Uncertain Supply Chain Management

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Last updated March 7, 2021

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Original description by J. Beall

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publishers are here. We hope that tenure and promotion committees can also decide for themselves how importantly or not to rate articles published in these journals in the context of their own institutional standards and/or geocultural locus. We emphasize that journal publishers and journals change in their business and editorial practices over time. This list is kept up-to-date to the best extent possible but may not reflect sudden, unreported, or unknown enhancements.

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18. The effect of lean on the operational performance of medium-sized Thai manufacturing companies Pages: 647-658

Kanitsorn Terdpaopong, Amporn Puapradit and Ussanee Malisuwan 🔂 PDF (360K)

Abstract: Lean practices appear to have aided organisations in improving their operations, especially manufacturing companies. This paper reports on an in-depth study comparing Thai medium-size manufacturing companies who use Lean with those which have not yet adopted Lean. In this paper the word "Lean" is used to refer to "lean practices" as well as "lean strategies". Lean methods include just-in-time (JIT), total productive maintenance (TPM), automation, value-stream mapping (VSM), Kaizen, material requirement planning (MRP), Kanban, 5S and waste elimination. Primary data were obtained through questionnaires which were analysed using a number of statistical processes including factor analysis (CFA) and structural equation modelling (SEM). Some 230 medium-sized manufacturing companies were the focal target of this study. Three latent variables, Lean (exogenous variable), product customisation (endogenous) and operational performance (endogenous) are formed in this study. There were 24 parameters and the findings provide further evidence regarding the effects which Lean practices have on product customisation model. The results show that Lean strategies are linked to improve operational performance in the firms which practice them. Management teams in Thai medium-size manufacturing companies which have resisted Lean are encouraged to adopt Lean in order to improve operational performance, particularly in the present economic climate.

DOI: 10.5267/j.uscm.2021.5.005

Keywords: Lean, JIT, TPM, VSM, Customisation, Operational performance



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The effects of total quality management practices on employee performance and the effect of training as a moderating variable

2. Pages: 521-528

Khaled M.S Abukhader and Dilber Çağlar Onbaşıoğlu 🗖 PDF (360K)

Abstract: This study is carried out to investigate the effect of five factors of the Total quality management practices in healthcare on employee's performance in public hospitals in Turkey. The TQM practices are Top management commitment, customer focus, people management, continuous improvement, and process management. The study adopted a quantitative research method through a survey questionnaire at three public hospitals, 200 valid responses were collected and used as a source of data to test the hypotheses of the study. Hierarchical multiple regression was used for analyzing the collected data, the study indicated that TQM factors have a significant effect on employees' performance and the moderating effect of training has increased the correlation between employees' performance and the TQM factors.

DOI: 10.5267/j.uscm.2021.6.010

Keywords: TQM, Healthcare, Employee Performance, Training, Turkey



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3. The effect of supply chain linkages on the business performance: Evidence from Vietnam Pages: 529-538

🍍 Thi Thu Cuc Nguyen, Quang Bach Tran, Dieu Anh Ho, Duc Anh Duong and Thi Bich Thuy Nguyen 🔂 PDF (360K)

Abstract: The study aims to examine the impact of supply chain linkages on the performance of businesses. Quantitative research is used by implementing the analysis of the SEM linear structure model. A survey is conducted consisting of 598 samples - experienced managers who had the knowledge of the management of supply chain activities in enterprises in Vietnam. Research results show that supply chain linkages, although not having a direct impact, has an indirect impact on the business performance of enterprises through the intermediary factors of trust and business strategy and the opportunistic behaviors of the participating members. Also, research has demonstrated that opportunistic behaviors have negative effects on trust among members of the supply chain.

DOI: 10.5267/j.uscm.2021.6.009

Keywords: Supply chain linkages, Trust, Business strategy orientation, Opportunistic behaviors, Business performance efficiency



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4 Significance of supply chain finance: Insights from Saudi Arabia Pages: 539-548

Abdul Rahman Shaik 🗖 PDF (360K)

Abstract: The study examines the effect of the supply chain finance (SCF) on the corporate financial performance measured in terms of Return on Assets (ROA), Tobin's Q, and Gross Operating Profit (GOP) in the material sector of Saudi Arabia. The study selects a sample of 42 companies from the material sector listed on Tadawul starting in 2008 and ending 2019. A panel regression in terms of pooled OLS, fixed and random effects, and panel GMM is estimated to report the empirical results. The results report a negative and significant effect between the financial performance variables and supply chain finance, specifically with ROA with pooled OLS and fixed and random effects models. The results of panel GMM also show a negative and significant effect between variables and financing supply chain. The results are useful to academicians and the managers in the materials, inventory, and sales sections, and supply chain managers to integrate finance and SCM to achieve corporate benefits.

DOI: 10.5267/j.uscm.2021.6.008

Keywords: Supply chain management, Supply chain finance, Corporate financial performance, Return on Assets, Tobin's Q, Gross Operating Profit, Cash conversion cycle



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The effect of digital marketing on customer relationship management in the education sector: Peruvian case Pages: 549-554

Sofia Oré-Calixto and Wagner Vicente-Ramos 🔁 PDF (360K)

Abstract: The objective of the research was to determine the impact of Digital Marketing on customer relationship management (CRM) in an educational institution in central Peru. The study was carried out from the quantitative approach, with a non-experimental correlational transactional research design. A questionnaire was applied to 228 parents between the ages of 30 and 50 who belong to an educational institution in the city of Concepción in Peru. Using the structural equations model, it was found that Content Marketing has a significant influence on the operational management of customer relationships (p < 0.05), as well as on the analytical management of customer relationships (p < 0.05), as well as on the analytical management of customer relationships (p < 0.05), as well as on the analytical management of customer relationships (p < 0.05), because the media used by educational institutions are attractive to parents. It is concluded that Digital Marketing has a great impact on customer relationship management (CRM) in the educational sector of a city in central Peru.

DOI: 10.5267/j.uscm.2021.6.007

Keywords: Digital marketing, Operational management, Analytical management, CRM, Customer

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The effect of supply agility mediation through the relationship between trust and commitment on supply chain performance Pages: 555-562

Moh. Mukhsin and Tulus Suryanto 🔁 PDF (360K)

Abstract: This study examines the mediating effect of supply agility on the relationship between trust and commitment and supply chain performance. The study examines the direct effect of trust and commitment on supply chain performance, trust and commitment on supply agility and supply agility on supply chain performance. The study also examines the indirect effect of trust and commitment on supply chain performance with supply agility as an intervening variable. The research sample consists of 100 respondents who sell chicken meat in seven districts in Lebak Regency, Banten Province, Indonesia. Data are collected using purposive sampling technique. The statistical tool used is the SmartPLS 3.0 application. The results of this study indicate that; trust has no effect on supply chain performance, commitment has a significant effect on supply chain performance, trust has a significant effect on supply agility, commitment has a significant effect on supply agility has a significant effect on supply has a significant effect on supply hagility h

DOI: 10.5267/j.uscm.2021.6.006

Keywords: Trust, Commitment, Supply agility, Supply chain performance



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The effects of human resource management, customer satisfaction, organizational performance on tourism supply chain 7. management *Pages: 563-568*

Tran Minh Nguyet, Nguyen Van Dung, Tran Thi Thu Trang, Tran Tuan Anh and Nguyen Duc Duong 🔁 PDF (360K)

Abstract: The goal of this research is to investigate the relationship between human resource management and tourism supply chain management, as well as the effects of human resource and tourism supply chain on customer satisfaction and operation performance. The research was carried out in Vietnam at several tourist destinations. The study found 297 viable samples after screening the sample. A Partial Least Squares (PLS) algorithm was used to process the data. The study's findings revealed a link between human resources and supply chain management in the tourism business. Furthermore, the study discovered that human resource management uncertainty had an impact on organizational performance.

