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## Article

# Accelerating digital supply chain management practices, customer development, and firm performance: Organizational culture matters

Contemporary Economics

## Provided in Cooperation with:

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*Suggested Citation:* My-Trinh Bui; Jeng, Don Jyh-Fu; Ta, Huy Hung (2024) : Accelerating digital supply chain management practices, customer development, and firm performance: Organizational culture matters, Contemporary Economics, ISSN 2300-8814, University of Finance and Management in Warsaw, Faculty of Management and Finance, Warsaw, Vol. 18, Iss. 1, pp. 40-66, <https://doi.org/10.5709/ce.1897-9254.525>

This Version is available at:

<https://hdl.handle.net/10419/297647>

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Primary submission: 31.07.2023 | Final acceptance: 18.12.2023

# Accelerating Digital Supply Chain Management Practices, Customer Development, and Firm Performance: Organizational Culture Matters

My-Trinh Bui<sup>1</sup> , Don Jyh-Fu Jeng<sup>2</sup> , and Huy Hung Ta<sup>3</sup> 

## ABSTRACT

Firms and suppliers are now using new digital technologies to make decisions for successful strategies. Firms are struggling with the supply chain dynamics needed to increase revenue and mitigate risk, and improve resilience after COVID-19. With the setting of strong competition and firms' business models shifting to digital transformation, this study examines the link between organizational culture (OC) and digital supply chain management practices (DSCMP) in generating a positive impact on firm performance (FP), including both direct and indirect influences via customer development (CD). Smart PLS 3.3.3 was used to analyze data from 326 respondents who registered as business managers who operate their supply chains using digital technologies. The findings indicated that DSCMP, CD, and OC had a favorable impact on FP, while DSCMP and OC had a beneficial impact on CD. It was also determined that DSCMP and CD played a mediating role in both of the above-mentioned associations. DSCMP and OC are two essential enablers for developing a firm's customer base and improving performance efficiency in digital supply chains. Based on the Resource Dependence Theory (RDT), this study found that digitalization-related capabilities in supply chain management practices must be developed inside the company to improve the firm's efficiency. Firm culture, accompanied by dominant characteristics, organizational leaders, organizational glue, and strategic emphasis should become essential components of DSCMP in organizations.

## KEY WORDS:

digital supply chain management practices (DSCMP), organizational culture (OC), firm performance (FP), customer development (CD).

**JEL Classification:** M14, M15, M16, O33.

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## 1. Introduction

The logistics and supply chain sectors are booming and undergoing massive digital change. The logistics sector was valued at 10.41 trillion USD in 2022 (Statista, 2023). Amazon and a slew of startups are using whole new business models and leveraging evolving technologies such as blockchain, Artificial Intelligence (AI), the Internet of Things (IoT), Information and Communication Technologies (ICT) to radically alter the future of logistics. The rapid change in technology development and

implementation has forced businesses and society to rethink products, consumption, and supply chain management (Jiang et al., 2023; Nandi et al., 2021). COVID-19 resulted in product shortages, the incapability to source goods in a physical operation structure, and a misalliance between the dimensions and quantities of goods available and what was required (Queiroz et al., 2020). It also impacted the firm performances and stock market (Cepoi, 2020; Estrada et al., 2021), bank and financial market (Goodell, 2020) and even led to economic crisis (Khan, et al., 2021). Other crises

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including natural disasters, terrorism, and political violence have considerably altered many businesses' practices (Seetharaman, 2020), requiring research into whether the critical factors enhancing firm innovation and decision-making are now as effective as they previously were (Huo et al., 2022; Liu et al., 2023).

Supply chain management has received increasing attention as a critical factor in increasing firm performance (Golobic & Smith, 2013; Hsu et al., 2009; Ou et al., 2010; Suradi et al., 2020). However, the use of supply chain management practices requires mutual adaption and consideration of the global context, and the requirements of the digital revolution (Khan, 2019; Mukherjee et al., 2023). The disruptive change experiences have highlighted the innovation in supply chain management practices, which require these issues to be addressed from a theoretical and a practical perspective (Altay & Pal, 2023; Fares et al., 2023; Gligor et al., 2018; Zinn & Goldsby, 2017). Supply chains play a pivotal part in the daily activities of enterprises and in global development (Garay-Rondero et al., 2020; Min et al., 2019). Garay-Rondero et al. (2020) indicated that the high speed of changes in the macro environment, including economic, financial, social, and particular technological aspects, has led to rapid transformation in supply chain management practices (Mishra et al., 2023; Philsoophian et al., 2022; Tu et al., 2018). With the aim of supporting organizations' attempt to gain competitive advantage in a situation of environmental uncertainty, many researchers have focused on paying attention to the strategic alignment between organizations' structure and infrastructure (Hong et al., 2022; Roh et al., 2008; Sung & Kim, 2019). From the supply chain management perspective, firms should also consider the predominant culture to obtain a fit with the requirements of their organization's supply chain management practices to remain competitive. Organizational culture relates to the beliefs and value held by management, and the organizational philosophy, with a strong link to outcomes such as transformative success, strategic accomplishment, and firm efficiency (Hutter et al., 2023; Jogaratnam, 2017; Mahfouz & Muhumed, 2020). According to Sharma et al. (2020), the supply chains of all facto-

ries, retailers, and even wholesalers are experiencing a major impact of the COVID-19 crisis (Hsiang et al., 2020). With the significant impact of the COVID-19 pandemic (Levin et al., 2020), global supply chain across all sectors and industries have been facing disruption because of the lack of personal protective equipment among other factors (Ranney et al., 2020; Sączewska-Piotrowska & Piotrowski, 2021). Shortages of personal protective kits such as face masks and hand sanitizers, and even basic food items like bread, eggs, and milk, and the lockdown and semi-lockdown policies of governments, disrupted all organizations' operational activities (Jianyin et al., 2020). Firms not only faced internal obstacles such as how to maintain operations, maintain employees (Jianyin et al., 2020), and foster organizational cultures, but also had to deal with losing customers (loyal customers, current customers, and potential customers) and also the rising raw materials cost like oil, gasoline, natural gas, ethanol, palm oil, heating oil and even CO2 emissions allowances (Martínez et al., 2022; Olakojo, Onanuga, & Onanuga, 2021). It is critical to comprehend the details of customer development to restructure supply chain management to produce resilient organizations. Although organization are aware of the growing trends in technology implementation in supply chain management and their impact on organization culture, they have to deal with the following questions: How can the changing scenarios of supply chain practices use digital technologies in the current industrial revolution? Will organizational cultures and digitalization of supply chain practices generate a competitive advantage in the global context of COVID-19?

The purpose of this study was to examine the impacts of DSCMP and OC on firm performance, and their indirect influence mediated through customer development (CD). First, this study aimed to identify general DSCM techniques that may be used to assess business performance. Second, the research looked at whether DSCMP and OC are now as essential to businesses as they were before the COVID-19 pandemic. Third, this research investigated whether customer development plays a mediating function in the connection between DSCMP and FP; and OC and FP. Finally, because Resource De-

pendence Theory has received both praise and criticism from academics since its inception (Hunt & Davis, 2012) our work contributes to the literature on Resource Dependence Theory by looking at the mediating function of customer development in the theoretical framework.

The remainder of this paper is structured as follows. The first section highlights pertinent studies on the resource dependence theory framework, DSCMs, CD, FP, and organizational culture, as well as explains the hypothesised development. The second section discusses the research approach, data collecting, measurement validation, and findings. The final portion includes a review of the study's analysis and contributions, as well as its limitations.

## 2. Literature Review

### 2.1. Theory Framework: Resource Dependence Theory (RDT)

RDT is predicated on the notion of interdependence when one player is unable to handle all of the essential factors for a specific action or outcome to advance a firm's behavior and profitability and expand business operation especially in supply chain management (Handfield, 1993; Jiang et al., 2023; Sung & Kim, 2019). Inter-organizational connections are viewed as a way of obtaining necessary resources and improving control over resource supply in RDT (Galvão et al., 2019). RDT is used to investigate the interaction between environmental uncertainties (demand, supply, and technology) and strategic supply management, as supplier managers attempt to achieve mutual benefits, access to unique resources, and a reduction in environmental risks (Galvão et al., 2019).

Thus, RDT pays attention to determining how companies can build, and maintain such interdependence and reduce uncertainty between partners. Supply chain management is one attempt to overcome innate weaknesses through collaborative activity in a volatile business environment. In the supply chain management context, cooperation between firms aims to achieve common targets and coordinate supply chain activities, as a result, such firms become

increasingly dependent on each other (Sung & Kim, 2019). In their interconnectedness, they must manage unpredictability, maintain predictability, and seek stability. According to RDT, in traditional supply chain management, all members want to avoid becoming overly reliant on others and are more likely to rely on their own enterprises to achieve superiority over others. However, this approach does not lead to effective supply chain management performance. Another approach is that each cooperating member understands how to take advantage of resource depletion. As a result, members can integrate their resources with their partners' complementary resources, leading to the development of unique resources (Harrison et al., 1991; Sung & Kim, 2019). The adoption of advanced technologies, digitalization-based industrial marketing, and purchasing techniques (Mukherjee et al., 2023) allows collaborating firms to facilitate resource, informational, and social interdependencies to improve resilience (Liu et al., 2023), transformation (Hutter et al., 2023) and innovation (Lytras et al., 2022). When businesses develop relationship-specific capabilities, they can develop competencies that are significantly superior to their own and gain a competitive advantage based on mutual trust rather than the aggressive exploitation of collaborative partners (Akhtar et al., 2023). The relationship between digital platforms and operational performance can be mediated by supply chain competence. Digital culture is a contextual component that explains why the effects of digital platforms on business performance differ (Hautala-Kankaanpää, 2022).

### 2.2. Resource Dependence: Contingent on Digital Supply Chain Management Practices and Organizational Culture

#### 2.2.1. Digital Supply Chain Management Practices (DSCMP)

Supply chain management has witnessed a huge change in its role in organizations between being a pure operational function and becoming an independent supply chain management function (Attaran, 2020; Sharma & Joshi, 2023). Supply chain management is seen as the pivotal part of every business activity

because it relates to procurement, inventory control, warehouse, manufacturing, distribution, and other fulfillment activities (Attaran, 2017, 2020). Reducing costs for supply chain management, such as transportation and inventory costs strongly influence firms' competitive advantage (Dmuchowski, 2021). Organizations thus aim to build an effective supply chain that can produce strategic value through digital implementation that reduces supply chain costs.

The digital economy has changed supply chains dramatically in recent years. In today's economy, the relationships between people (Ata et al., 2022), machines, channels, and organizations, which are supported by digital technology, create value for the business, allowing it to gain a competitive advantage (Attaran, 2020; Dubey et al., 2023). Powerful technologies in the digital economy support supply chain advanced supply chain analytics. With the strong impact of technology development, organizations can restructure their supply chain management to enable better visibility, spirituality (Ríos-Pérez et al., 2022), better insights and collaboration (Khan & Mujtaba, 2023), and shorten customers' and partners' response times (Attaran, 2020; Chase, 2019). There is much technology that contributes to the advances in change of supply chain systems, including Cloud Technology, IOT, Additive Manufacturing, Advanced Robotics, Advanced Analysis, Blockchain Technology, Augment Reality (AR) (Liu et al., 2023; Philsoophian et al., 2022). The evolution of information technology has enabled firms with smart manufacturing, autonomous vehicles, and intelligent technological business system such as PPC (Production Planning & Control), ERP (Enterprise Resource Planning), and SCADA (Supervisory Control and Data Acquisition) to use supply chain management based on the integration of heterogeneous data and complex knowledge. Artificial intelligence (AI) and intelligent technologies are the latest technological innovations in supply chain management, with significant benefits for businesses (Helo & Hao, 2021).

