2020). The organization uses external cross-functional by integrating it with suppliers and customers on an ongoing basis (Lee et al., 2016). The measurement items used in cross-partner integration involve externals in forecasting (ECFI.1), sharing information with externals (ECFI.2), sharing planning with externals (ECFI.3), and involving externals in development (ECFI.4).

2.3. Key User Capability

Implementing a digital supply chain or enterprise resource planning project in a company has an essential impact on the company's operations on an ongoing basis (Tarigan et al., 2021). Internal and external cross integration requires expertise for the system developer. The ability of the company's human resources to integrate the company's internals between departments requires people who have the authority and duties to maintain the project's success, called key users (Tarigan et al., 2018). Digital supply chain projects in companies will be successful if data integration has occurred and minimizes manual reporting between departments and is generally declared successful when company financial reports that can cover all departments are available and can be used by management in annual financial reporting (Tarigan et al., 2019). The integration between the internal company and the company's partner is the main responsibility of the key user and the external partner, namely suppliers and customers. Key users and, at the same time, leaders in departments related to their functions carry out intensive communication with cross-functional internal companies and external cross partners of the company (Maas et al., 2016). Key users build communication so that all parties can be integrated to facilitate data sharing, information, and reporting on time (Suprpto et al., 2017). The ability of key users to run digital supply chain projects in the form of extended ERP within the company internally and externally will have an impact on company performance and company resilience in the face of an era of rapid change as a form of ERP value (Ruivo et al., 2020). Key user capability can be measured by items the ability of key users to be able to communicate (KUC.1), the ability of key users to understand data integration (KUC.2), the ability of key users to negotiate (KUC.3), and the ability of key users to understand cross-functional (KUC.4).

2.4. Supply Chain Flexibility

The flexibility that occurs in the organization is determined by top management commitment, related departments within the organization, mutual understanding, flow of information, relationship and decision-making, and responsiveness (Singh & Kumar, 2020). Cross-functional that occurs in the company internally will increase the company's flexibility in responding to external changes (Shukor et al., 2020). The integration between internal functions allows the company to communicate quickly so that it can adapt to the company's external conditions. The flexibility provided by the company is to increasingly meet customer needs with adequate time and products to increase competitiveness (Pham & Doan, 2020). The company always tries to adjust internal conditions to external conditions by paying close attention to the changes that occur (Siagian et al., 2021). Companies try to involve all components that can help companies to quickly adapt to changes (Cheng et al., 2016). The role of suppliers and customers in the supply chain can benefit the company in anticipating the changes that occur (Siagian et al., 2021). The company's ability to support organizational performance to meet the needs of raw materials and auxiliary materials, thereby increasing organizational flexibility (Rajesh, 2021). Companies can cooperate to increase flexibility (Chaudhuri et al., 2018).

The products produced by the company in meeting customer needs related to product quality and variance can increase supply chain flexibility (Putra et al., 2020). Khalaf and Mokadem (2019) stated that changes in the amount of organizational

inventory and the speed of material orders from customers could provide increased flexibility quickly and adequately. Companies can make changes in production, resulting in changes in the amount expressed by volume flexibility (Chaudhuri et al., 2018). Organizations are trying to change the communication and coordination system between departments capable of producing efficient and effective activities to support supply chain flexibility (Yu et al., 2018). The measurement items for supply chain flexibility that were determined in the study are process flexibility (SCF.1), workforce flexibility (SCF.2), schedule flexibility (SCF.3), and Order flexibility (SCF.4).

2.5. Financial Performance

Enterprise resource planning used by the company in the digital supply chain benefits the company in building an automatic cross-functional system internally and externally to provide correct data usage (Chunsheng et al., 2020). The digital supply chain within the organization can create an integrated process planning, and the real-time data can increase company performance (Pirmanta et al., 2021). Companies use financial performance to describe performance with items set by Jafari et al. (2021), namely average profitability, return on investment, return on assets, and return on sales. The company's digital supply chain can make workforce planning and control predictable and well-controlled. The digital supply chain allows companies to control the amount of inventory. Financial performance in organizations is determined economically by measuring profitability, return on investment, sales, growth, and others (Chang et al., 2016; Heryanto & Leng, 2022). The company can maintain a system regulating the overall operational system, increasing financial performance. Zhao et al. (2021) determine that financial performance is measured by the company's market share, sales growth, and return on investment. Pham and Doan (2020) state that financial performance is related to market share, sales, organizational income, and organizational efficiency. Financial performance is determined by comparing the company's performance with competitors with measurement items of growth in sales, profit growth, market share, return on investment, growth return on investment, and growth in return on assets (Yu et al., 2019). Based on the results of previous studies in determining financial performance, this study determines the measurement items, namely: increase in the organization's market share (FP1), there is an increase in growth in sales (FP2), an increase in the profitability of the organization (FP3) and there is an increase in organizational efficiency (FP4).