DOI: 10.5267/j.uscm.2021.6.005

Keywords: Human resource management, Customer satisfaction, Organizational performance, Supply chain management, Tourism supply chain



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8 The role of workers' perceptions towards the uncertain result of ergonomic program Pages: 569-576

Anizar Anizar, Abdul Rahim Matondang, Rizabuana Ismail and Nazaruddin Matondang 🖄 PDF (360K)

Abstract: Manual activities of workers in palm oil factories cause pain complaints that can be resolved with an ergonomic program. However, the uncertainty of the success of the ergonomic program requires active involvement from workers. This study aims to discuss the role of workers' perceptions towards the success of the ergonomic program intervention in palm oil mills. By referring to the theory of reasoned action and technology acceptance model, acceptance of workers to ergonomics programs are influenced by perceived usefulness, perceived ease of use, and perceived trust. All these research variables were analyzed simultaneously using Partial Least Squares Structural Equation Modeling (PLS-SEM) software, in which data were obtained from questionnaires given to 280 people working in 20 palm oil mills in North Sumatra Province. The sampling method used is simple random sampling and model estimation is performed using PLS regression algorithm and resampling bootstrapping method. The result shows that perceived ease of use, which has a smaller effect. This study focuses on workers' perception that needs to be considered for facing uncertain results in implementing an ergonomic program.

DOI: 10.5267/j.uscm.2021.6.004

Keywords: Program result uncertainty, Ergonomic program, Workers' perception

Does strategic alignment matter when SMEs adopt entrepreneurial orientation? An empirical examination in Vietnam Pages: 577-9. 584

Quang-Huy Ngo 🔁 PDF (360K)

Abstract: Prior studies suggest that differentiating strategy (DS) has an intervening impact on the relationship between entrepreneurial orientation (EO) and performance. However, they only examine the impacts based on each dimension of EO, provide a lack of theory underpinning why this strategy is the mediator, and focus on the manufacturing industry of an emerging market. Addressing these gaps, the purpose of this study draws from the contingency theory in strategic management to examine whether this strategy is the mediator in the context of Vietnam. Partial least square structural equation modeling used to assess the research model with data collected from 142 SMEs operating in Vietnam. The result indicates that DS fully has an intervening effect on the association between EO and SMEs' performance.

DOI: 10.5267/j.uscm.2021.6.003

Keywords: Differentiating strategy, Entrepreneurial orientation, Organizational performance, Resource-based view SME, Vietnam

10. Integration and collaboration of determinants of entrepreneurial competitiveness Pages: 585-594

P. Eko Prasetyo, Andryan Setyadharma, and N. Rahayu Kistanti 1 PDF (360K)

Abstract: The advancement of sustainable competitiveness and its contribution to the sustainability of sustainable development are becoming increasingly important research topics in sustainability science. The main purpose of this study is to disseminate knowledge in the practice of entrepreneurship and to strengthen the theoretical foundation to support sound and appropriate decision making as well as to improve the performance of the business competitiveness. The main source of data material in this paper is the primary micro fundamental survey with path analysis model. The result of this study shows that technological innovation not only produces new products but can also be the best way to achieve advancement. New Product Development (NPD) is the output of technological innovation, and the best way that must be developed as a strong foundation for decision makers to achieve sustainable competitiveness progress is the new product development and institutional integration. If productivity and economic growth are the main keys to success in achieving sustainable competitiveness, the NPD and institutional integration is the main determinant of the progress of sustainable competitiveness. The conclusion of this study is that productivity and economic growth is not enough to be the main key of the strength of competitiveness, but it also requires collaboration from various fundamental factors and the NPD and institutional integration as a driving force, the best way, and the main determinant of the achievement of the performance progress of sustainable development competitiveness.

DOI: 10.5267/j.uscm.2021.6.002

Keywords: New Product Development, Institution, Productivity, Economic Growth, Competitiveness Progress Performance, Sustainable Development

The effects of customer relationship management, human resource competence and internal control systems on the effectiveness of 11. supply chain management in the Indonesian public sector *Pages: 595-602*

Widia Astuty, Zufrizal, Fajar Pasaribu and Sri Rahayu 🗖 PDF (360K)

Abstract: The purpose of this research is to empirically examine the factors that influence effectiveness of supply chain management by investigating the role of the variables of the customer relationship management, human resource competence, and the organization's internal control system. The research method used is explanatory research and the type of research is verification. The research instrument was tested through the validity and reliability of the data. Furthermore, inferential data analysis using SEM-PLS statistics. The results found that the factors that affect the effectiveness of supply chain management, and internal control system. The resource of human resources affects the effectiveness of supply chain management, and internal control system. The results are useful for providing and utilizing various forms and means of communication and for managing the customer relationship, developing human resources, and updating control systems continuously in public organizations.

DOI: 10.5267/j.uscm.2021.6.001

Keywords: Customer management, Human resource competence, Internal control system, Supply chain management

The effects of service operation engineering and green marketing on consumer buying interest Pages: 603-608

12. Vosi Pahala, Sri Widodo, Kadarwati, Munir Azhari, Muliyati, Novia Indah Lestari, Suharto Abdul Madjid, Sonya Sidjabat, Nandan Limakrisna and Endri Endri PDF (360K)

Abstract: The purpose of this research is to determine the effects of service operation engineering and green marketing on consumer buying interest in a company in Jakarta. The analysis used in this research is a quantitative analysis technology using the statistical program analyzed by the SPSS 21 version of the program. In this study, the sample size is as many as 145 people. The data in this study are raw data, obtained through field research using questionnaire survey methods. The questionnaire survey method is a method of collecting data using a list of questions that must be filled out by the interviewee. The results of the survey indicate that service operation engineering and green marketing had some positive effects on consumer's buying interest. Service operation engineering has a dominant effect on consumer buying interest. For increasing consumer buying interest, service operation engineering is very important, since green marketing will implement service operation engineering support.

DOI: 10.5267/j.uscm.2021.5.011

Keywords: Service operation engineering, Green marketing, Consumer buying interest

13. Toward marketing performance through supply chain management and knowledge sharing during the Covid19 Pages: 609-616

🍯 Made Setini, Ni Nyoman Kerti Yasa, I Wayan Gede Supartha and I Gusti Ayu Ketut Giantari 🖾 PDF (360K)

Abstract: The culinary business sector is the choice of the COVID-19 pandemic; Women entrepreneurs and the informal sector are looking for a foothold in the COVID-19 pandemic, which will lead women to develop creative businesses. This study examines the role of supply chain management in mediating the role of social capital and marketing performance, innovation on marketing performance, and the mediating role of sharing knowledge on marketing performance among women entrepreneurs in Bali. Purposive sampling is used in the sampling technique, with 229 samples used, the Structural Equation Modeling (SEM-PLS) analysis technique with SmartPLS for application processing. The results showed that in order to increase sales, retain customers and reach a high market, good quality products and services owned by the supply chain, from social networking relationships and knowledge sharing, are needed. However, the increase in marketing performance cannot increase even though women entrepreneurs have strong relationships.