The IoT is a global digital platform of individually accessible objects with identifying, networking, and actuation capabilities connected to the Internet, which improves the connections between things and humans, humans and machines, and things and machines (Lardo, Mancini, Paoloni, & Russo, 2020). Because of

its rising potency, the IoT is a foundation technology for cyber-physical systems that enable the development of self-regulating, autonomous, knowledge-based, and sensor-based manufacturing systems (Hofmann & Rüscher, 2017). These characteristics of high technology in supply chain management system help firms to achieve competitive advantage in a dynamic environment. Supply chain management (SCM) plays a huge role in the effective operational activities of a firm, and consists of functional entities and practices for improving individual firms' and their supply chains' long-term competitive performance (Al-Shboul et al., 2017; Kim, 2006). While the prominence of the whole supply chain and the degree of information available within the firm are not optimal for many organizations, especially during the Covid-19 pandemic (Seyedghorban et al., 2020), SCM has accelerated the process of digitizing firm processes, and integrating multiple stakeholders and resources to assure that goods are in synchronization with customer demands, and that businesses can achieve whole-system competitive advantage goals (Hautala-Kankaanpää, 2022). Digital SCM is defined as using a centric platform or an intelligent, value-driven technological system and network to gather and synchronize instantaneous information originating from many sources, and to operate the business in innovative ways with technology and analytics, to produce new effectiveness, profits, and business value (Büyükoğkan & Göçer, 2018; Garay-Rondero et al., 2020). To operate smoothly, the digitalization of SCs should maintain all the knowledge and information of traditional SCs while transforming the chain's procedures, management components, and flows because the emerging and specialized markets require quick reactions. Combining the definition of SCM and digitalization, this study used the concept of DSCMP as a set of activities performed via a digital platform or best-fit technology system to promote a firm's effective supply chain management (Li et al., 2006). Although researchers have proposed many components of SCM, in line with the digital context, this study examined four characteristics of SCMPs: customer relationships (Truong et al. (2017), supplier relationships (Suradi et al.), information quality (Jajja, Asif, Montabon, & Chatha), and information sharing (IS) (Amedofu et al., 2019; Gunasekaran et al., 2017; Li et al., 2006).

Digital technology, including social media, AI, blockchain, and big data, can transform a retail business into a digital one by enabling proper transparency in retailing systems (Mukherjee et al., 2023). Between suppliers and customers, blockchain can establish a new route for distribution and communication. Retail SC employees use blockchain in their retail SC because of its promise and effectiveness.

### 2.2.2. Organizational Culture (OC)

OC has generated systematic studies (Braunscheidel et al., 2010). Previous research found that organizational culture is a set of values and practices shared by all groups in the firm, or at least within senior management (Leisen et al., 2002). Another perspective views OC as a set of shared and consistent beliefs and values that develops through time within a firm (Gordon & DiTomaso, 1992), or a set of shared fundamental beliefs that the group has learned as it worked through its issues of external adaptation and internal integration (Schein, 2010).

Firms may choose to have a conventional hierarchical cultural profile describing themselves as more solid than flexible and more internally oriented (Klimas, 2016). A collectivist culture has been found to be critical in determining the effects of knowledge-based skills and intangible assets on information technology service provider innovation to maintain firm competitiveness (Presbitero et al., 2017). Firms may be fluid, adaptable, and responsive systems of diverse talented individuals who perform a variety of tasks that can generate effective, radical ideas, based on the implementation of mechanical structures and bureaucratic processes (Green & Cluley, 2014). Under high competitive pressure and a rapidly changing market demand, firms are encouraged to look for relational capital to create proactive environmental strategies. Market pressure and environmental strategy are moderated by a flexibility-control orientation (Dai et al., 2018), proactive customer orientation, collaborative learning capability (Jean et al., 2017), and a performance-oriented culture (Gopalakrishnan & Zhang, 2017), which is a typical depiction of organizational culture. A competitive culture fosters innovative performance and mitigates the negative effects of client reliance on the innovation of the firm as a vendor. However, a performance-orientated culture,

in contrast, amplifies the detrimental impact of client reliance on vendor innovation (Gopalakrishnan & Zhang, 2017). State-of-the-art studies of organizational culture argue that ambidexterity necessitates a firm's adoption of two key OCs: a tendency to cannibalize and a tendency to integrate existing knowledge, both of which enable firms to achieve superior performance (Harmancioglu, Sääksjärvi, & Hultink, 2020). OC represents the attitudes and values associated with the usage of digital technology influences how a company conducts its business using digital technology (Hautala-Kankaanpää, 2022). This study aimed to identify several values of both firms and their partners in cooperative relationships in the context of SCM. The various types of cultural values may lead to the adoption, promotion, and reinforcement of DSCMP.

### 2.2.3. Customer Development (CD)

Customer development plays a pivotal role in an organization development. In a dynamic environment, the success level of an organization is determined by the level of consumer value it provides in its target markets (Asamoah et al., 2021; Christopher, 2016). Although the important role of customers development is accepted, this concept is fairly new in the literature with different points of view apparent. CD performance is primarily concerned with identifying and addressing specific consumer requests with limited resources (Lin & Lin, 2023). A comparable perspective on CD, CD denotes the firm's frontline staff's modification of services, approaches, and recommendations to obtain, satisfy, and maintain customers current requirements (Amedofu et al., 2019; Lin & Lin, 2023; Peng, 2023). Firms' relationship commitment is related to supply chain performance indirectly through integration with and by customers (Ruzo-Sanmartin et al., 2023). This research defines customer development as a company's capacity to create and prepare customized goods and services to satisfy and retain consumers.

### 2.2.4. Firm Performance

Firm performance is a composite construct and has a critical role in the success of an organization. In business research and supply chain management research, many authors consider three components of firm performance: market-based, operational-based, and accounting-based (Golcic & Smith, 2013;

Gunasekaran & Kobu, 2007; Paulraj et al., 2017; Shan et al., 2023). In this study, market and financial performance were used to measure firm performance, as they had been in previous studies (Al-Shboul et al., 2017; Golicic & Smith, 2013; Karimi & Rafiee, 2014; Li et al., 2006). Financial criteria include return on investment, return on assets, sales growth, and profit margin, while market criteria include financial goals, stakeholders' interests, internal procedures, employee development, and general competitiveness issues. These metrics were chosen to create a comprehensive picture of a company's success. As a result, firm performance is defined in this context as the degree to which a corporation achieves its market and financial objectives.

### 2.3. Hypothesis Development

Firms, according to RDT, are embedded in a network of trade interactions, and they rely on other firms for survival in this unstable contexts (Stern, Pfeffer, & Salancik, 1979). Supply chain partners can become reliant on certain firms within a supply chain when those firms have critical resources for addressing environmental risks and dynamics (Galvão et al., 2019; Pfeffer, 2003). Raw material and energy shortages induced by geopolitical variations in production factor demand are examples of such reliance in today's economic environment. According to Deepu and Ravi (2021), to build successful SC digitalization decision-making, firms create an effective management culture such as integrated decision support system consisting of Data, Information, Knowledge, and Wisdom) (DIKW) (Deepu & Ravi, 2021). The cultural orientation of digital transformation, trust, and cooperative problem-solving may be quite beneficial in building the dynamic capability of DSCMP (Faruquee et al., 2021). While inter-firm cooperation between smallholders and subsequent actors is supported by digitalized agricultural value chains (Hartmann et al., 2020), cultural dimensions play a dominant role in SCM success (Luu, 2019; Mello & Stank, 2005). Smartphones have become more important to smallholders since they are used in value chains for digital activities. The level of SCM integration and practices (i.e., trust, communication, and commitment) and value generation is heavily influenced by the partner firm's culture (Cao et al., 2015; Sambasivan & Nget Yen, 2010)

. Sustainable purchasing practices and sustainable supply practices are influenced by cultural orientations, where local community oriented preservation cultures drive sustainable supply practices (Mariadoss et al., 2016), the dynamic capabilities of sensing, seizing, and transforming, are considered to be an aspect of cultural behavior used in addressing new opportunities and threats created by technology (Schoemaker et al., 2018). This agility sensing is the capacity to identify, develop, co-develop, and assess new technological opportunities for SCM and threats related to customers' needs (Faruquee et al., 2021; Hutter et al., 2023). Additionally, external integration, and collaboration with customers, and suppliers are influenced by organizational culture (Chunsheng et al., 2020; Jajja et al., 2019; Sambasivan & Nget Yen, 2010). OC may influence the generation of the fundamental objective of SCM, which is the supply of an appropriate product, at the correct location, at the correct moment, and at an affordable cost (Cao et al., 2015). Entrepreneurship, innovation, and learning serve as first-order markers of higher-order cultural competency, which has a favorable impact on cycle time reduction (Hult et al., 2002). Supply chain integration is improved by development culture. The long-term development will be one of the main goals for businesses that prioritize development culture. The company pays more attention to new information and technology that can improve its ability to adjust to new opportunities to meet that goal. In this scenario, a company is driven to gather knowledge about the current environment, anticipated demand, and technologies or capabilities that could direct its R&D-related activities (Brzeziński & Bitkowska, 2022). A company must interact and integrate its internal operations with those of external suppliers and customers through DSCMP to obtain such market and technology knowledge. As a result, businesses with a strong development culture are more inclined to use DSCMP to gather the knowledge, expertise, and resources required for future customer developments (Cao et al., 2015). Thus, we propose that:

*H1a: OC positively affects DSCMP*

Depending on the form of corporate culture (clan, adhocracy, market, hierarchy), institutional forces and climate can have a beneficial influence on supplier social compliance, especially customer base development (Jajja et al., 2019). The effectiveness of



relationships in logistics outsourcing is dependent on the number of exchange risks (i.e., uncertainty and asset specificity) which also benefit to develop different customer segments for firms (Chu et al., 2017). The start of a SC's customer base was found to be prompted by an internal driver, particularly, a firm's customer orientation (Yunus & Tadisina, 2016). Supplier network responsiveness improves a company's capacity to launch new items quickly in response to client demands (Asamoah et al., 2021). Organizations can better meet sudden changes in customer demand by having their key suppliers respond quickly and effectively to urgent orders. This increases the value organizations can provide their clients and fosters greater client development (Holmström et al., 2019; Jean et al., 2017). Customer development strategies are positively impacted by organizational culture in terms of outward emphasis. Thus, the following hypothesis was proposed:

*H1b: OC positively affects CD*

Previous studies list four critical supply chain security practices that have an impact on a company's security operational performance. The firm's culture has a beneficial influence on the link between facility management and the firm's security operational performance with service providers (Zailani, Subaramaniam, Iranmanesh, & Shaharudin, 2015). Serving culture has a beneficial influence on logistics performance in service-oriented high-performance work systems (Suhartini et al., 2020). A culture of collective role breadth self-efficacy and collective customer knowledge were found to have a favorable connection with logistical performance (Luu, 2019). The combination of risk management culture, SC flexibility, and internal integration can improve a firm's financial performance through SC resilience (Chunsheng et al., 2020). Entrepreneurship, innovation, and learning serve as dimensional measurements of cultural competency, which has a favorable impact on cycle time reduction (Yunus & Tadisina, 2016) and constitutes one form of firm performance. Thus, we suggest that:

