“The impact of supply chain management practices on the priorities of competitive manufacturing in Hayel Saeed Anam Industrial Group”

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THE IMPACT OF SUPPLY CHAIN MANAGEMENT PRACTICES ON THE PRIORITIES OF COMPETITIVE MANUFACTURING IN HAYEL SAEED ANAM INDUSTRIAL GROUP

Abstract

Supply chain management is critical to enhancing the level of priorities of competitive manufacturing within organizations. This study aims to investigate the impact of supply chain management practices (supplier relationship, customer relationship, internal operations, and information sharing) on the priorities of competitive manufacturing in Hayel Saeed Anam Industrial Group, Yemen, and determine the level of supply chain management practices and priorities of competitive manufacturing. The study relied on the descriptive analytical approach and a questionnaire as the primary data collection method. The study targeted all employees in administrative positions (n = 326) within the selected industrial group through a comprehensive survey during 2024–2025. The participants included general managers, deputy general managers, department managers, section heads, supervisors, and specialists due to the relevance of their roles to supply chain management practices and priorities of competitive manufacturing. Accordingly, 301 questionnaires were retrieved and analyzed. The study revealed that supply chain management practices positively impact the priorities of competitive manufacturing (R^2 = 0.530; P < 0.05). The individual dimensions of supplier relationship, internal operations, and information sharing have a major influence on the priorities of competitive manufacturing (β = 0.195; 0.428; 0.133; P < 0.05), while customer relationship showed no significant impact (β = 0.042; P > 0.05). The results showed a high level of supply chain management practices and the priorities of competitive manufacturing (M = 6.216; 6.010). The study contributed to enhancing the theoretical and practical aspects of knowing the management methods that affect priorities of competitive manufacturing in Yemen.

Keywords supply chain management, competitive manufacturing, industrial group

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INTRODUCTION

A high level of competitiveness, increased customer expectations, and the diversity of their needs and desires characterize the present business environment. This situation has prompted many business organizations to adopt priorities of competitive manufacturing (PCM) and continuously develop them to face the challenges posed by competitors in light of worldwide rivalry.

Supply chain management (SCM) is highly significant for manufacturing firms to achieve competitive production. It seeks to develop close relationships with other firms, share assets, and integrate processes to improve performance and output. Its goal is to meet customer needs and deliver high-quality products (Al-Karaki, 2024). So, supply chain operations strengthen performance, which enables companies to achieve PCM (El-Dabet & El-Sayed, 2025).

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As for priorities of competitive manufacturing (PCM), they represent strategic skills and ways of work that help enterprises in constructing, consolidating, and upholding competitiveness through responsiveness to the demands and wishes of the market (Hilletofth & Hilmola, 2023). It is also an important and decisive factor that enables organizations to achieve the highest competitive positions within the market environment and enhance their competitiveness (Lara & Guimarães, 2014).

Practically, the industrial companies of Hayel Saeed Anam (HSA) group are among the most prominent Yemeni industrial companies and a fundamental pillar of the economy. Yet a report by the Ministry of Planning and International Cooperation indicated the difficulty of the group's industrial companies in getting the raw materials and supplies necessary for the production process (Ministry of Planning and International Cooperation, 2023). This has been a cause of costly production and poor response to customers' diverse needs and desired quality, which has had a negative impact on the overall low PCM level (Al-Asbahi et al., 2021). Furthermore, the Yemeni Economic Observatory noted that the economic losses and damages incurred by the industrial companies affiliated with the HSA Industrial Group in Yemen exceeded $500 million since 2015. The increase in shipping costs, insurance fees, and internal transportation costs between Yemeni cities exceeded 700% by the beginning of 2021, an indicator of the low level of PCM (Federation of Yemen Chambers of Commerce and Industry, 2021). Al-Mansari (2023) highlighted shortcomings in the implementation of PCM at the industrial firms of the HSA group, which prioritizes quality over product cost and rapid customer response. Additionally, Hasan (2019) noted a gap and a low level of PCM in the firms of the HAS Industrial Group.

SCM practices are vital for enhancing manufacturing competitiveness, but in developing countries, more studies are needed to validate and prove this relationship, especially in conflict-affected or resource-limited economies like Yemen, which is facing economic and logistical challenges. Since previous studies focused on markets of stable and developed countries about the application of SCM practices, in contrast, the industrial environment in Yemen has received little attention in this regard, representing a knowledge gap that highlights the significance of this study. This study is one of the first studies in the Yemeni context. Therefore, this study fills in this gap by documenting the nature of causal relationships among the variables.

1. LITERATURE REVIEW AND HYPOTHESES

Supply chain, with its advanced concepts and strategies, has become one of the vital and strategic resources that significantly contribute to achieving sustainable competitive advantage for organizations. It plays a pivotal role in reducing costs, accelerating processes, and enhancing the quality of products and services, which positively impacts customer satisfaction and organizational profitability. The primary objective of supply chain management lies in the coordination and integration of logistical, operational, and planning activities in a manner that supports the achievement of the organization's strategic objectives and sustains its operations in a dynamic, competitive environment (Younis et al., 2025).

Supply chain management (SCM) is defined as the process of overseeing the chain of buyers and suppliers, including every stage of processing from acquiring raw materials to shipping finished goods to end users (Iranmanesh et al., 2023). Qureshi et al. (2023) defined SCM as the combination of acquiring materials and services, turning them into semi-finished and finished goods, and distributing them to clients. According to Singh and Verma (2018), SCM is a set of techniques for efficiently integrating suppliers, manufacturers, warehouses, and retail locations to meet service level requirements and reduce system-wide costs. This guarantees that the right amount of goods is produced and delivered at the right times and places. However, Xia et al. (2023) and Zhang et al. (2023) stated that SCM is a strategy used to effectively bring together suppliers, business owners, warehouses, and other storage locations (distributors, retailers, and resellers) in order to produce and distribute goods in the proper quantity at the appropriate location and time in order to cut costs and satisfy customer

demands. According to Tarigan et al. (2019), SCM includes functional activities that firms undertake throughout the supply chain flow to improve their performance. Gawankar et al. (2017) also considered it as a step taken by a company to improve SCM. In addition, SCM practices promote effective SCM by companies along the supply chain (Linda & Thabrani, 2021). Kumar et al. (2017), Al-Raiey and Al-Batainah (2019), and Vencataya et al. (2016) claim that SCM is a series of steps that all supply chain participants must take to meet the PCM, beginning with suppliers and ending with customers. It encompasses four dimensions: supplier relationship, customer relationship, internal operations, and information sharing.