DOI: 10.5267/j.uscm.2021.5.010

Keywords: Social Capital, Knowledge Sharing, Supply Chain Management, Innovation, Marketing Performance

The role of market uncertainty in fostering innovation and green supply chain management on the performance of tourism SMEs 14. Pages: 617-624

Elza Syarief D PDF (360K)

Abstract: This research was conducted to examine the extent to which market uncertainty can encourage market players, especially SMEs, to exploit innovation and environmentally friendly orientation to improve their performance. From a supply chain perspective, market uncertainty, which in this study is proxied by the Covid-19 pandemic, has great potential to reduce performance and disrupt production and distribution lines as well as consumer demand. This encourages affected SMEs, such as SMEs that focus on providing tourism products, such as fashion and merchandise, to maintain their performance with product innovation, and minimize the use of non-environmentally friendly products. The object of research is Small and Medium Enterprise (SME) producing tourism souvenirs in Yogyakarta, Indonesia. Using the analysis technique of Structural Equation Modeling (SEM) with 150 respondents, the findings indicate that market uncertainty serves as a catalyst for SMEs to maintain performance through marketing innovation and green orientation on SME performance, and the mediating effect of market uncertainty to increase marketing innovation and environmentally friendly orientation. These findings theoretically contribute to explaining the relationship between supply chain management in the context of market uncertainty. In practical terms, this study confirms the need for support by stakeholders to support limited domestic tourism, according to health protocols, as well as digitalization of marketing for tourism SMEs.

DOI: 10.5267/j.uscm.2021.5.009

Keywords: Supply Chain Management, Market Uncertainty, Covid-19, Innovation, Green Supply Chain Management, SME Performance

15. Cooperation in the supply chain of fisheries: A case study of the north central region, Vietnam Pages: 625-630

Phuong Tran Hoa, Dung Nguyen Anh and Ha Nguyen Thi Thu DDF (360K)

Abstract: The aim of this study was focused on cooperation in the fisheries supply chain. Specifically, the study of the factors affecting the benefits of cooperation and the relationship between the factors. The study has found that there are six factors affecting supply chain cooperation: trust, distance, strategies, policies, power, and maturity. The research was conducted with 300 seafood producers in the North Central Region, Vietnam. The study results show that trust, distance, strategies, policies, power, and maturity have a direct impact on the collaboration in the fishery supply chain.

DOI: 10.5267/j.uscm.2021.5.008

Keywords: Cooperation, Supply Chain Collaboration, Fisheries Supply Chain, Supply Chain Management

16.

Dewi, Ferdian Hajadi, Yunita Wijaya Handranata and Maria Grace Herlina 🔁 PDF (360K)

Abstract: The purpose of this study is to determine the impact of service quality and customer satisfaction on customer loyalty of the laundry service industry in Indonesia. The research methods used were quantitative, and analyzed using multiple linear regression methods. Data were obtained by distributing questionnaires to 100 respondents in Jakarta from February to March 2020. The selection of respondents used a purposive sampling technique, with the criteria of using laundry services in the past. Findings from this research revealed a significant positive effect of service quality toward customer satisfaction; and both service quality and customer satisfaction also have significant and positive effects towards customer loyalty in laundry services in Indonesia. From this research, it is expected that the entrepreneur in the laundry service industry would better understand the importance of service quality, customer satisfaction and its correlation to customer loyalty in order to improve firm sales performance.

DOI: 10.5267/j.uscm.2021.5.007

Keywords: Service Quality, Customer Satisfaction, Customer Loyalty

17. Towards a deterministic sustainable cost-effective water supply chain Pages: 637-646

Hassan Rezazadeh and Zahra Tahmasebi 🔁 PDF (360K)

Abstract: Managing water resources is one of the most challenging problems in today's world. There is an immense change in climate change, population growth, and environment, thereby increasing pressures on water resources. Due to future uncertainty and availability of resources, many priorities should be taken into account in the drinking-water system such as environmental impacts, distribution costs and fixed costs. This paper proposes a deterministic mixed-integer linear programming (MILP) model for planning and designing a water supply chain network in order to optimize multi-objective problems. The model considers costs which include fixed and variable costs, in addition, it considers sustainability in terms of environmental viewpoint. The applicability of the model is appraised through a case study whose data gathered from related articles and water and waste company reports in Iran, which consists of five candidate reservoir nodes and four dam nodes besides eleven candidate locations for treatment plants. Thereafter, the proposed model has been coded in GAMS® optimization software. The model could be an expedient tool in order to manage urban water supply chains in a cost-effective and sustainable manner to satisfy water demand at every time period.

DOI: 10.5267/j.uscm.2021.5.006

Keywords: Sustainable water supply chain, Multi-objective water supply chain, Mixed integer linear programming model

18. The effect of lean on the operational performance of medium-sized Thai manufacturing companies Pages: 647-658

Kanitsorn Terdpaopong, Amporn Puapradit and Ussanee Malisuwan Apple (360K)

Abstract: Lean practices appear to have aided organisations in improving their operations, especially manufacturing companies. This paper reports on an in-depth study comparing Thai medium-size manufacturing companies who use Lean with those which have not yet adopted Lean. In this paper the word "Lean" is used to refer to "lean practices" as well as "lean strategies". Lean methods include just-in-time (JIT), total productive maintenance (TPM), automation, value-stream mapping (VSM), Kaizen, material requirement planning (MRP), Kanban, 5S and waste elimination. Primary data were obtained through questionnaires which were analysed using a number of statistical processes including factor analysis (CFA) and structural equation modelling (SEM). Some 230 medium-sized manufacturing companies were the focal target of this study. Three latent variables, Lean (exogenous variable), product customisation (endogenous) and operational performance (endogenous) are formed in this study. There were 24 parameters and the findings provide further evidence regarding the effects which Lean practices have on product customisation and operational performance of the companies, for example. The methods for analyzing the data favour the proposed structural equation model. The results show that Lean strategies are linked to improve operational performance in the firms which practice them. Management teams in Thai medium-size manufacturing companies which have resisted Lean are encouraged to adopt Lean in order to improve operational performance, particularly in the present economic climate.

DOI: 10.5267/j.uscm.2021.5.005

Keywords: Lean, JIT, TPM, VSM, Customisation, Operational performance

The effect of ERP on firm performance through information quality and supply chain integration in Covid-19 era Pages: 659-666

Pirmanta, Zeplin Jiwa Husada Tarigan and Sautma Ronni Basana 🗖 PDF (360K)

Abstract: The disruption caused by the COVID-19 pandemic has an imbalance between demand and supply in Indonesia's manufacturing industry. The products needed to handle the spread of the virus are in high order, and there is even a product shortage. Products that are not required to prevent a pandemic have stagnated so that the manufacturing industry suddenly reduces capacity. Manufacturing companies need to coordinate quickly to be able to adjust the disruption. Manufacturing companies already have an integrated information technology system that has been the primary process in Enterprise Resources Planning (ERP). Manufacturing companies make ERP their primary system, so they need to be updated and adjusted as needed. This study obtains a questionnaire from Indonesia's manufacturing industry using the google form link and distributed through social media WhatsApp, Facebook and Instagram. Data processing was carried out by using the partial least square of 285 manufacturing company respondents. The results showed that ERP sustainability was able to influence supply chain integration (internal and external). External integration has an impact on information quality, while internal integration does not affect. Supply chain integration and information quality affect increasing firm performance. Research makes a practical contribution to the industry in optimizing ERP systems in Pandemic conditions and a theoretical contribution to ERP sustainability as a mainstay in supply chain integration.