*H1c: OC positively affects firm performance*

According to Amedofu et al. (2019), SCMP is important in being able to attract, please, and retain

clients. An efficient supplier connection with strategic partners can result in better quality, reduced operational cost, reduced delivery time, advanced technology, and innovative products, which can contribute to a firm's ability to attract new customers and maintain current customers. Customer relationships enhance a firm's ability to provide higher value by developing customer loyalty (Gandhi et al., 2017). The bullwhip phenomenon (i.e., even minor changes in retail demand can lead to gradually bigger changes in wholesale and distributor demand) has a less negative influence on a DSCMP since information is communicated frequently, allowing firms to meet consumer requests more quickly and accurately, and thus improve their ability to maintain customer relationships (Amedofu et al., 2019; Lin & Lin, 2023). Supply chain agility helps firms follow customer preferences, improve products and services at the right quality and pricing, and accelerates adaptability and responsiveness to market swings (Al-Omoush et al., 2023). Thus, we proposed the following:

*H2: There is a positive relationship between DSCMP and CD because firms experiencing DSCMP will benefit by developing their customer base.*

Businesses began looking for methods to help them reclaim controlling management of environmental factors (Matsuno & Kohlbacher, 2019). When firms cannot control all of the essential circumstances involved in producing the target output, RDT predicts that they will rely on their major suppliers, and use networks to overcome poor reputations and limited resource availability (Galvão et al., 2019). Firms aim to control the level of resource demanding and the extent of resource dependency. They support activities that stimulate the formation of alliances and networks (Hillman et al., 2009). In this study, we use buyer's dependence as a gauge of a supplier's importance to the buyers' operations. Firms' competitive strategy decisions to focus on their core competencies, increase their level of outsourcing, and rely more on shared complementary resources across organizational boundaries may result in an increase in buyer dependency. Firms that practice higher levels of SCMP are more likely to achieve their financial and market-based goals. DSCMP is a critical factor that has a major effect on FP. Implementing a DSCMP can help a firm increase its resilience (Liu



et al., 2023), market share, return on investment, and overall competitiveness (Hieu & Chi, 2022; Nasiri et al., 2020). To achieve a successful supplier relationship, firms use high-quality inputs, providing on time and in the right amount avoid downtime incidents, reduce the rate of production of flawed goods, reduce cost, and minimize unused, and safety inventory levels (Truong et al., 2017). Companies with having long-term strategic customer alliances will be better able to meet the needs of their current customers while also targeting new customer areas to boost sales and revenue (Amedofu et al., 2019). The quality and amount of information exchange have improved, resulting in reduced cheaper costs, a higher fulfillment rate, a shorter cycle time, efficient departmental cooperation, and improved alliance partner connections (Philsoophian et al., 2022). When adopting DSCMP activities, firms improve their operational efficiency in gaining competitiveness (M. Khan, 2019; Liu et al., 2023). The implementation of the emerging practices for SC digitalization and unphysicalization is identified as the most important contexts in which Big Data contributes to SC performance (Perano et al., 2023). Thus, we proposed that:

*H3: DSCMP positively affects firms' FP.*

A company's ability to boost customer satisfaction reflects its ability to retain long-term customers. Customer satisfaction has an impact on a company's profits. This is explained by the fact that satisfied consumers are more likely to repurchase and develop loyalty tendencies (Lin & Lin, 2023). Thus, the cost of supplying a loyal/retained customer is lower, resulting in better revenue and profitability (Yeung & Ennew, 2000). As a result, customer growth has an impact on business profitability. Amedofu et al. (2019) proposed that customers are the key relationship in the SCMP. A firm's ability to appeal to and maintain customers can generate effectiveness. Firm with a higher focus on the needs of their customers are more likely to develop novel resources, devote more time to improving current products, or come up with alternatives that can quickly meet customer needs and current market demands, which results in superior market performance, such as a larger market share or increased sales (Lee & Wei, 2023; Schulze et al.,

2022). Firms may improve supply chain performance by strengthening relationships between businesses and their customers (Ruzo-Sanmartín et al., 2023). Thus, we hypothesized that:

*H4: There is a positive relationship between CD and FP because firms that experience positive CD will enhance their FP.*

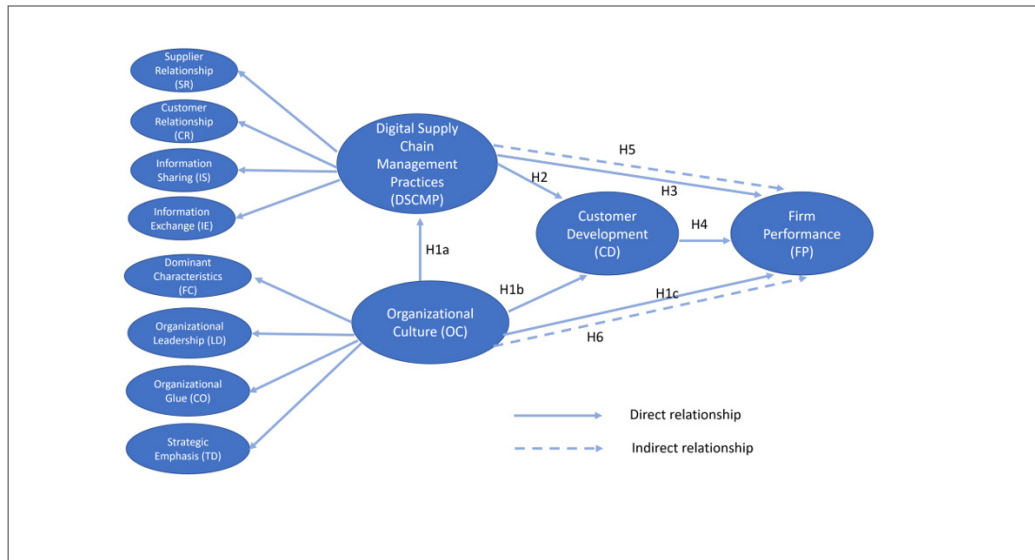
Previous research supports the connection of CD to the DSCMP-FP link based on the relationship between DSCMP, CD, and FP. The resource dependence theory strongly indicates the relationship as a critical resource for firms to enhance competitiveness and boost FP (Liu et al., 2023; Schulze et al., 2022). A direct relationship has been proposed between DSCMP and FP due to cost reduction, reduced waste, and safety inventory levels (Lin & Lin, 2023). In addition, with the lower cost of operations because of effective DSCMP, a firm can attract, satisfy and retain more customers with a lower cost strategy to obtain a higher FP. Partners are forced to work together to co-create value by responding more quickly and effectively to market changes. This gives them the opportunity to grasp business opportunities, increase profitability, and satisfy supply chain partners (Al-Omouh et al., 2023). Thus, we proposed that:

*H5: CD mediates the relationship between DSCMP and FP so that the relationship between DSCMP and FP is stronger when CD is stronger.*

In today's environment, modern firms are more likely to incorporate "customer focus" into their organizational culture because a customer-oriented culture can increase a firm's performance (Beidokhti & Ghaderi, 2011; Luu, 2019). This study posits that organizations adopt a customer-centric culture to increase their FP indirectly by producing superior CD capabilities (Lin & Lin, 2023), which are the foundation of firm profitability. Thus, OC and CD are assumed as sets of capabilities that can improve a firm's competitiveness, which is interpreted as CD being involved in the relationship between OC and FP (Hutter et al., 2023). Thus, we proposed the following hypothesis:

*H6: CD mediates the relationship between OC and FP so that the relationship between OC and FP is stronger when CD is stronger.*

**Figure 1**  
*Conceptual Framework*



### 3. Methodology

#### 3.1. Sample

The study's data were gathered from Small and medium-sized enterprises (SME) firms via an Amazon-based digital platform that has seen a surge as creative entrepreneurship. When the SME firms' contact person agree on survey, the created Google Forms surveys were delivered to the managers of the chosen SMEs, along with an introductory letter outlining the study's goals. Because the data was collected at the firm level, each firm only had one respondent who was a member of senior management. The study focused on frontline managers and middle managers who had experience using digital technology for their supply chain practices. To increase the generalizability of our findings, SMEs managers from different industries were chosen. This case selection provided an opportunity to uncover different industrial perspectives regarding DSCMP and OC processes. A total of 1,100 Amazon-based businesses were contacted. Finally, 326 acceptable replies were received, resulting in a result suitable for hierarchical structural equation modeling (SEM) analysis. Responses were largely

obtained through Amazon platform contact and email. The majority of the companies operate in the supporting business service (21.8%), others in manufacturing (20.9%), financing service (18.4%), health care (11%), education (6.8%), and other sectors (21.1%). Table 1 shows the sample distribution of the different sectors captured in this study.

#### 3.2. Construct Measurement

We measure DSCMPs by modifying and adopting the work of Li et al. (2006), Amedofu et al. (2019). DSCMPs include supplier relationship, maintaining the customer relationship, managing supply chain information, shared data. Firstly, a supplier relationship is defined as a strategic collaborative connection between a company and its suppliers by integrating of digital technology into business processes to take advantage of each other's strengths and competencies to gain common beneficial benefits (Amedofu et al., 2019; Li et al., 2006). Secondly, maintaining the customer relationship via digital distribution and communication is defined as building long-term relationships with customers, addressing their complaints, and increasing customer satisfaction (Gandhi et al., 2017; Li et al., 2006). Thirdly, managing supply chain infor-

**Table 1**  
*Sample Characteristics*

Number of Employees	Frequency		Percent (%)
1 to 4	7	2.15	
5 to 19	61	18.71	
20 to 50	118	36.20	
51 – 249	88	26.99	
> 249	52	15.95	
Years of Operation			
< 1	6	1.84	
1 to 3	119	36.50	
3.1 to 6	105	32.21	
6.1 to 9	42	12.88	
> 9	54	16.56	
Revenue level			
< \$1 million	67	20.55	
\$1 to 10 million	75	23.01	
\$10 to 20 million	83	25.46	
\$20 to 50 million	52	15.95	
\$50 to 100 million	35	10.74	
> \$100 million	14	4.29	
Industry Type			
Manufacturing	68	20.86	
Financing service	60	18.40	
Health	36	11.04	
Transportation	12	3.68	
Education	22	6.75	
Art, culture, tourism	4	1.23	
Mining & minerals	3	0.92	
Agribusiness	6	1.84	
Supporting service	71	21.78	
Media	9	2.76	
Construction	9	2.76	
Retail	16	4.91	
Others	10	3.07	
Ownership Type			
Non-registered	10	3.07	
Sole proprietorship	80	24.54	
Limited liability	103	31.60	
Partnership	114	34.97	
Others	19	5.83	

mation involves both in the quantitative and qualitative information that is shared within a network (Gandhi et al., 2017). Data quality assurance and expanding the applicability of algorithms continue to be significant challenges for digital technology. In the context of supply chain management, big data technology is now commonly used to assist certain management decisions (such as buy volume analysis, real-time inventory optimization, and network design and optimization decisions) (Liu et al., 2023). Supply chain information sharing via digital technology influences the quantity of information exchanged by firms and their partners (Amedofu et al., 2019). Fourthly, shared data can range in type from strategic to tactical, and can contain everything from logistics to manufacturing and client data (Al-Shboul et al., 2017). When transferring information, supply chain information quality relates to crucial criteria such as properness, accuracy, sufficiency, and trustworthiness (Li et al., 2006). In a supply chain, information distortion between entities is a serious problem. Because of effective and efficient information distribution and sharing, supply chains integrated with digital technology operate faster and allow precise decision-making (Sundram et al., 2016). Blockchain technology enables SCM to overcome its knowledge-sharing issues. Knowledge workers may be encouraged to share their expertise with peers through the special characteristics of blockchain technology (Philsoophian et al., 2022).