Supplier relationship, according to El-Manaseer (2016), is a partnership that a company forms with suppliers in its supply chain. These relationships involve some concepts: sharing information, materials, and activities; also committing to their efficient execution; joint planning; working to solve problems; and contributing to product design. Its importance lies in improving the use of time and organizing effort when carrying out the tasks and activities of the chain. Sharma et al. (2020) defined supplier relationships as the process of creating dynamic relationships between companies and their suppliers. In the same regard, Enz and Lambert (2023) pointed out that supplier relationship focuses on creating lasting and mutually beneficial relationships that go beyond mere transactions. According to Al-Raiey and Al-Batainah (2019), the partnership between the organization and the supplier includes two forms: the first is inviting the suppliers and designers to participate in design review meetings to involve them in the product design process, and the second is incorporating the supplier into production needs planning and sales forecasting. In addition, Lee and Tang (2018) claim that strong relationships with suppliers stimulate innovation and value creation.

To optimize customer loyalty, customer relationships entail maintaining comprehensive data about every customer and closely monitoring all consumer interactions (Kotler et al., 2021). A shift in strategy from a product-to-customer focus is what Cierna and Sujova (2022) define as a customer relationship. In addition, customer relationship management is a set of practices, tactics, and technological tools that companies employ to monitor and evaluate customer data and interactions over the course of the customer lifecycle (Ekawati et al., 2023). Tuazama (2015) explained that the relationship with a customer is one of the main elements in SCM, which includes evaluating customer complaints, enhancing customer service, and monitoring customer feedback. In order to establish benchmarks and gauge customer satisfaction, it also incorporates expected elements that influence customer relationships, expectations, and interactions.

Internal operations are the capacity of an organization to integrate processes and coordinate actions across departments and functions, and removing functional barriers and collaborating across departments are necessary to meet customer requirements (Errassafi et al., 2019). According to Odongo (2017), internal operations management is a set of activities meant to make it easier for related processes to be connected within and between organizations. It also aims to remove unnecessary processes from the supply chain, creating an effective and efficient one. Uwamahoro (2018) asserted that internal operations, rather than working within functional departments, traditionally encourage collaboration between various departments, resulting in meeting customer requirements.

Information sharing is the degree to which supply chain participants exchange vital, sensitive, and crucial information (Marinagi et al., 2015). Jaya et al. (2012) added that sharing information is a mechanism to coordinate and integrate processes and activities across the supply chain. Hassan and Nasereddin (2018) argued that information sharing among supply chain members enables them to make good decisions, increase transparency in dealings among members, and gain more profitability.

PCM is a set of characteristics that distinguish the organization and cannot be replicated by current or potential competitors through the best utilization of its available production resources at the lowest possible cost, with high quality, and a quick response at the right time. According to Potjanajaruwit (2018), the organization can distinguish itself from other competitors. Abedalqader

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(2016) also stressed that PCM means that the organization achieves an advanced competitive position in the market. Alqasabi (2019) represented it as the company's capacity to provide clients with a better value, to respond to rapid changes in consumer desires, and to seize opportunities in the market from competitors to gain a larger market share through low prices, high quality, and distinguished services.

The following are the six main characteristics of PCM according to Saif and Aqlan (2025):

- they are based on the needs and desires of the customer;
- they are the main source of business success;
- they provide a unique fit between the organization's resources and environmental opportunities;
- they are long-lasting and difficult for competitors to imitate;
- they serve as the basis for additional improvements; and
- they provide guidance and motivation for the entire organization.

PCM seeks to achieve six concepts because they are not limited to achieving profits but also to building a strong reputation in the marketplace and customer satisfaction. These priorities are high design flexibility, low cost, on-time delivery, high quality, after-sales service, and a wide product range. They enable operations managers to increase productivity and achieve sustainable and continuous competitive manufacturing advantages (Heizer & Render, 2017).

Most previous studies have focused on competitive priorities, which are essential dimensions that a company seeks to achieve according to the modern literature in the field of production and operations management, because it seeks survival, growth, and adaptation. In accord with Al-Hasnawi (2004), citing Roth and Miller (1992), these are the dimensions that directly influence the organization's strategy and overall performance, and they are the basic factors that enable the company to attain superiority over its rivals in the long run. In addition, previous studies also show different opinions about competitive priorities, and they have also named them according to their different environments and academic backgrounds. Some other studies refer to them as PCM (Hasan, 2019; Tawfik, 2008), while others refer to them as sources of achieving competitive advantage or dimensions of competitive advantage (Al-Karaki, 2024; Baqleh & Alateeq, 2023). Some refer to them as dimensions of production or competitive performance (Alhmiari & Albaheery, 2020). All these terms have the same meaning, and they will be referred to as PCM in the current study.

According to Al-Karaki (2024), Masyhuri (2023), Moumeni and Terbeche (2020), Ejechi and Oshodin (2019), Seddik (2019), Guimares and Garo (2018), Mugali (2018), and Heizer and Render (2017), PCM consists of four main dimensions, namely cost, quality, delivery, and flexibility. This study takes into consideration these four main dimensions and will focus on how these dimensions are being discussed in different studies. Cost is the adjustment of production processes by decreasing or eliminating activities that do not benefit the organization. In comparison to its rivals, it also seeks to design and sell the product and service at the lowest feasible cost in order to provide a high-quality, reasonably priced product and service (Maya & Shammah, 2019). Quality reflects the objectives of providing excellent products and services that satisfy consumers' needs. In order to combine quality and performance with added value for customers, the organization must comprehend and analyze the sources of excellence represented in the value chain activities. It accomplishes this by using developed qualifications and technical items, as well as effective promotion to increase market share (Wad, 2018). Nadarajah (2013) showed that the delivery is the process of delivering goods and services to customers with precision and speed. The company aims to cut down on the amount of time it takes to deliver the product to the customer by minimizing the time between receiving the order and delivering the product. Finally, flexibility in product development refers to an organization's capacity to adapt to unique changes in the business environment by cutting costs, time, effort, or performance (Saif & Aqlan, 2025).