3. Relationship between Research Concepts

3.1. The relationship between key user capability and digital supply chain

Organizational project management responsible for ERP implementation, including ERP, project manager, ERP program manager, and information technology manager, has an impact on the success of ERP project implementation in the company (Badewi & Shehab, 2016; Suprpto et al., 2017). Companies implementing ERP will pay attention to data integration between one department and other departments within the company, thus forming a shared database system. The company's key user capability can impact increasing data integration as a form of implementation of the digital supply chain (Tarigan et al., 2021). Key users as enterprise resources planning project competency can design business processes so that integration occurs within the company's internal and external companies (Tarigan et al., 2018). Key user empowerment provided by the company so that it has clear duties and responsibilities can have an impact on the integration process by producing accurate and complete data (Tarigan et al., 2019). Key users in companies in managing information technology systems by implementing extended ERP as a form of the digital supply chain that integrates internal and external (Ruivo et al., 2020). The role of key users in the company can manage information technology needs in innovation and complement the role of managers and intermediaries between project teams and consultants. Key users can implement integrated information technology quickly according to company needs (Maas et al., 2016). The research hypothesis can be determined

H₁: *Key user capability influences internal cross-functional integration.*

H₂: *Key user capability influences external cross-functional integration.*

3.2. The relationship between Key user Capability and Financial Performance

The company's key user capability impacts the information system's sustainability by implementing complete enterprise resource planning and fast response time (Tarigan et al., 2021). ERP project managers in manufacturing companies can influence operational performance by generating better customer responses (Tarigan et al., 2018). Key user empowerment can impact operational performance by reducing lead time and more efficient use of resources (Tarigan et al., 2019). Key users in the company can manage the system to be efficient and effective according to the goals set together (Maas et al., 2016). Key users in building extended ERP as a form of digital supply chain internally and externally can collaborate to produce ERP values in the form of business goals and performance (Ruivo et al., 2020). The company's key user capability can impact the effective design of business processes in 77 manufacturing companies in East Java to increase supply chain flexibility by increasing the company's anticipation of changes that occur (Tarigan et al., 2021). The company's ERP project manager competency influences the design process so that it can carry out production and service processes with supply chain flexibility to meet customer demands (Tarigan et al., 2018). A hypothesis is set based on the explanation of the relationship between concepts.

H₃: *Key user capability an effect on supply chain flexibility.*

3.3. The relationship between internal cross-functional integration and external cross-functional integration

Internal integration between departments within the company can impact increasing external integration, namely customer and supplier integration (Zhao et al., 2021; Fariz, 2022). Internal integration and interplant coordination can impact supply chain integration, especially external integration (Cheng et al., 2016). Internal integration between functions in hotel organizations can have an impact on upstream integration and downstream integration to have an impact on increasing green hotel performance (Basana et al., 2022). The company's internal integration can impact increasing external integration with partners (Siagian et al., 2021; Pirmanta et al., 2021). Internal integration within the organization greatly determines the integration the company builds with external parties, suppliers, and customers (Chaudhuri et al., 2018; Yuen & Thai, 2017). Internal integration impacts inter-organization integration (Khalaf & Mokadem, 2019).

H₄: *Internal cross functional integration influences external cross functional integration.*

3.4. The relationship between digital supply chain and supply chain flexibility

The company builds relationships with externals to maintain continuous communication, and collaboration can improve supply chain flexibility (Zhao et al., 2021). The supply chain that has been integrated within the company is one of the determining factors in generating flexibility for the company (Singh & Kumar, 2020). Internal integration in the company impacts organizational flexibility in 526 organizations in Malaysia (Shukor et al., 2020). Companies are trying to adjust internally with externally in implementing supply chain integration to be more flexible in meeting changing customer demands (Siagian et al., 2021). Quality information produced by retail companies in implementing information technology can make companies more flexible in anticipating customer changes (Putra et al., 2020). Supply chain integration can produce flexibility in manufacturing because it makes production volume and variance flexible (Chaudhuri et al., 2018). Organizational flexibility becomes a strategy to respond to external changes through a digital supply chain (Shukor et al., 2020). Internal integration forms high flexibility internally and determines flexibility externally (Khalaf & Mokadem, 2019).