The dimension of OC was adopted from the work of Braunscheidel et al. (2010). Our study views the culture dimension including Dominant Characteristics (FC), Organizational Leadership (LD), Organizational Glue (CO), and Strategic Emphasis (TD) (Braunscheidel et al., 2010) as a climate-based factor that simultaneously influences a firm's supply chain and its performance. The CD instrument was adopted from Blank (2013) while FP items were from Li et al. (2006). A 7-point Likert scale was used to evaluate all constructs in this study, ranging from 1 ("Strongly Disagree") to 7 ("Strongly Agree"). The questionnaire items used in this research are presented in Table 2.

### 3.3. Hierarchical Model Specification

We used a two-stage technique to specify our

model (Benitez et al., 2018). We used a step-by-step technique to express the links between the indicators, sub-dimensions, and higher-order constructs to formally characterize the hierarchical model (Sarstedt et al., 2019) (Fig. 1). At the initial stage, the latent variable scores were used in each step of the estimate. The indications were first linked to their respective first-order latent constructs. The mode "reflective-reflective" was used to model the first- and second-order structures (Henseler et al., 2015). Then the latent variable scores of the first-order constructs were used to produce the second-order equivalent variable. The latent variable scores of Supplier Relationship, Customer Relationship, Supply Chain Information Sharing, and Supply Chain Information Quality were used to develop the second-order variable of Digital Supply Chain Management Practices (DSCMP). Similarly, the organizational culture (OC) as a second-order construct was established via the latent variable scores of the conforming first-order dimensions of Dominant Characteristics, Organizational Leadership, Organizational Glue, and Strategic Emphasize.

### 3.4. Instrument Assessment (Validity and Reliability)

To assess the reflective constructs' reliability and validity, we used a variety of analyses at both item- and construct-levels. We evaluated the reliability, convergent validity, and discriminant validity of the first-order reflective latent components. Concept and item levels of reliability were evaluated. We checked composite reliability (Truong et al., 2017) and Cronbach's alpha (CA) values at the construct level to make sure they were over the 0.70 criterion (Nunnally, 1978). By determining whether construct-to-item loadings were more than 0.708, we were able to evaluate indication reliability. We looked at whether the average variance extracted (AVE) scores were over the threshold of 0.50 as a check for convergence. The lowest observed value was 0.58, which exceeded this cut-off. We used two methods to see whether discriminant validity was established.

We looked at whether multicollinearity between markers of formative constructs was a problem. Multicollinearity is beneficial among indicators that

**Table 2a**  
*Constructs and Measures: DSCMP*

Items	Code	Constructs
<b>DSCMP: Li et al. (2006), Amedofu et al. (2019)</b>		
Via experiencing the digitalization of supply chain (social media, AI, blockchain, IOT, digital platform... )		
“...we have continuous development/growth programs that include our key suppliers.”	SR1	Supplier relationship
“...we involve our key suppliers in our planning and goal-setting activities.”	SR2	
“...We have helped our suppliers to improve their product/service quality.”	SR3	
“...we frequently interact with customers to set our level of reliability, responsiveness and other standards.”	CR1	Customer relationship
“...we frequently measure and evaluate customer satisfaction.”	CR2	
“...we periodically evaluate the importance of our relationship with our customers.”	CR3	
“...we help customers seek assistance from us.”	CR4	SC Information sharing
“...we inform trading partners (suppliers and customers) in advance of changing needs.”	IS1	
“...Our trading partners (suppliers and customers) share proprietary/ exclusive information with us.”	IS2	
“...we and our trading partners (suppliers and customers) keep each other informed about events or changes that may affect the other partners.”	IS3	SC information exchange
“...our trading partners (suppliers and customers) share business knowledge of core business processes with us.”	IS4	
“we and our trading partners (suppliers and customers)” exchange information that helps in the drawing of business plans.	IS5	
“...information exchange between our trading partners (suppliers and customers) and us is timely.”	IE1	
“...information exchange between our trading partners (suppliers and customers) and us is accurate.”	IE2	
“...information exchange between our trading partners (suppliers and customers) and us is complete.”	IE3	
“...information exchange between our trading partners (suppliers and customers) and us is reliable.”	IE4	

**Table 2b***Constructs and Measures: DSCMP*

Items	Code	Constructs	
<b>Organizational Culture: Braunscheidel et al. (2010)</b>			
“Our company is: [A very personal place. It is like an extended family. People seem to share a lot of themselves.]”	FC1	Dominant (FC)	Characteristics
“Our company is: [A very dynamic and entrepreneurial place. People are willing to take risks.]”	FC2		
“Our company is: [Very results oriented. A major concern is with getting the job done. People are very competitive and achievement oriented.]”	FC3		
“Our company is: [A very controlled and structured place. Established procedures generally govern what people do.]”	FC4		
“Leadership in our company is generally considered to exemplify: [Entrepreneurship, innovating or risk-taking.]”	LD1	Organizational (LD)	Leadership
“Leadership in our company is generally considered to exemplify: [A no-nonsense, aggressive, results-oriented approach.]”	LD2		
“Leadership in our company is generally considered to exemplify: [Coordinating, organizing or smooth-running efficiency.]”	LD3		
“The glue that holds our company together is: [Loyalty and mutual trust. Commitment to this organization runs high.]”	CO1	Organizational Glue (CO),	
“The glue that holds our company together is: [A commitment to innovation and development. There is an emphasis on being on the cutting edge.]”	CO2		
“The glue that holds our company together is: [The emphasis on tasks and goal accomplishment. A job orientation is commonly shared.]”	CO3		
“Our company emphasizes: [Human development. High trust, openness and participation persist.]”	TD1	Strategic Emphasis (TD)	
“Our company emphasizes: [Acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.]”	TD2		
“Our company emphasizes: [Competitive actions and achievement, hitting stretch targets and winning in the marketplace are dominant.]”	TD3		
“Our company emphasizes: [Permanence and stability. Efficiency, control and smooth operations are important.]”	TD4		
<b>Customer Development: (Blank, 2013)</b>			
“Our firm is able to attract customers.”	CD1	Customer Development (CD)	
“Our firm is able to retain customers.”	CD2		
“Our firm has validated customer base.”	CD3		
“Overall our customers are satisfied with us.”	CD4		
<b>Performance: Li et al. (2006)</b>			
“Our company has high return on assets.”	FP1	Performance (FP)	
“Our company has recorded a steady sales growth rate since our inception.”	FP2		
“Our company has high return on investment.”	FP3		
“Overall our competitive position is better than that of our competitors.”	FP4		

are portrayed as reflecting. Multicollinearity thresholds are usually chosen to be less than 10 (MacKenzie et al., 2011). However, many authors mention a more restrictive cutoff value of less than 5. We looked at variance inflation factor (VIF) values for first-order and second-order and found that all values were below the most cautious cutoff threshold of 3.3, indicating that multicollinearity was not an issue in our study.

However, loadings were important (Sarstedt et al., 2019). All first- and second-order loadings were

significant at the 0.001 level. When compared to other constructs, the indicators of reflective constructions should weigh most heavily on their respective constructs (Klein & Rai, 2009). By examining cross-loadings and correlations (Table 3, 4) we determined that all reflective constructs meet both requirements. Overall, all formative and reflective items were confirmed to have good psychometric properties. We therefore continued to evaluate the nomological validity by assessing the association between DSCMP, OC, CD, and FP measures.

**Table 3**  
*First-order Construct Validation*

	FL	Mean	SD	CA	rho_A	CR	AVE	VIF
<b>DSCMP</b>								
CR1	0.809	5.850	1.102	0.822	0.823	0.882	0.652	1.900
CR2	0.802	5.862	1.100					1.777
CR4	0.804	5.801	1.170					1.804
CR3	0.815	5.883	1.079					1.899
IE1	0.788	5.788	1.054	0.811	0.813	0.876	0.638	1.637
IE2	0.773	5.761	1.112					1.590
IE3	0.784	5.770	1.059					1.690
IE4	0.849	5.761	1.104					2.004
IS1	0.771	5.794	1.131	0.843	0.843	0.888	0.614	1.806
IS2	0.780	5.610	1.258					1.776
IS4	0.792	5.512	1.228					1.782
IS5	0.778	5.712	1.112					1.812
IS3	0.795	5.709	1.023					1.887
SR3	0.839	5.813	1.132	0.731	0.734	0.848	0.650	1.577
SR1	0.784	5.709	1.161					1.334
SR2	0.794	5.595	1.316					1.504
<b>Cultural organization</b>								
CO1	0.882	5.528	1.331	0.845	0.845	0.906	0.763	2.107
CO2	0.866	5.540	1.271					1.930
CO3	0.872	5.515	1.265					2.046
FC1	0.842	5.377	1.362	0.810	0.811	0.888	0.725	1.728
FC2	0.851	5.488	1.301					1.761
FC3	0.861	5.491	1.298					1.828
LD1	0.847	5.248	1.393	0.794	0.795	0.879	0.708	1.704
LD2	0.823	5.319	1.470					1.611
LD3	0.853	5.537	1.245					1.739
TD1	0.872	5.500	1.286	0.882	0.883	0.919	0.739	2.384
TD2	0.846	5.479	1.340					2.144
TD3	0.853	5.442	1.318					2.170
TD4	0.867	5.592	1.312					2.324



**Table 4a***Second-order Construct Validation*

	Items	FL	Mean	Standard Deviation	Cron- bach's Alpha	rho_A	Compos- ite Reli- ability	Average Variance Extracted (AVE)	VIF
CD	CD1	0.836	6.046	0.985	0.837	0.839	0.891	0.672	1.870
	CD3	0.803	5.982	0.981					1.763
	CD2	0.819	5.856	1.097					1.780
	CD4	0.819	5.847	1.080					1.830
OC	CO	0.907	0.000	1.000	0.937	0.939	0.955	0.841	3.370
	FC	0.934	0.000	1.000					2.786
	LD	0.901	0.000	1.000					4.485
	TD	0.927	0.000	1.000					3.187
DSCMP	CR	0.879	0.000	1.000	0.898	0.903	0.929	0.767	3.270
	IE	0.902	0.000	1.000					3.332
	IS	0.913	0.000	1.000					2.086
	SR	0.806	0.000	1.000					2.026
FP	FP1	0.851	5.745	1.146	0.855	0.855	0.902	0.696	1.942
	FP3	0.837	5.709	1.174					1.888
	FP2	0.830	5.736	1.087					2.010
	FP4	0.820	5.761	1.115					4.100

**Table 4b***Assessment of Reliability, Convergent and Discriminant Validity of Reflective Constructs (Fornell Larcker Criterion)*

	CR	IE	IS	SR
CR	0.808			
IE	0.770	0.799		
IS	0.728	0.761	0.783	
SR	0.557	0.615	0.697	0.806
	CO	FC	LD	TD
CO	0.873			
FC	0.778	0.851		
LD	0.749	0.813	0.841	
TD	0.804	0.830	0.756	0.860
	CD	OC	FP	DSCMPR
CD	0.819			
OC	0.644	0.917		
FP	0.776	0.640	0.834	
DSCMP	0.793	0.679	0.789	0.876

## 4. Data Analysis

### 4.1. Measurement Model

We created two performance metrics to represent the effect that DSCMP and OC have at an organizational level as part of investigating the nomological validity of the proposed concept. We re-examined construct-level reliability and validity, as well as inter-correlations between latent variables for first-order constructs (Table 5).

The confirmatory composite analysis examines the measurement (saturated) model's overall fit. (Benitez et al., 2018). Additionally, a confirmatory composite analysis reveals any model miss requirements and helps assess whether it makes sense to establish the suggested construct (Henseler, 2017). Based on the guiding principle of Benitez et al. (2018), confirmatory composite analysis compares the empirical correlation matrix with the model-implied correlation matrix to determine the adequacy of the composite model (i.e., higher-order model). To examine the goodness of saturated model fit, the standardized root means square residual (SRMR), unweighted least squares (ULS) discrepancy (dULS), and geodesic discrepancy (dG) were used.