Moreover, the relationship between SCM practices and PCM has been the subject of numerous investigations. For example, Rakiman et al. (2023) found a statistically significant relationship between SCM practices and competitive advantage in Selangor. In contrast, Linda and Thabrani (2021) mentioned a statistically significant and good influence of SCM practices on competitive advantage in the snack food industry in rural Padang. Among the most significant findings of Zarafili and Al-Bashabsheh (2023) is that, based on the opinions of 250 managers, the supply chain with its combined dimensions (supplier integration, internal integration, information sharing) has a statistically important effect at the significance level ($\alpha \leq 0.05$) in attaining PCM with its combined dimensions (cost, innovation, flexibility, delivery) in human pharmaceutical companies. Al-Atwi (2019) provided the impact of SCM on obtaining PCM in the Algerian Al-Maseelah Company on a sample of 60 employees. Hadia (2016) discovered the highly significant effect of dimensions of supply chain practices on PCM, which represent cost, quality, speed, flexibility, and innovation of Jordanian dairy manufacturing companies.

On the other hand, Baqleh and Alateeq (2023) showed a significant positive effect of SCM practices on the competitive advantage of Jordanian manufacturing companies. Similarly, Cahyono et al. (2023) highlighted an impact between SCM practices and competitive priorities representing halal agroindustry SMEs (cost, quality, flexibility, delivery). Siahaan and Nazaruddin (2020) concluded that SCM practices have a good and significant impact on the competitive advantage of PT PLN (Persero). Strong client relationships enhance delivery, quality, and flexibility for Jordanian manufacturing companies (Nimeh et al., 2018). Furthermore, Baqleh and Alateeq (2023) showed that information sharing had a significant positive impact on competitive advantage. However, supplier partnerships and customer relationships had no impact on competitive advantage. Abubakir and Al-Jubouri (2020) found that supply chain integration had a favorable impact on sustainability and that information technology had a mediating function in the relationship between supply chain integration and the sustainability of the distribution of Iraqi oil products. Rakiman et al. (2023) explored a statistically significant positive impact of each dimension of customer relationships, supply chain integration, and strategic partnerships with suppliers on competitive advantage. At the Iraqi Governmental Rasheed Bank branch and the National Trade Bank, Ali et al. (2020) demonstrated that supply chain practices had a positive impact on the quality of banking services and that information technology acted as a mediator in the relationship between supply chain practices and banking service quality. In the same regard, senior and intermediate management of Sri Lankan SMEs believe that competitive advantage mediates the relationship between SCM practices and organizational performance. Finally, Quynh and Huy (2018) demonstrated a statistically significant positive effect of each dimension of supplier relationship, customer relationship, and information sharing on competitive priorities in the Vietnamese business sector.

The literature review shows that SCM is critical in addressing PCM through its practices, such as supplier relationships, customer relationships, internal operations, and information sharing. Moreover, SCM practices are essential in achieving PCM and developing solutions and are one of the best ways to improve the performance of enterprises.

Thus, this study aims to identify the impact of supply chain management (SCM) practices (supplier relationship, customer relationship, internal operations, and information sharing) on priorities of competitive manufacturing (PCM) in the HSA Industrial Group in Yemen, and to investigate the level of supply chain management practices and priorities of competitive manufacturing. Therefore, this study formulates the following hypotheses based on the research framework in Figure 1:

H1: There is a statistically significant positive impact of SCM practices on PCM at $\alpha \leq 0.05$ in the HSA Industrial Group.

H2: There is a statistically significant positive impact of supplier relationship on PCM at $\alpha \leq 0.05$ in the HSA Industrial Group.

H3: There is a statistically significant positive impact of customer relationship on PCM at $\alpha \leq 0.05$ in the HSA Industrial Group.

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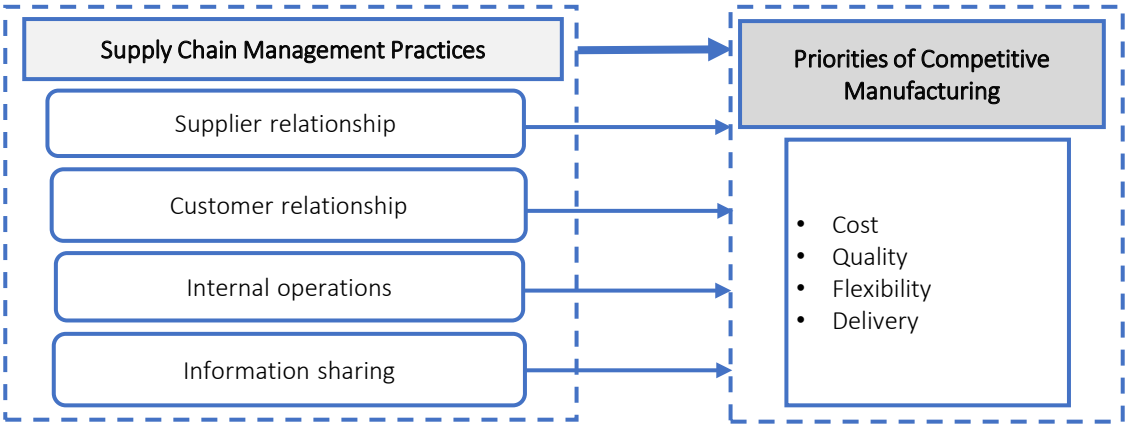

Figure 1. Research framework

H4: There is a statistically significant positive impact of internal operations on PCM at α ≤ 0.05 in the HSA Industrial Group.

H5: There is a statistically significant positive impact of information sharing on PCM at α ≤ 0.05 in the HSA Industrial Group.

2. METHODOLOGY

This study relied on the descriptive analytical approach with questionnaires developed to test hypotheses. The data were collected from industrial companies in Yemen, which is now one of the largest multinational companies based in the Middle East, known as the HAS Industrial Group. Data were statistically processed using interpretive and descriptive analyses. Finally, managerial recommendations were developed based on the findings of empirical research.