DOI: 10.5267/j.uscm.2021.5.004

Keywords: ERP sustainability, Supply chain integration, Information quality, Firm performance

20 The effect of guidelines on reducing logistics costs Pages: 667-674

Sunee Wantanakomol 🖾 PDF (360K)

Abstract: In an operating business amidst fierce competition, the operational process needs to be developed and improved in order to reduce logistics costs which are hidden costs in all business activities. This study aimed to investigate guidelines for reducing logistics costs in the industrial business sector, and to develop a structural equations model. It was conducted quantitatively and qualitatively.

DOI: 10.5267/j.uscm.2021.5.003

Keywords: Structural Equation Model, Guidelines to Reduce Costs, Logistics, Management, Transportation, Inventory Holding



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The effect of supply chain and storage management on demand for health services Pages: 675-680

Nabil Mohemmed Al-Hazmi 🖾 PDF (360K)

Abstract: This study aims at studying the effectiveness of supply and storage management in light of the determinants of demand for health services in Saudi hospitals in an analytical framework. The survey studies the impact of logistical management of medical materials and its vital role in securing the necessary medical resources and supplies for the health institution. The study adopts the descriptive and analytical approach in order to achieve its goals and test its hypotheses, as the study was applied in the hospitals of Al-Kharj Governorate. The study finds that there was a relationship between the methods of supply and storage applied in Saudi hospitals and the determinants of demand for the health services provided. The study recommends working on developing methods of requesting suppliers, developing methods of storing medicines and medical supplies, and distributing them inside the hospital in accordance with economic standards and making use of computer technologies.

DOI: 10.5267/j.uscm.2021.5.002

Keywords: Supply Chain Management, Storage, Demand, Health Service, Hospitals

Food safety management and food quality in hospitality industry during covid-19 pandemic Pages: 681-686

^{2.} Tiurida Lily Anita and Aditya Pratomo 1 PDF (360K)

Abstract: During the pandemic, many hotels have lost their source of income. The sources of hotel revenue that usually come from the sales of rooms, food and beverages, or other services have suddenly disrupted. This study was conducted to examine whether the food quality and food safety that are implemented in hotels during the social distancing period can increase customer satisfaction and increase revenue from food products made in hotels. This research was conducted by conducting observations and case studies at a hotel in Jakarta. Population and samples were taken from guests who came and bought food products at this hotel started operating again in June 2020. This research was conducted in a descriptive quantitative manner. The analysis technique, namely path analysis, was carried out to show whether the factors of food quality, food safety, customer satisfaction have a direct or indirect effect on hotel revenue from food products. The results found that food quality, food safety and customer satisfaction had a direct impact on increasing revenue at the company.

DOI: 10.5267/j.uscm.2021.5.001

Keywords: Food quality, Food safety, Customer satisfaction, Revenue, Path analysis

Implementing a business strategy with supply chain management in a management system and management control to improve the 23. performance of the hotel business Pages: 687-695

Harin Tiawon and I Wayan Gede Supartha 🔂 PDF (360K)

Abstract: Supply chain management is very important in improving the business system in the management sector to improve the regional economy. Based on the hotel business strategy at Lovina Beach by implementing e-payments is very important as a transaction tool starting from purchasing needs or marketing systems to the end of room payments and activities to implement the health protocol for the COVID-19 period. The research was conducted at 100 star hotels on Lovina beach Bali, regarding the importance of the main influence of social capital in driving digitalized payment systems and sharing information with microeconomic theory in improving business performance. The results obtained from simple linear quantitative statistical analysis, based on the r-square value of 63.8%, social capital can encourage electronic payments and knowledge sharing can improve hotel business performance in Lovina Beach Bali Indonesia. Research implications for applying social capital, electronic payments, sharing knowledge in improving business performance during the COVID 19 period and making business strategies to increase consumer confidence in hotels on Lovina Beach Bali.

DOI: 10.5267/j.uscm.2021.4.010

Keywords: Supply Chain Management, Social Capital, e-Payment, Knowledge Sharing, Business Performance

24 The influence of supply chain management on competitive advantage and company performance Pages: 696-704

Maun Jamaludin 🔁 PDF (360K)

Abstract: At present, the condition of competition in a network is very tight due to rapid technological changes, economic and political stability in Indonesia which is experiencing uncertainty, and the large number of foreign investors entering, as well as new competitors. Companies themselves are required to always innovate in today's increasingly modern era. This competition must be able to create a good network in order to create competitive advantage and company performance in the formation of good Supply Chain Management. This study aims to determine the effect of supply chain management on competitive advantage and company performance. This study will examine supply chain management on competitive advantage and company performance in Small and Medium Enterprises (SMEs) in Bandung City, West Java. In this study, there are several differences from previous research, namely the indicators that will be used in this study. Namely, the measured supply chain management variables are indicators of technology use, supply chain speed, customer satisfaction, supply chain integration and inventory management. The variables of competitive advantage that are measured are the indicators of Price, Quality, and Time to market, and sales growth. Meanwhile, the measured company performance variables are indicators of financial performance and operational performance. The analytical method used in testing the hypothesis is to use Structural Equation Modeling (SEM) with the help of AMOS software version 20. Respondents in this study were 150 respondents in Small and Medium Enterprises (SMEs) in Bandung, West Java. The results of this study indicate that supply chain management has a positive and significant effect on the company's competitive advantage. Competitive advantage has a positive and significant effect on company performance. Supply chain management has a positive and significant effect on company performance. Supply chain management has a positive and significant effect on company performance through competitive advantage.

DOI: 10.5267/j.uscm.2021.4.009

Keywords: Supply chain management, Competitive advantage, Company performance, Small and Medium Enterprises, Structural Equation Modeling (SEM)

Integration of supply chain management to business performance and business competitiveness of food micro industry Pages: 705-25. 710

Dhian Tyas Untari and Budi Satria 🖾 PDF (360K)

Abstract: The food sector is a sector with great potential to be developed, especially in the Bekasi Regency area in Indonesia. Tight business competition and limited resources have forced entrepreneurs to reconsider production processes, one of which is by implementing Supply Chain Management (SCM). With MSC analysis, it is expected that business processes can be more responsive, so that they can respond quickly, effectively, and efficiently to all forms of changes in the market and further increase business competitiveness. The study involved 87 SME entrepreneurs in the food sector who were randomly obtained from several developing SME communities in Bekasi Regency, West Java and 5 experts related to the food industry. Research variables include; Supply Chain Management (SCM), Business Performance and Business Competitiveness. The results showed that in creating a business competitiveness, entrepreneurs need to improve the SCM system. SCM can affect Business Competitiveness directly, as well as through the Business Performance variable.