In conclusion, the indicators lend empirical support to the question of whether the latent variables exist and whether the indicators create a higher-order construct. As an absolute measure of model fit criterion, the SRMR calculates the average magnitude of the differences between observed and expected correlations. The SRMR value was 0.049, which is less than the 0.080 criterion. Additionally, the 95% quantile of their respective reference distributions (HI95) was below all discrepancy measures (dULS and dG) (Table 7). The outcomes showed that the composite construct's measurement structure was accurate.

### 4.2. Structural Model

The structural model was evaluated once the measurement model was confirmed to be sound. We first looked at the structural model to see whether it had too much multicollinearity. Evaluation of the VIF for each of the predictor constructs showed that the highest VIF value was 3.094, which

was less than the threshold of 5 (Hair et al., 2010). As a result, collinearity between the predictor constructs was not a major problem in the model. The coefficient of determination ( $R^2$ ) for DSCMP, CD, and FP were 0.461, 0.649, and 0.691, respectively. This means that about 46.1 percent of the variation in DSCMP was predicted by organizational culture, 64.9 percent of the variation in CD is predicted by DSCMP and organizational culture, and about 69.1 percent of the variation in firm performance was predicted by organizational culture, DSCMP, and CD. These represent moderate levels of determination (Hair et al., 2017).

We evaluated the Stone – Geisser's  $Q^2$  value (Geisser, 1974; Stone, 1974), which demonstrates the model's predictive relevance. The  $Q^2$  values for the model's endogenous variables were greater than 0, which showed the predictive relevance of the constructs (Hair et al., 2017), confirming the quality of the structural model. To analyze the effect size ( $F^2$ ) of the hypothesized relationships, we used Cohen's (1988) recommendation, with 0.02, 0.15, and 0.35 indicating small, medium, and large effects, respectively. OC was found to have a large effect of 0.854 on DSCMP, a small effect of 0.059 on customer development, and a medium effect of 0.024 on firm performance. DSCMP was found to have a large effect of 0.669 on customer development and a medium effect of 0.177 on firm performance. CD also had a medium effect of 0.157 on firm performance.

We evaluated the results of the hypothesized paths by examining their path coefficients, t-values and p-values, and effect sizes. The results of the hypothesis testing are presented in Figure 2 and Table 7. The findings showed that all hypothesized relationships were positively significant. H1 was supported as organizational culture had a direct impact on DSCMP ( $\beta = 0.679$ ,  $t = 13.269$ ,  $p < 0.001$ ). H2 is supported in that DSCMP had a direct impact on CD ( $\beta = 0.660$ ,  $t = 11.853$ ,  $p < 0.001$ ). The results also supported H3 which stated that higher levels of DSCMP would result in higher levels of firm performance ( $\beta = 0.412$ ,  $t = 5.693$ ,  $p < 0.001$ ). H4 was also supported, with higher levels of customer development leading to higher performance ( $\beta = 0.372$ ,  $t = 6.026$ ,  $p < 0.001$ ).

**Table 5***Inter-correlations of the Latent Variables for First-order Constructs*

	SR	CR	IS	IE	FC	LD	CO	TD	CD	FP
SR	1									
CR	.675**	1								
IS	.785**	.742**	1							
IE	.713**	.784**	.791**	1						
FC	.620**	.583**	.645**	.632**	1					
LD	.515**	.501**	.567**	.564**	.821**	1				
CO	.564**	.545**	.584**	.592**	.813**	.766**	1			
TD	.554**	.548**	.587**	.591**	.832**	.754**	.844**	1		
CD	.732**	.809**	.780**	.770**	.650**	.575**	.632**	.658**	1	
FP	.717**	.786**	.780**	.754**	.647**	.575**	.611**	.635**	.870**	1

**Table 6***Q Square and F Square Value*

<b>Q square</b>			
	SSO	SSE	Q <sup>2</sup> (=1-SSE/SSO)
CD	1304	743.339	0.43
OC	1304	1304	
FP	1304	685.375	0.474
DSCMP	1304	1304	

<b>F square</b>				
	CDE	OCLT	FPM	DSCMP
CD			0.157	
OC	0.059		0.024	0.854
FP				
DSCMP	0.669		0.177	

A significant indirect effect of OC on customer development via DSCMP practices ( $\beta = 0.448$ ,  $t = 8.823$ ,  $p < 0.001$ ) was observed. A significant indirect effect of OC on FP via DSCMP ( $\beta = 0.279$ ,  $t = 5.419$ ,  $p < 0.001$ ) was also observed. The relationship between organizational culture and FP was mediated by CD ( $\beta = 0.073$ ,  $t = 2.829$ ,  $p < 0.005$ ), and by DSCMP and CD respectively ( $\beta = 0.167$ ,  $t = 5.554$ ,  $p < 0.001$ ) providing support for H6. The direct effect of OC on firm performance (with the mediator of DSCM and CD present) was positive and significant, which indicates a partial mediation of DSCM and CD. The effect of DSCMP on customer development and the effect of customer development on firm performance were both posi-

tive and significant, indicating complementary partial mediation (Hair et al., 2017). This means that a portion of the effect of DSCMP on FP was mediated through CD, with DSCMP directly explaining the remaining portion independent of CD. Similarly, a significant indirect effect of DSCMP on FP via CD ( $\beta = 0.245$ ,  $t = 5.444$ ,  $p < 0.001$ ) was observed, which the existence of a mediating effect of customer development on the effect of DSCMP on FP (Hair et al., 2017) providing support for H5.

## 5. Managerial Implications

This study found that organizational culture was positively associated with DSCMP, which is consistent with prior studies' claims that group culture

Table 7

Smart PLS Direct Relationship

	Original Sample (O)	Sample Mean (M)	SD	T value	P Values	Bias	2.5%	97.5%	VIF
CD -> FP	0.372	0.369	0.062	6.026	0.000	-0.003	0.241	0.493	2.849
OC -> CD	0.196	0.198	0.061	3.210	0.001	0.002	0.072	0.315	1.854
OC -> FP	0.121	0.124	0.058	2.082	0.038	0.003	0.034	0.248	1.963
OC -> DSCMP	0.679	0.683	0.051	13.269	0.000	0.005	0.564	0.762	1.000
DSCMP -> CD	0.660	0.658	0.056	11.853	0.000	-0.002	0.543	0.759	1.854
DSCMP -> FP	0.412	0.411	0.072	5.693	0.000	0.000	0.268	0.545	3.094

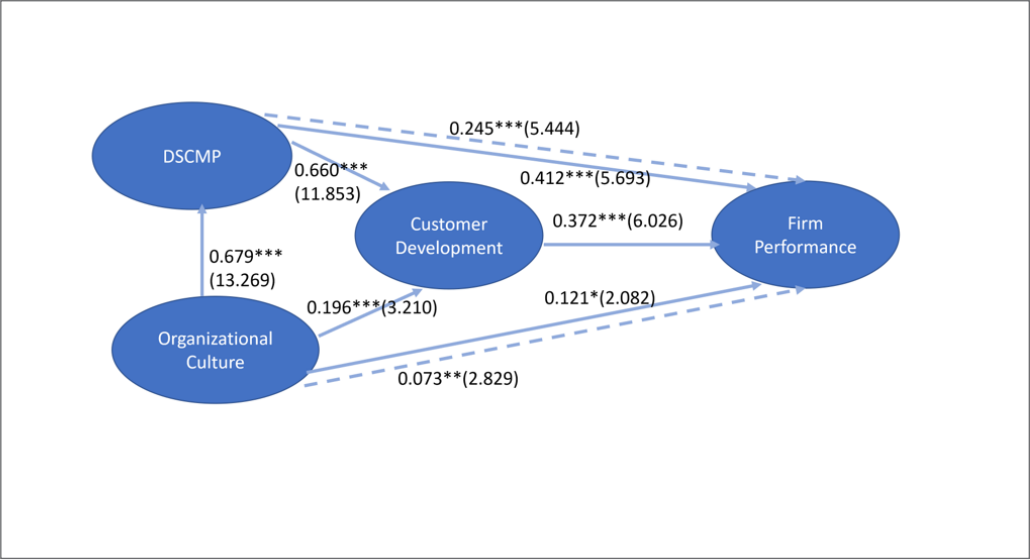
Table 8

Indirect Relationships

	Original Sample (O)	Sample Mean (M)	SD	T Value	P Values
OC -> DSCMP -> CD	0.448	0.449	0.051	8.823	0.000
DSCMP -> CD-> FP (H5)	0.245	0.244	0.045	5.444	0.000
OC -> DSCMP -> FP	0.279	0.282	0.052	5.419	0.000
OC -> CD -> FP (H6)	0.073	0.071	0.026	2.829	0.005
OC-> DSCMP -> CD -> FP	0.167	0.165	0.030	5.554	0.000

Figure 1

PLS-SEM Results



drives CD. As facilitators for DSCMP, our findings highlight the relevance of a shared mindset on sustainable growth, strategic emphasis, dominant characteristics, cooperation, and openness leadership in the formation of firm cultures. Existing research on rational culture has only found that it affects outward SCM (Braunscheidel et al., 2010). An efficient high-performance OC across the digital supply chain, from top management down to the warehouse and distribution hubs should be built to be consistent with the firm's core values. Many measures, including higher productivity-focused firm cultures and better supply chain practices, are used to demonstrate the value of high performance. When a culture has mostly been internal to a firm, suppliers and other supply chain partners have their own cultures. Customers and suppliers, to some extent, behave as agents in many of the same ways that employees can do. Because the traditional "boss" is rarely present in digital supply chain partnerships, firms rely even more on culture to guide day-to-day operations with their partners.

Cultural compatibility is also an essential in predicting DSCMP, CD, and FP. Culture including Dominant Characteristics, Organizational Leadership, Organizational Glue, Strategic Emphasis must be considered to maintain the intended relationship and the more crucial the outcomes to be created by the customer development.

Managing the culture shift in a supply chain via a digital platform is just as important as managing culture change within company during times of strategic change such as the COVID-19 pandemic. In some respects, changing partners is simpler than changing workers, and it may be essential to "fire" a supplier if they don't get fit with the culture, even if they are otherwise excellent performers (Hanson & Melnyk, 2020). This study examined digital DSCMP techniques as a way to improve customer development and company performance in a developing nation. DSCMP methods directly improve both customer development and company success, according to the study's findings. Customer development has also been shown to significantly improve company performance.

Finally, there was evidence of a partial mediation by CD on the influence of DSCMP techniques on

FP. This study has some ramifications. Despite the rising interest in entrepreneurship and companies in research, there has been little investigation of firms' SCM practices. This work is to scientifically investigate the impact of DSCMP procedures on CD. The outcomes show that, even in the extremely unpredictable environment of a developing country, DSCMP may help companies better appeal to, satisfy, and maintain customers to boost their FP.

Our findings from configuration analyses add to the body of knowledge about organizational culture and DSCMP. We used this method to define organizational culture profiles and investigate their implications for a blend of DSCMP and firm culture research. We found four distinct profiles in our research. The firm structure profile had the most result-oriented, dynamic, and entrepreneurship risk-taking approach, but the least hierarchical culture and it surpassed the other three profiles in terms of trust, leadership, and talent development.

