

## The association between organizational performance and supply chain management practices

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### ABSTRACT

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Firms' activities to govern their supply chains are defined as supply chain management practices. This research explores a model that describes the association between organizational performance and supply chain management practices. Based on existing research, a theoretical framework for the investigation was established. A standardized questionnaire was developed to gather data for the research, which was completed by 396 supply chain professionals from Saudi Arabian food companies. Partial least square (PLS)-structured equation modeling was used to examine the model and hypotheses. Four independent variables were chosen to scrutinize the impact of supply chain management strategies on organizational performance: customer relationship, strategic supplier partnership, level of information sharing, and postponement. According to the research, customer relationships, strategic supplier partnerships, and information sharing all have a major impact on organizational performance. On the other hand, the postponement has no significant impact on organizational performance.

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### 1. Introduction

When the world faced substantial competition in delivering products in the early 1990s, supply chain management strategies gained notoriety (Khalil et al., 2019). Per the earlier research, supply chain management (SCM) is a topic business administrators, educators, and specialists are interested in (Tan et al., 2002). Several businesses believe that SCM can help them improve their results (Jones, 1998). According to Li et al. (2006), SCM separates the strategic nature of coordination among organization trading partners and shows SCM's dual objective: boost individual and organizational performance while improving overall organizational performance (OP).

Organizations' key difficulty is determining their supply chain practices to improve organizational and operational performance. Many previous researchers have employed SCMP to increase OP (Janaki et al., 2018; Azmi et al., 2018). Others have solely focused on the influence of practices on firm financial performance (Venkatraman & Ramanujam, 1986). Other studies have produced equivocal findings, indicating that more research is needed into SCMP and organizational performance (Pilkington & Fitzgerald, 2006).

Effective supply chain management practices are critical to building and maintaining competition in the firm's services and products. The main goal of this study is to examine the impact of supply chain management practices on the performance of organizations in Saudi Arabia's manufacturing industries. Four variables, including customer relationship, strategic supplier partnership, level of information sharing, and postponement, were chosen to determine SCM practice's influence on organizational performance after reading and integrating the literature.

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## 2. Review of the Literature

### 2.1 Supply Chain Management Practices

Supply chain management practices are understood as a collection of actions carried out by a firm to aid in the increased efficiency of its supply chain. SCM is merging strategic operations to achieve excellent upstream and downstream process management (Wong et al., 2018). Supplier collaboration, outsourcing, continuous process flow, and information technology sharing are among the most recent developments in SCM approaches (Zhao & Lee, 2009). Their empirical study also uses procurement, customer relations, and quality to demonstrate SCM practices. They include concentrating on inter-organizational systems and principal competencies and eliminating excessive inventory levels by delaying customization options to the end of the supply chain in their list of SCM practices. Through factor analysis, they find dimensions of SCM practice: supply chain integration, information exchange, supply chain characteristics, geographical accessibility, customer service management, and JIT capabilities. To assess buyer-supplier relationships, they concentrate on long-term interactions, supplier base reductions, communications, supplier involvement, and cross-functional teams (Zhao & Lee, 2009). Someone defines SCM as having agreed-upon goals and vision, risk and reward sharing, information sharing, process integration, cooperation, long-term relationships, and agreed-upon supply chain leadership. As a result, the literature depicts SCM approaches from various viewpoints, all aiming to expand the organization's performance. Five components address the supply chain's downstream (customer relationships) and upstream (strategic supplier partnerships) sides, as well as information flow (amount and quality of information exchange) and internal supply chain processes (postponement).

It should be noted that, while the above extents represent the essential components of SCM practice, they are not exhaustive. Other factors that have been identified in the literature include geographical proximity, JIT/lean capability (Carroll et al., 2011), cross-functional teams, logistics integration (Tyteca et al., 2002), agreed-on goals and vision, and agreed supply chain leadership (Wagner et al. 2012). Even though these characteristics are of considerable relevance, they are not included due to concerns about the survey's period and the scarcity of measurement tools.

Christopher (2005) defines SCM as a strategic approach to supply and distribution management that depicts the advantages to individuals from enhanced supply chain performance as a whole from the standpoint of business operations across functional and organizational boundaries. In their exploratory study, Tan et al. (1998) used quality, buying, and customer relations to exemplify SCM processes. SCM allows independent businesses to form collaborative management partnerships and coordinate processes among supply chain stakeholders. Customers and supply chain partners will benefit from the enhanced value and improved performance for individual businesses and the overall supply chain (Okongwu et al., 2015; Sundram et al., 2016). Consequently, supply chain partners share information, risks, advantages, shared goals, and a customer-centric focus. They also form long-term alliances to improve their overall efficiency and competitiveness (Giunipero et al., 2008). SCM methods integrate functional departments, suppliers, and customers (Khang et al., 2010).

### 2.2 Customer Relationship

This phrase refers to a comprehensive set of procedures for dealing with customers, building long-lasting customer relations, and increasing customer fulfillment. According to Noble (1997) and Tan et al. (1998), customer relationship management is a fundamental aspect of SCM operations. Because of their intrinsic obstacles to competitiveness, committed partnerships have the most valuable outcome, as Day (2000) points out. The rise of customized products and personal services has ushered in a new era in which customer relationship management has become vital to a business's survival (Wines, 1996). Good relationships with supply chain members, particularly customers, are necessary to implement SCM programs successfully. A company's ability to differentiate itself from competitors, sustain customer loyalty, and dramatically raise its customer value is based on its client connections. Customer contentment is a crucial component of customer-centricity. Customer satisfaction is the ultimate goal of SCQM (Kuei et al., 2001). To maintain customers' satisfaction, businesses must make a sustained effort and commit to SCQM.

Organizations must also collect timely and accurate client data. They employ various methods to collect customer data that may be used to improve product design and production (Azar et al., 2010). Customer focus also necessitates a higher focus on customer relationships downstream. Customers may be asked to participate in quality improvement programs (Forza & Filippini 1998). An industrial supply chain is a set of actions that span the acquisition of raw materials to deliver produced goods to customers (Beamon & Ware 1998). In earlier studies, customer focus has been determined to be one of the strongest determinants of organizational performance (Samson & Terziovski 1999). Integrating the supply chain value proposition with customers' needs is closely related to supply chain productivity (Zokaei & Simons, 2006).

