

The role of Digital Supply Chain Management Practices in the Relationship between Organizational Culture and Customer Development

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Abstract

Through Digital Supply Chain Management Practices (DSCMP), this study investigates the relationship between organizational culture (OC) and customer development (CD), taking into account both direct and indirect influences. Data from 214 respondents who have registered in Indonesia's Riau Islands Province were analysed statistically. The results showed that CD was positively impacted by OC and DSCMP. Additionally, the connection between OC and CD was found to be mediated by DSCMP. Two crucial facilitators for growing a company's clientele in digital supply chains (SC) are DSCMP and OC. Using the Resource Dependency Theory (RDT) as a basis. This study discovered that in order to increase the firm's efficiency, digitalization-related SCMP capabilities need to be developed internally. Organizational leaders (OL), organizational glue (OG), dominating characteristics (DC), and strategic focus (SE) should all be integral parts of DSCMP in organizations.

Keywords: *Organizational Culture, Customer Development, Digital Supply Chain Management Practices, Riau Island, Indonesia.*

Introduction

CM has drawn notice as a crucial component of enhancing customer happiness and development (Golicic & Smith, 2013; Hsu et al., 2009; Ou et al., 2010; Suradi et al., 2020). SCM methods, however, need to be modified to satisfy the needs of the digital era (Khan, 2019; Mukherjee et al., 2023). Disruptive changes in the corporate sector have led to innovations in DSCMP, requiring both theoretical and practical responses to this issue (Altay & Pal, 2023; Fares et al., 2023; Gligor et al., 2018; Zinn & Goldsby, 2017).

The supply chain is essential to businesses' everyday operations in terms of global development and clientele (Garay-Rondero et al., 2020; Min et al., 2019). Garay-Rondero et al. (2020) demonstrated that the SCMP has quickly changed to the DSCMP due to the speed at which the corporate environment is changing, including specific economic, financial, social, and technological factors (Mishra et al., 2023; Philsoophian et al., 2022; Tu et al., 2018). Many academics have concentrated on examining the strategic alignment between organizational structure and infrastructure in order to support organizational initiatives to obtain a competitive advantage. (Hong et al., 2023; Roh et al., 2008). In order to comply with the demands of the organization's supply chain management procedures, businesses must also take the prevailing culture into account from an SCM standpoint. With a close connection to results, organizational culture encompasses management's values and beliefs as well as the organization's philosophy (Hutter et al., 2023; Jogaratnam, 2017).

In recent years, the quantity of studies pertaining to DSCM has significantly increased (Zhang, et al., 2024). The process of transforming SCM into DSCM has been reviewed generally in some of the literature (Agrawal & Narain, 2021). Data-driven innovation in DSCM, security and trust issues in DSCM, resilience and agility of DSCM, describing the changes in capabilities in the context of digital transformation, assessing firm performance under the influence of digital transformation, and dynamic capabilities of digital supply chains are some of the specialized areas that others have focused on. (Zhang, et al., 2024).

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Numerous industries have been touched by digital technology. SCM is a crucial area for various sectors. Digital technology has a tremendous impact on SCM in terms of efficiency, effectiveness, and morale since it will affect every step of the process, including procurement, operations management, delivery, and service (Li, 2012). The goal of the supply chain's digital transformation is to remove obstacles and turn it into a smoothly integrated system for optimum performance (Li et al., 2023). With the development of digital technology, the industrial and academic sectors have given the idea of DSCM a lot of attention (Lasi et al., 2014; Li, 2018).

Industry and academics have taken a keen interest in supply chain management's digital transformation. The new idea of digital supply chain management (DSCM) has been the subject of several research. The significance of DSCM as suggested by scholars and practitioners has been emphasized by recent studies. (e.g., Barykin et al., 2021; Garay-Rondero et al., 2019; Khan et al., 2021; Nasiri et al., 2020; Shao et al., 2021). The emphasis placed on DSCM demonstrates the increasing interest in this field (Wang, Peng, et al., 2023). Nonetheless, the goal of this research is to investigate how DSCMP affects the connection between OC and CD. Finding OC that can be used to evaluate DSCMP is the first goal of this project. Second, this study investigates the significance of DSCMP in CD assessment. Third, this work explores the possibility that DSCMP mediates the link between CD and OC.

Literature Review

Theoretical Frameworks: RDT

One of the most popular theoretical frameworks for describing why businesses participate in mergers and acquisitions is RDT (Yin & Shanley, 2008; Haunschild, 1993). RDT provides an outside oriented viewpoint on the reasons why businesses buy out other businesses (Haleblian et al, 2009). Pfeffer (1976) in Bui, Trinh & Jeng, Don & Huy, Ta. (2024) proposed three specific reasons why companies might use mergers and acquisitions: "First, to reduce competition by absorbing an important competing organization; second, to manage interdependence with a source of inputs or a buyer of outputs by absorbing it; and third, to diversify operations and thereby reduce dependence on the current organization with which it exchanges." When one company is unable to handle all the crucial elements to improve firm behaviour and profitability and broaden commercial operations, particularly in SCM, RDT is founded on the notion of interdependence (Handfield, 1993; Jiang et al., 2023; Sung & Kim, 2019). Inter-organizational contacts are viewed in RDT as a means of acquiring resources and enhancing control over the delivery of resources (Galvão et al., 2019). Since supplier managers want to attain reciprocal advantages, gain access to special resources, and lower environmental hazards, Strategic supply management and environmental uncertainty (demand, supply, and technology) are examined using RDT (Galvão et al., 2019).