As part of the preparation, special attention was placed on the development and validation of effective measurement scales. The questionnaire was reviewed in initial interviews with internal manufacturing and supply chain experts for clarity, structure, and relevance. Twelve academic business administration and statistics experts also reviewed the instrument, and their input and suggestions were incorporated to enhance the validity and clarity of the content. Following expert validation, the questions were once again modified to ensure linguistic correctness and content relevance. A pilot test was then carried out on a small group of employees in the HSA Industrial Group to try out the feasibility and reliability of the instrument. Final adjustments were made according to the responses received. In the final phase, the finalized version of the questionnaire was used for data collection through the survey and accompanied by a cover letter clarifying the confidentiality of the data collection to respondents.

The questionnaire consisted of three main parts: the demographic characteristics of the respondents, the independent variable (supply chain management practices), and the dependent variable (priorities of competitive manufacturing). Appendix A shows the questionnaire.

The demographic characteristics of the study sample are displayed in Table 1. The gender distribution of the sample was as follows: there were 260 males, accounting for 86.4%, and 41 females, accounting for 13.6%. Additionally, the age group of 30 to 40 years old accounts for 47.5% of the participants, making it the most common, while the age group of 51 years and older accounts for 4.3% of the participants. On the other hand, the age group of 41–50 years old is 41.9%. Finally, the age group of less than 30 years old is 6.3%.

The distribution of participants by qualification was as follows: 5.6% had a master's degree, 10% had a diploma, and 79.1% had a bachelor's degree. Only 5% of the participants are high school graduates. Lastly, just 0.3% of the participants held a doctorate degree.

According to the current position, Table 1 shows that 25.9% of the participants are department managers, 23.9% of them are department heads,

Table 1. Demographic analysis of respondents

Characteristics	Categories	Frequency	Percentage, %
Gender	Male	260	86.4
	Female	41	13.6
	Total	301	100
Age	Less than 30 years old	19	6.3
	30–40 years old	143	47.5
	41–50 years old	126	41.9
	More than 51 years old	13	4.3
	Total	301	100
Qualifications	High school	15	5
	Diploma	30	10
	Bachelor	238	79.1
	Master	17	5.6
	Ph.D.	1	0.3
	Total	301	100
Current Position	General manager	13	4.3
	Department manager	78	25.9
	Section head	72	23.9
	Supervisor	69	22.9
	Specialist	69	22.9
	Total	301	100
Years of Experience	Less than 5 years	9	3
	5–10 years	28	9.3
	11–15 years	107	35.5
	16 years or more	157	52.2
	Total	301	100

22.9% are supervisors, 22.9% are also specialists, and 4.3% are general managers. Finally, the distribution according to years of experience shows that those who had 16 or more years of experience were 52.2%, 35.5% had 11–15 years of experience, 9.3% had 5–10 years of experience, and 3% had less than 5 years of experience.

The second and third parts of the questionnaire deal with the independent and the dependent variables. The independent variable (SCM practices) with its dimensions (supplier relationship, customer relationship, internal operations, and sharing information) is being adopted in this study based on Kumar et al.'s (2017) model. In addition, the study adopted the dimensions of the dependent variable based on the model proposed by Slack et al. (2010), namely cost, quality, flexibility, and delivery. These dimensions of both the independent and the dependent variables were selected because they are among the most frequently chosen and are well-suited to the context and variables of this study.

The questionnaire's items are measured using a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Measurement scales adapted from previous studies were utilized to ensure content validity. This study used five items measuring supplier relationships, which originated from Al-Ajili (2018). Five items were used to measure the customer relationship, which was recommended by Abdulrab (2018). Five items were adapted from previous studies, Abdulrab (2018) and El-Manaseer (2016), and used for measuring internal operations. Five items concerning information sharing were used, which were adapted from Hadia (2016) and Abdulrab (2018). The scales for cost, quality, flexibility, and delivery consist of five items for each one, which were adapted from Hadia (2016).

Cronbach's alpha coefficient is used to determine the reliability of assessments. Table 2 shows the instrument's reliability results. Overall, the Cronbach's alpha value is 89%. In management and humanities studies (Sekaran & Bougie, 2016), acceptable values of alpha ≥ 0.60 are essentially reasonable. Thus, according to Cronbach's alpha coefficient range of 0.62 to 0.79, the research tool is able to achieve its objectives and has a high stability coefficient.

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Table 2. Distribution of dimensions of SCM practices and priorities of competitive manufacturing and their reliability

Study variables	Dimensions	No. of items	Cronbach's Alpha	Sources
Supply chain management (SCM) Practices	Supplier relationship	5	0.687	Al-Ajili (2018)
	Customer relationship	5	0.794	Abdulrab (2018)
	Internal operations	5	0.705	Abdulrab (2018) and El-Manaseer (2016)
	Information sharing	5	0.623	Hadia (2016) and Abdulrab (2018)
Priorities of competitive manufacturing (PCM)	Cost	5	0.638	Hadia (2016)
	Quality	5	0.615	
	Flexibility	5	0.661	
	Delivery	5	0.668	
Total number of items in scale		40	0.888	

The study population included 18 companies operating in Yemen. These targeted industrial companies are affiliated with the HSA Industrial Group, with a total of 326 employees. They are the ones with the authority to make decisions related to SCM practices and PCM, as they also have sufficient experience that can be used in the field of this study. Due to the small size of the study population, all members of the study population were selected as a sample using the comprehensive enumeration method during the period from February 2024 to January 2025. This approach ensures that the data collected are comprehensive and reflective of the perspectives of all relevant stakeholders. Therefore, 326 questionnaires were distributed to the members of the study sample, and 308 questionnaires were recovered, of which 301 were valid for analysis, representing 92% of the distributed ones, as shown in Appendix B.

Several statistical tools and techniques, including regression analysis, descriptive analysis, and Pearson correlations, were employed to analyze the intended data using the statistical analysis program (SPSS 27) to address the questions of the study and test its hypotheses. Pearson correlations and multiple regressions are used to measure the correlations and levels of influence between the variables (supply chain management practices and priorities of competitive manufacturing).

3. RESULTS

This study used descriptive analysis to describe the opinions of respondents to determine the level of the independent variable as well as the dependent variable in the HSA Industrial Group. The results can be elicited from Table 3.

Table 3 shows that the level of application of supply chain management (SCM) in the industrial companies is very high, with a mean of 6.216 and a standard deviation (SD) of 0.367. This indicates that respondents' answers regarding SCM practices are relatively convergent. In other words, there is general agreement on how to apply these practices.