### 2.3 Strategic supplier partnership

The phrase "strategic supplier partnership" refers to a company's long-term relationship with its providers. It is advocated that contributing enterprises be assisted in generating significant long-term advantages by utilizing their strategies in the management (Peng et al., 2011). By emphasizing direct, long-term association, a strategic partnership supports mutual planning and problem-solving activities (Zhao & Lee, 2009). These partnerships are developed to provide reciprocal benefits

and ongoing participation in key strategic fields, like technology, manufacturing, and marketplaces (Lambert & Cooper, 2000). By building strategic relationships with a few critical suppliers willing to share responsibilities for the success of the goods, organizations can operate more successfully. Suppliers involved early in the product development can help with more cost-effective design possibilities, selecting the appropriate mechanisms and innovations, and design review (Jie et al., 2013). Strategically aligned organizations can work closely together and save time and effort (Kroes & Ghosh, 2010). A solid supplier relationship can be essential to a modern supply chain (Kronmeyer Filho et al., 2004).

#### *2.4 Postponement*

A postponement is postponing one or more operational processes or tasks (such as production, purchasing, or distribution) to a subsequent point in the supply chain. The two most crucial aspects of establishing a temporary suspension plan are the steps to defer and which activities to postpone (Beamon et al., 1998). Postponement allows a business to be more adaptable in developing multiple product versions to meet customers' expectations, expand the market share, or change the demand function (Waller et al., 2000). The ability of a corporation to respond to changes in client demand is improved by keeping materials unaltered for as long as possible. Keeping homogeneous inventory in the supply chain can also help the firm save costs (Van, 2001). The postponement must be adapted to the particular product, the business necessities of the firm, and the structure or limitations of the manufacturing and transportation systems. Postponement is generally applicable for innovative solutions, products with high budgetary density, high specialization, and a wide range, industries with long time delivery, low deliverability, and high demand unpredictable nature, and manufacturing output or logistics systems with small economies of scale there is no need for specialist skills.

#### *2.5 Level of Information Sharing*

There are two dimensions to information sharing: quantity and quality. These features are critical for SCM approaches, and they have previously been explored separately (Romano & Vinelli, 2001). The quantity of important and private information shared with a stakeholder is referred to as the information sharing level (quantity aspect) (Monczka et al., 1998). Everything from logistics to consumer and market data can be included in shared information, ranging from strategic to tactical (Mentzer et al., 2000). According to many studies, having undistorted and up-to-date marketing data at every node in the supply chain is critical to ensuring a smooth supply chain (Childerhouse & Towill, 2003). By collecting current data and sharing it with additional supply chain partners, information can be exploited as a source of long-term competitive advantage (MasonJones & Towill, 1997). According to La Londe, sharing information is one of the five building blocks that constitute a solid supply chain relationship (1998). Supply chain partners who exchange information regularly can function as a single entity, according to (Stein & Sweat, 1998). They will be able better to comprehend the end client's needs as a whole and react to market developments more swiftly. Additionally, (Tompkins & Ang, 1999) considers the effective utilization of relevant and timely information by all functional areas of the supply chain as a crucial competitive and differentiating attribute. Simplified material flow, which entails streamlining and making all information flow along the chain transparent, is critical to an integrated and effective supply chain, according to the empirical findings of (Childhouse & Towill, 2003).

#### *2.6 Organizational Performance*

*Organizational performance is considered to be the Fundamental variable that is of interest to academics in numerous management domains, according to Richard et al. (2009). The success of a corporation in meeting its market-oriented and financial objectives is measured by its organizational performance (Yamin et al., 1999; Khang et al.,2010). It relates to improving efficiency and effectiveness in attaining financial, operational, and market-oriented goals, according to (Liang et al., 2010; Wong and Wong, 2011). Short-term aims for supply chain management include boosting production and lowering inventories and order cycle times. In contrast, long-term objectives include growing profitability and market share for all supply chain stakeholders (Lee et al., 1997). Financial indicators have long been used to compare and evaluate companies' performance across time (Peng et al., 2011).*

### **3. Development of the Hypotheses**

#### *3.1 Organizational Performance and Supply Chain Management Practices*

Numerous research has been undertaken in various countries to investigate the relationship between SCM practices and manufacturing organization performance. SCM has become a crucial tool to improve organizational performance and gain a competitive advantage in the marketplace. With Saudi Arabia's rapid expansion, most businesses have realized the necessity of enhancing the efficiency and efficacy of their supply chains to improve their overall performance.

#### *3.2 Customer Relationship and Organizational Performance*

Tzokas et al. (2015) studied the link between a company's absorptive capacity, its innovation advancement, and its connection with the firm's customer interaction capability, which contributes to its overall performance. When a firm's absorptive capacity is merged with incorporating advanced technologies into its product development process program, the results show

that the firm's efficiency increases by facilitating the creation of new brands, improving market performance, and increasing profitability. This is referred to as the technological capability of a company. Furthermore, the firm's absorptive capacity enhances the organization's performance, which is enhanced when a strong relationship with customers is established to obtain information about the customer relation capabilities.

According to Wang & Kim (2017), social media may assist businesses in developing new customer interaction capabilities and improving marketing tactics and corporate performance. This study looked at social customer interaction capabilities, company performance, social media usage, and customer engagement. Customer relationship management has a favorable influence on customer engagement, and social customer relationship management capabilities have a beneficial impact on corporate performance, according to the findings of this study. Customer engagement has a favorable impact on company performance as well.

Al-Weshah et al. (2019) looked into and investigated the impact of customer relationship management systems on the performance of telecom companies. The four elements of customer relationship management were examined in this study: information quality, user satisfaction, system quality, and system usage. Customer relationship management has no substantial impact on telecommunication organization performance, system quality has no significant effect on telecommunication organization performance, and system usage is having no massive impact on telecommunication organization performance, according to the findings.

**H<sub>1</sub>:** *The customer relationship would suggestively affect the organizational performance in Saudi Arabia.*

### *3.3 Organizational Performance and the Level of Information Sharing*

Marinagi et al. (2015) proposed a model for examining the link between the quality of information and supply chain management. However, it was shown that the direct impact of information quality on information sharing is equally considerable. The importance of information exchange as a mediator in the aforesaid interaction was also discovered. Information sharing was found to be highly strongly associated with improved company performance.

Rached et al. (2015) examined the impacts of financial information sharing on each stakeholder's supply chain. The effect of simultaneously giving various SCM information was also explored. According to the research, sharing product development information with partnerships considerably influences firm performance. The study's significant findings demonstrated that the supplier and retailer's precise and valid information sharing was critical in enhancing gains or performance. It was also discovered that to receive the greatest benefits from information exchange, the retailer must identify all the needs, and the supplier must complete the development before the lead time.

Attia (2015) inspected promoting method arrangement and triple An SC on performance in Egypt. The sample size may limit the ability to generalize the examination outcomes. The investigation's delayed results support the theory that authoritative execution is inextricably linked to supply chain performance. The examination of four factors was regulated by factor analysis to compute the fit between the estimate demonstrated and the data. Finally, alternative temporal frames are given for rationalizing and justifying the claimed correlation between the components across time.