According to RDT, in traditional SCM, everyone wants to avoid being unduly depends more on their own business to succeed than others and is more prone to rely on others. Nevertheless, SCM performance is not effectively achieved using this strategy. Having everyone who works together understand how to use resources is another tactic. Participants can thus combine their resources with the complimentary resources of their partners, creating new resources in the process (Harrison et al., 1991; Sung & Kim, 2019). In order to improve resilience, transformation, and innovation, cooperating enterprises can support resource, information, and social interdependencies through the use of cutting-edge technology, Industrial marketing and purchasing strategies based on digitalization (Lytras et al., 2022; Mukherjee et al., 2023; Liu et al., 2023; Hutter et al., 2023). Businesses can create talents that are far better than their own and obtain a competitive advantage based on mutual trust rather than the aggressive exploitation of cooperative partners when they develop relationship-specific capabilities (Akhtar et al., 2023; Hautala-Kankaanpää, 2022).

DSCMP

A significant change has occurred in SCM from a merely operational function to an autonomous SCM function. (Attaran, 2020; Sharma & Joshi, 2023). SCM is a crucial component of business operations since it handles a variety of tasks, including manufacturing, distribution, storage, inventory control, and procurement (Attaran, 2017, 2020). Cutting SCM expenses, such transportation costs, has a big impact on

a business's ability to compete (Dmuchowski, 2021). Therefore, through digital implementations that lower SC costs, businesses seek to create an efficient SC that may produce strategic value. Business logistics activities, such as supply, storage, inventory control, production, distribution, and order fulfilment, are all included in SCM (Attaran, 2020). The design and implementation of digital transformation in SC involves utilizing cutting-edge technologies to ensure communication and integration amongst SC participants in internationally dispersed SC processes (Hoberg et al., 2015; Bhargava et al., 2013).

A network that is intelligent and value-oriented is produced by integrating new technologies into SC. This network can handle vast volumes of data, collaborate more widely, and respond more quickly. (Castorena et al., 2014; Kinnet, 2015; Agrawal et al., 2018; Chase, 2019). As a result, encouraging communication within SC boosts mutual trust, flexibility, and output (Linh et al., 2019; Queiroz et al., 2019). Businesses will gain a competitive edge as a result (Khajavi et al., 2015). Information, technology, finance, and the flow of goods and services will all improve with digitalization (Weichhart et al., 2016; Zhu et al., 2015; Nasiri et al., 2020).

DSCMP has a direct impact on how businesses handle their inventory (Büyükožkan & Göçer, 2017). Real-time inventory management, speed, flexibility, and product and process standardization, transparency, intelligence, innovation, scalability, and environmental friendliness are just a few advantages of DSCMP (Al-khawaldahet al., 2022; Aityassine et al., 2021). Information integration, efficiency in operations and maintenance, product innovation, and efficient inventory management are all made possible by DSCMP quick access to and control of information (Kache & Seuring, 2017). DSCMP minimizes risks and inefficiencies, optimizes expenses, and fosters corporate expansion (Rauniyar et al., 2022).

OC

The origins of OC may be traced back to Deal and Kennedy's (1982) work from a cultural standpoint. This perspective holds that organizational performance is influenced by OC rather than elements like structure, politics, or policies. Consequently, the emphasis has moved from national culture to company culture. The idea that OC provides a non-mechanistic, adaptable, and innovative way to comprehending how organizations operate is what draws interest in it from an HRM and success standpoint (Brown, 1998).

OC, according to researchers, is a set of principles and behaviors that all units inside a company, or senior management, at the very least, share (Leisen et al., 2002). OC is seen from a different angle as a collection of consistent and shared values and beliefs that evolve within a company over time (Gordon & DiTomaso, 1992), or a collection of basic principles that a group has understood to help them deal with issues of internal integration and exterior adaption or a collection of basic principles that a group has understood to help them deal with issues of internal integration and exterior adaption (Schein, 2010).

Businesses may decide to adopt a traditional hierarchical culture (Klimas, 2016). Determining the influence of Intangible assets and knowledge-based talents to sustain corporate competitiveness requires an understanding of collective culture (Presbitero et al., 2017). Businesses may be responsive, flexible, and adaptive systems (Green & Cluley, 2014). Businesses are urged to Search for relational capital in order to develop proactive surroundings plans due to intense competition and quickly shifting market needs. Flexibility-control orientation, proactive customer orientation, collaborative learning skills, and performance-oriented culture—all common characteristics of corporate culture—moderate market pressure and environmental methods (Gopalakrishnan & Zhang, 2017; Dai et al., 2018; Jean et al., 2017)

Creative performance is fuelled by a competitive culture, which also lessens the detrimental effects of customer dependency. Performance-oriented cultures, however, exacerbate the negative effects of customer reliance on vendor innovation (Gopalakrishnan & Zhang, 2017). According to recent research, ambidexterity necessitates that businesses embrace two essential OCs: the ability to integrate existing knowledge and the propensity to cannibalize, both of which help businesses operate better (Harmancioglu, Sääksjärvi, & Hultink, 2020). OCs are a representation of the attitudes and beliefs surrounding the usage of digital technologies that impact how businesses operate (Hautala-Kankaanpää, 2022).

CD

Increasing the value of clients that are kept is referred to as CD (Buttle, F 2009). CD is essential to the development of organizations. In a dynamic environment, a company's Performance is based on how much value it offers to customers (Asamoah et al., 2021; Christopher, 2016). Even if CD plays a significant role, the idea is still relatively fresh to the literature. Finding and meeting client needs is the focus of CD performance (Lin & Lin, 2023). To put it another way, CD refers to how a company's frontline employees change their services, methods, and suggestions in order to meet, please, and keep customers (Amedofu et al., 2019; Lin & Lin, 2023; Peng, 2023). Through integration with and by customers, a company's relationship commitment is indirectly tied to supply chain success (Ruzo-Sanmartín et al., 2023).