Table 3. Standard deviations and means

Dimension	Mean	SD	Degree of Consent	Availability Level
Supplier relationship	5.959	0.505	85%	High
Customer relationship	055.6	0.398	93.6%	Very high
Internal operations	6.215	0.381	88.8%	Very high
Information sharing	6.140	0.536	87.7%	High
Supply chain management (SCM) practices	6.216	0.367	88.8%	Very high
Priorities of competitive manufacturing (PCM)	6.010	0.370	85.9%	High
Cost	5.703	0.499	81.5%	High
Quality	6.425	0.453	91.8%	Very high
Flexibility	6.061	0.464	86.6%	High
Delivery	5.850	0.618	83.6%	High

Moreover, Table 3 shows that the level of priorities of competitive manufacturing (PCM) in the industrial group under study is high, with a mean of 6.010 and a standard deviation (SD) of 0.370, indicating that the participants' responses regarding PCM were similar. In addition, the mean scores for the dimensions of SCM practices ranged from 5.959 to 6.550. The customer relationship dimension had the highest score, with a very high level of application, an average of 6.550, and a standard deviation (SD) of 0.398. The internal operations dimension, which had a very high degree of application and a mean of 6.215, with a standard deviation (SD) of 0.381, came next. Then the information sharing dimension came with a high degree of application, with a mean of 6.140 and a standard deviation (SD) of 0.536. Finally, the supplier relationship dimension received the lowest score, with a mean of 5.959, a standard deviation of 0.505, and a high degree of application.

Furthermore, the mean scores for the dimensions of PCM ranged from 6.425 to 5.703. The quality dimension had the highest score, with a very high level of application, an average of 6.425, and a standard deviation (SD) of 0.453. The flexibility dimension, which had a high degree of application and a mean of 6.061, with a standard deviation (SD) of 0.464, came next. Then the delivery dimension came with a high degree of application, with a mean of 5.850 and a standard deviation (SD) of 0.618. Finally, the cost dimension received the lowest score, with a mean of 5.703, a standard deviation of 0.499, and a high degree of application.

The study used simple linear regression to test the first hypothesis, as illustrated in Table 4.

The correlation coefficient is R (0.688), while the coefficient of determination R^2 explains (0.473) the variations in PCM. This indicates that 47.3% of the level of realization of PCM is due to the interest in the application of information technology in industrial enterprises (the subject of the study). The value of the regression coefficient beta was 0.694, which means that, assuming the neutralization of the rest of the variables that were not studied, a one-degree increase in the application of SCM practices will lead to an increase of 69.4% in the achievement of PCM. The significance of this effect is confirmed by the F-value of 268.613, which is statistically significant at the 0.05 level of significance. This indicates that SCM practices have a statistically significant impact on PCM in the HSA Industrial Group; therefore, the first hypothesis is accepted.

As indicated in Table 5, multiple linear regressions were utilized to test the presence of a statistically significant effect in order to evaluate the second, third, fourth, and fifth hypotheses.

Table 5 shows that there is no problem of autocorrelation affecting the validity of the results, as all the values of the Durbin–Watson test are within the appropriate range (1.5–2.5). Looking at Table 5, there is a statistically significant impact of SCM practices with their combined dimensions (supplier relationship, customer relationship, internal operations, and information sharing) on PCM. The multiple correlation coefficient R (0.728) and the multiple determination coefficient R^2 (0.530) indicate that SCM practices with their combined dimensions (supplier relationship, customer relationship, internal operations, and information sharing) explain 53% of the variance or changes in

Table 4. Simple linear regression for the first hypothesis

Model	R	R2	F. Test	Sig.	Beta	T. Test	Sig.	Hypotheses result
Simple linear regression	.6880	.4730	268.613	000.0	.6940	16.389	0.000	Accepted

Table 5. Multiple linear regression for the second, third, fourth, and fifth hypotheses

Model	R	R^2	F. Test	Sig.	Durbin–Watson	Beta	T. Test	P-Value	VIF	Tolerance	Hypotheses result
Supplier relationship	.728	.530	83.399	.000	1.610	.195	5.229	.000	1.629	.614	Accepted
Customer relationship						–.042–	–.868–	.386	1.677	.596	Rejected
Internal operations						.428	8.343	.000	1.754	.570	Accepted
Information sharing						.133	3.621	.000	1.781	.561	Accepted

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PCM. The significance of this result is confirmed by an *F*-value of 83.399, which is statistically significant at the 0.05 level of significance.

Based on the ranking of the direct effects of the independent variables on PCM, it is found that the internal operations dimension has the biggest impact, followed by the supplier relationship and information sharing dimensions, while the customer relationship is unaffected.

As the lowest value of the variance ratio is equal to 0.561, which is greater than 0.1, there is no problem with covariance, as shown in Table 5. It is clear that the highest value of the variance inflation factor (VIF) is equal to 1.781, which is less than the default value due to the problem of multiple covariances (10). This result indicates that there is no overlap between the dimensions of SCM practices in their impact on PCM. Consequently, the multiple linear regression test can be used to test the second, third, fourth, and fifth hypotheses.

There is a positive and statistically significant effect of supplier relations on PCM, where the value of the regression coefficient Beta is 0.195. This means that, assuming that the rest of the variables not studied remain constant, a one-degree increase in supplier relations practices will lead to an increase of 19.5% in the achievement of PCM. Since the *T*-value (5.229) is statistically significant at the 0.05 level of significance, the significance of this finding is confirmed, and the second hypothesis is accepted.

There is no statistically significant effect of customer relationship on PCM, where the value of the regression coefficient Beta is –0.042 and the *T*-value is –0.868, which is not statistically significant, as its corresponding significance level (0.386) is greater than the significance level of 0.05. Consequently, the third hypothesis is rejected.

There is a statistically significant impact of internal operations on PCM, as the value of the regression coefficient Beta reached 0.428. This means that, assuming that the rest of the variables not studied remain constant, a one-degree increase in the practice of internal operations will lead to an increase of 42.8% in the achievement of PCM. This result's significance is verified by the *T*-value of 8.343, which is statistically significant at the 0.05 level of significance. Thus, the fourth hypothesis is accepted.