**H<sub>2</sub>:** *The level of information sharing has a considerable impact on organizational performance in Saudi Arabia.*

### *3.4 Organizational Performance and Postponement*

Simo et al. (2016) explored the correlation between logistics and the performance of green supply chains and the impact of postponing. The influence of postponement on SCM transportation was also studied. German manufacturing companies were the study's target audience. The data show that logistical postponement strategies are strongly linked to total logistics performance and increase the time it takes to deliver the products. Additionally, these methods had a significant impact on the company's performance.

In this regard, Carbonara and Pellegrino (2018) researched the postponement value as an organization's strategy for mitigation of the supply chain. They created an actual options model of computation for this intention, which looked at the postponement value in the organization's mitigation strategy for supply and demand-related disruptions, taking into account the value of managerial flexibility in terms of deciding whether to exploit the strategy or not, as well as the timing of disruption and product differentiation. For this investigation, the researchers used numerical experiments. This numerical research revealed the significance of including a valuation technique when pricing the postponement value. This explains why organizational managers use delay techniques only when deemed valuable and aim to avoid burdening the company with sunk expenditures.

Dong et al. (2019) investigated the role of various postponement tactics in supply chains, focusing on how quantity and pricing postponement techniques or strategies affect supply chain flexibility in dealing with various supply and demand risks. This study chose a company that made both risky postponing selections. The findings reveal that when a corporation employs the quantity postponement method, the number of items produced nearly equals the market demand since supply risk is

eliminated. However, the price postponement approach revealed that the production of commodities exceeded market demand, resulting in overproduction. Also, this postponement was discovered to be controlling supply risk by reducing quantity, but it was made sure to boost profit by mitigating supply risk.

**H<sub>3</sub>:** *Postponement influence significantly affects organizational performance.*

### 3.5 Organizational Performance and Strategic Supplier Partnership

Wafula and George (2015) researched the impact of strategic supplier partnerships on the organization's performance in the energy industry. The Kenya Pipeline Company Limited was used as the basis for this research. This firm is regarded as a significant participant in Kenya's energy sector. According to the findings of this study, strategic supplier partnerships have aided in the improvement of networking and communication between businesses and suppliers. The findings revealed that strategic supplier collaboration had improved the delivery time of petroleum goods on the market. Furthermore, the findings revealed that strategic supplier partnerships have resulted in the computerization of inventory management systems and increased supply chain innovation.

Agus (2015) seeks to uncover more about the role and impact of successful SCM and its impact on production efficiency and product quality. The effect of variable mediators and production performance in the relationship between SCM and product quality was also investigated. Enhanced SCM or strategic supplier partnership aspects, according to the research, have a significant impact on product performance and quality. Moreover, the studies revealed a strong link between product quality and performance.

The function of strategic supplier partnerships and their impact on supply chain integration, supply chain performance, and farmer performance were explored by Sedyaningrum et al. (2019). The findings revealed that strategic supplier partnerships were unrelated to all of the study's characteristics. On the other hand, supply chain integration was strongly and positively associated with supply chain and farmer performance. Furthermore, the farmers' performance was found to be influenced by supply chain performance. Improvements in supply chain integration and supply chain management were found to be the most critical factors in improving their performance and development.

**H<sub>4</sub>:** *The strategic supplier partnership considerably impacts organizational performance.*

## 4. Methodology

The main goal of this study is to examine the impact of supply chain management practices on the performance of organizations in Saudi Arabia's food manufacturing industries.

A detailed survey design was applied to examine the impact of supply chain management practices on the performance of organizations. This sample of 396 questionnaires was chosen based on the proportional stratified sampling scheme across the food industry. A self-structured feedback form regarding organizational performance was designed to collect the data. The survey was conducted directly (face to face) with the employees, retrieving the questionnaires after distributing the questionnaire for analyzing it.

This study's theoretical model consists of the following variables. Supply Chain Management Practices, Organizational Performance, Customer relationship, Level of Information Sharing, Strategic Partnerships with Suppliers, and Postponement are measured using a questionnaire adapted from various previous research because of their validity and reliability. The scales range from 1 (strongly disagree) to 5 (strongly agree). Customer relationship (CR) consists of 5 items, Strategic Supplier Partnership (SSP) as well. 6 items for each Organizational Performance (OP), and Level of Information Sharing (LF). Postponement (P) consists of 4 items

To investigate the theoretical model, this research uses a Partial Least Square (PLS-SEM) method. Previous studies have shown that the PLS-SEM approach is suitable for simple and sophisticated research models and that there is no need to perform delicate normality tests (Bamgbade et al., 2015; Hair Jr et al., 2014). Furthermore, compared to other approaches, such as CBC-SEM, this method yields better parameter estimates for establishing construct validity (Afthanorhan,2013; Hair Jr et al., 2014).

The PLS-SEM approach was embraced to investigate data using pls graph software. As it were, the relationship of all elements to each other is determined. The PLS diagram likewise does the checking of the confirmative components. This procedure has been viewed as useful by numerous organizations and craftsmanship ventures, and the achievement in instruction is expanding through this type of arrangement.

### 4.1 Research Population

One of the contributing manufacturing industries of Saudi Arabia is the food industry; while it has massive supply chain practices and mechanisms, it somewhat found less-efficient in their processes. Henceforth, the study has undertaken its

importance and taken it as a research population to understand the role of supply chain management practices on the organizational Performance of the food industry of Saudi Arabia. However, the data was collected from the supply chain professionals of food firms in Saudi Arabia.

## 5. Results

### 5.1 Reliability and Validity of Scales

**Table 1**

KMO and bartlett's test

items	N of items	KMO	bartlett's test of sphericity
CR	5	.747	1137.289
SSP	5	.694	1791.873
OP	6	.876	1631.120
P	4	.768	2045.502
LF	6	.730	1323.677

EFA was applied throughout SPSS in determining the fundamental aspects connected. Bartlett's sphericity test was utilized to determine the construct's validity, while the kaiser-Meyer-Olkin (KMO) was employed to assess the sampling competence of distinct factors. It was considered that the KMO needs to be 0.6 or further for the variable analysis (Özdamar, 2017). The above outcomes demonstrated that both are considerable, also, it is reasonable for the factor investigation (as in Table 1). The cumulative variance in the result displays 74.70% for customer relationships, 69.40% for strategic supplier partnership, 87.60% for organization performance, 76.80% for postponed, and 73.00% for the level of information sharing, which surpasses the minimum level of acceptance of 60% (özdamar et al., 2017). The table also specifies that Bartlett's test of sphericity is adequate for the correlation across the factors. These values are proof that there is convergent and discriminant validity (Table 2).