H₅: *Internal cross-functional integration as an impact on increasing supply chain flexibility.*

H₆: *External cross-functional integration has an impact on increasing supply chain flexibility.*

3.5. The relationship between digital supply chain and financial performance

The financial performance produced by the company can be improved by continuous cross-functional and external integration (Zhao et al., 2021). Supply chain resilience with a digital supply chain moderator can impact financial performance (Chunsheng et al., 2020). Supply chain integration in hotels can increase green hotel performance by increasing market share and hotel management's commitment to protecting the environment (Basana et al., 2022). Internal integration can impact financial performance through supplier and customer integration in agro-food business industry organizations (Jafari et al., 2021). Extended ERP implemented by the company to integrate internal and external companies as a form of the digital supply chain impacts business performance by increasing financial performance (Ruivo et al., 2020). Increasing company flexibility can have an impact on business performance on sales growth by increasing demand for the number of customers and meeting customer needs (Siagian et al., 2021). Internal integration, supplier integration, and customer integration that make up the digital supply chain can impact performance by increasing efficiency and cost reduction (Lee et al., 2016; Siagian et al., 2021).

H₇: *Internal cross-functional integration influences financial performance.*

H₈: *External cross-functional integration influences financial performance.*

3.6. The relationship between supply chain flexibility and financial performance

The company strives to meet customer needs by changing the production process and time to increase competitiveness through increasing company flexibility (Pham & Doan, 2020). The company's supply chain agility to be more flexible can impact financial performance by increasing market share and sales (Jafari et al., 2021). Products and services that meet customer needs must be flexible to impact company performance (Yuen & Thai, 2017). The company's ability to be able to provide an excellent response to customers in a fast time and meet customer needs can have an impact on financial performance (Yu et al., 2019).