Hypotheses Development

OC and DCSMP

Digital change in order to develop the dynamic capacities of DSCMP, cultural orientation, trust, and collaborative problem solving are highly advantageous (Faruquee et al., 2021). The digital manufacturing value chain facilitates collaboration between businesses and other business actors (Hartmann et al., 2020), but the cultural component is crucial to SCM's success (Luu, 2019; Mello & Stank, 2005). Due to their use in the value chain for digital operations, smartphones are becoming increasingly significant for manufacturing organizations. The culture of partner organizations has a significant impact on the degree of integration and SCM practices (i.e., trust, communication, and commitment) as well as value generation (Cao et al., 2015; Sambasivan & Nget Yen, 2010)

Cultural orientation has an impact on sustainable corporate purchasing and supply practices. Dynamic capabilities in identifying, utilizing, and changing are seen as elements of cultural behavior utilized to handle new technologically generated opportunities and threats Cultural orientation has an impact on sustainable corporate purchasing and supply practices. Dynamic capabilities in identifying, utilizing, and changing are seen as elements of cultural behaviour utilized to handle new technologically generated opportunities and threats (Schoemaker et al., 2018; Mariadoss et al., 2016). The ability to recognize, create, and evaluate new technological opportunities for SCM as well as dangers pertaining to consumer needs is known as agility in sensing (Bui, Trinh & Jeng, Don & Huy, Ta. (2024); Faruquee et al., 2021; Hutter et al., 2023)

Additionally, OC has an impact on external integration and cooperation with suppliers and customers (Chunsheng et al., 2020; Jajja et al., 2019; Sambasivan & Nget Yen, 2010). The core objective of supply chain management (SCM), which is to supply the appropriate product at the right time, place, and cost, can be influenced by OC (Cao et al., 2015). Cycle time reduction is positively impacted by high-level cultural competences, which are first-level indicators of entrepreneurship, innovation, and learning Hult et al., 2002). A development culture improves SC integration. Businesses that prioritize a development culture will have long-term development as one of their primary objectives.

Businesses keep an eye on emerging technology and information that might help them better adjust to new opportunities. Businesses are urged to learn about the state of the market, expected demand, and technologies or capabilities that might direct their research and development endeavours (Brzeziński & Bitkowska, 2022). Through DSCMP, businesses must communicate and integrate their internal processes with those of their external suppliers and customers. DSCMP is therefore more likely to be used by companies with a strong development culture to acquire the information, skills, and resources required for future customer development (Bui, Trinh & Jeng, Don & Huy, Ta. (2024); Cao et al., 2015).

Therefore, we propose that:

H1: OC Has a Positive Impact on DCSMP

OC and CD

Supplier social compliance is positively impacted by institutional strength and climate, which depend on the type of business culture (Jajja et al., 2019). The degree of exchange risk determines how well logistical partnerships work, which is also advantageous for creating consumer segments (Chu et al., 2017). Internal factors, particularly the company's client focus, are what initially fueled the SC customer base (Yunus & Tadisina, 2016). The supplier network's responsiveness improves the business's ability to introduce new products fast (Asamoah et al., 2021). The business can more effectively adapt to unforeseen shifts in consumer demand. This boosts the value the company can offer customers and promotes further client growth (Holmström et al., 2019; Jean et al., 2017). Organizational culture has a favorable impact on customer development tactics (Bui, Trinh & Jeng, Don & Huy, Ta. (2024))

Thus, the following hypothesis:

H2: OC Has a Positive Impact On CD

DSCMP and CD

Amedofu et al. (2019) assert that DSCMP is critical to luring and keeping clients. The company's capacity to draw in new clients and hold on to existing ones can be improved by supplier connections with strategic partners, which can lead to improved product quality, reduced prices, faster delivery times, cutting-edge technology, and innovative goods. Relationships with customers help the business provide greater value (Gandhi et al., 2017).

Due to the fact that information is shared on a regular basis, the bullwhip phenomenon helps DSCMP since it enables businesses to better meet customer demands and preserve customer connections (Amedofu et al., 2019; Lin & Lin, 2023). Supply chain agility speeds up flexibility and reactivity to market changes, improves products and services, and helps follow client preferences (Al-Omouh et al., 2023).

Therefore, the following hypothesis:

H3: There Is a Positive Relationship Between DSCMP and CD

The Relationship Between OC and CD Mediated By DSCMP

Because a customer-oriented culture can improve CD, contemporary businesses frequently integrate customer focus into their company culture. (Luu, 2019; Beidokhti & Ghaderi, 2011). According to this study, companies use organizational culture to improve DSCMP, which in turn improves customer development (Lin & Lin, 2023). Accordingly, DSCMP is viewed as being involved in the interaction between OC and CD, and OC and DSCMP are presumed to be a set of characteristics that can improve company competitiveness (Hutter et al., 2023).

Thus, the following hypothesis:

H4: DSCMP Mediates the Relationship Between OC And CD

Research Model

Figure 1 show that OC that consist of DC, OL, OG and SE have direct effect to DSCMP. The effect of OC and DC is mediated by SCMP