### 5.2 Analysis of Data

The model was tried through the PLS-SEM approach (Chin & Newsted, 1995) discussed that PLS-SEM m is an extensively utilized technique in small and medium sample sizes. The previous link to the hypothetical associations and latent variables and the latter is connected to the association among a latent variable plus its pointer. Consequently, it may be utilized for assumption verification plus checking the obtainable associations. The model is experienced via brilliant PLS version 3.2.7 software.

### 5.3 Measurement Model Estimation

To examine the structural model's relations, initially the dimension model's legitimacy and consistency shall be evaluated (Fornell & Larcker, 1981). The composite reliability and Cronbach's alpha are beyond 0.70; this shows that all the table constructs have higher consistency in assessment (Table 2), a threshold value suggested by some scholars. The estimation of rho. Rho calculated to appraise the latent variables' reliability, rho, for each factor used considerably more than the concurred estimation of 0.5. The average variance extracted (AVEs) is considered the essential measure for examining the convergent validity. Table 2 highlights the AVE values, which are used to check the validity. The minimum (AVE) requirement for convergent validity is 0.5 (Bagozzi & Yi, 1988). generally, this study states reasonably excellent reliability of the measurement tool applied.

**Table 2**

Latent Variable Coefficients

	Cronbach's Alpha	rho A	Composite Reliability	Average Variance Extracted (AVE)
Customer Relationship	0.778	1.049	0.833	0.544
Level of Information Sharing	0.781	0.891	0.853	0.539
Orgnizational Performance	0.910	0.920	0.931	0.693
Postponement	0.809	0.989	0.893	0.726
Strategic Supplier Partnership	0.761	0.926	0.801	0.562

Construct validity, both convergent and discriminant, has been assessed throughout the setup. Convergent validity refers to how closely a group of indicator variables loads together; it is also verified when they load heavily (loading >0.50) on their linked components. Every concept indicates discriminant validity once indicator parameters do not cross-load at two or more constructs. If insightful entity measurements correlate more than 0.7 with the construct they are attempting to measure; they are constantly considered. Table 3 shows that the bulk of the loadings for the six constructions were more than 0.7.

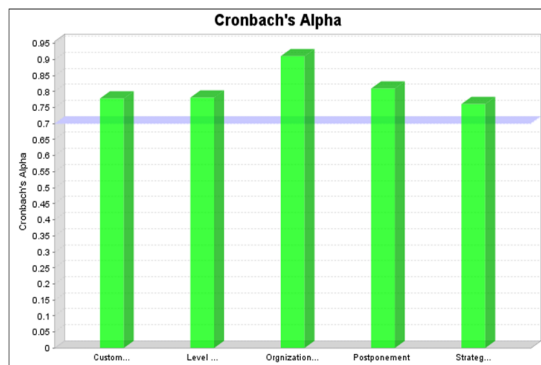
**Table 3**  
Cross-Loadings and Loadings

	Customer Relationship	Level of Information Sharing	Orgnizational Performance	Postponement	Strategic Supplier Partnership
CR1	0.668	0.012	-0.007	0.766	0.729
CR2	0.978	-0.138	-0.164	0.847	0.855
CR3	0.614	-0.035	0.001	0.606	0.584
CR4	0.959	-0.098	-0.106	0.917	0.926
CR5	0.151	-0.025	-0.032	0.020	0.013
LF1	-0.145	0.776	0.637	-0.116	-0.120
LF2	-0.019	0.624	0.467	0.008	-0.009
LF3	-0.046	0.889	0.832	0.025	0.013
LF4	-0.178	0.806	0.782	-0.124	-0.111
LF5	-0.103	0.896	0.879	-0.025	-0.036
LF6	0.103	0.016	0.029	0.211	0.176
OP2	-0.086	0.896	0.909	-0.015	-0.029
OP3	-0.070	0.801	0.914	0.006	0.010
OP4	-0.135	0.734	0.803	-0.064	-0.066
OP5	-0.146	0.665	0.792	-0.079	-0.075
OP6	-0.085	0.643	0.734	-0.019	-0.024
P1	0.917	-0.056	-0.061	0.973	0.981
P2	0.855	-0.053	-0.059	0.988	0.960
P3	0.858	-0.054	-0.069	0.988	0.951
P4	0.068	0.001	0.000	0.081	0.040
SSP1	0.100	0.007	0.017	0.115	0.029
SSP2	0.853	-0.070	-0.059	0.907	0.960
SSP3	0.855	-0.053	-0.059	0.988	0.960
SSP4	0.917	-0.056	-0.061	0.973	0.981
SSP5	0.058	0.000	-0.002	0.097	0.043
OP1	-0.206	0.808	0.829	-0.152	-0.134

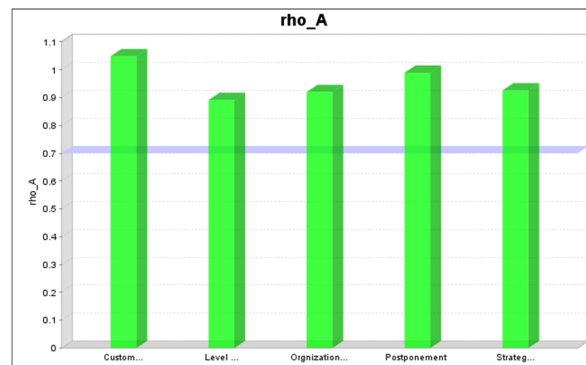
In PLS, discriminant validity has been evaluated utilizing two ways. Initial, by investigative the cross-loadings of the construct as well as the measures (Table 3); following, by contrast, the square root of the average variance extracted (AVE) for every construct through the correlation among the construct along with another construct within the model (Fornell & Larcker 1981). Table 4 illustrates the correlations between the constructs jointly through (AVE’s) exposed to diagonal. Almost all the constructs show discriminant validity.