DOI: 10.5267/j.uscm.2021.4.008

Keywords: Supply Chain Management, Food Micro Industry, Bekasi, West Java

The impact of analytical CRM on strategic CRM, operational CRM and customer satisfaction: Empirical study on commercial

26. **banks** Pages: 711-718

Bader Almohaimmeed D PDF (360K)

Abstract: The aim of this study is to identify the effect of the analytical customer relationship management (CRM) on strategic CRM, operational CRM and customer satisfaction. Data collected from a sample consisted of 150 managers of managers in commercial banks using a questionnaire. The results accepted the hypotheses that analytical CRM is positively related to both strategic CRM and operational CRM, which in turn show significant effects on customer satisfaction. Analytical CRM had no significant direct effect on customer satisfaction, but through strategic CRM and operational CRM. Such results indicated that strategic CRM and operational CRM had a full mediation role between the analytical CRM and customer satisfaction. It was concluded based on these results that CRM components, i.e., analytical, strategic and operational CRM are all critical in ensuring customer satisfaction. Therefore, banks should consider all these components in designing their CRM programs.

DOI: 10.5267/j.uscm.2021.4.007

Keywords: Analytical CRM, strategic CRM, operational CRM, customer satisfaction, commercial banks

What are the obstacles hindering digital transformation for small and medium enterprise freight logistics service providers? An 27 interpretive structural modeling approach Pages: 719-730

Detcharat Sumrit 🔁 PDF (360K)

Abstract: Digital Transformation (DT) allows logistics service providers (LSPs) to gain competitive advantages by reducing costs, and creating customer experience, innovation and efficiency. This paper proposes a systematic framework to analyse the obstacle factors hindering DT of Thailand small and medium enterprises freight LSPs. First, thirteen obstacles are identified through the extensive literature and validated by a panel of experts. Second, a nine-level hierarchical structure is determined based on Interpretive Structural Modelling to demonstrate the complex interrelationships among obstacle factors. Finally, thirteen obstacles are categorized regarding the driving and dependence power by employing Matrix Impact of Cross Multiplication Applied to Classification approach. The results indicate a lack of digital culture being the most important obstacle hindering DT, followed by lack of support and commitment from top management and lack of risk taking initiative. This finding could help LSPs who aim for DT to take appropriate steps to alleviate obstacles.

DOI: 10.5267/j.uscm.2021.4.006

Keywords: Digital Transformation, Interpretive Structural Modelling, Logistics Service Providers, Matrix Impact of Cross Multiplication Applied to Classification, Small-Medium Enterprises

28. Effect of halal food management system certification on buying interest of Indonesian consumer goods Pages: 731-738

Syafrida Hafni Sahir, Mochammad Fahlevi, Kasbuntoro and Sabar Sutia 🖾 PDF (360K)

Abstract: The purpose of this research is to measure the effect of perceived behavior on purchasing behavior of halal food among consumers in Tangerang which is mediated by purchase intention and moderated by halal awareness. Data collection through online questionnaires was carried out by snowball sampling and the results of questionnaires were returned and valid as many as 300 respondents. Data processing using SEM method with SmartPLS 3.0 software. The results of this study indicate that attitudes, subjective norms and perceptions of behavior control have a significant effect on purchase intention. Meanwhile, purchase intention has a significant effect on the purchasing behavior of working consumers, and halal awareness moderates the effect of purchase intention on purchasing behavior.

DOI: 10.5267/j.uscm.2021.4.005

Keywords: Halal awareness, Purchase intention, Subjective norms, Halal food, Theory of planned behavior

29. Risk management and logistical performance: A case of the fishery supply chain north central coast of Vietnam Pages: 739-744

Tho Nguyen Gia, My Mai Bac and Vien Le Van 🗖 PDF (360K)

Abstract: In any given supply chain, risks can occur, and it can reduce the performance of an entire production line. To maintain a competitive advantage, manufacturers should anticipate and manage risks. This paper aims to assess the impact of risks associated with the fishery supply chain on logistics performance. The research was conducted with 297 seafood producers on the North Central Coast of Vietnam. The study results show that risk factors such as supply risks, market risks, operational risks, environmental risks, and financial risks have a direct impact on the logistical performance of firms in the fishery supply chain. The study also proposes solutions to limit risks for businesses.

DOI: 10.5267/j.uscm.2021.4.004

Keywords: Risk Management, Fishery Supply Chain, Financial Risks, Logistical Performance, Supply Risks

30. Impact of enterprise resource planning systems on management control systems and firm performance Pages: 745-754

Teddy Hikmat Fauzi 🖾 PDF (360K)

Abstract: The aim of this study is to provide empirical evidence of the mediating effect of Supply Chain Management (SCM) on the relationship between enterprise resources planning (ERP) and financial performance. The empirical analysis in this study is based on primary data obtained from a survey of 300 agricultural sector companies with 220 respondents or with a response rate of 73%. This research was conducted with a Structural Equation Modeling (SEM) approach with a test tool using Partial Least Square (PLS). Overall, the findings in this study indicate that Supply Chain Management (SCM) mediates in part the effects of enterprise resources planning (ERP) on financial performance. The results of this study indicate that the implementation of enterprise resources planning (ERP) results in increased financial performance in the long term and Supply Chain Management (SCM) helps companies achieve increased financial performance in the future.

DOI: 10.5267/j.uscm.2021.4.003

Keywords: Enterprise resources planning (ERP), Supply chain management (SCM), Financial performance

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The effect of ERP on firm performance through information quality and supply chain integration in Covid-19 era

Pirmanta^a, Zeplin Jiwa Husada Tarigan^{b*} and Sautma Ronni Basana^b

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CHRONICLE	ABSTRACT
Article history: Received January 2, 2021 Received in revised format January, 25, 2021 Accepted May 11 2021 Available online May 11 2021 Keywords: ERP sustainability Supply chain integration Information quality Firm performance	The disruption caused by the COVID-19 pandemic has an imbalance between demand and supply in Indonesia's manufacturing industry. The products needed to handle the spread of the virus are in high order, and there is even a product shortage. Products that are not required to prevent a pandemic have stagnated so that the manufacturing industry suddenly reduces capacity. Manufacturing companies need to coordinate quickly to be able to adjust the disruption. Manufacturing companies already have an integrated information technology system that has been the primary process in Enterprise Resources Planning (ERP). Manufacturing companies make ERP their primary system, so they need to be updated and adjusted as needed. This study obtains a questionnaire from Indonesia's manufacturing industry using the google form link and distributed through social media WhatsApp, Facebook and Instagram. Data processing was carried out by using the partial least square of 285 manufacturing company respondents. The results showed that ERP sustainability was able to influence supply chain integration (internal and external). External integration has an impact on information quality, while internal integration does not affect. Supply chain integration and information quality affect increasing firm performance. Research makes a practical contribution to ERP sustainability as a mainstay in supply chain integration.

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1. Introduction

The global market has undergone drastic changes after COVID 19. The changes that occur result in restrictions on transportation and goods between countries within a regional area. Restrictions on people's movement, goods and vehicles are also carried out between regions within a country. Many countries have implemented lockdowns to limit people's campaign and goods movement between one nation and another. Under normal conditions, it is stated that globalisation provides competition between companies that are not only in one location, one region or even one country; however, the battle that occurs between companies of different countries is also possible. Companies always build networks with other companies to collaborate to produce something that can be mutually beneficial. The conditions for COVID 19 that occur are very different due to the many policies carried out by the state to limit the arrival of goods from certain countries, except for something needed by the government, drugs and materials used to reduce the spread of COVID are required (Govindan et al., 2020). This change in order has resulted in the industry having to make changes internally. The company tries to pay attention to its speed and agility. Internal changes should be able to anticipate changes that occur external to the company. Industry-built skill will result in good flexibility. Companies should involve their suppliers to be able to provide raw materials quickly according to customer requests. The condition of COVID resulted in a decrease in demand from customers

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for most manufactured products, except for products used to anticipate the spread of COVID. Manufacturing companies integrate with external companies and optimise internal company integration to respond to the disruption that occurs. The company builds the ability to manage intra-organization and extra organisation with supply chain integration (Cheng et al. 2016; Subburaj et al., 2019). Internal integration makes it easy for managers to communicate quickly and remove obstacles in the company's organisational structure (Sacristán-Díaz et al., 2018).