Furthermore, there is a statistically significant effect of information sharing on PCM, as the value of the regression coefficient Beta reached 0.133. This means that, assuming that the rest of the variables that were not studied remain constant, a one-degree increase in the practice of information sharing leads to an increase of 13.3% in the achievement of PCM. The significance of this result is confirmed by the *T*-value (3.621), which is statistically significant at the 0.05 level of significance. Therefore, the fifth hypothesis is accepted.

4. DISCUSSION

It is clear that the level of supply chain management (SCM) practices in the HSA Industrial Group is high, where the mean was 6.195 and the standard deviation (SD) was 0.366. This result supports Cahyono et al. (2023) and Siahaan and Nazaruddin (2020). Based on the results, the surveyed industrial group is highly committed to implementing SCM practices. Consequently, it is understandable according to the views of respondents because the industrial group is working in an unstable environment due to the ongoing war in the country. As a result, the industrial group strives to adapt to the challenges they face because of the war, such as shortages of raw materials, fluctuations in exchange rates, and transport difficulties. These practices are likely providing a safety net, helping the surveyed industrial group continue operating. Further, the implementation of SCM practices becomes more important than ever, as it helps the surveyed industrial group anticipate changes, manage risks, improve efficiency, and thereby achieve PCM.

Additionally, the level of priorities of competitive manufacturing (PCM) in the HSA Industrial Group is high, where the mean was 5.834 and the standard deviation (SD) was 0.447. This result is supported by Al-Karaki (2024) and Linda and Thabrani (2021). Based on the results, the surveyed industrial group makes great efforts to apply PCM, and this requires a set of practices and procedures to achieve competitive superiority in the market. Therefore, this result is reasonable due to participants' comments

and the need to survive, compete, and rapidly respond to changes, which has become an urgent necessity to ensure the survival of the industrial group in the market and the ability to compete with other companies in the same area or region. Concerning PCM, the industrial group is encouraged to invest in making its operations more efficient and productive, developing new products and services, and exploring new markets. This helps improve the competitive strength of the industrial group.

Furthermore, the results of this study show that a significant positive impact of SCM practices on PCM explained 53% of the variation in PCM. Rakiman et al. (2023) and Zarafili and Al-Bashabsheh (2023) both support this result. Based on the results, the PCM of the industrial group improves in terms of quality, cost, flexibility, and delivery time through effective SCM practices.

The second hypothesis displayed a significant positive impact of supplier relationship on PCM in the industrial group under study. This result is consistent with Baqleh and Alateeq (2023) and Chileshe and Phiri (2022).

In the same regard, the results indicate that the managements of the industrial group seek to build long-lasting relationships with suppliers and engage them in various activities. As a result, companies can successfully improve their operational capabilities, save time and effort, and complete tasks as well. Consequently, these companies are able to execute their PCM.

Conversely, the third hypothesis showed a non-significant positive impact of customer relationship on PCM in the industrial group under study. This result is against Nimeh et al. (2018) and Al-Raiey and Al-Batainah (2019).

Although customer relationship is a crucial aspect of supply chain management, the lack of influence that customer relationship had on PCM in the industrial group can be explained by the existence of organizational-regulatory and environmental variables, as well as external factors like market or competition changes. This result can also be interpreted as these companies may need to reassess their strategies, focusing on customers, and seek new ways to enhance customer relationships and improve their performance to achieve their PCM.

The fourth hypothesis findings presented a significant positive impact of internal operations on PCM in the industrial group under study. This result is backed up by Zarafili and Al-Bashabsheh (2023) and Wijetunge (2017).

Thus, the results display that these companies are keen to manage their production processes effectively by facilitating and exchanging information among departments to solve issues and create suitable solutions for the elimination of pointless procedures and activities. This is achieved through controlling activities and processes to ensure the quality of products and customer satisfaction, thereby achieving their PCM to a high degree.

According to the findings of the fifth hypothesis, there is a significant positive impact of information sharing on PCM in the industrial group under study. This result is supported by Baqleh and Alateeq (2023) and Quynh and Huy (2018).

The results indicate that the industrial group relies on the practice of information sharing to achieve PCM. They have internal networks to exchange information quickly. Through information sharing, companies provide sufficient information to partners on time and exchange information with them clearly and transparently to create added value for customers and improve cooperation with partners. This improves performance and enhances the PCM of the industrial group.

CONCLUSION

The purpose of the study was to investigate the level of supply chain management (SCM) practices and priorities of competitive manufacturing (PCM) as well as to determine the effect of supply chain management practices across their dimensions (supplier relationship, customer relationship, internal operations, and information sharing) on priorities of competitive manufacturing in HSA Industrial Group, Yemen.

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The results pointed out that the level of application of SCM is very high, with the customer relationship ranked first, followed by internal operations, information sharing, and lastly, supplier relationship, which remains below the significant level in spite of its importance. The priorities of competitive manufacturing were high level, with the quality dimension ranked first, followed by flexibility, delivery, and lastly, the cost dimension, highlighting the requirement to improve creativity and rapid response.

The study also revealed a statistically significant impact of SCM practices on PCM in the HSA Industrial Group in Yemen. Likewise, supplier relationships, internal operations, and information sharing affect PCM. In contrast, customer relationships do not influence PCM.

The study recommends achieving integration among all dimensions of SCM, as they are interconnected, and each dimension depends on the others to ensure a direct and effective impact for all these dimensions in achieving PCM for the HSA Industrial Group in Yemen. The study also recommends improving and developing relationships with suppliers through enhancing collaboration and building long-term strategic partnerships to improve and elevate the level of PCM.

Future studies can examine the effect of supply chain management practices (SCM) on the priorities of competitive manufacturing through information technology in Yemeni commercial companies. Future studies may investigate the impact of enterprise resource planning systems (ERP) on the priorities of competitive manufacturing in Yemeni industrial companies. Moreover, future studies may compare Yemeni industrial companies (HSA Group) with companies from other countries, which may help in the identification of gaps in PCM and highlight the best practices in the global supply chain that could be adopted.