**Table 4**  
Construct Correlation with The Square Root of AVE on The Diagonal

	Customer Relationship	Level of Information Sharing	Organizational Performance	Postponement	Strategic Supplier Partnership
Customer Relationship	0.738				
Level of Information Sharing	-0.124	0.734			
Organizational Performance	-0.145	0.918	0.833		
Postponement	0.892	-0.055	-0.064	0.852	
Strategic Supplier Partnership	0.898	-0.062	-0.063	0.981	0.749



**Fig. 1.** The graphic Symbolizes Cronbach's alpha



**Fig. 2.** Graphic Symbolize rho-a

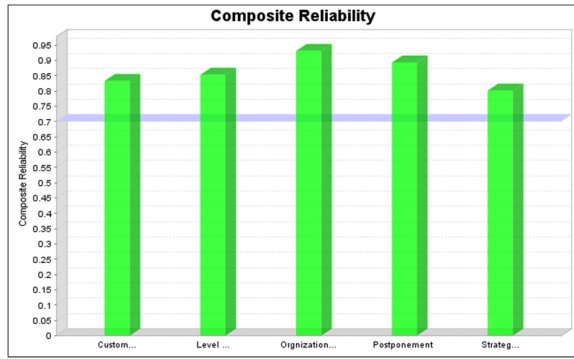


Fig. 3. Graphic symbolize CR

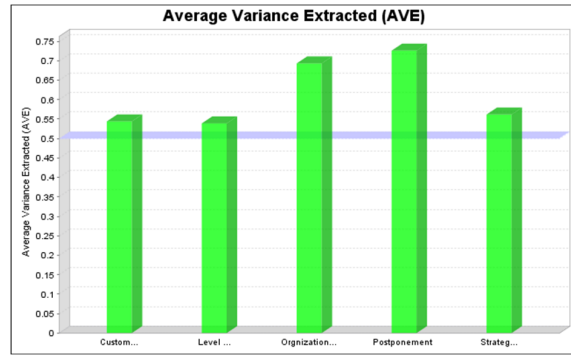


Fig. 4. Graphical Representation Average Variance Extracted (AVE)

6. Hypotheses Testing

The importance of the theories was tested using the b-value. The value of b denoted estimated dissimilarity in the subordinate construct intended for a unit variant in the independent construct(s).

The path coefficient is carried out for each path for the theorized model. The greater the path coefficient, the more significant consequence was observed on the endogenic latent construct. Yet, the level implication of the path coefficient had been verified with the t-statistics test. An evaluation is done to identify the significance of the hypothesis (Chin & Newsted, 1995). To evaluate the importance of the path coefficient and the t- statistics values, a bootstrapping execution was conducted for the study by applying 1000 sub-samples without substantial change. It is outlined in Table 5.

Table 5

The t-statistics values are also the consequence of the path coefficient

hypothesis	path	standardized beta	t-statistics	p-value	action
H1	CR→ OP	-0.125	2.007	0.000	ACCEPTED
H2	LF→OP	0.910	72.708	0.007	ACCEPTED
H3	P→OP	-0.160	1.866	0.063	NOT ACCEPTED
H4	SSP→OP	0.262	2.694	0.045	ACCEPTED

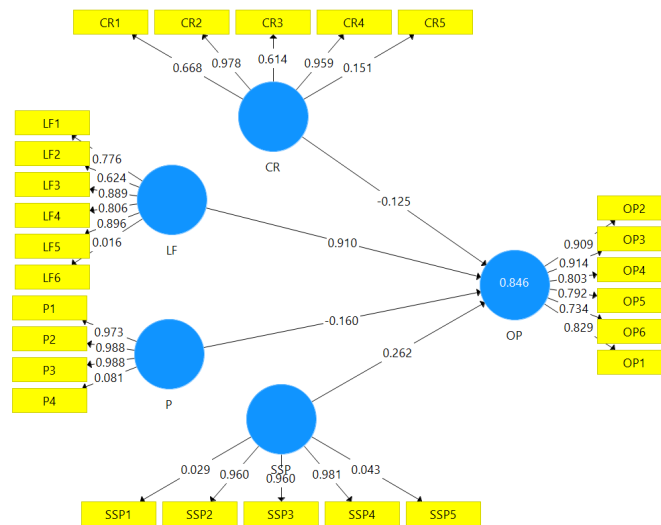


Fig. 5. Graphical representation of the path coefficient

Fig. 5 exhibits the consequence of the structural model through path coefficients. Hypothesis checking was performed by investigating standardized estimation, typical errors, and significance level for the entity theory from our proposed model. Table 5 exhibits the consequence of the theory examined; for theories, H1, H2, and H4 were supported; however, h3 has been discarded. by the subsequent path coefficient and essential level.