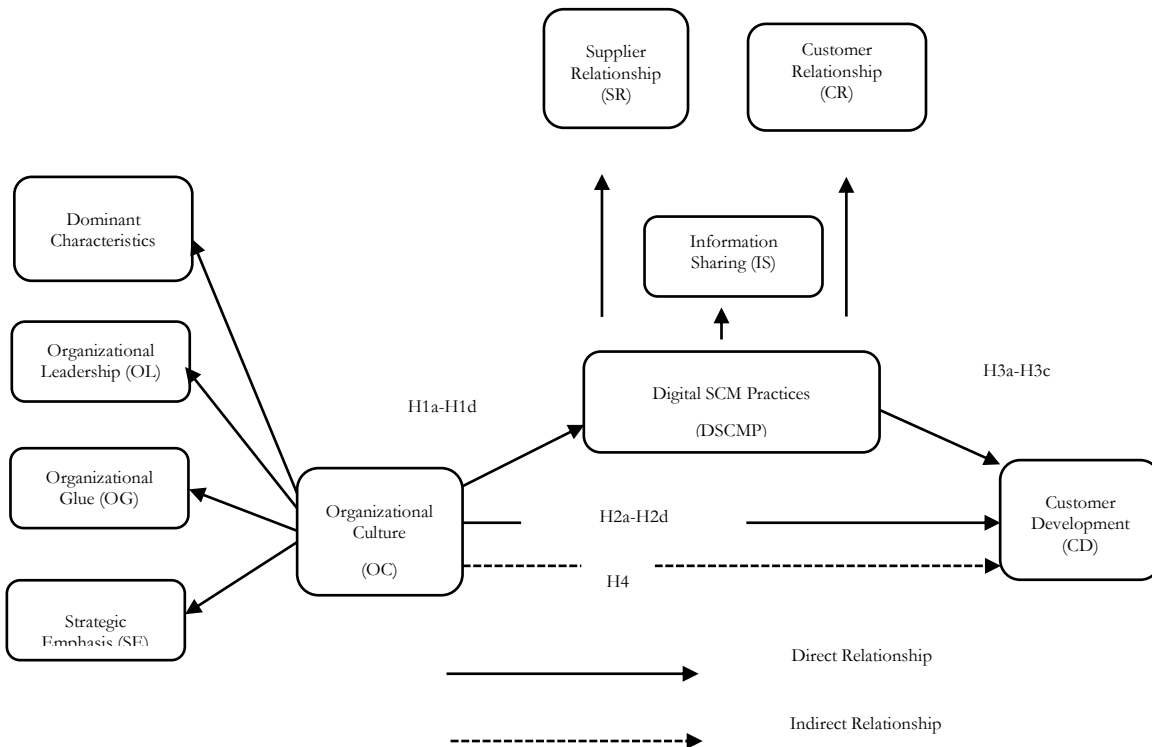


Figure 1. Conceptual Model

Methodology

Population

The total number of 1309 industrial businesses registered with the Republic of Indonesia's Ministry of Industry served as the study's target population (<https://batampos.co.id/2020/07/16/ini-17-jenis-industri-yang-ada-di-kota-batam/>). The supply chain or procurement managers from each company in the sample were chosen to participate in the study as responders.

Sampling Framework

A sampling frame, according to Lavrakas (2008), is a list of the target population from which a sample is drawn. The target population should be statistically represented in the sample frame, and an ideal sampling frame is one that is accurate, comprehensive, and current (Lavrakas, 2008). The sampling frame for this study, as stated by Nachiamis and Nachamis (2012), is a list of all the units that make up the population from which the sample is taken, as shown in the accompanying Table 3.1

Tabel 1. Types of Industrial Companies in Batam City

No.	Industry	Total
1	Miscellaneous Industry	38
2	Electronic and Electrical Industry	98
3	Furniture Industry	12
4	Paper and Cardboard Industry	36
5	Chemical Industry	46
6	Leather, Plastic and Packaging Industry	138
7	Metal and Machinery Industry	211
8	Food and beverage industry	41
9	Oil and gas and supporting industry	49

10	Tourism and creative industry	36
11	Tobacco processing industry	20
12	Shipping and supporting industry	138
13	Textile and textile product industry	28
14	Livestock and fisheries industry	7
15	Industrial Services	101
16	Construction Industry Services	118
17	Transportation Services	192
	Total	1309

Source: <https://batampos.co.id/2020/07/16/ini-17-jenis-industri-yang-ada-di-kota-batam/>

To determine sample size, researchers have created general guidelines. Olusola et al. (2013), for instance, contend that a minimum of 15 is sufficient for experimental research, 30 for correlational research, and 100 for survey research. However, Nachiamis & Nachamis (2012) contend that the following formula can be used to determine sample size if the target population is small. To determine sample size, the author uses the Slovin formula in Umar (2012:78) as follows:

$$n = \frac{N}{1 + Ne}$$

e = Level of Error 5%

$$n = \frac{1309}{1 + 1309(0.05)^2} = 310$$

The total number of samples, 310 samples, was distributed to 17 company categories in Table 3.2:

Tabel 2. Sample Size

No.	Industri	Total	Formula	Strata sample	Percentage of strata
1	Miscellaneous Industry	38	$307 \times 38 / 1309$	9	0.03
2	Electronic and Electrical Industry	98	$307 \times 98 / 1309$	23	0.07
3	Furniture Industry	12	$307 \times 12 / 1309$	3	0.01
4	Paper and Cardboard Industry	36	$307 \times 36 / 1309$	8	0.03
5	Chemical Industry	46	$307 \times 46 / 1309$	11	0.04
6	Leather, Plastic and Packaging Industry	138	$307 \times 138 / 1309$	33	0.11
7	Metal and Machinery Industry	211	$307 \times 211 / 1309$	50	0.16
8	Food and beverage industry	41	$307 \times 41 / 1309$	10	0.03
9	Oil and gas and supporting industry	49	$307 \times 49 / 1309$	11	0.04
10	Tourism and creative industry	36	$307 \times 36 / 1309$	9	0.03
11	Tobacco processing industry	20	$307 \times 20 / 1309$	5	0.02
12	Shipping and supporting industry	138	$307 \times 138 / 1309$	32	0.10
13	Textile and textile product industry	28	$307 \times 28 / 1309$	7	0.02
14	Livestock and fisheries industry	7	$307 \times 7 / 1309$	2	0.01
15	Industrial Services	101	$307 \times 101 / 1309$	24	0.08
16	Construction Industry Services	118	$307 \times 118 / 1309$	28	0.09
17	Transportation Services	192	$307 \times 192 / 1309$	45	0.15
				310	100%

Construct Measurement

This study adopts and modifies Li et al. (2006); Amedofu et al. (2019), Bui, Trinh & Jeng, Don & Huy, Ta. (2024).’s work to assess DSCMP. DSCMP dimension includes SR, CR, and IS

The OC dimensions were adopted from the work of Braunscheidel et al. (2010). This study considered OC including DC, OL, OG, and SE (Braunscheidel et al., 2010; Bui, Trinh & Jeng, Don & Huy, Ta. (2024)) as factors influencing DSCMP. The instrument of CD was taken from Blank (2013). In this study, all constructs were evaluated using a 5-point Likert scale, starting from 1 (strongly disagree) to 5 (strongly agree). Table 3 lists the questionnaire items that were used in this investigation.