AUTHOR CONTRIBUTIONS

Conceptualization: Abdulwahab Abdulhameed Mohammed Saif.
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Formal analysis: Abdulwahab Abdulhameed Mohammed Saif.
Funding acquisition: Abdulwahab Abdulhameed Mohammed Saif.
Investigation: Abdulwahab Abdulhameed Mohammed Saif.
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Project administration: Abdulwahab Abdulhameed Mohammed Saif.
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REFERENCES

1. Abdulrab, O. M. A. (2018). *The role of supply chain management practices on improving the performance of Yemeni pharmaceutical manufacturing companies: Field study* (Master's Thesis). Alandalus University for Science & Technology, Sana'a, Yemen. (In Arabic). Retrieved from https://andalusuniv.net/AUSTNEW/thesispdf/639c8fb8a0dfbde8ab835b3ac9b70113.pdf
2. Abedalqader, H. (2016). Intellectual capital in Palestinian universities and enhance the competitive advantage. *Journal of Financial, Accounting and Managerial, 3*(2), 9-28. (In Arabic). https://doi.org/10.35392/1772-000-006-001
3. Abubakir, S. M., & Al-Jubouri, H. N. A. (2020). The intermediate role of information technology

in the impact of supply chain integration on the sustainability of the Iraqi oil product distribution. *Journal of Education College for Women for Humanistic sciences, 14*(26), 121-176. (In Arabic). Retrieved from https://search.emarefa.net/detail/BIM-1240262

4. Al-Ajili, A. R. A. (2018). *The impact of supply chain practices integration on marketing performance at food industrial firms in Gaza Strip* (Master's Thesis). Faculty of Commerce, Islamic University, Palestine. (In Arabic). Retrieved from https://search.emarefa.net/detail/BIM-913581

5. Al-Asbahi, K. A. A., Qahtan, M. A., Al-Selwi, Y. H., Abdullah, M., & Al-Daghish, A. H. (2021). *The effects of the war and the blockade on the governorate of Taiz: An assessment study of administrative and economic units*. (In Arabic). Retrieved from https://shortlink.uk/ZAvG

6. Al-Atwi, A. (2019). *The impact of supply chain management on competitive priorities: A case study of Hadnat Haleeb Al-Maseelah Company* (Master's Thesis). Faculty of Economics and Management Sciences, University of Mohamed Boudiaf of MaSila, MaSila, Algeria. Retrieved from https://bucket.theses-algerie.com/files/repositories-dz/6961427191198560.pdf

7. Al-Hasnawi, H. H. (2004). *Operations strategy and its impact on achieving competitive advantages: A field study in the general company for textile industries in Hillah* (Unpublished Master's Thesis). College of Administration and Economics, University of Al-Qadisiyah. (In Arabic). Retrieved from https://library.alkafeel.net/dic/details/214393/

8. Alhmiari, A. M. A. A., & Albaheery, A. A. M. S. (2020). The impact of applying lean manufacturing fundamentals on the improvement of manufacturing performance: A case study at the Yemeni National Company for sponge and plastic industry. *Management & Economics Research Journal, 2*(5), 21-38. (In Arabic). https://doi.org/10.48100/merj.vi.138

9. Ali, R. A., Gasem, A. N., & Rahman, A. K. (2020). The role of the supply chain in improving the banking service through information technology: A comparative study between the Governmental Rasheed Bank branch and the National Trade Bank branch in Basra. *Gulf Economist Journal, 36*(45), 51-108. (In Arabic). Retrieved from https://search.emarefa.net/detail/BIM-1315426

10. Al-Karaki, M. I. (2024). *The impact of supply chain management on competitive advantage in the cartoon and paper companies in Amman* (Master's Thesis). Business College, Middle East University, Amman, Jordan. Retrieved from https://www.meu.edu.jo/libraryTheses/2024/%D8%A3%D8%AB%D8%B1%20%D8%A7%D8%AF%D8%A-7%D8%B1%D8%A9%-20%D8%B3%D9%84%-D8%B3%D9%84%D8%A9%20%D8%A7%D9%84%D8-%AA%D9%88%D8%B1%-D9%8A%D8%AF%20%D9%81%D9%8A%20%D8%A7%D9%84%D9%85%D9%8A%D8%B2%D8%A9%20%D8%A7%D9%84%D8%AA%D9%86%D8%A7%D9%81%D8%B3%D9%8A%D8%A9%20%D9%81%D9%8A%20%D8%B4%D8%B1%D9-%83%D8%A7%D8%AA%20%D8%B5%D9%86%D8%A7%-D8%B9%D8%A9%20%D8%A7%D9%84%D9%83%D8%B1%D8%AA%D9%88%D9%86%20%D9%88%D8%A7%D9%84%D9%88%D8%B1%D9%82%20%D9%81%D9%8A%20%D8%B9%D9%85%D9%91%D-8%A7%D9%86%20.pdf

11. Al-Mansari, A. (2023). *Talent management and its relationship to achieving the competitive advantage of HSA and partners group of companies: A field study* (Unpublished Master's Thesis). Center for Graduate Studies, Taiz University, Taiz, Yemen. Retrieved from https://shortlink.uk/WIz7

12. Alqasabi, I.A.E. (2019). The impact of the effectiveness of enterprise resource planning systems in achieving competitive advantages: An applied study on private pharmaceutical production companies in Dakahlia Governorate. *Trade and Finance,* 240-287. (In Arabic). https://doi.org/10.21608/caf.2019.125932

13. Al-Raiey, L. A. I., & Al-Batainah, I. (2019). *Impact of supply chain management practices in achieving competitive advantage at food industrial companies in Jordan* (Master's Thesis). Al al-Bayt University, Jordan (In Arabic). Retrieved from http://search.mandumah.com/Record/948715

14. Baqleh, L. A., & Alateeq, M. M. (2023). The impact of supply chain management practices on competitive advantage: The moderating role of big data analytics. *International Journal of Professional Business Review, 8*(3), Article e0679. https://doi.org/10.26668/businessreview/2023.v8i3.679

15. Cahyono, Y., Purwoko, D., Koho, I., Setiani, A., Supendi, S., Setyoko, P., Sosiady, M., & Wijoyo, H. (2023). The role of supply chain management practices on competitive advantage and performance of halal agroindustry SMEs. *Uncertain Supply Chain Management, 11*(1), 153-160. https://doi.org/10.5267/j.uscm.2022.10.012

16. Chileshe, M. J., & Phiri, J. (2022). The impact of supply chain management practices on performance of small and medium enterprises in developing countries: A case of agro-dealers in Zambia. *Open Journal of Business and Management, 10*(2), 591-605. https://doi.org/10.4236/ojbm.2022.102033