H₉: *Supply chain flexibility influences financial performance.*

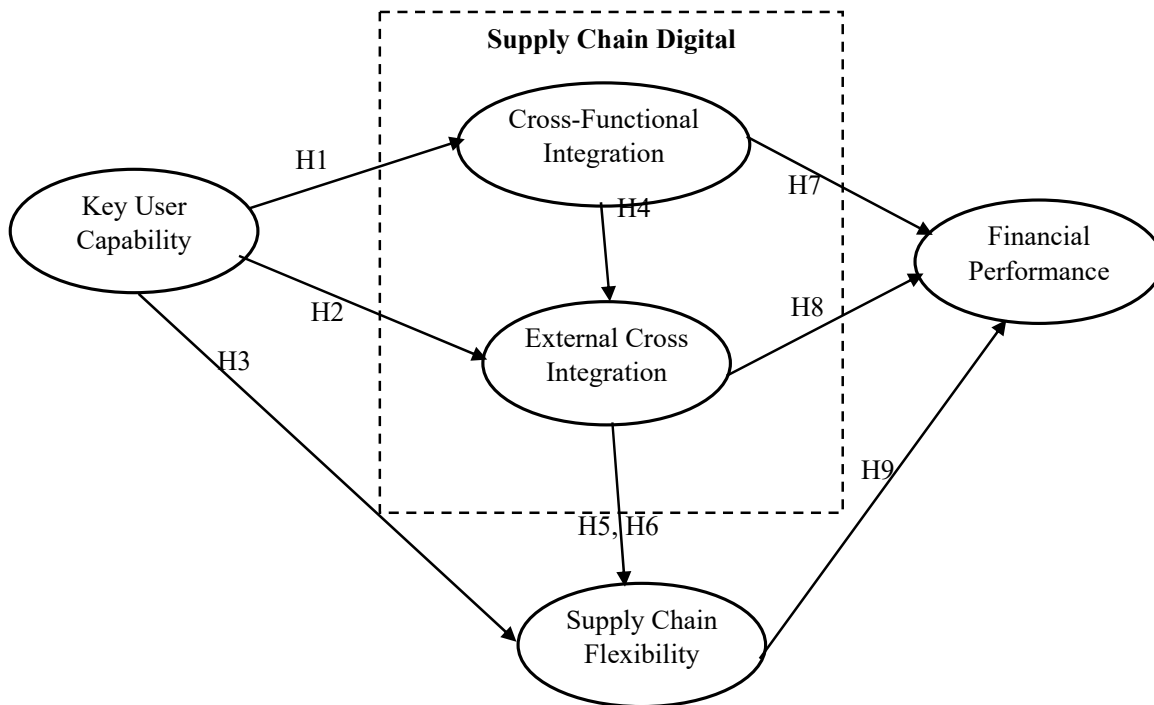


Fig. 1. Research Concept Framework

3. Research Methods

This type of quantitative research examines the influence of variables in the study. This study adopts research conducted in manufacturing companies due to the lack of research on hotel objects for implementing enterprise resources planning as the basis for building internal and external cross-functional integration. This condition results in the literature being used more in manufacturing companies, but in this study, the size of indicators and variables in hotels is synonymous. One hundred thirty-five questionnaires were distributed during the data collection process in East Java hotels in 2022.

Table 1

Descriptive analysis and Goodness of fit

Item Measurement	factor Loadings	Mean	Cronbach Alpha	rho A	Composite Reliability
KUC1	0,873	4.0562			
KUC2	0,846	4.2921			
KUC3	0,843	4.2472			
KUC4	0,877	4.2809			
Key user capability (KUC)		4.2191	0.883	0.890	0.919
ICFI.1	0,723	4.3146			
ICFI.2	0,813	4.3145			
ICFI.3	0,530	4.2247			
ICFI.4	0,527	3.2921			
Internal cross-functional integration (ICFI)		4.0365	0.761	0.702	0.749
ECFI.1	0,744	4.5056			
ECFI.2	0,682	4.4831			
ECFI.3	0,846	3.8539			
ECFI.4	0,731	3.7079			
External cross-functional integration (ECFI)		4.1376	0.743	0.754	0.839
SCF.1	0,743	3.6742			
SCF.2	0,773	3.8539			
SCF.3	0,798	3.9888			
SCF.4	0,804	4.3820			
Supply Chain Flexibility (SCF)		3.9747	0.791	0.809	0.862
FP.1	0,770	4.2697			
FP.2	0,791	4.4719			
FP.3	0,837	4.3034			
FP.4	0,793	4.5393			
FP.5	0,702	4.1461			
Financial Performance (FP)		4.3461	0.838	0.843	0.886

The distribution of questionnaires assisted by field enumerators amounted to returned questionnaires that could be processed further with one or more star hotel categories totaling 89. Data were analyzed using partial least squares (PLS) to answer the research hypothesis (Khan et al., 2019; Shiau et al., 2019). The respondent's profile is indicated by 52 male respondents (58%) and 37 female respondents (42%). The position held by the respondents was obtained at the manager level 23 respondents (26 %), supervisor level 45 respondents (51 %), senior staff 19 respondents (21%), and junior staff amounted to 2 respondents (2 %). Measurements are set for each statement item with a loading factor value above 0.500 as a validity test (Khan et al., 2019). Research variables with reliability tests above 0.700 for Cronbach Alpha, rho_A, and Composite reliability (Shiau et al., 2019). Descriptive analysis and the goodness of fit are shown in Table 1. The table shows that the measurement item's value has met the validity with the smallest validity test value on Key user capability (KUC) obtained KUC3 with a value of 0.843. Internal cross-functional integration (ICFI) on ICFI.4 of 0.527. External cross-functional integration (ECFI) on ECFI.2 is 0.682. Supply chain flexibility (SCF) on SCF.1 is 0.743, and financial performance (FP) on FP.5 is 0.702. The measurement value for the reliability test has met the requirements because all variables have Cronbach Alpha, rho_A, and composite reliability values above 0.700. In each study, the average value obtained for key user capability (KUC) is 4.2191, indicating that the respondents stated that the key users in their departments have adequate capabilities to run and maintain the system. Internal cross-functional integration (ICFI) was obtained at 4.0365, indicating that the company's internal cross-functional integration has been running well. External cross-functional integration (ECFI) was obtained with a value of 4.1376, which indicates that intra-organization integration has been running adequately for collaboration. The average value of supply chain flexibility (SCF) is 3.9747, which states that the company already has good flexibility in anticipating external changes so that its internal flexibility can follow it. Financial Performance (FP) was obtained with an average value of 4.3461, which was asked if the hotel experienced good growth during the new normal post-Covid process. The test for goodness of fit is carried out by calculating the value of Q^2 by calculating the value of R^2 in Table 2.