## 6. Conclusion

The favorable and considerable impact of OC and DSCMP techniques on customer development and firm success shows that applying DSCMP practices may be a valuable tool for achieving growth and resilience for firms in developing countries. Effective use of digital technology in SCMP is also critical in enabling firms to improve customer development, and achieve better performance outcomes. Managers of firm thus need to devise and implement strategies for efficiently managing their supply chains. Entrepreneurs and managers of firms in underdeveloped nations should also be taught DSCMP techniques so that they can better operate their supply chains for improved CD and FP. Supply chain departments or units, led by a supply chain expert, should be established by larger firms and companies with complex relationships with supply chain partners.

In addition to the marketing and sales strategies that are typically produced, a DSCMP strategy can be developed as part of business planning for businesses that are about to be established. The DSCMP plan should devise the supply chain process, develop appropriate suppliers and customers, specify how these core business SC stakeholders will be

managed, and establish protocols for customizing products, sharing information, and accelerating financial flows within the firm and across supply chain members. Such an approach will help to build an effective digital supply chain for firms, providing considerable benefits in terms of customer development and improved firm performance.

## Limitations

This study has some limitations. One flaw was that DSCMP procedures were looked at as a second-order construct that influences customer development and business success. As a result, the impact of each DSCMP technique on customer development and firm performance could not be investigated. There are several areas that would merit future investigation.

## Future Research

First, future research should look at the impact of specific DSCMP techniques and projects on customer development and company success. Further study into the influence of environmental contingencies and other control factors on the link between culture, DSCMP, customer development, and company success is also recommended. The literature on company DSCMP should be expanded by examining what accounts for the varying degrees of DSCMP among businesses to get insight into how to improve the adoption of DSCMP. Finally, more study on DSCMP in firms in developed-countries is recommended so that results may be compared to studies on firms in developing-countries, since environmental factors may play a role in the success of supply chain efforts (Asamoah et al., 2021).

## References

- Akhtar, F., Wang, Q., & Huo, B. (2023). The effect of relational investments on supply chain quality integration: protection or constraint of legal bonds? *International Journal of Quality & Reliability Management*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/IJQRM-12-2021-0455>
- Al-Omoush, K. S., de Lucas, A., & del Val, M. T. (2023). The role of e-supply chain collaboration in collaborative innovation and value-co creation. *Journal of Business Research*, 158, 113647. <https://doi.org/10.1016/j.jbusres.2023.113647>
- Al-Shboul, M. A. R., Barber, K. D., Garza-Reyes, J. A., Kumar, V., & Abdi, M. R. (2017). The effect of supply chain management practices on supply chain and manufacturing firms' performance. *Journal of Manufacturing Technology Management*, 28(5), 577-609. <https://doi.org/10.1108/JMTM-11-2016-0154>
- Altay, N., & Pal, R. (2023). Coping in supply chains: a conceptual framework for disruption management. 34(2), 261-279. <https://doi.org/10.1108/IJLM-05-2021-0305>
- Amedofu, M., Asamoah, D., & Agyei-Owusu, B. (2019). Effect of supply chain management practices on customer development and start-up performance. *Benchmarking: An International Journal*, 26(7), 2267-2285. <https://doi.org/10.1108/BIJ-08-2018-0230>
- Asamoah, D., Nuerter, D., Agyei-Owusu, B., & Akyeh, J. (2021). The effect of supply chain responsiveness on customer development. *The International Journal of Logistics Management*, ahead-of-print(ahead-of-print). <https://doi.org/10.1108/IJLM-03-2020-0133>
- Ata, S., Arslan, H., Baydaş, A., & Pazvant, E. (2022). The effect of social media influencers' credibility on consumer's purchase intentions through attitude toward advertisement. *ESIC MARKET Economic and Business Journal*, 53. <https://doi.org/10.7200/esicm.53.280>
- Attaran, M. (2017). The rise of 3-D printing: The advantages of additive manufacturing over traditional manufacturing. *Business Horizons*, 60(5), 677-688. <https://doi.org/10.1016/j.bushor.2017.05.011>
- Attaran, M. (2020). *Digital technology enablers and their implications for supply chain management*. Paper presented at the Supply Chain Forum: An International Journal. <https://doi.org/10.1080/16258312.2020.1751568>
- Beidokhti, A. A. A., & Ghaderi, M. M. (2011). Studying the relationship between organizational culture and customer satisfaction in Bank Mellat. *International Journal of Business and Commerce*, 1(4), 74-89. [ijbncet.com/1-4/IJBC-11-1409.pdf](http://ijbncet.com/1-4/IJBC-11-1409.pdf)
- Benitez, J., Llorens, J., & Braojos, J. (2018). How information technology influences opportunity exploration and exploitation firm's capabilities. *Information & Management*, 55(4), 508-523. <https://doi.org/10.1016/j.im.2018.03.001>
- Blank, S. (2013). *The four steps to the epiphany*. K&S Ranch Press.
- Braunscheidel, M. J., Suresh, N. C., & Boisnier, A. D.

- (2010). Investigating the impact of organizational culture on supply chain integration. *Human Resource Management*, 49(5), 883-911.
- Brzeziński, S., & Bitkowska, A. (2022). Integrated Business Process Management in Contemporary Enterprises - a Challenge or a Necessity? *Contemporary Economics*, 16, 374-386. 10.5709/ce.1897-9254.488 <https://doi.org/10.1002/hrm.20381>
- Büyüközkan, G., & Göçer, F. (2018). Digital supply chain: Literature review and a proposed framework for future research. *Computers in Industry*, 97, 157-177. <https://doi.org/10.1016/j.compind.2018.02.010>
- Cao, Z., Huo, B., Li, Y., & Zhao, X. (2015). The impact of organizational culture on supply chain integration: A contingency and configuration approach. *Supply Chain Management: An International Journal*, 20, 24-41. <https://doi.org/10.1108/SCM-11-2013-0426>
- Cepoi, C.-O. (2020). Asymmetric dependence between stock market returns and news during COVID-19 financial turmoil. *Finance research letters*, 36, 101658. <https://doi.org/10.1016/j.frl.2020.101658>
- Chase, C. (2019). How the Digital economy is impacting the supply chain. *Journal of Business Forecasting*, 38(2).
- Christopher, M. (2016). *Logistics & supply chain management*. Pearson UK.
- Chu, Z., Wang, Q., Lai, F., & Collins, B. (2017). Managing interdependence: Using Guanxi to cope with supply chain dependency. *Journal of Business Research*, 103. <https://doi.org/10.1016/j.jbusres.2017.11.035>
- Chunsheng, L., Wong, C. W., Yang, C. C., Shang, K. C., & Lirn, 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>
- Dai, J., Chan, H. K., & Yee, R. W. Y. (2018). Examining moderating effect of organizational culture on the relationship between market pressure and corporate environmental strategy. *Industrial Marketing Management*, 74, 227-236. <https://doi.org/10.1016/j.indmarman.2018.05.003>
- Deepu, T. S., & Ravi, V. (2021). A conceptual framework for supply chain digitalization using integrated systems model approach and DIKW hierarchy. *Intelligent Systems with Applications*, 10-11, 200048. <https://doi.org/10.1016/j.iswa.2021.200048>
- Dmuchowski, R. (2021). Methods of measuring the effectiveness of logistics activities. *Contemporary Economics*, 15(3), 309-320. <https://doi.org/10.5709/ce.1897-9254.451>
- Dubey, R., Bryde, D. J., Dwivedi, Y. K., Graham, G., Foropon, C., & Papadopoulos, T. (2023). Dynamic digital capabilities and supply chain resilience: The role of government effectiveness. *International Journal of Production Economics*, 258, 108790. <https://doi.org/10.1016/j.ijpe.2023.108790>
- Estrada, M. A. R., Koutronas, E., & Lee, M. (2021). Staggression: The economic and financial impact of the COVID-19 pandemic. *Contemporary Economics*, 15(1), 19-33. <https://doi.org/10.5709/ce.1897-9254.433>
- Fares, N., & Lloret, J. (2023). Barriers to supply chain performance measurement during disruptions such as the COVID-19 pandemic. *International Journal of Quality & Reliability Management*, 40(5), 1316-1342. <https://doi.org/10.1108/IJQRM-03-2022-0095>
- Faruquee, M., Paulraj, A., & Irawan, C. A. (2021). Strategic supplier relationships and supply chain resilience: is digital transformation that precludes trust beneficial?. *International Journal of Operations & Production Management*, 41(7), 1192-1219. <https://doi.org/10.1108/IJOPM-10-2020-0702>
- Galvão, A., Marques, C., Franco, M., & Mascarenhas, C. (2019). The role of start-up incubators in cooperation networks from the perspective of resource dependence and interlocking directorates. *Management Decision*, 57(10), 2816-2836. <https://doi.org/10.1108/MD-10-2017-0936>
- Gandhi, A. V., Shaikh, A., & Sheorey, P. A. (2017). Impact of supply chain management practices on firm performance: Empirical evidence from a developing country. *International Journal of Retail & Distribution Management*, 45(4), 366-384. <https://doi.org/10.1108/IJRDM-06-2015-0076>
- Garay-Rondero, C. L., Martinez-Flores, J. L., Smith, N. R., Caballero Morales, S. O., & Aldrette-Malacara, A. (2020). Digital supply chain model in Industry 4.0. *Journal of Manufacturing Technology Management*, 31(5), 887-933. <https://doi.org/10.1108/JMTM-08-2018-0280>
- Geisser, S. (1974). A Predictive Approach to the Random Effect Model. *Biometrika*, 61(1), 101-107. <https://doi.org/10.2307/2334290>
- Gligor, D., Bozkurt, S., Russo, I., & Omar, A. (2018). A look into the past and future: theories within supply chain management, marketing and