Table 3. Construct and Measurement Items

Variable	Construct	Items	Measure	Supporting References
			With experience in supply chain digitalization through social media and digital platforms:	
DSCMP	Supplier relationship (SR)	SR-1	Our company's major suppliers are part of a sustainable development/growth initiative.	Li et al. (2006), Amedofu et al. (2019), Bui, Trinh & Jeng, Don & Huy, Ta. (2024)
		SR-2	Our business incorporates our primary suppliers into our goal-setting and planning processes	
		SR-3	Our business has assisted our suppliers in raising the caliber of their goods and services	
	Customer relationship (CR)	CR-1	Our business often communicates with clients to assess their degree of responsiveness, dependability, and other criteria.	
		CR-2	Our company measures and evaluates customer satisfaction on a regular basis.	
		CR-3	Our company regularly evaluates the worth of our client connections.	
		CR-4	Our company helps customers that want our assistance	
	Information Sharing (IS)	IS-1	Our business notifies suppliers and clients, our trading partners, ahead of time of any changes in needs.	
		IS-2	Our trading partners provide us with exclusive and confidential information.	
		IS-3	We communicate with our trading partners on developments or occurrences that could have an impact on the other partners.	
		IS-4	Our trading partners provide us with business knowledge about essential business operations.	
		IS-5	We share information with our trading partners to help them create business plans.	
OC	Dominant Characteristics (DC)	DC-1	Our business resembles a large family. Individuals appear to divulge a great deal about themselves.	Braunscheidel et al. (2010), Bui, Trinh & Jeng, Don & Huy, Ta.
		DC-2	Our business is an extremely innovative and dynamic place to work. People are not afraid to take chances.	
		DC-3	Our business is particularly focused on achieving results. The completion of the task is our top priority. People are very achievement-oriented and competitive..	
		DC-4	Our business is a highly organized and regulated environment. People's actions are usually governed by established protocols.	
	Organizational leadership (OL)	OL-1	In our organization, leadership is typically seen as a model of creativity and daring.	
		OL-2	Our company's leadership is often regarded as exemplifying a straightforward, assertive, and goal-	

			oriented style	(2024), Blank
		OL-3	In our organization, leadership is typically regarded as an illustration of efficient coordination, organization, or efficiency	(2013)
	Organizational Glue (OG)	OG-1	Shared trust and commitment are the glue that keeps our business together. This organization has a very high level of commitment.	
		OG-2	Our dedication to innovation and development is what keeps our business together. Being at the forefront is emphasized too	
		OG-3	Our company's focus on duties and goal achievement is what keeps it cohesive. Generally speaking, job orientation is split	
	Strategic Emphasis (SE)	SE-1	Human development is a priority for our organization. Continued high levels of trust, transparency, and involvement	
		SE-2	Our organization places a strong emphasis on developing new challenges and obtaining new resources. It is beneficial to try new things and look for chances.	
		SE-3	Our business places a strong emphasis on competitive action and accomplishment; reaching difficult goals and dominating the market are our top priorities.	
		SE-4	Our company prioritizes stability and longevity. Efficiency, control, and smooth operation are essential.	
CD	Customer Development (CD)	CD-1	Our business can draw clients.	
		CD-2	Our business can keep clients.	
		CD-3	Our company has a verified clientele.	
		CD-4	In general, our clients are happy with us.	

Results

Data was collected using online surveys. Data collection obtained 214 valid responses. Table 4 displayed the rate of response of 69%. A total of 310 sets of questionnaires were sent to the respondent. Out of 310 questionnaires distributed, only 254 responses. However, only 214 responses were completed because 40 responses were incomplete and could not be processed in the next stages.

Table 4. The Of Distribution Questionnaire (N-214)

Questionnaire distribution	Response	Incomplete questionnaire	Complete questionnaire	Response rate
310	254	40	214	69%

Descriptive Statistics

Table 5 show that there are about 214 businesses selected in complete questionnaire. Regarding the year of company operations, most of company (54,67 %) 6 to 10 years, followed by 47 companies (21,96%) 1 to 5 years operation, 32 companies (14,95%) 11 to 20 years, 9 companies (4,21%) more than 20 years operation, and 9 companies (4,21%) less than one year operation. Regarding the industry type, most of companies selected (15,42%) was food and beverage industry. In term of Ownership Type, most of company selected 138 (64,49%) was Sole proprietorship and only 4 (1,87%) was partnership company