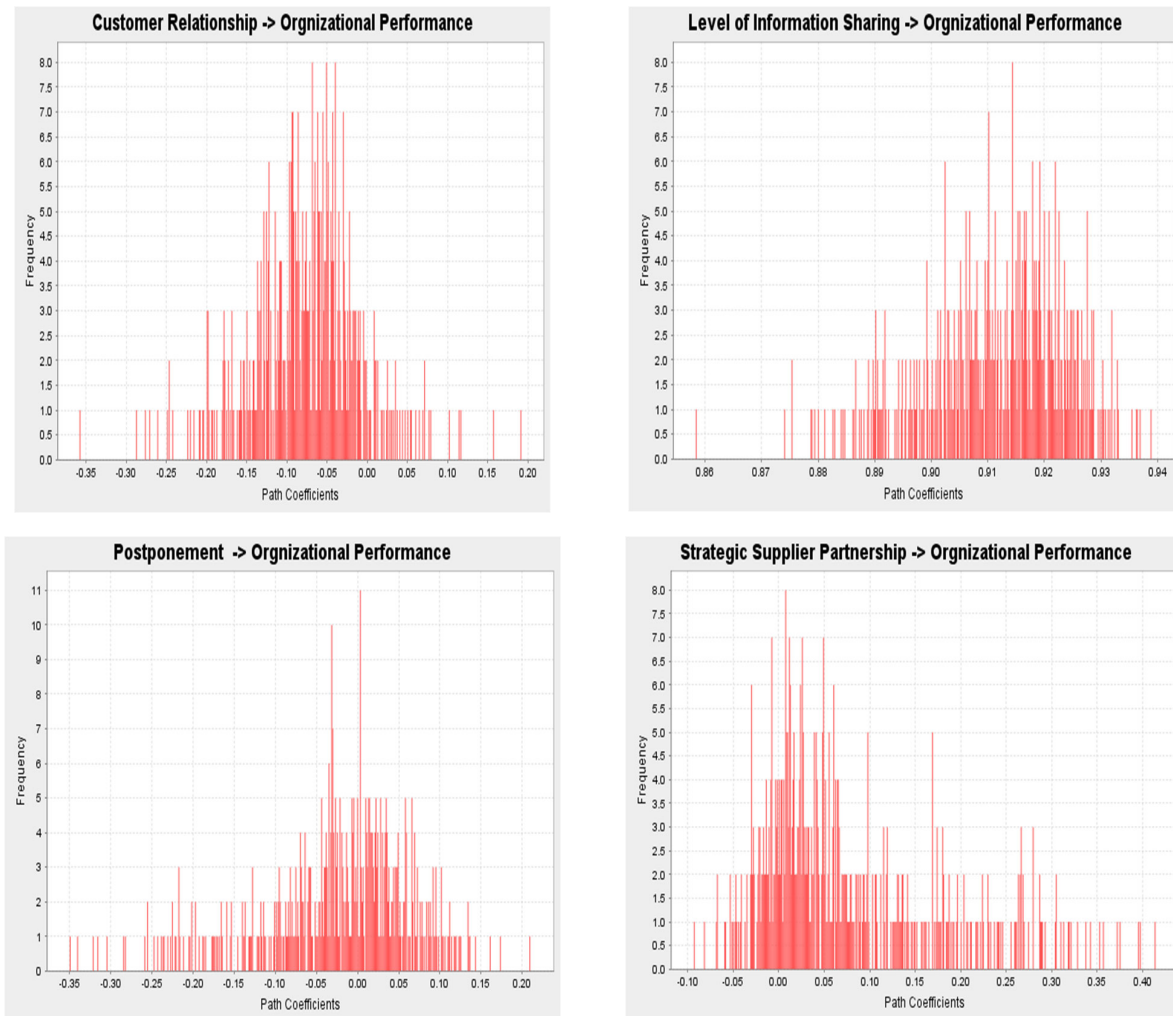


In H1, we anticipated that the customer relationship would suggestively affect the organizational performance in Saudi Arabia. as expected, the results in Table 5, and Fig. 5 assure that the CR negatively impacts the OP ( $b= -0.125$ ,  $t= 2.007$ ,  $p=0.000$ ). Therefore, H1 is strongly encouraged.

In H2, we hypothesized that the level of information sharing considerably impacts organizational performance in Saudia Arabia. The findings in Table 5 and Fig. 5 show that LF substantially influences the OP with ( $b=0.910$ ,  $t=72.708$ ,  $P= 0.007$ ). Thus, H2 is valid.

In H3, we theorized that postponement influence significantly affects organizational performance. The outcome in Table 5 and Fig. 5 shows that there is no significant relationship between P and OP with ( $b=-0.160$ ,  $t=1.866$ ,  $p=0.063$ ). Hence, H3 is invalid.

In H4, we suggested that strategic supplier partnership considerably impacts organizational performance. The results in Table 5 and Fig. 5 show that SSP has considerable influence on OP with ( $b= 0.262$ ,  $t= 2.694$ ,  $p= 0.045$ ). Thus, H4 is confirmed.



**Fig. 6.** A comprehensive investigation of the structural and measurement models

## 7. Discussion

Various researchers have empirically established a direct association between SCM practices and organizational performance in terms of theoretical support (Fynes et al., 2005). The main goal of this study is to see how supply chain management practices influence the performance of manufacturing companies in Saudi Arabia. Customer relationship, strategic supplier partnership, level of information sharing, and postponement were chosen as independent variables for determining SCM practice's impact on organizational performance. Hussain et al. (2018) investigated and studied the impact of the textile supply chain on business performance. SCM has a favorable impact on organizational performance and provides organizations with a competitive edge, according to the conclusions of this study. They were supposed to improve quality, introduce new items, and lower unit costs.

Customer relationships have an impact on SCM effectiveness, causing firms to have supply chain amalgamation among suppliers and customers, resulting in improved organizational performance. The literature shows the link between financial performance and customer service performance when it comes to chain integration. Customer relationship management (CRM) can be described in a variety of ways (Ali, 2018). Customer relationship management uses people, information, technology, and processes to manage relationships between customers and organizations throughout the customer's lifetime. It is also defined as a set of operations carried out by an organization to manage the relationship between customers and the enterprise to improve customer satisfaction (Thongrawd et al., 2020). The link between customers and an organization was studied by Haislip and Richardson (2017). The main goal was to see how implementing relationships with clients helps the company's revenue, customer satisfaction, and performance. Their findings indicate that integrating customer relationship management in these businesses considerably impacts sales and profits. In Saudi Arabia, we expected the customer relationship to impact organizational performance significantly. The results confirm that the customer relationship negatively impacts the organization's performance, as expected.

The word "information sharing" means the movement or transmission of product information to other industrial enterprises' partners (Khan & Siddiqui, 2018). Furthermore, according to Rached et al. (2015), information sharing is a critical component in manufacturing organizations since it aids in providing a clear image to partners daily and significantly improves supply chain performance. Prior research has shown that the amount of shared information favors organizational effectiveness (Wijetunge, 2017). We expected that in Saudi Arabia, information sharing had a significant impact on organizational performance. The results reveal that LF significantly impacts organization performance; the work is comparable to that of (Didonet & Daz, 2012).

In today's competitive world, supply chain management is one of the most important concepts that enables a business to engage with supplier partners to establish long-term relationships efficiently. A greater flow of information, fewer chances of ambiguity, and good firm performance result in supply chain collaboration (Thongrawd et al., 2020). Khan and Siddiqui (2018) investigated the relationship between various supply chain management elements and their impact on a manufacturing firm's performance. The findings revealed that supplier partnerships based on mutually beneficial methods considerably impacted the firm's performance. As a result, we believe that strategic supplier partnerships significantly impact organizational performance. The findings suggest that SSP has a significant impact on organizational performance.

The technique of deferring one or more operations or activities (manufacturing, sourcing, and delivering) to a later point in the supply chain is known as postponement (Mwale, 2014). Organizations profit from the postponement because they have more time to adjust client wants and adapt to the demand function (Waller et al., 2000). A postponement plan improves the supply chain's flexibility while balancing customer engagement and global efficiency (Sutduean et al., 2019). According to Simo et al. (2016), logistical postponement techniques are significantly linked to total logistics performance and increased product delivery time. Furthermore, these techniques had a major impact on the company's results. We hypothesized that postponement has a major impact on organizational performance. The results suggest that there is no link between postponement and organizational performance.

## 8. Conclusion

The study aims to figure out how supply chain management practices affect organization performance in Saudi Arabia's food industry. The three SCM practices (customer relationship, amount of information exchange, and strategic supplier partnership) have a statistically significant relationship with organizational performance, while postponement does not affect organizational performance.

The current study offers a lot of good aspects, but it also has significant flaws. First, the present study used a smaller sample size, and the sample size will need to be increased in the future. Second, the present study used four SCM practices, with future researchers having the option of adding additional.

## References

- Afthanorhan, W. (2013). A comparison of partial least square structural equation modeling (PLS-SEM) and covariance based structural equation modeling (CB-SEM) for confirmatory factor analysis. *International Journal of Engineering Science and Innovative Technology*, 2(5), 198-205.
- Agus, A. (2015). Supply chain management: the influence of SCM on production performance and product quality. *organization*, 12, 17-18.
- Al-Weshah, G. A., Al-Manasrah, E., & Al-Qatawneh, M. (2019). Customer relationship management systems and organizational performance: Quantitative evidence from the Jordanian telecommunication industry. *Journal of Marketing Communications*, 25(8), 799-819.
- Ali, S. (2018). Impact Of Consumer Relationship Management On Consumer Satisfaction, Loyalty Programs And Customer Retention In Bankikng Sector Of Pakistan. *Arabian Journal of Business and Management Review (Oman Chapter)*, 7(2), 9-21.