Internal integration is cross-functional integration or a relationship between organisational structures (Liu and Lee, 2018. The form of relationship that occurs is the coordination of activities from different business functions to work together effectively and efficiently to achieve company goals (Huo et al., 2014). Cross-functional integration is not limited to integrating business functions within the company and includes integration with other companies that are members of the supply chain. The supply chain is a company's strategy to connect internal activities and external to improve company performance (Khanuja & Jain, 2019). Cross-functional integration between companies in the supply chain can increase the productivity of the entire supply chain. Cross-functional integration positively impacts companies in accessing fast data and real-time integration, making it easier for leaders to make appropriate decisions. The company's internal integration has gone well through the implementation of enterprise resources planning (ERP). The company's supply chain integration can rely on an ERP system that is updated and as needed. Supply chain integration can provide fast information to all parties, both internal and external, to the company. The information that is provided can be used to make the right decisions to improve operational performance. Supply chain integration allows companies to collaborate with external parties to enhance their capabilities (Liu et al., 2016). The integration that occurs provides fast information, synchronises company planning with partners, resolves problems, and builds competitive strategies in the supply chain flow. Supply chain integration consists of external Integration and internal Integration (Sundram et al., 2018). Supply chain external integration consists of supplier integration and customer integration, and internal supply chain integration is determined (Spiegel et al., 2014; Sacristán-Díaz et al., 2018). Companies need to capture demand well according to customers' requirements (Ayoub et al., 2017). Integrated information technology used to coordinate and communicate effectively with corporate partners. The use of information technology provides on-time interaction and builds robust integrations. Information technology tools make both parties' data integrated and create high flexibility because they collaborate in establishing joint plans, develop products jointly with customers, determine forecasting together and reduce inventory levels. External integration with suppliers aims to involve suppliers in knowing the material and supporting material needs for the company quickly (Huo, 2012). Suppliers are given access to the company's information technology system to detail the company's needs. Integration built with external parties must be supported by internal Integration (Liu & Lee, 2018). Supply chain internal integration is a synchronisation process between all organisation functions in achieving the stated goals (Flynn et al., 2010). Internal company integration focuses on meeting customer demands and providing products according to specified requirements (Ayoub et al., 2017). Internal Integration coordinates and communicates between functions within the organisation in making products with the availability of raw materials provided by suppliers.

Implementing external and internal integration of companies requires integrated information technology to increase fast communication in the company in enterprise resource planning (ERP). Integrated information systems (ERP) enable companies to make the right decisions (Ince et al., 2013). ERP can provide an overall picture of the company to be suitable for external changes (Su and Yang, 2010). ERP is equipped with computer hardware and software to manage its money resources (Siagian and Tarigan, 2020b). ERP can coordinate and integrate data in each area of the business process. ERP integration produces fast decision-making, quick financial reports, sales on-time reports, production reports, and inventory reports. ERP enables part or all of its functions to be automated and integrated with software modules in small and medium enterprises (Sharma and Daniel, 2016). ERP is determined with updated compatibility technology to keep up with changes. According to company needs, software and hardware upgrades are called ERP sustainability (Tarigan et al., 2019). Companies' ERP can provide information quality and information sharing (Adaileh & Abu-alganam, 2010). Internal integration in companies through data integration between real-time functions can provide Information Quality (Zhou et al. 2014). Information quality that occurs provides conditions for building customer integration and impacting its operational performance (Chavez et al., 2015). Built-in integration allows related functions to get data in real-time. Internal integration enables functions to quickly understand internal conditions, making it easier to coordinate and integrate with supplier partners and customers. Internal company integration can increase financial performance in manufacturing companies (Qi et al., 2017). Internal company integration and external integration impact firm performance on fast-moving consumer goods (Siagian et al. 2020a). The company's ability to coordinate and coordinate quickly by integrating internal integration can improve company performance (Sundram et al., 2018; Huo, 2012; Yuen & Thai, 2017). Companies' power to build external integration by communicating and collaborating can improve operational performance (Sundram et al., 2018; Cheng et al. 2016, Huo, 2012; Tarigan & Hotlan, 2021). Previous research still carried out partial testing of the two concept variables, and it was still limited to normal conditions without era disruption. This research was conducted on five variables of ERP sustainability, supply chain internal integration, supply chain external integration, information quality and operational performance simultaneously in manufacturing companies in the disruption of the COVID 19 era. The role of ERP sustainability is significant in building intra-organizational and inter-organisational integration to generate quality information for decision-makers to improve operational performance. This study provides managers with practical contributions to creating effective and efficient communication and coordination for internal and external companies,

theoretical contribution to the importance of ERP implementation in building supply chain integration to improve business performance.

2. Literature Review

2.1. Relationship between the concept of ERP Sustainability and supply chain integration

ERP is an information system capable of integrating intra-organizational and inter-organisational using a single database. ERP upgrades are a way for companies to maintain ERP performance and sustainability to produce information quality (Tarigan et al., 2019). ERP in companies can impact operational process integration, customer and relationship integration, planning and control process integration in Taiwan companies (Su and Yang, 2010). ERP System is declared successful if it can increase efficiency and effectiveness for the company. ERP systems can improve internal supply chain integration and provide external supply chain integration (Adaileh and Abu-alganam, 2010). ERP system is a software package that can integrate business processes and company business functions. ERP systems related to information quality and organisation impact can determine strategic partnerships with suppliers and customer relationships (Ince et al., 2013). ERP systems built by manufacturing companies affect supply chain integration to improve supply chain performance (Tarigan et al., 2019; Siagian & Tarigan, 2020b).

H1: ERP Sustainability influences supply chain internal integration.H2: ERP Sustainability influences supply chain external integration.

2.2. Relationship between supply chain internal integration concept and supply chain external integration

Supply chain internal integration can make data integration between functions within the company on time (Flynn et al., 2010). Internal integration shows a company's ability to build collaboration and cooperation between parts to meet demand (Ayoub et al., 2017). The data contained in the marketing department about product demand is automatically integrated with the production and purchasing department (Tarigan and Hotlan, 2021). The ERP system in the company provides and automatically calculates the need for work time in production and the need for raw materials in the purchasing department when inventory is not available. Internal integration is the basis for companies in determining external Integration (Sacristán-Díaz et al., 2018; Spiegel et al., 2014; Yuen and Thai, 2017). Internal integration in companies can have an impact on external Integration (Cheng et al. 2016). Internal integration can form a planning system and coordination that occurs internally in service companies, impacting customer integration as part of external Integration (Liu and Lee, 2018). Internal integration and process integration affect product provisioning by customer orders at manufacturing companies with 100 employees or more in China (Huo et al., 2014). Internal integration can positively impact customer integration and supplier integration (external integration) in 617 manufacturing companies in China (Huo, 2012). Internal integration in China's manufacturing companies can not impact increasing external Integration (Qi et al., 2017).