- management. *Supply Chain Management: An International Journal*. <https://doi.org/10.1108/SCM-03-2018-0124>
- Golicic, S. L., & Smith, C. D. (2013). A meta-analysis of environmentally sustainable supply chain management practices and firm performance. *Journal of supply chain management*, 49(2), 78-95. <https://doi.org/10.1111/jscm.12006>
- Goodell, J. W. (2020). COVID-19 and finance: Agendas for future research. *Finance research letters*, 35, 101512. <https://doi.org/10.1016/j.frl.2020.101512>
- Gopalakrishnan, S., & Zhang, H. (2017). Client dependence and vendor innovation: The moderating role of organizational culture. *Industrial Marketing Management*, 66. <https://doi.org/10.1016/j.indmarman.2017.07.012>
- Gordon, G. G., & DiTomaso, N. (1992). Predicting corporate performance from organizational culture. *Journal of Management Studies*, 29(6), 783-798. <https://doi.org/10.1111/j.1467-6486.1992.tb00689.x>
- Green, W., & Cluley, R. (2014). The field of radical innovation: Making sense of organizational cultures and radical innovation. *Industrial Marketing Management*, 43(8), 1343-1350. <https://doi.org/10.1016/j.indmarman.2014.08.008>
- Gunasekaran, A., & Kobu, B. (2007). Performance measures and metrics in logistics and supply chain management: a review of recent literature (1995–2004) for research and applications. *International Journal of Production Research*, 45(12), 2819-2840. <https://doi.org/10.1080/00207540600806513>
- Gunasekaran, A., Papadopoulos, T., Dubey, R., Wamba, S. F., Childe, S. J., Hazen, B., & Akter, S. (2017). Big data and predictive analytics for supply chain and organizational performance. *Journal of Business Research*, 70, 308-317. <https://doi.org/10.1016/j.jbusres.2016.08.004>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, a. R. E. (2010). *Multivariate data analysis*. NJ: Prentice Hall.
- Handfield, R. B. (1993). A resource dependence perspective of just-in-time purchasing. *Journal of Operations Management*, 11(3), 289-311. [https://doi.org/10.1016/0272-6963\(93\)90005-A](https://doi.org/10.1016/0272-6963(93)90005-A)
- Hanson, J. D., & Melnyk, S. A. (2020). How to deal with company culture “eating” your supply chain strategy. *SupplyChain247*. [https://www.supplychain247.com/article/how\\_to\\_deal\\_with\\_company\\_culture\\_eating\\_your\\_supply\\_chain\\_strategy](https://www.supplychain247.com/article/how_to_deal_with_company_culture_eating_your_supply_chain_strategy).
- Harmancioglu, N., Sääksjärvi, M., & Hultink, E. (2020). Cannibalize and combine? The impact of ambidextrous innovation on organizational outcomes under market competition. *Industrial Marketing Management*, 85, 44-57. <https://doi.org/10.1016/j.indmarman.2019.07.005>
- Harrison, J. S., Hitt, M. A., Hoskisson, R. E., & Ireland, R. D. (1991). Synergies and post-acquisition performance: Differences versus similarities in resource allocations. *Journal of management*, 17(1), 173-190. <https://doi.org/10.1177/014920639101700111>
- Hartmann, G., Nduru, G., & Dannenberg, P. (2020). Digital connectivity at the upstream end of value chains: A dynamic perspective on smartphone adoption amongst horticultural smallholders in Kenya. *Competition & Change*, 25(2), 167-189. <https://doi.org/10.1177/1024529420914483>
- Hautala-Kankaanpää, T. (2022). The impact of digitalization on firm performance: examining the role of digital culture and the effect of supply chain capability. *Business Process Management Journal*, 28(8), 90-109. <https://doi.org/10.1108/BPMJ-03-2022-0122>
- Helo, P., & Hao, Y. (2021). Artificial intelligence in operations management and supply chain management: an exploratory case study. *Production Planning & Control*, 1-18. <https://doi.org/10.1080/09537287.2021.1882690>
- Henseler, J. (2017). *ADANCO 2.0.1 User Manual*. <https://doi.org/10.13140/RG.2.2.30154.16321>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hieu, V., & Chi, H. (2022). The factors of financial performance of SMEs (Case of Vietnam). *Contemporary Economics*, 16, 346-360. <https://doi.org/10.5709/ce.1897-9254.486>
- Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource Dependence Theory: A Review. *Journal of Management*, 35(6), 1404-1427. <https://doi.org/10.1177/0149206309343469>
- Hofmann, E., & Rüsch, M. (2017). Industry 4.0 and the current status as well as future prospects on logistics. *Computers in Industry*, 89, 23-34. <https://doi.org/10.1016/j.compind.2017.04.002>
- Holmström, J., Holweg, M., Lawson, B., Pil, F. K., & Wagner, S. M. (2019). The digitalization of operations and supply chain management: Theoretical and methodological implications.

- Journal of Operations Management*, 65(8), 728-734. <https://doi.org/10.1002/joom.1073>
- Hong, J., Guo, P., Chen, M., & Li, Y. (2022). The adoption of sustainable supply chain management and the role of organisational culture: A Chinese perspective. *International Journal of Logistics Research and Applications*, 25(1), 52-76. <https://doi.org/10.1080/13675567.2020.1795094>
- Hsiang, S., Allen, D., Annan-Phan, S., Bell, K., Bolliger, I., Chong, T., Druckenmiller, H., Huang, L. Y., Hultgren, A., Krasovich, E., Lau, P., Lee, J., Rolf, E., Tseng, J., & Wu, T. (2020). The effect of large-scale anti-contagion policies on the COVID-19 pandemic. *Nature*, 584(7820), 262-267. <https://doi.org/10.1038/s41586-020-2404-8>
- Hsu, C.-C., Tan, K.-C., Kannan, V. R., & Keong Leong, G. (2009). Supply chain management practices as a mediator of the relationship between operations capability and firm performance. *International Journal of Production Research*, 47(3), 835-855. <https://doi.org/10.1080/00207540701452142>
- Hult, G. T. M., Ketchen Jr, D. J., & Nichols Jr, E. L. (2002). An examination of cultural competitiveness and order fulfillment cycle time within supply chains. *Academy of Management Journal*, 45(3), 577-586. <https://doi.org/10.5465/3069382>
- Hunt, S. D., & Davis, D. F. (2012). Grounding supply chain management in resource-advantage theory: In defense of a resource-based view of the firm. *Journal of Supply Chain Management*, 48(2), 14-20. <https://doi.org/10.1111/j.1745-493X.2012.03266.x>
- Huo, L., Shao, Y., Wang, S., & Yan, W. (2022). Identifying the role of alignment in developing innovation ecosystem: value co-creation between the focal firm and supplier. *Management Decision*, 60(7), 2092-2125. <https://doi.org/10.1108/MD-03-2021-0433>
- Hutter, K., Brendgens, F.-M., Gauster, S. P., & Matzler, K. (2023). Scaling organizational agility: Key insights from an incumbent firm's agile transformation. *Management Decision, ahead-of-print*(ahead-of-print). <https://doi.org/10.1108/MD-05-2022-0650>
- Jajja, M. S. S., Asif, M., Montabon, F. L., & Chatha, K. A. (2019). The influence of institutional pressures and organization culture on Supplier Social Compliance Management Systems. *International Journal of Physical Distribution & Logistics Management*, 49(5), 552-574. <https://doi.org/10.1108/IJPDLM-11-2017-0359>
- Jean, R. J. B., Kim, D., & Bello, D. C. (2017). Relationship-based product innovations: Evidence from the global supply chain. *Journal of Business Research*, 80, 127-140. <https://doi.org/10.1016/j.jbusres.2017.07.008>
- Jiang, H., Luo, Y., Xia, J., Hitt, M., & Shen, J. (2023). Resource dependence theory in international business: Progress and prospects. *Global Strategy Journal*, 13(1), 3-57. <https://doi.org/10.1002/gsj.1467>
- Jiang, M., Chen, L., Blome, C., & Jia, F. (2023). Digital technology adoption for modern slavery risk mitigation in supply chains: An institutional perspective. *Technological Forecasting and Social Change*, 192, 122595. <https://doi.org/10.1016/j.techfore.2023.122595>
- Jiayin, Q., Bin, S., Min, Z., Zhen, W., Bin, X., & Yifeng, X. (2020). A nationwide survey of psychological distress among Chinese people in the COVID-19 epidemic: implications and policy recommendations. *General Psychiatry*, 33(2), e100213. <https://doi.org/10.1136/gpsych-2020-100213>
- Jogaratham, G. (2017). How organizational culture influences market orientation and business performance in the restaurant industry. *Journal of Hospitality and Tourism Management*, 31, 211-219. <https://doi.org/10.1016/j.jhtm.2017.03.002>
- Karimi, E., & Rafiee, M. (2014). Analyzing the impact of supply chain management practices on organizational performance through competitive priorities (case study: Iran pumps company). *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 4(1), 1-15. <https://doi.org/10.6007/IJARAFMS/v4-i1/503>
- Khan, A., Khan, N., & Shafiq, M. (2021). The economic impact of COVID-19 from a global perspective. *Contemporary Economics*, 15(1), 64-75. <https://doi.org/10.5709/ce.1897-9254.436>
- Khan, K., & Mujitaba, A. (2023). Development and validation of brand strategies evaluation scale for mobile network users. *ESIC Market*, 54, e291. <https://doi.org/10.7200/esicm.53.291>
- Khan, M. (2019). Challenges with big data analytics in service supply chains in the UAE. *Management Decision*, 57(8), 2124-2147. <https://doi.org/10.1108/MD-06-2018-0669>
- Kim, S. W. (2006). Effects of supply chain management practices, integration and competition capability on performance. *Supply Chain Management: An International Journal*, 1(3), 241-248.
- Klein, R., & Rai, A. (2009). Interfirm Strategic Information Flows in Logistics Supply Chain

- Relationships. *MIS Quarterly*, 33(4), 735-762. <https://doi.org/10.2307/20650325>
- Klimas, P. (2016). Organizational culture and cooptation: An exploratory study of the features, models and role in the Polish Aviation Industry. *Industrial Marketing Management*, 53, 91-102. <https://doi.org/10.1016/j.indmarman.2015.11.012>
- Lardo, A., Mancini, D., Paoloni, N., & Russo, G. (2020). The perspective of capability providers in creating a sustainable I4.0 environment. *Management Decision*, 58(8), 1759-1777. <https://doi.org/10.1108/MD-09-2019-1333>
- Lee, R. P., & Wei, S. (2023). Do employee orientation and societal orientation matter in the customer orientation—Performance link? *Journal of Business Research*, 159, 113722. <https://doi.org/10.1016/j.jbusres.2023.113722>
- Leisen, B., Lilly, B., & Winsor, R. D. (2002). The effects of organizational culture and market orientation on the effectiveness of strategic marketing alliances. *Journal of Services Marketing*, 16(2), 201-222. <https://doi.org/10.1108/08876040210427209>
- Levin, A. T., Hanage, W. P., Owusu-Boaitey, N., Cochran, K. B., Walsh, S. P., & Meyerowitz-Katz, G. (2020). Assessing the age specificity of infection fatality rates for COVID-19: Systematic review, meta-analysis, and public policy implications. *European Journal of Epidemiology*, 35(12), 1123-1138. <https://doi.org/10.1007/s10654-020-00698-1>
- Li, S., Ragu-Nathan, B., Ragu-Nathan, T., & Rao, S. S. (2006). The impact of supply chain management practices on competitive advantage and organizational performance. *Omega*, 34(2), 107-124. <https://doi.org/10.1016/j.omega.2004.08.002>
- Lin, S., & Lin, J. (2023). How organizations leverage digital technology to develop customization and enhance customer relationship performance: An empirical investigation. *Technological Forecasting and Social Change*, 188, 122254. <https://doi.org/10.1016/j.techfore.2022.122254>
- Liu, H., Lu, F., Shi, B., Hu, Y., & Li, M. (2023). Big data and supply chain resilience: Role of decision-making technology. *Management Decision*, 61(9), 2792-2808. <https://doi.org/10.1108/MD-12-2021-1624>
- Luu, T. (2019). Promoting logistics performance in Vietnam-based manufacturing firms. *International Journal of Physical Distribution & Logistics Management*, 49(1), 52-74. <https://doi.org/10.1108/IJPDLM-07-2017-0238>
- Lytras, M. D., Serban, A. C., Ruiz, M. J. T., Ntanos, S., & Sarirete, A. (2022). Translating knowledge into innovation capability: An exploratory study investigating the perceptions on distance learning in higher education during the COVID-19 pandemic-the case of Mexico. *Journal of Innovation Knowledge*, 7(4), 100258. <https://doi.org/10.1016/j.jik.2022.100258>
- MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 35(2), 293-334. <https://doi.org/10.2307/23044045>
- Mahfouz, M. A., & Muhumed, D. A. (2020). Linking organizational culture with financial performance: A literature review. *Bussecon Review of Social Sciences* (2687-2285), 2(1), 38-43. <https://doi.org/10.36096/brss.v2i1.171>
- Mariadoss, B. J., Chi, T., Tansuhaj, P., & Pomirleanu, N. (2016). Influences of firm orientations on sustainable supply chain management. *Journal of Business Research*, 69(9), 3406-3414. <https://doi.org/10.1016/j.jbusres.2016.02.003>
- Martínez, J. M. G., Carracedo, P., Comas, D. G., & Siemens, C. H. (2022). An analysis of the blockchain and COVID-19 research landscape using a bibliometric study. *Sustainable Technology Entrepreneurship* 1(1), 100006. <https://doi.org/10.1016/j.stae.2022.100006>
- Matsuno, K., & Kohlbacher, F. (2019). Firms' (non) responses: The role of ambivalence in the case of population aging in Japan. *Long Range Planning*, 52(2), 236-254. <https://doi.org/10.1016/j.lrp.2018.02.006>
- Mello, J., & Stank, T. (2005). Linking Firm Culture and Orientation to Supply Chain Success. *International Journal of Physical Distribution & Logistics Management*, 35, 542-554. <https://doi.org/10.1108/09600030510623320>
- Min, S., Zacharia, Z. G., & Smith, C. D. (2019). Defining supply chain management: In the past, present, and future. *Journal of Business Logistics*, 40(1), 44-55. <https://doi.org/10.1111/jbl.12201>
- Mishra, R., Kr Singh, R., & Gunasekaran, A. (2023). Digitalization of supply chains in Industry 4.0 environment of manufacturing organizations: Conceptualization, scale development & validation. *Production Planning & Control*, 1-20. <https://doi.org/10.1080/09537287.2023.2172622>
- Mukherjee, S., Baral, M. M., Lavanya, B. L., Nagariya, R., Singh Patel, B., & Chittipaka, V. (2023).