Table 5. Descriptive Statistics

Sample characteristics	Frequency	Percentage (%)
Number of Employees		
1 to 5	15	7,01
6 to 10	32	14,95
11 to 20	21	9,81
21 to 30	54	25,23
31 to 50	40	18,69
51 to 100	43	20,09
➤100	9	4,21
Total	214	100
Year of Operation		
< 1 year	9	4,21
1 to 5 years	47	21,96
6 to 10 years	117	54,67
11 to 20 years	32	14,95
➤20 years	9	4,21
Total	214	100,00
Revenue Level		
< 50 million IDR	76	35,51
50 to 100 million IDR	101	47,20
101 to 500 million IDR	16	7,48
501 to 1000 million IDR	21	9,81
➤ 1000 million IDR	0	-
Total	214	100
Industry Type		
Miscellaneous Industry	12	5,61
Electronic and Electrical Industry	5	2,34
Furniture Industry	12	5,61
Paper and Cardboard Industry	13	6,07
Chemical Industry	9	4,21
Leather, Plastic and Packaging Industry	11	5,14
Metal and Machinery Industry	9	4,21
Food and beverage industry	33	15,42
Oil and gas and supporting industry	9	4,21
Tourism and creative industry	16	7,48
Tobacco processing industry	11	5,14
Shipping and supporting industry	12	5,61
Textile and textile product industry	13	6,07
Livestock and fisheries industry	7	3,27
Industrial Services	21	9,81
Construction Industry Services	11	5,14
Transportation Services	10	4,67
Total	214	100
Ownership Type		

Non-Registered	67	31,31
Sole proprietorship	138	64,49
Limited liability	5	2,34
Partnership	4	1,87
Total	214	100

Reliability and Validity Assessment

α values were evaluated in order to verify consistency of the item's reliability study. According to Nunnally (1978), only values 0.70 and higher appear to be adequate for research purposes, even if the α value varies from 0 to 1 (see Table 7). Internal consistency is more dependable when the α value is higher (Ghauri & Grønhaug, 2005). Table 8 displays the α values that were acquired using SPSS, which range from 0.807 to 0.867. All investigated variables, including OC, DSCMP, and CD, had α values more than 0.70, which indicates strong internal consistency.

Table 7. The Value of A

Reliability	α values			
	0.5 or <	0.6	0.7	0.8-0.9
	Unsatisfactory	Poor	Good	Excellent

Table 8. Reliability Result

Variable	Construct	No of Item	Cronbach Alpha	Reliable
OC	DC	4	0.861	YES
	OL	3	0.864	YES
	OG	3	0.863	YES
	SE	4	0.814	YES
DSCMP	SR	3	0.867	YES
	CR	4	0.807	YES
	IS	4	0.813	YES
CD	CD	4	0.851	YES

The Bartlett and Kaiser-Meyer-Olkin (KMO) Sphericity Tests were used to evaluate the factor analysis data and questionnaire items as well as samples for each variable and the entire model. For the results to be accepted, the KMO value needs to be 0.6 or more. KMO evaluates the variables' factorability and correlation strength. The KMO sample adequacy measure for OC is 0.877, meaning that the sample size is sufficient for analysis. In addition, the Bartlett's Sphericity test shows a chi-square value of 647.770 and 8 df, and a Sig. of 0.000, which means that the variables examined are significantly related to each other. The KMO measure of sample adequacy for the OC was significantly higher, at 0.877, indicating a very high sample size. The finding showed Bartlett's test of sphericity produces a chi-square value of 3.133.776 with 68 df, and Sig. at 0.000, confirming a significant relationship between OC and CD (See Table 9a, 9b and 9c).

Table 9a. KMO and Bartlett's test (CD)

KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		0.877
Bartlett's test of sphericity	Approx. chi-square	647.770
	Df	61
	Sig.	0.000

Table 9b. KMO and Bartlett's test (OC)

KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		0.925
Bartlett's test of sphericity	Approx. chi-square	3.133.776
	Df	64
	Sig.	0.000

Table 9c. KMO and Bartlett's test (SCMP)

KMO and Bartlett's test		
Kaiser-Meyer-Olkin measure of sampling adequacy.		0.822
Bartlett's test of sphericity	Approx. chi-square	3.155.555
	Df	67
	Sig.	0.000

Tables 10a and 10b and 10c indicated that the factor loading value starts from 0.642 for CD. Table 10a, similarity and factor loading, meet the criteria because all items are > 0.6, which exceeds the minimum requirements. Table 10b, similarity and factor loading for all components of OC dimension, including DC, OL, OG, and SE are > 0.6. Thus, this indicates OC are sufficient to continue with additional analysis because all outcomes match the minimum requirement. Table 10c, similarity and factor loading, meet the criteria because all items are > 0.6, which exceeds the minimum requirements

Table 10a. Factor Loading for The Preliminary Test for Dependent Variable (CD)

Questionnaire items	Initial	Extraction
CD-1	1.000	0.874
CD-2	1.000	0.8015
CD-3	1.000	0.765
CD-4	1.000	0.642

Table 10b. Factor Loading for OC (Independent Variable)

Items	Initial	Extraction
DC-1	1.000	0.831
DC-2	1.000	0.842
DC-3	1.000	0.828
DC-4	1.000	0.778
OL-1	1.000	0.792
OL-2	1.000	0.796
OL-3	1.000	0.863
OG-1	1.000	0.854
OG-2	1.000	0.872
OG-3	1.000	0.765
SE-1	1.000	0.828
SE-2	1.000	0.862
SE-3	1.000	0.838

Table 10c. Factor Loading for DSCMP (Mediating Variable).