H₃: Supply chain internal integration influences supply chain external integration.

2.3. Relationship between the concept of supply chain integration to information quality

Supply chain integration is the company's ability to collaborate with internal and external companies in achieving fast, efficient, and effective processes in the physical flow of goods, accurate information flow and financial flow (Subburaj et al., 2019). The integrated supply chain that is built accelerates the company to interact and communicate between the company's internal and external functions and impact information sharing and information quality (Li & Lin, 2006). This integration also provides internal data for all processes. The data on the internal organisation can be integrated with a partner, likely customers and suppliers. Internal integration and external integration related to organisation and technology can impact information quality (Gustavsson, 2007). The integration formed by all the existing components is highly dependent on fast, high and quality information exchange. Information quality in the company's supply chain integration is the main requirement to communicate well with all parties (Zhou et al., 2014). Information sharing and information quality improve effective and efficient communication between intra-organizational and inter-organisational functions (Lusiantoro et al., 2018). Customer integration impacts information quality and fully mediates operational performance in manufacturing companies in the Republic of Ireland (Chavez et al., 2015). Supply chain integration has a significant impact on information quality in providing quality products along the supply chain flow (Tarigan et al., 2021).

H4: Supply Chain Internal Integration has an impact on information quality. **H5:** Supply Chain External Integration has an impact on information quality.

2.4. The relationship between the concept of supply chain internal integration to the operational performance

Supply chain internal integration by coordinating and communicating quickly and efficiently impacts company performance (Sundram et al., 2018; Yuen & Thai, 2017). Supply chain internal integration does not have a direct impact on performance (Cheng et al., 2016). Internal integration in companies with more than 100 employees in China shows that data integration

between functions and inventory integration can impact operational performance (Huo et al., 2014). The 3 PL (third-party logistics providers) obtained by 161 in Taiwan show that the internal integration formed by placing personnel between functional departments and integration between departments does not affect the service performance in creating customer satisfaction and on-time delivery (Liu & Lee, 2018). Supply chain internal integration which is part of supply chain integration has an impact on operational performance (Tarigan et al., 2021; Subburaj et al., 2019). Integrated internal systems in fast-moving consumer goods involve improving company performance (Siagian, et al. 2020a). Supply chain internal integration can impact operational performance in 617 manufacturing companies (Huo, 2012; Khanuja & Jain, 2019). Internal integration can increase manufacturing's financial performance (Qi et al., 2017; Baheshti et al., 2014). Based on this relationship, a research hypothesis is established:

H₆: Supply chain internal integration has an impact on operational performance.

2.5. Relationship between supply chain concepts external integration on operational performance

company partners with its suppliers and suppliers to make the company more flexible and deal with sudden changes. Companies can build external integration to improve operational performance (Sundram et al., 2018; Yuen & Thai, 2017). External integration in fast-moving consumer goods impacts improving company performance (Siagian, et al. 2020a). Cheng et al. (2016) stated that supply chain external integration directly affects operational performance. Customer integration and supplier integration, which is combined, is called external integration, increasing firm performance in 617 manufacturing companies in China (Huo, 2012). Supply chain external integration which is part of supply chain integration has an impact on operational performance in manufacturing industry (Tarigan et al., 2021; Subburaj et al., 2019). Customer integration is part of external integration that impacts improving service performance in 3 PL companies (third-party logistics providers) in Taiwan (Liu & Lee, 2018). External integration in the manufacturing companies in China has no impact on financial performance (Qi et al., 2017). External integration influences financial performance in Swedish Manufacturing (Baheshti et al., 2014).

H₇: Supply chain external integration influences operational performance.

2.6. Relationship between the concept of information quality and operational performance

Quality of data that the company has is formed in the ERP system. Departments related to entering data into the ERP system are in accordance with the real data so that the data shows the actual situation that is ongoing in company operations. Information quality provides effectiveness in the supply chain to improve overall company performance (Zhou et al., 2014). Information quality in building partnerships with external parties increases company capacity and effectiveness to improve performance and competitiveness (Tarigan and Hotlan, 2021). Information quality obtained provides accurate inventory level information and proper planning to provide company performance (Lusiantoro et al., 2018). Information quality can improve operational performance in manufacturing companies in the Republic of Ireland (Chavez et al., 2015).

H₈: Information quality influences the operational performance.

3. Research Methods

In this study, samples are manufacturing companies located in Indonesia, especially in big cities including Jakarta, Surabaya, Medan, Makassar, Semarang, Samarinda, Malang, Solo, Manado Bali and others. Sampling research is a manufacturing company that implements information technology that is integrated between internal functions. Information technology that is owned in the form of ERP can be combined with corporate partners. The questionnaire is in the form of a google form link which is distributed to respondents. Researchers used seventy field enumerators to send links to respondents to fill in using the Whatsapp, Facebook, and Instagram communities. The questionnaire link is estimated to be sent to more than 1000 respondents who have worked in manufacturing companies. It is found that the number of respondents who gave responses in filling out the questionnaire was 465 respondents. Initial checking on the questionnaire filling found that the supervisor level up as the ERP key user and the decision-maker at the company middle manager level totalled 292 respondents. Seven respondents did not complete the filling. The data used to analyse processed further to answer the entire research hypothesis is 285 and uses partial least square (PLS) analysis (Khan et al., 2019). The measurement items used to measure ERP sustainability are data integration, System ERP stability, software upgrades, hardware upgrade and technology utilisation. (Tarigan et al., 2019; Siagian and Tarigan, 2020b). Measurement items used to measure supply chain internal integration with inventory data integration, data integration with cross-function, real-time integration, process improvement with cross-functional (Qi et al., 2017; Baheshti et al., 2014; Ayoub et al., 2017; Hani, 2020). Measurement items used to measure supply chain external integration by sharing information with partners, improving processes with partners, long-term relationships with partners, joint decision making with partners, synchronising planning with partners (Qi et al., 2017; Cheng et al., 2016; Liu et al., 2016; Huo et al., 2014). The measurement items used to measure information quality are accuracy data, reliable data, data relevance, easily accessible data, and data timeliness (Lusiantoro et al., 2018; Tarigan et al., 2019). Firm performance variables are measured by product quality, delivery

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flexibility, order fulfilment, and customer satisfaction (Cheng et al., 2016; Sundram et al., 2018; Huo et al., 2014; Siagian et al., 2020a; Tarigan & Hotlan, 2021).

4. Result

Characteristics of the respondents in this study have based the position with the top management level and company owners amounting to 142 (50%), Manager 120 (42%) and supervisor 23 (8%). Characteristics the respondents, based on the number of workers in the manufacturing company, the number is less than 20 employees of 140 manufacturing companies (49%), the number of employees between 20 employees and 50 employees of 45 manufacturing companies (16%), the number of employees between 50 employees to 100 employees of 25 manufacturing companies (9%) and more than 100 employees with a total of 75 manufacturing companies (26%). Data processing with PLS obtained validity and reliability values shown in Table 1.