Table 2
Value of R-square

Variable	R Square
External Cross-Functional Integration	0.433
Financial Performance	0.457
Internal Cross-Functional Integration	0.530
Supply Chain Flexibility	0.266

The calculation results obtained the value Q^2 of 0.894; this indicates that 89.4% of the problems in internal cross-functional integration, external cross-functional integration, supply chain flexibility, and financial performance at the hotel are determined by key user capability.

3.1 Data Analysis and Discussion

Data processing to be able to answer all research hypotheses used PLS as a form of influence of one variable with other variables shown in the path coefficient Table 3 and Fig. 2.

Table 3
Hypothesis Testing Research path coefficient value

Path Coefficient	Original Sample	Sample Mean	Standard Deviation	T Statistics	P Values
Key User Capability → External Cross-Functional Integration	0.947	0.127	0.134	0.124	0.344
Key User Capability → Internal Cross-Functional Integration	0.728	0.720	0.088	8.307	0.000
Key User Capability → Supply Chain Flexibility	0.370	0.381	0.117	3,169	0.002
Internal Cross Functional Integration → External Cross-Functional Integration	0.022	0.554	0.117	4,794	0.000
Internal Cross-functional Integration → Supply Chain Flexibility	0.373	0.371	2.289	External	0.138
Cross-Functional Integration → Supply Chain Flexibility	0.316	0.328	2,282	0.023	Internal
Cross-functional Integration → Financial Performance	0.421	0.434	0.126	3,348	0.001
External Cross-Functional Integration → Financial Performance	0.441	0.000	3.885	1.962	Supply
Chain Flexibility → Financial Performance	0.192	0.200	0.098	0.049	Figure

The results analysis of the data shown in Table 3 and Fig. 2, the test results obtained for each hypothesis research. The first hypothesis (H1) is found that Key user capability has a positive impact on internal cross-functional integration of 0.728 with a t-statistic of 8.307 (> 1.960). Therefore, the first hypothesis can be accepted, so it is said that key user capability has a significant positive impact on internal cross-functional integration. Key user capability, which is indicated by the ability of key users to build good communication between functions, and understand the role of each function, has an impact on increasing internal cross-functional integration in real-time. This study supports the results of research that states that key users have an impact on increasing the organization's internal integration (Badewi & Shehab, 2016; Suprpto et al., 2017; Tarigan et al., 2021; Tarigan et al., 2018; Tarigan et al., 2019; Ruivo et al., 2020).

Hypothesis 2 (H2) with Key user capability influences external cross-functional integration obtained with a value of 0.127 and a t-statistic of 0.947 (< 1.960). The second hypothesis is rejected, it is said that Key user capability does not affect external cross-functional integration. The company's key user capability, with the ability to communicate and understand the role of each department is not strong enough to increase external cross-functional integration. This condition is due to not all key users who have the ability to participate in collaborating with external parties but are represented by management, so integration for sharing planning with externals tends to be bureaucratic. The study results differ from the statement which states that Key user capability influences external cross-functional integration (Ruivo et al., 2020; Maas et al., 2016). Organizations need to include key users according to their functions to communicate and collaborate with external parties so that the integration process runs well.