- Attia, A. (2015). Testing the effect of marketing strategy alignment and triple-A supply chain on performance in Egypt. *EuroMed Journal of Business*.
- Azar, A., Kahnali, R. A., & Taghavi, A. (2010). Relationship between supply chain quality management practices and their effects on organisational performance. *Singapore Management Review*, 32(1), 45-69.
- Azmi, F. R., Abdullah, A., Musa, H., & Mahmood, W. H. W. (2019). Perception of food manufacturers towards adoption of halal food supply chain in Malaysia: Exploratory factor analysis. *Journal of Islamic Marketing*.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the academy of marketing science*, 16(1), 74-94.
- Bamgbade, J. A., Kamaruddeen, A. M., & Mohd Nawawi, M. N. (2015). Factors influencing sustainable construction among construction firms in Malaysia: A preliminary study using PLS-SEM. *Revista Tecnica De La Facultad De Ingenieria Universidad Del Zulia (Technical Journal of the Faculty of Engineering, TJFE)*, 38(3), 132-142.
- Beamon, B. M., & Ware, T. M. (1998). A process quality model for the analysis, improvement and control of supply chain systems. *Logistics Information Management*.
- Carbonara, N., & Pellegrino, R. (2018). Real options approach to evaluate postponement as supply chain disruptions mitigation strategy. *International Journal of Production Research*, 56(15), 5249-5271.
- Carroll, P., Johansen, M., & Mouritsen, J. (2011). Multiple integrated performance management systems. *Singapore Management Review*, 24(3), 21-33.
- Childerhouse, P., & Towill, D. R. (2003). Simplified material flow holds the key to supply chain integration. *Omega*, 31(1), 17-27.
- Chin, W. W., & Newsted, P. R. (1995). The importance of specification in causal modeling: The case of end-user computing satisfaction. *Information Systems Research*, 6(1), 73-81.
- Christopher, M. (2005). *Logistics & supply chain management: Creating value-adding networks (financial times series)*: Boston: Harvard Business School Press.
- Day, G. S. (2000). Managing market relationships. *Journal of the academy of marketing science*, 28(1), 24-30.
- Didonet, S. R., & Díaz, G. (2012). Supply chain management practices as a support to innovation in SMEs. *Journal of technology management & innovation*, 7(3), 91-109.
- Dong, B., Tang, W., & Zhou, C. (2019). Managerial flexibility strategies under supply and demand risks: quantity postponement vs. price postponement. *International Journal of Machine Learning and Cybernetics*, 10(7), 1747-1763.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of marketing research*, 18(1), 39-50.
- Forza, C., & Filippini, R. (1998). TQM impact on quality conformance and customer satisfaction: a causal model. *International journal of production economics*, 55(1), 1-20.
- Fynes, B., Voss, C., & de Búrca, S. (2005). The impact of supply chain relationship dynamics on manufacturing performance. *International Journal of Operations & Production Management*, 25(1), 6-19.
- Giunipero, L. C., Hooker, R. E., Joseph-Matthews, S., Yoon, T. E., & Brudvig, S. (2008). A decade of SCM literature: past, present and future implications. *Journal of supply chain management*, 44(4), 66-86.
- Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)*: Sage publications.
- Haislip, J. Z., & Richardson, V. J. (2017). The effect of Customer Relationship Management systems on firm performance. *International Journal of Accounting Information Systems*, 27, 16-29.
- Hussain, M., Ajmal, M. M., Gunasekaran, A., & Khan, M. (2018). Exploration of social sustainability in healthcare supply chain. *Journal of Cleaner Production*, 203, 977-989.
- Janaki, D., Izadbakhsh, H., & Hatefi, S. (2018). The evaluation of supply chain performance in the Oil Products Distribution Company, using information technology indicators and fuzzy TOPSIS technique. *Management Science Letters*, 8(8), 835-848.
- Jie, F., Parton, K. A., & Cox, R. J. (2013). Linking supply chain practices to competitive advantage: An example from Australian agribusiness. *British Food Journal*.
- Jones, C. (1998). Moving beyond ERP: making the missing link. *Logistics Focus*, 6, 2-7.
- Khalil, M., Khalil, R., & Khan, S. (2019). A study on the effect of supply chain management practices on organizational performance with the mediating role of innovation in SMEs. *Uncertain Supply Chain Management*, 7(2), 179-190.
- Khan, A., & Siddiqui, D. A. (2018). Information sharing and strategic supplier partnership in supply chain management: A study on pharmaceutical companies of Pakistan. *Khan, Ambreen. and Siddiqui, DA (2018). Information Sharing and Strategic Supplier Partnership in Supply Chain Management: A Study on Pharmaceutical Companies of Pakistan. Asian Business Review*, 8(3), 117-124.
- Khang, T. S., Arumugam, V., Chong, A. Y.-L., & Chan, F. T. (2010). Relationship between supply chain management practices and organisation performance: a case study in the Malaysian service industry. *International Journal of Modelling in Operations Management*, 1(1), 84-106.
- Kroes, J. R., & Ghosh, S. (2010). Outsourcing congruence with competitive priorities: Impact on supply chain and firm performance. *Journal of operations management*, 28(2), 124-143.
- Kronmeyer Filho, O., Fachinello, T., & Kliemann Neto, F. (2004). O mapeamento da cadeia eletrônica no RS: um estudo inicial. *ENCONTRO NACIONAL DE ENGENHARIA DE PRODUÇÃO (ENEGEP)*, XXIV, Florianópolis, 3648-3655.