Items	Initial	Extraction
SR-1	1.000	0.831
SR-2	1.000	0.842
SR-3	1.000	0.828
CR-1	1.000	0.778
CR-2	1.000	0.792
CR-3	1.000	0.796
CR-4	1.000	0.863
IS-1	1.000	0.854
IS-2	1.000	0.872
IS-3	1.000	0.765
IS-4	1.000	0.828
IS-5	1.000	0.862

Correlation Result

Table 11a showed positive significant correlation between DC, OL, OG, SE on DSCMP, with correlation coefficient of 0.781, 0.750, 0.850, 0.740 respectively. Similarly, Table 11b indicated the positive significant correlation between SR, CR and IS on CD, with correlation coefficient of 0.791, 0.780, 0.870 respectively. Similarly, Table 11c indicated the positive significant correlation between DC, OL, OG and SE on CD, with correlation coefficient of 0.881, 0.752, 0.950 and 0.840 respectively

Table 11 a. Correlation between DC, OL, OG, SE on CD

	Mean	SD	DC	OL	OG	SE	CD
DC	3.875	0.466	1				
OL	4.055	0.517	0.812**	1			
OG	4.255	0.455	0.708**	0.835**	1		
SE	4.258	0.512	0.783**	0.854**	0.782**	1	
DSCMP	4.287	0.788	0.781**	0.750**	0.850**	0.740**	1

Table 12 b. Correlation between SR, CR, IS on CD

	Mean	SD	SR	CR	IS	CD
SR	3.875	0.476	1			
CR	3.955	0.577	0.822**	1		
IS	3.855	0.465	0.728**	0.855**	1	
CD	3.787	0.778	0.791**	0.780**	0.870**	1

Table 12 c. Correlation between DC, OL, OG, SE on CD

	Mean	SD	DC	OL	OG	SE	CD
DC	3.775	0.486	1				
OL	4.155	0.557	0.712**	1			
OG	4.255	0.495	0.808**	0.735**	1		
SE	4.358	0.552	0.983**	0.754**	0.882**	1	
CD	4.387	0.798	0.881**	0.752**	0.950**	0.840**	1

Regression Result

The Regression analysis was applied to four hypotheses. The adjusted R² and R² are indicators of model fit in a regression model. Basic linear regression frequently focuses on R², whereas multiple linear regression emphasizes the adjusted R². The model is considered to be in fit when the adjusted R² and R² both exceed 0.5, showing that the model clarifies 50% of the variant. The overall variation in the OC, including DC, OL, SD and SE that affects the DSCMP is measured by R-squared (Table 12a). Similarly, the variation of DSCMP, including SR, Cr and IS significantly affect CD (Table 12b). The variation of OC also affected the CD (Table 12c)

Table 12a. Multiple Regression Summary

Synopsis of the model				
Model	R	R ²	Adjusted R ²	Standard deviation of the estimate
1	0.838a	0.661	0.665	3.963
Note:	a. DV: DSCMP. Estimator: (Remains constant) DC, OL, OG, SE).			

Table 12b. Multiple Regression Summary

Synopsis of the model				
Model	R	R ²	Adjusted R ²	Standard deviation of the estimate
1	0.878a	0.741	0.715	3.883

Note:	a. DV: CD. Estimator: (Remains constant) SR, CR, IS).
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Table 12c. Multiple Regression Summary

Synopsis of the model				
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Model	R	R ²	Adjusted R ²	Standard deviation of the estimate
1	0.777a	0.749	0.717	3.663

Note: a. DV: CD.

Estimator: (Remains constant) DC, OL, OG, SE).

Coefficient Beta

Table 13a and 13b displayed the OC and DSCMP β , t, and significance values. The p-value must < 0.05 and the t-test statistic must be > 1 in order to assess the significance of the beta coefficient. As indicated by Table 14a and 14b, the results demonstrated that the OC dimension, which included OG ($\beta = 0.345$, $t = 2.368$, $p = 0.000$), OL ($\beta = 0.342$, $t = 2.498$, $p = 0.000$), SE ($\beta = 0.341$, $t = 0.415$, $p = 0.000$), DC ($\beta = 0.427$, $t = 4.063$, $p = 0.000$), were statistically significant at $< 1\%$ significance level (See Table 13a). Similarly, Table 13b indicated the DSCMP and CD β , t, and significance values. The results demonstrated that the DSCMP dimension, which included IS ($\beta = 0.344$, $t = 2.367$, $p = 0.000$), SR ($\beta = 0.427$, $t = 4.063$, $p = 0.000$), CR ($\beta = 0.341$, $t = 2.498$, $p = 0.000$) were statistically significant at $< 1\%$ significance level. Similarly, Table 14c displayed the linkage between OC dimension and CD β , t, and significance values. The results demonstrated that the OC dimension, which included OG ($\beta = 0.298$, $t = 4.063$, $p = 0.000$), OL ($\beta = 0.427$, $t = 2.498$, $p = 0.000$), SE ($\beta = 0.341$, $t = 2.367$, $p = 0.000$), DC ($\beta = 0.344$, $t = 2.377$, $p = 0.000$), were statistically significant at $< 1\%$ significance level (See Table 13c).

Consequently, all hypotheses were acknowledged. Table 13a – 13c beta coefficients show how much each variable contributes to the model. The significant influence of the OC on DSCMP and DSCMP on CD was explained by a high β coefficient value.

Table 13a. Coefficients

Coefficients							
Model		Unstandardized coefficients		Standardized coefficients	T	Sig.	Decision
		B	Std. error	Beta			
1	(Constant)	2.958	0.578	2.958	5.119	0.000	
	DC	0.500	0.123	0.427	4.063	0.000	H _{1a} : Accepted
	OL	0.346	0.138	0.342	2.498	0.000	H _{1b} : Accepted
	OG	0.550	0.232	0.345	2.368	0.000	H _{1c} : Accepted
	SE	0.535	0.138	0.415	3.872	0.000	H _{1d} : Accepted

Note: Dependent variable: DSCMP.

Table 13b. Coefficients

Coefficients						
Model		Unstandardized coefficients	Standardized coefficients	T	Sig.	Decision

		B	Std. error	Beta			
1	(Constant)	2.758	0.378	2.558	5.118	0.000	
	SR	0.400	0.132	0.327	4.064	0.000	H _{2a} : Accepted
	CR	0.446	0.183	0.241	2.497	0.000	H _{2b} : Accepted
	IS	0.450	0.223	0.244	2.368	0.000	H _{2c} : Accepted

Note: Dependent variable: CD.