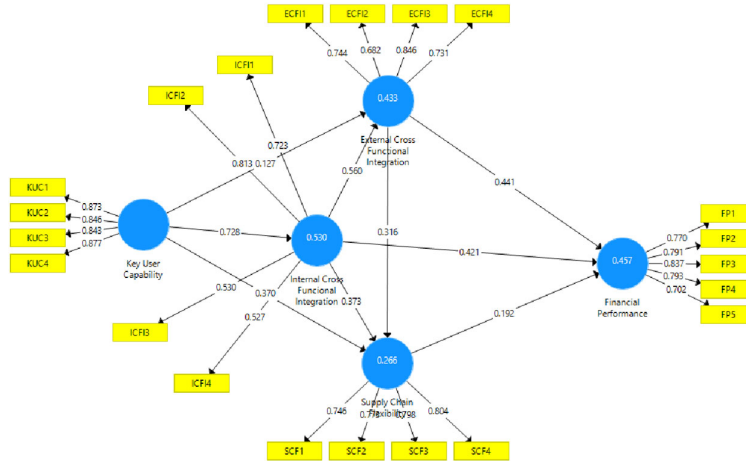


Fig. 2. Path Analysis for Research Model

The third hypothesis (H3) with key user capability influences supply chain flexibility with a value of 0.370 and a t-statistic of 3.169 (> 1.960). If the third hypothesis is accepted, then key user capability influences increasing supply chain flexibility. Key user capability, which is described by key user ability, and understanding the role of each function well increases supply chain organizational flexibility, especially in schedules and orders that can change according to customer requests. This study supports the results of research, which states that key user capability influences increasing supply chain flexibility (Tarigan et al., 2021; Maas et al., 2016; Ruivo et al., 2020; Tarigan et al., 2019). Fourth hypothesis (H4) with Internal cross-functional integration affecting external cross-functional integration, the t-statistic value is 0.560, and the t-statistic is 4.794 (> 1.960). The fourth hypothesis has been accepted that internal cross-functional integration influences increasing external cross-functional integration. Between functions and occurring in real-time within the internal organization can make forecasting more accurate and be used with partners. The company is also able to share planning with partners to be able to form external cross-functional integration. The results of the study confirm the results of research that states that internal cross-functional integration influences external cross-functional integration (Zhao et al., 2021; Fariz, 2022; Cheng et al., 2016; Basana et al., 2022; Siagian et al., 2021; Pirmanta et al., 2021; Chaudhuri et al., 2018; Yuen & Thai, 2017; Khalaf & Mokadem, 2019).

The fifth hypothesis (H5) with internal cross-functional integration influences supply chain flexibility of 0.373 and t-statistic of 2.289 (> 1.960). This shows that the fifth hypothesis can be accepted, then internal cross-functional integration influences increasing supply chain flexibility. Organizations that have adequate data integration between functions within the company's internal and real-time integration can make the organization organize increased schedule flexibility, which has an impact on order flexibility as a form of supply chain flexibility. Research confirms that internal cross-functional integration influences supply chain flexibility (Singh & Kumar, 2020; Shukor et al., 2020; Siagian et al., 2021; Putra et al., 2020; Khalaf & Mokadem, 2019). The sixth hypothesis (H6) with external cross-functional integration affecting supply chain flexibility was obtained at 0.316 (> 1.960). The sixth hypothesis is accepted so that it can be said that Internal cross functional integration influences supply chain flexibility. Organizations can share information and plans with external parties to increase supply chain flexibility. The company's ability to build collaboration with external parties can provide flexibility in adequately determining orders and planning according to external parties' needs (Zhao et al., 2021; Siagian et al., 2021; Chaudhuri et al., 2018; Shukor et al., 2020).

Testing the seventh hypothesis (H7) with Internal cross-functional integration affecting financial performance was obtained at 0.421 and t-statistic 3.348 (> 1.960). The seventh hypothesis is accepted so that it can be said that Internal cross functional integration influences increasing financial performance. Hotel organizations that have data integration in real-time influence financial performance by increasing the organization's profitability and organizational efficiency. The results of the study support research which states that internal cross-functional integration influences financial performance (Zhao et al., 2021; Basana et al., 2022; Jafari et al., 2021; Ruivo et al., 2020; Lee et al., 2016; Siagian et al., 2021). The eighth hypothesis (H8)

stated that external cross-functional integration influences financial performance, obtained 0.441 and t-statistic 3.885 (> 1.960). The eighth hypothesis is accepted, so it is said that external cross-functional integration influences increasing financial performance. External cross-functional integration provides increased organizational efficiency and market share due to collaboration with external parties. The results of the study support research which states that external cross-functional integration influences financial performance (Chunsheng et al., 2020; Jafari et al., 2021; Ruivo et al., 2020; Siagian et al., 2021). The ninth hypothesis (H9) with Supply chain flexibility influences the financial performance of 0.192 and t-statistic 1.962 (> 1.960). Therefore, the ninth hypothesis can be accepted, stating that supply chain flexibility influences financial performance. Organizations that can manage flexible schedules and orders as a form of supply chain flexibility can result in increased financial performance by increasing the organization's market share and growth in sales. The results of the study support research that states that supply chain flexibility affects financial performance (Pham & Doan, 2020; Jafari et al., 2021; Yuen & Thai, 2017; Yu et al., 2019).