- Kuei, C. H., Madu, C. N., & Lin, C. (2001). The relationship between supply chain quality management practices and organizational performance. *International Journal of Quality & Reliability Management*, 18(8), 864-872.
- La Londe, B. J. (1998). Supply chain evolution by the numbers. *Supply Chain Management Review*, 2(1), 7-8.
- Lambert, D. M., & Cooper, M. C. (2000). Issues in supply chain management. *Industrial marketing management*, 29(1), 65-83.
- Lee, H. L., Padmanabhan, V., & Whang, S. (1997). Information distortion in a supply chain: The bullwhip effect. *Management science*, 43(4), 546-558.
- 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.
- Liang, T. P., You, J. J., & Liu, C. C. (2010). A resource-based perspective on information technology and firm performance: a meta analysis. *Industrial Management & Data Systems*, 110(8).
- Marinagi, C., Trivellas, P., & Reklitis, P. (2015). Information quality and supply chain performance: The mediating role of information sharing. *Procedia-Social and Behavioral Sciences*, 175, 473-479.
- Mason-Jones, R., & Towill, D. R. (1997). Information enrichment: designing the supply chain for competitive advantage. *Supply Chain Management: An International Journal*.
- Mentzer, J. T., Min, S., & Zacharia, Z. G. (2000). The nature of interfirm partnering in supply chain management. *Journal of retailing*, 76(4), 549-568.
- Monczka, R. M., Petersen, K. J., & Handfield, R. B. (1998). Success factors in strategic supplier alliances: the buying company perspective. *Decision Sciences*, 29(3), p.553-577.
- Mwale, H. (2014). *Supply chain management practices and organizational performance of large manufacturing firms in Nairobi, Kenya*. University of Nairobi.
- Noble, D. (1997). Purchasing and supplier management as a future competitive edge. *Logistics Focus*, 5, 23-27.
- Okongwu, U., Brulhart, F., & Moncef, B. (2015). Causal linkages between supply chain management practices and performance: A balanced scorecard strategy map perspective. *Journal of Manufacturing Technology Management*, 26(5), 678-702.
- Özdamar, Ş., Roden, M. F., & Billor, M. Z. (2017). Petrology of the shoshonitic Çambaşı pluton in NE Turkey and implications for the closure of the Neo-Tethys Ocean: Insights from geochemistry, geochronology and Sr-Nd isotopes. *Lithos*, 284, 477-492.
- Peng, D. X., Schroeder, R. G., & Shah, R. (2011). Competitive priorities, plant improvement and innovation capabilities, and operational performance: A test of two forms of fit. *International Journal of Operations & Production Management*, 31(5).
- Pilkington, A., & Fitzgerald, R. (2006). Operations management themes, concepts and relationships: a forward retrospective of IJOPM. *International Journal of Operations & Production Management*, 26(11), 1255-1275.
- Rached, M., Bahroun, Z., & Campagne, J.-P. (2015). Assessing the value of information sharing and its impact on the performance of the various partners in supply chains. *Computers & Industrial Engineering*, 88, 237-253.
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. *Journal of management*, 35(3), 718-804.
- Romano, P., & Vinelli, A. (2001). Quality management in a supply chain perspective: strategic and operative choices in a textile-apparel network. *International Journal of Operations & Production Management*, 21(4), 446-460.
- Samson, D., & Terziovski, M. (1999). The relationship between total quality management practices and operational performance. *Journal of operations management*, 17(4), 393-409.
- Sedyaningrum, M., Prasetya, A., & Mawardi, M. K. (2019). The effect of strategic supplier partnership on supply chain integration, supply chain performance and farmers performance. *Wacana Journal of Social and Humanity Studies*, 22(1).
- Simão, L. E., Gonçalves, M. B., & Rodriguez, C. M. T. (2016). An approach to assess logistics and ecological supply chain performance using postponement strategies. *Ecological indicators*, 63, 398-408.
- Stein, T., & Sweat, J. (1998). Killer supply chains. *Information week*, 708(9), 36-46.
- 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.
- Sutduean, J., Joemsittiprasert, W., & Jernsittiparsert, K. (2019). Supply Chain management and organizational performance: Exploring green marketing as mediator. *International Journal of Innovation, Creativity and Change*, 5(2), 266-283.
- Tan, K.-C., Kannan, V. R., & Handfield, R. B. (1998). Supply chain management: supplier performance and firm performance. *International Journal of Purchasing & Materials Management*, 34(3).
- Tan, K. C., Lyman, S. B., & Wisner, J. D. (2002). Supply chain management: a strategic perspective. *International Journal of Operations & Production Management*, 22(6), 614-631.
- Thongrawd, C., Ramanust, S., Narakorn, P., & Seesupan, T. (2020). Exploring the Mediating Role of Supply Chain Flexibility and Supply Chain Agility between Supplier Partnership, Customer Relationship Management and Competitive Advantage. *International Journal of Supply Chain Management*, 9(2), 435.
- Tompkins, J., & Ang, D. (1999). What are your greatest challenges related to supply chain performance measurement? : INST INDUSTRIAL ENGINEERS 25 TECHNOLOGY PARK/ATLANTA, NORCROSS, GA 30092 USA.
- Tyteca, D., Carlens, J., Berkhout, F., Hertin, J., Wehrmeyer, W., & Wagner, M. (2002). Corporate environmental performance evaluation: evidence from the MEPI project. *Business Strategy and the Environment*, 11(1), 1-13.

- Tzokas, N., Kim, Y. A., Akbar, H., & Al-Dajani, H. (2015). Absorptive capacity and performance: The role of customer relationship and technological capabilities in high-tech SMEs. *Industrial Marketing Management*, 47, 134-142.
- Van Hoek, R. I. (2001). The rediscovery of postponement a literature review and directions for research. *Journal of operations management*, 19(2), 161-184.
- Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of management review*, 11(4), 801-814.
- Wafula, E., & George, O. (2015). Effects of strategic supplier partnership on firm performance in the energy sector: a case study of Kenya Pipeline Company limited.
- Wagner, S. M., Grosse-Ruyken, P. T., & Erhun, F. (2012). The link between supply chain fit and financial performance of the firm. *Journal of operations management*, 30(4), 340-353.
- Waller, M. A., Dabholkar, P. A., & Gentry, J. J. (2000). Postponement, product customization, and market-oriented supply chain management. *Journal of business logistics*, 21(2), 133-160.
- Wang, Z., & Kim, H. G. (2017). Can social media marketing improve customer relationship capabilities and firm performance? Dynamic capability perspective. *Journal of Interactive Marketing*, 39, 15-26.
- Wijetunge, W. (2017). The role of supply chain management practices in achieving organizational performance through competitive advantage in Sri Lankan SMEs. *International Journal of Management and Applied Science*, 3(1), 81-88.
- Wines, L. (1996). High order strategy for manufacturing. *Journal of Business Strategy*, 17(4), 32-34.
- Wong, W., Husain, R., & Sulaiman, A. (2018). Managing Upstream and Downstream Relationships In Supply Chain for Military Organisation. *International Journal of Business and Management*, 2(1), 72-77.
- Wong, W. P., & Wong, K. Y. (2011). Supply chain management, knowledge management capability, and their linkages towards firm performance. *Business Process Management Journal*, 17(6).
- Yamin, S., Gunasekaran, A., & Mavondo, F. T. (1999). Relationship between generic strategies, competitive advantage and organizational performance: an empirical analysis. *Technovation*, 19(8), 507-518.
- Zhao, X., & Lee, T.-s. (2009). Developments and emerging research opportunities in operations strategy and supply chain management. *International Journal of Production Economics*, 120(1), 1-4.
- Zokaei, K., & Simons, D. (2006). Performance improvements through implementation of lean practices: a study of the UK red meat industry. *International Food and Agribusiness Management Review*, 9(1030-2016-82410), 30-53.



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