Table 13c. Coefficients

Coefficients							
Model		Unstandardized coefficients		Standardize d coefficients	T	Sig.	Decision
		B	Std. error	Beta			
1	(Constant)	2.658	0.478	2.958	5.119	0.000	
	DC	0.300	0.223	0.427	4.063	0.000	H _{3a} : Accepted
	OL	0.746	0.238	0.341	2.498	0.000	H _{3b} : Accepted
	OG	0.850	0.332	0.344	2.367	0.000	H _{3c} : Accepted
	SE	0.840	0.336	0.367	2.377	0.000	H _{3c} : Accepted

Note: Dependent variable: CD.

The Mediating Effect

To test the mediation effect of DSCMP on the relationship between OC and CD, Baron and Kenny’s (1986) mediating testing procedure were implemented. The framework of the mediation is represented in Figure 2. The correlation between OC and CD increases from 0.449 to 0.334 by the insertion of DSCMP. The mediating analysis identified that direct effect = 0.310 and indirect effect = 0.358 and total effect = 0.668. The results explored that DSCMP mediates the relationship between OC and DC. This outcome implies that when company improve the DSCMP, the DC will be better.

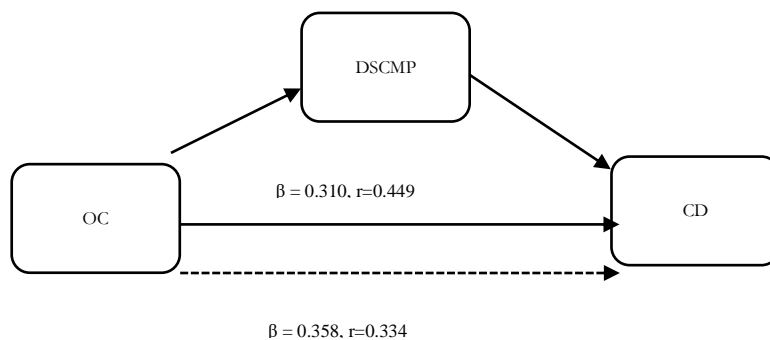


Figure 2. The Mediation Framework

Conclusion

The positive and significant effects of OC and DSCMP procedures on CD indicate that using DSCMP practices could be a useful strategy for attaining CD in Indonesia's Riau Islands. Using DSCMP effectively is also essential for helping businesses enhance CD. Therefore, company managers must create and implement strategies to effectively manage their SC. DSCMP principles should also be taught to business managers and entrepreneurs so they may better manage their supply chains for better CD. Larger enterprises and businesses with intricate interactions with SC partners should set up SC departments or units, headed by a SC expert.

In addition to the standard marketing and sales strategies, fledgling organizations can incorporate the DSCMP strategy into their company planning. The DSCMP plan should define the SC process, identify suitable suppliers and customers, outline the management of these key business SC players, and set up procedures for product customization, information exchange, and expediting financial flows both inside the company and amongst SC members. Such a strategy will contribute to the development of an efficient DSCM for businesses, offering significant CD benefits.

Implication

In line with earlier research suggesting that culture drives CD, this study discovered that OC positively influences CD, DSCMP is correlated with CD, and OC is favourably associated with DSCMP. The results emphasize the importance of DC, OL, OG, and SE in the creation of OC as DSCMP. According to Braunscheidel et al. (2010), the only conclusion drawn from the research on rational culture is that it affects external SCM. Effective high-performance OC must be constructed across the DSCMP, from top management to distribution centres and warehouses, in accordance with the company's core values. Suppliers and other SC partners have their own cultures, even though a company's culture is mostly internal. To a certain degree, suppliers and customers act as agents in a manner similar to that of workers. Businesses rely even more on culture to direct daily operations with their partners because traditional "bosses" are rarely present in DSCM collaborations. Another important factor in predicting DSCMP and CD is cultural compatibility. The more important the results that customer development is supposed to produce, the more culture, comprising DC, OL, OG, and SE, must be taken into account

In the digital age, controlling a company's culture change is equally as crucial as managing a supply chain's culture change through a digital platform. In some ways, switching partners is easier than switching employees, and even if a supplier performs very well, it could be necessary to "fire" them if they don't mesh with the culture (Hanson & Melnyk, 2020). In order to enhance CD in the province of Riau Island, this study looked at DSCMP approaches. The results of the study indicate that DSCMP techniques directly enhance CD and business success

Lastly, there was proof that DSCMP partially mediated the impact of OC on CD. There are various implications of this study. The SCM practices of businesses have not received much attention, despite the growing interest in entrepreneurship and businesses in research. The purpose of this effort is to scientifically examine how DSCMP methods affect CD. The results demonstrate that DSCMP may assist businesses in better attracting, satisfying, and retaining clients—even in the very uncertain environment of a developing nation. The results of configuration analyses contribute to our understanding of OC, DSCMP, and CD. OC profiles were defined using this approach, and their implications for a combination of DSCMP and OC studies were examined

Limitation

There are several restrictions on this study. DSCMP techniques were viewed as a mediating construct that affects OC and DC, which was one of its shortcomings. Consequently, it was not possible to investigate how each DSCMP technique affected organizational performance. Future research would be worthwhile in a number of areas.

Future Research

First, future studies should look at how particular DSCMP projects and methodologies affect CD. It is also advised that more research be done on how environmental contingencies and other control factors affect the connections between CD, DSCMP, culture, and company success. In order to better understand how to increase DSCMP adoption, the literature on company DSCMP should be developed by looking at the factors that contribute to different DSCMP levels among organizations. Lastly, since environmental factors may influence the performance of supply chain initiatives, more research on DSCMP in developed companies is advised so that findings can be compared with studies of companies in developing nations (Asamoah et al., 2021).

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