4. Conclusion

Key user capability is the person assigned by the organization to update information technology systems on an ongoing basis. The information technology used to make the system integrated is enterprise resources planning in making internal and external integration cross-functional. The study results indicate that key user capability can influence internal cross-functional integration by establishing good communication between departments and understanding system integration well. Key user capability is not able to have a direct impact on external cross-functional integration but through internal cross-functional integration. Key user capability is able to build a supply chain flexibility system with flexible planning and orders. Internal cross-functional integration determined by integration between departments is going well, and real-time data integration impacts external cross-functional integration, supply chain flexibility, and financial performance. External cross-functional integration by sharing information and planning with the external has a positive impact on increasing supply chain flexibility and financial performance. Supply chain flexibility by setting orders and planning according to the needs of external parties adequately can improve financial performance by increasing the organization's market share and growth in sales. The results of the research provide theoretical contributions to the development of digital supply chain theory, and practical contributions can provide enlightenment for top management in investing in information technology on an ongoing basis.

References

- Badewi, A., & Shehab, E. (2016). The impact of organizational project benefits management governance on ERP project success: Neo-institutional theory perspective. *International Journal of Project Management*, 34, 412–428, doi.org/10.1016/j.ijproman.2015.12.002
- Basana, S.R., Suprpto, W., Andreani, F., and Tarigan, Z.J.H. (2022). The impact of supply chain practice on green hotel performance through internal, upstream, and downstream integration, *Uncertain Supply Chain Management*, 10(1), 169–180, DOI: 10.5267/j.uscm.2021.9.010
- Chang, W., Ellinger, A.E., Kim, K., & Franke, GR, (2016). Supply chain integration and firm financial performance: a meta-analysis of positional advantage mediation and moderating factors. *European Management Journal*, 34(3), 282–295. <https://doi.org/10.1016/j.emj.2015.11.008>.
- Chaudhuri, A., Boer, H., & Taran, Y. (2018). Supply chain integration, risk management and manufacturing flexibility. *International Journal of Operations & Production Management*, 38(3), 690–712. <https://doi.org/10.1108/IJOPM-08-2015-0508>
- Cheng, Y., Chaudhuri, A., & Farooq, S. (2016). Interplant coordination, supply chain integration, and operational performance of a plant in a manufacturing network: a mediation analysis. *Supply Chain Management: An International Journal*, 21(5), 550–568, DOI 10.1108/SCM-10-2015-0391
- Chunsheng, L., Wong, C.W.Y., Yang, C.-C., Shang, K.-C., & Learn, T.-c. (2020). Value of supply chain resilience: roles of culture, flexibility, and integration. *International Journal of Physical Distribution & Logistics Management*, 50(1), 80–100. <https://doi.org/10.1108/IJPDLM-02-2019-0041>
- Fariz, (2022). The effect of supplier integration, manager transformational leadership on supply chain performance. *Uncertain Supply Chain Management*, 10(3), 993–998, DOI: 10.5267/j.uscm.2022.2.014
- He, Y., Lai, K.K., Sun, H., & Chen, Y. (2014). The impact of supplier integration on customer integration and new product performance: The mediating role of manufacturing flexibility under trust theory. *International Journal of Production Economics*, 147, 260–270, <http://dx.doi.org/10.1016/j.ijpe.2013.04.044>
- Heryanto, O.A., & Leng, P. (2022). Influence of financial literacy, managerial experience on financial management performance of SMEs in Surabaya. *International Journal of Financial and Investment Studies*, 2(2), 83–91. <https://doi.org/10.9744/ijfis.2.2.83-91>
- Jafari, T., Zarei, A., Azar, A., & Moghaddam, A. (2021). The impact of business intelligence on supply chain performance with emphasis on integration and agility—a mixed research approach. *International Journal of Productivity and Performance Management*, <https://doi.org/10.1108/IJPPM-09-2021-0511>
- Khan, G.F., Sarstedt, M., Shiau, W.-L., Hair, J.F., Ringle, C.M., & Fritze, M.P. (2019). Methodological research on partial least squares structural equation modeling (PLS-SEM): An analysis based on social network approaches. *Internet Research*, 29(3), 407–429. <https://doi.org/10.1108/IntR-12-2017-0509>