Table 1

Validity and Reliability for Measurement Model						
Item	Loading Factor	Composite Reliability	Average variance extracted (AVE)			
ERP Sustainability						
Data integration	0.706					
System ERP stability	0.642	0.85	0.522			
Software upgrade	0.76	0.85	0.555			
Hardware upgrade	0.743					
Technology utilisation	0.79					
Supply chain internal integration						
Inventory data integration	0.758					
Data integration with cross-function	0.739	0.792	0.59			
Real-time integration cross-function	0.729					
Process improvement cross-functional	0.555					
Supply chain External Integration						
Sharing information with partner	0.736		0.531			
Improving process with partner	0.637	0.848				
Long term relationship with the partner	0.826	0.848				
Joint decision making with partner,	0.616					
Planning synchronisation with partners	0.804					
Information quality						
Accuracy data	0.512					
Reliable data	0.57	0 769	0.51.2			
Relevance data	0.79	0.769	0.512			
Easily accessible data	0.749					
Timeliness of data	0.636					
Firm Performance						
Quality product	0.785					
Delivery flexibility	0.666	0.839	0.567			
Order fulfilment	0.709					
Customer satisfaction	0.84					

Based on Table 1, it is found that the loading factor value is above 0.500 and composite reliability is above 0.700, and the AVE value has been above 0.500 so that the research model has met goodness of fit requirements.



Fig. 1. Path Analysis for research models

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Table 2	
Path coefficient for direct effect	ct

Direct Effect	Original sample estimate	Mean of sub samples	Standard Deviation	T-Statistics
$ERPs \rightarrow SCII$	0.612	0.617	0.042	14.703
$Erps \rightarrow SCEI$	0.649	0.657	0.049	13.123
$SCII \rightarrow In. Q$	0.020	0.030	0.068	0.297
$SCEI \rightarrow In. Q$	0.743	0.740	0.050	14.712
SCII → Firm P	0.178	0.176	0.074	2.415
SCEI → Firm P	0.217	0.219	0.100	2.169
In.Q → Firm P	0.409	0.410	0.074	5.497

Results of path analysis in Fig. 1 and Path coefficient showed Table 2, a direct effect of the research hypotheses. The total number of hypotheses in the study was eight, with seven hypotheses declared acceptable because the t-statistic value was above 1.96. One hypothesis this study was rejected with the t-statistical value of 0.297. The results of path analysis are shown in Fig. 1, and the path coefficient in Table 2. The seven accepted hypotheses are: first, ERP Sustainability affects supply chain internal integration (H₁ supported). Second, ERP Sustainability influences supply chain external integration (H₂ supported). Third, Supply chain internal integration affects supply chain external integration (H₃ supported). Fourth, supply chain external integration has an impact on information quality (H₅ supported). Fifth, Supply chain internal integration impacts operations performance (H₇ supported) and last, information quality affects operational performance (H₈ supported). A hypothesis that is rejected is that supply chain internal integration impacts information quality (H₄ is not accepted).

5. Discussion

This research has an essential contribution to companies in overcoming the disruption caused by COVID 19 to maintain a balance between demand and supply. Companies need real-time information from the company's internal conditions so that it is easy to adjust to the company's external conditions. The manufacturing industry in Indonesia already has an integrated information technology system in the form of ERP. The company has maintained its ERP system as a company's operating system continuously and is updated continually. ERP sustainability can integrate internal company departments in a database. ERP Sustainability influences supply chain internal integration. ERP software and hardware used are always being updated, and the technology utilisation can integrate inventory data across organisational functions for use. The integration between functions runs in real-time so that the supply chain internal integration runs well. ERP Sustainability influences supply chain external integration. The role of ERP sustainability in integration with partners. An integrated corporate ERP can provide data in real-time. Companies can build long-term relationships with partners and synchronise planning with partners efficiently and make it possible to share information. This study supports the research results that state that ERP sustainability affects supply chain integration (Tarigan et al., 2019; Su & Yang, 2010; Adaileh & Abu-alganam, 2010; Siagian & Tarigan, 2020b).

Supply chain integration provides influence on supply chain external integration Internal integration between functions that are running well, with the integration of inventory data for all departments and real-time data integration can build synchronisation of planning and information sharing according to everyday needs. This study supports the research results that reveal that supply chain internal integration influences supply chain external integration (Cheng et al., 2016; Ayoub et al., 2017; Liu and Lee, 2018; Huo, 2012; Tarigan et al., 2021; Hani, 2020)). Supply chain internal integration has no impact on information quality. Internal integration in companies has been able to integrate data in real-time between functions. ERP company things have been going well so far that the quality of the information obtained is always accurate and used collectively to make decisions. The information guality owned by the company is excellent. The supply chain internal integration that the company has built has basic requirements, namely information quality that must be adequately available before using ERP at the initial stage of implementation. This study is different from the research results that state that supply chain internal integration impacts information quality (Li & Lin, 2006; Gustavsson, 2007) and research supports Zhou et al. (2014). Supply chain external integration has an impact on information quality. The company builds a long-term relationship with partners and synchronises planning with partners consistently and ongoing, providing the right quality information. The company and its partners can share information to enable easy access to partner data relevant to needs. Supply chain external integration makes companies and partners have accurate and reliable data. This research supports the study results on Supply chain external integration, which impacts information quality (Lusiantoro et al., 2018; Chavez et al., 2015; Zhou et al., 2014). Supply chain internal integration has an impact on operational performance. Internal integration of companies in sharing information, Integration of inventory levels and Integration of real-time data determines delivery accuracy and increases customer satisfaction. Data about products ordered by customers can be monitored directly on the company's ERP system so that customers can adjust their length planning. This study supports the research results that states that supply chain internal integration influences operational performance (Sundram et al., 2018; Cheng et al., 2016; Huo et al., 2014; Siagian et al., 2020a; Huo, 2012; Hani, 2020). Supply chain external integration has an impact on operational performance. Integration with existing partners in sharing information with partners, synchronising resource use planning, and long-term relationships with partners is running well. External integration involves customers in the company system to increase customer satisfaction and fulfil quality products according to customer needs. This study supports the research

results that state that Supply chain external integration influences operational performance (Sundram et al., 2018; Siagian et al., 2020a; Cheng et al., 2016; Huo, 2012, Liu & Lee, 2018). Information quality influences operational performance. Company information quality is a visible result in the company's ERP system, which allows it to be accessed by all internal parties of the company and company partners. Accurate data and easy access provide conditions for customers to know the time for product delivery to fulfil order fulfilment. Customers also experience increased satisfaction in accessing needed-relevant data. Increased easy access for customers to company ERP allows customers to monitor internal company conditions. This study confirms the research results on Information quality influence operational performance (Zhou et al., 2014; Lusiantoro et al., 2018; Chavez et al., 2015).

6. Conclusion

The manufacturing industry underwent sudden changes in the COVID-19 era. Companies experience an imbalance in demand and supply. Products that are needed to prevent the spread of the virus experience a high level of order, and there is even a shortage of products at certain times, while products that are not needed in dealing with viruses do not move. This condition causes the company to reduce production capacity to survive in conditions of disruption. The manufacturing industry has ERP, which has been relied on as the company's single operational system. Based on the discussion results, ERP sustainability, which has been running continuously, has been able to impact supply chain internal integration and allows all industries to integrate with external partners as a form of supply chain external integration. Supply chain internal integration has no direct impact on information quality. Companies implementing ERP are required to have useful information quality. This condition shows that the information quality that the company has internally is adequate. Supply chain integration (internal Integration and external Integration) can increase customer satisfaction and quality products and information on the proper delivery. The resulting supply chain integration and information quality have an impact on increasing firm performance. This study contributes to practitioners continuously updating and maintaining their ERP systems to improve company performance. This study contributes theoretically to the development of the concept of supply chain integration and ERP sustainability.

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