- Intentions to adopt the blockchain: investigation of the retail supply chain. *Management Decision*, 61(5), 1320-1351. <https://doi.org/10.1108/MD-03-2022-0369>
- Nandi, S., Sarkis, J., Hervani, A. A., & Helms, M. M. (2021). Redesigning supply chains using blockchain-enabled circular economy and COVID-19 experiences. *Sustainable Production and Consumption*, 27, 10-22. <https://doi.org/10.1016/j.spc.2020.10.019>
- Nasiri, M., Ukko, J., Saunila, M., & Rantala, T. (2020). Managing the digital supply chain: The role of smart technologies. *Technovation*, 96-97, 102121. <https://doi.org/10.1016/j.technovation.2020.102121>
- Nunnally, J. C. (1978). *Psychometric theory*. McGraw-Hill.
- Olakojo, S. A., Onanuga, A. T., & Onanuga, O. T. (2021). COVID-19: Putting stock markets back on recovery among the crude oil producing economies. *Contemporary Economics* 15(1), 34-52. <https://doi.org/10.5709/ce.1897-9254.434>
- Ou, C. S., Liu, F. C., Hung, Y. C., & Yen, D. C. (2010). A structural model of supply chain management on firm performance. *International Journal of Operations & Production Management*, 30(5), 526-545. <https://doi.org/10.1108/01443571011039614>
- Paulraj, A., Chen, I. J., & Blome, C. (2017). Motives and performance outcomes of sustainable supply chain management practices: A multi-theoretical perspective. *Journal of Business Ethics*, 145(2), 239-258. <https://doi.org/10.1007/s10551-015-2857-0>
- Peng, S. (2023). Sharing economy and sustainable supply chain perspective the role of environmental, economic and social pillar of supply chain in customer intention and sustainable development. *Journal of Innovation & Knowledge*, 8(1), 100316. <https://doi.org/10.1016/j.jik.2023.100316>
- Perano, M., Cammarano, A., Varriale, V., Del Regno, C., Michelino, F., & Caputo, M. (2023). Embracing supply chain digitalization and unphysicalization to enhance supply chain performance: A conceptual framework. *International Journal of Physical Distribution & Logistics Management*, 53(5/6), 628-659. <https://doi.org/10.1108/IJPDLM-06-2022-0201>
- Pfeffer, J. (2003). The external control of organizations : A resource dependence perspective. In G. R. Salancik (Ed.), *Organizational behavior 2* (pp. 373-388). Stanford Business Books.
- Philsoophian, M., Akhavan, P., & Namvar, M. (2022). The mediating role of blockchain technology in improvement of knowledge sharing for supply chain management. *Management Decision*, 60(3), 784-805. <https://doi.org/10.1108/MD-08-2020-1122>
- Presbitero, A., Roxas, B., & Chadee, D. (2017). Sustaining innovation of information technology service providers: focus on the role of organisational collectivism. *International Journal of Physical Distribution & Logistics Management*, 47, 156-174. <https://doi.org/10.1108/IJPDLM-07-2015-0171>
- Queiroz, M. M., Ivanov, D., Dolgui, A., & Wamba, S. F. (2020). Impacts of epidemic outbreaks on supply chains: mapping a research agenda amid the COVID-19 pandemic through a structured literature review. *Annals of Operations Research*, 1-38. <https://doi.org/10.1007/s10479-020-03685-7>
- Ranney, M. L., Griffeth, V., & Jha, A. K. (2020). Critical supply shortages—the need for ventilators and personal protective equipment during the Covid-19 pandemic. *New England Journal of Medicine*, 382(18), e41. <https://doi.org/10.1056/NEJMp2006141>
- Ríos-Pérez, E., Castro-González, S., & Picón-García, N. (2022). Benefits of spirituality in the workplace: The retail industry evidence. *ESIC Market*, 53, e284. <https://doi.org/10.7200/esicm.53.284>
- Roh, J., Hong, P., & Park, Y. (2008). Organizational culture and supply chain strategy: a framework for effective information flows. *Journal of Enterprise Information Management*, 21(4), 361-376. <https://doi.org/10.1108/17410390810888651>
- Ruzo-Sanmartín, E., Abousamra, A. A., Otero-Neira, C., & Svensson, G. (2023). The impact of the relationship commitment and customer integration on supply chain performance. *Journal of Business & Industrial Marketing*, 38(4), 943-957. <https://doi.org/10.1108/JBIM-07-2021-0349>
- Sączewska-Piotrowska, A., & Piotrowski, D. (2021). Effects of air temperature on COVID-19 case fatality rate. *Contemporary Economics*, 15, 53-63. <https://doi.org/10.5709/ce.1897-9254.435>
- Sambasivan, M., & Nget Yen, C. (2010). Strategic alliances in a manufacturing supply chain. *International Journal of Physical Distribution & Logistics Management*, 40(6), 456-474. <https://doi.org/10.1108/09600031011062191>
- Sarstedt, M., Hair, J. F., Cheah, J.-H., Becker, J.-M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM.

- Australasian Marketing Journal (AMJ)*, 27(3), 197-211. <https://doi.org/10.1016/j.ausmj.2019.05.003>
- Schein, E. H. (2010). *Organizational culture and leadership* (Vol. 2): John Wiley & Sons.
- Schoemaker, P. J. H., Heaton, S., & Teece, D. (2018). Innovation, dynamic capabilities, and leadership. *California Management Review*, 61(1), 15-42. <https://doi.org/10.1177/0008125618790246>
- Schulze, A., Townsend, J. D., & Talay, M. B. (2022). Completing the market orientation matrix: The impact of proactive competitor orientation on innovation and firm performance. *Industrial Marketing Management*, 103, 198-214. <https://doi.org/10.1016/j.indmarman.2022.03.013>
- Seetharaman, P. (2020). Business models shifts: Impact of Covid-19. *International Journal of Information Management*, 54, 102173. <https://doi.org/10.1016/j.ijinfomgt.2020.102173>
- Seyedghorban, Z., Tahernejad, H., Meriton, R., & Graham, G. (2020). Supply chain digitalization: past, present and future. *Production Planning & Control*, 31(2-3), 96-114. <https://doi.org/10.1080/09537287.2019.1631461>
- Shan, H., Bai, D., Li, Y., Shi, J., & Yang, S. (2023). Supply chain partnership and innovation performance of manufacturing firms: Mediating effect of knowledge sharing and moderating effect of knowledge distance. *Journal of Innovation & Knowledge*, 8(4), 100431. <https://doi.org/10.1016/j.jik.2023.100431>
- Sharma, A., Adhikary, A., & Borah, S. B. (2020). Covid-19's impact on supply chain decisions: Strategic insights from NASDAQ 100 firms using Twitter data. *Journal of Business Research*, 117, 443-449. <https://doi.org/10.1016/j.jbusres.2020.05.035>
- Sharma, M., & Joshi, S. J. T. T. J. (2023). Digital supplier selection reinforcing supply chain quality management systems to enhance firm's performance. 35(1), 102-130. <https://doi.org/10.1108/TQM-07-2020-0160>
- Statista. (2023). Size of the logistics industry worldwide 2018-2028. <https://www.statista.com/statistics/943517/logistics-industry-global-cagr/>.
- Stern, R. N., Pfeffer, J., & Salancik, G. R. (1979). The External Control of Organizations: A Resource Dependence Perspective. *Contemporary Sociology*, 8, 612. <https://doi.org/10.2307/2065200>
- Stone, M. (1974). Cross-Validatory Choice and Assessment of Statistical Predictions. *Journal of the Royal Statistical Society: Series B (Methodological)*, 36(2), 111-133. <https://doi.org/10.1111/j.2517-6161.1974.tb00994.x>
- Suhartini, Hudayati, A., Alsayegh, M. F., Rahman, R. A., & Kamarulzaman, R. (2020). The Corporate culture's moderating effect on the logistics service quality and market flexibility relationship of Indonesian manufacturing companies. *Contemporary Economics*, 14(4), 501-512. <https://doi.org/10.5709/ce.1897-9254.422>
- Sundram, V. P. K., Chandran, V., & Bhatti, M. A. (2016). Supply chain practices and performance: the indirect effects of supply chain integration. *Benchmarking: An International Journal*, 23(6), 1445-1471. <https://doi.org/10.1108/BIJ-03-2015-0023>
- Sung, H., & Kim, S. (2019). The effect of organizational culture on supply chain management in uncertain environments. *Asia Pacific Journal of Marketing and Logistics*. <https://doi.org/10.1108/APJML-04-2018-0159>
- Suradi, S., Mahrinasari MS, M., & Hasnawati, S. (2020). The mediating effect of strategic agility in the relationship of supply chain management activities and firm performance of the textile industry of Indonesia. *International Journal of Supply Chain Management*, 9(3), 649-656. <http://repository.lppm.unila.ac.id/id/eprint/24461>
- Truong, H. Q., Sameiro, M., Fernandes, A. C., Sampaio, P., Duong, B. A. T., Duong, H. H., & Vilhenac, E. (2017). Supply chain management practices and firms' operational performance. *International Journal of Quality & Reliability Management*. <https://doi.org/10.1108/IJQRM-05-2015-0072>
- Tu, M., Lim, M. K., & Yang, M.-F. (2018). IoT-based production logistics and supply chain system-Part 2: IoT-based cyber-physical system: A framework and evaluation. *Industrial Management & Data Systems*, 118(1), 96-125. <https://doi.org/10.1108/IMDS-11-2016-0504>
- Venâncio, A., Picoto, W., & Pinto, I. (2023). Time-to-unicorn and digital entrepreneurial ecosystems. *Technological Forecasting and Social Change*, 190, 122425. <https://doi.org/10.1016/j.techfore.2023.122425>
- Yeung, M. C., & Ennew, C. T. (2000). From customer satisfaction to profitability. *Journal of strategic marketing*, 8(4), 313-326. <https://doi.org/10.1080/09652540010003663>
- Yunus, E., & Tadisina, S. (2016). Drivers of supply chain integration and the role of organizational culture: Empirical evidence from Indonesia. *Business Process Management Journal*, 22. <https://doi.org/10.1108/BPMJ-12-2014-0127>
- Zailani, S., Subaramaniam, K., Iranmanesh, M., &

- Shaharudin, M. R. (2015). The Impact of supply chain security practices on security operational performance among logistics service providers in an emerging economy: Security culture as moderator. *International Journal of Physical Distribution & Logistics Management*, 45. <https://doi.org/10.1108/IJPDLM-12-2013-0286>
- Zinn, W., & Goldsby, T. J. (2017). In search of research ideas? Call a professional. *Journal of Business Logistics*, 38(1), 4-5. <https://doi.org/10.1111/jbl.12160>