- Lee, H.-Y., Seo, Y.-J., & Dinwoodie, J. (2016). Supply chain integration and logistics performance: the role of supply chain dynamism. *The International Journal of Logistics Management*, 27(3), 668-685, <https://doi.org/10.1108/IJLM-06-2015-0100>.
- Maas, J.-B., Fenema, P.C.V., & Soeters, J. (2016). ERP as an organizational innovation: key users and cross-boundary knowledge management. *Journal Of Knowledge Management*, 20(3), 1367-3270, DOI 10.1108/JKM-05-2015-0195
- Pham, T.H., & Doan, T.D.U. (2020). Supply chain relationship quality, environmental uncertainty, supply chain performance and financial performance of high-tech agribusinesses in Vietnam. *Uncertain Supply Chain Management*, 8(4), 663-674, DOI: 10.5267/j.uscm.2020.8.006
- Pirmanta, Tarigan, Z.J.H., & Basana, S.R. (2021). The effect of ERP on firm performance through information quality and supply chain integration in Covid-19 era. *Uncertain Supply Chain Management*, 9(3), 659-666, DOI: 10.5267/j.uscm.2021.5.004
- Putra, A., Tarigan, Z.J.H., & Siagian, H. (2020). Influence of Information Quality on Retailer satisfaction through Supply Chain Flexibility and Supplier Relationship Management in the Retail Industry. *Jurnal Teknik Industri*, 22, 93–102, DOI: <https://doi.org/10.9744/jti.22.2.93-102>
- Ruivo, P., Johansson, B., Sarker, S., & Oliveira, T. (2020). The relationship between ERP capabilities, use, and value. *Computers in Industry*, 117, 103209, doi.org/10.1016/j.compind.2020.103209
- Shukor, A.A.A., Newaz, M.S., Rahman, M.K., & Taha, A.Z. (2021). Supply chain integration and its impact on supply chain agility and organizational flexibility in manufacturing firms. *International Journal of Emerging Markets*, 16(8), 1721-1744. <https://doi.org/10.1108/IJOEM-04-2020-0418>
- Siagian, H., Jade, K., & Tarigan, Z.J.H. (2020). The role of affective leadership in improving firm performance through the integrated internal system and external integration FMCG Industry. *International Journal of Data and Network Science*, 4(4), 365-372, DOI: 10.5267/j.ijdns.2020.9.002
- Siagian, H., Tarigan, Z.J.H., & Jie, F. (2021). Supply Chain Integration Enables Resilience, Flexibility, and Innovation to Improve Business Performance in COVID-19 Era. *Sustainability*, 13, 4669. <https://doi.org/10.3390/su13094669>
- Shiau, W.-L., Sarstedt, M., & Hair, J.F. (2019). Internet research using partial least squares structural equation modeling (PLS-SEM). *Internet Research*, 29(3), 398-406. <https://doi.org/10.1108/IntR-10-2018-0447>.
- Singh, R.K., & Kumar, P. (2020). Measuring the flexibility index for a supply chain using graph theory matrix approach. *Journal of Global Operations and Strategic Sourcing*, 13(1), 56-69. <https://doi.org/10.1108/JGOSS-04-2019-0027>
- Suprpto, W., Tarigan, Z.J.H., & Basana, S.R. (2017). The influence of the ERP system to the company performance seen through the innovation process, information quality, and information sharing as the intervening variables. *ICEMT' 17*
- Tanuwijaya, N.C., Tarigan, Z.J.H., & Siagian, H. (2021). The Effect of Top Management Commitment on Firm Performance through the Green Purchasing and Supplier Relationship Management in 3-Star Hotel Industry in Surabaya. *Petra International Journal of Business Studies*, 4(2), 169-181, DOI: <https://doi.org/10.9744/ijbs.4.2.169-181>
- Tarigan, Z.J.H., Basana, S.R., & Suprpto, W. (2018). Enterprise Resources Planning Project Manager Competency on Improving Organizational Performance through Process Design and Quality Performance. *ICEBT 2018*, 153–157, doi.org/10.1145/3241748.3241777
- Tarigan, Z.J.H., Oktavio, A., Soeprpto, W., Harjanti, D., Malelak, M.I., & Basana, S.R. (2021). Key user ERP capability maintaining ERP sustainability through effective design of business process and integration data management. *International Journal of Data and Network Science*, 5(3), 283-294, DOI: 10.5267/j.ijdns.2021.6.005
- Tarigan, Z.J.H., Siagian, H., Basana, S.R., & Jie, F. (2019). Effect of Key User Empowerment, Purchasing Strategy, Process Integration, Production System to Operational Performance. *E3S Web of Conferences*, 130, 01042, <https://doi.org/10.1051/e3sconf/201913001042>
- Yuen, K.F., & Thai, V.V. (2017). The influence of supply chain integration on operational performance: A comparison between product and service supply chains. *The International Journal of Logistics Management*, 28(2), 444-463, doi.org/10.1108/IJLM-12-2015-0241