17. Cierna, H., & Sujova, E. (2022). Differentiated customer relationship management – A tool for increasing enterprise competitiveness. *Management Systems in Production Engineering, 30*(2), 163-171. https://doi.org/10.2478/mspe-2022-0020

18. Ejechi, J. O., & Oshodin, E. A. (2019). Business process outsourcing strategy on competitive advantage and organizational performance. *International Journal of Academic Research in Business and Social Sciences, 9*(6), 718-734. http://dx.doi.org/10.6007/IJARBSS/v9-i6/5987

19. Ekawati, N., Wardana, I., Yasa,

http://dx.doi.org/10.21511/ppm.23(3).2025.29

N., Kusumadewi, N., & Tirtayani, I. (2023). A strategy to improve green purchase behavior and customer relationship management during the COVID-19 new normal conditions. *Uncertain Supply Chain Management, 11*(1), 289-298. http://dx.doi.org/10.5267/j.uscm.2022.9.014

20. El-Dabet, A. M. H., & El-Sayed, K. K. (2025). Studying the relationship between supply chains and achieving competitive advantage for organizations (An empirical study on the Egyptian Poultry Sector). *Arab Journal of Administrative, 45*(3), 1-16. (In Arabic). https://doi.org/10.21608/aja.2023.171718.1346

21. El-Manaseer, H. F. (2016). *The impact of supply chain practices on operational performance of Jordanian companies for oil and fuel services* (Master's Thesis). Business College, Middle East University, Amman, Jordan. (In Arabic). Retrieved from https://www.meu.edu.jo/libraryTheses/58637bafcc3db_1.pdf

22. Enz, M. G., & Lambert, D. M. (2023). A supply chain management framework for services. *Journal of Business Logistics, 44*(1), 11-36. https://doi.org/10.1111/jbl.12323

23. Errassafi, M., Abbar, H., & Benabbou, Z. (2019). The mediating effect of internal integration on the relationship between supply chain integration and operational performance: Evidence from Moroccan manufacturing companies. *Journal of Industrial Engineering and Management, 12*(2), 254-273. https://doi.org/10.3926/jiem.2794

24. Federation of Yemen Chambers of Commerce and Industry. (2021). *Yemen's Industrial Sector Performance Indicators in Conflict and War*. Republic of Yemen. Retrieved from https://fycci-ye.org/upload/1654632323.pdf

25. Gawankar, S. A., Kamble, S., & Raut, R. (2017). An investigation of the relationship between supply chain management practices (SCMP) on supply chain performance measurement (SCPM) of Indian retail chain using SEM. *Benchmarking: An International Journal, 24*(1), 257-295. https://doi.org/10.1108/BIJ-12-2015-0123

26. Guimares, M. R. N., & Garo Jr, W. R. (2018). Competitive priorities and strategic alignment as mediators in the relationship between companies in the Brazilian automotive supply chain. *South African Journal of Industrial Engineering, 29*(1), 184-194. https://doi.org/10.7166/29-1-1791

27. Hadia, A. A. (2016). *Impact of supply chain practices on competitive priorities of Jordanian dairy manufacturing companies* (Master's Thesis). Business College, Middle East University, Amman, Jordan. Retrieved from https://meu.edu.jo/libraryTheses/58637f0164009_1.pdf

28. Hasan, Z. A. M. (2019). *The impact of pillars of total productive maintenance in the priorities of competitive manufacturing at the industrial companies of the Group of Hayel Saeed Anam & Co. – Yemen* (Unpublished Master's Thesis). University of Science and Technology, Sana'a, Yemen. Retrieved from https://drive.google.com/file/d/1tGv-Aj5j4DyZXHyMWcBGvwUk-KgN_2_zHX/view

29. Hassan, A., & Nasereddin, H. (2018). Importance of information sharing in supply chain and knowledge leakage. *Transylvanian Review, 26,* 6769-6775. Retrieved from https://www.researchgate.net/publication/324909807

30. Heizer, J., & Render, B. (2017). *Operations management* (12th ed.). Pearson Prentice Hall. Retrieved from https://sophora.id/wp-content/uploads/2023/08/operations-management-12ed-jay-heizer-pdfdrive-.pdf

31. Hilletofth, P., & Hilmola, O.-P. (2023). Competitive priorities and capabilities: High-cost country case survey. *Journal of Global Operations and Strategic Sourcing, 16*(3), 641-660. https://doi.org/10.1108/JGOSS-02-2022-0009

32. Iranmanesh, M., Maroufkhani, P., Asadi, S., Ghobakhloo, M., Dwivedi, Y. K., & Tseng, M. L. (2023). Effects of supply chain transparency, alignment, adaptability, and agility on blockchain adoption in supply chain among SMEs. *Computers & Industrial Engineering, 176,* Article 108931. https://doi.org/10.1016/j.cie.2022.108931

33. Jaya, N. A. S. L., Habidin, N. F., Zubir, A. F. M., Conding, J., & Hashim, S. (2012). Exploring information manufacturing sharing and supply chain performance: Based on Malaysian automotive industry. *IOSR Journal of Engineering, 2*(7), 41-48. https://doi.org/10.9790/3021-02714148

34. Kotler, P., Keller, K., & Chernev, A. (2021). *Marketing management* (16th ed.). New York: Pearson Education Limited. Retrieved from https://books.google.com/books/about/Marketing_Management.html?id=zXpfzgEACAAJ

35. Kumar, V., Chibuzo, E.N., Garza-Reyes, J.A., Kumari, A., Rocha-Lona, L., & Lopez-Torres, G.C. (2017). The impact of supply chain integration on performance: Evidence from the UK food sector. *Procedia Manufacturing, 11,* 814-821. https://doi.org/10.1016/j.promfg.2017.07.183

36. Lara, F., & Guimarães, M. (2014). Competitive priorities and innovation in SMEs: A Brazil multi-case study. *Journal of Technology Management & Innovation, 9*(3), 51-64. https://doi.org/10.4067/S0718-27242014000300004

37. Lee, H. L., & Tang, C. S. (2018). Socially and environmentally responsible value chain innovations: New operations management research opportunities. *Management Science, 64*(3), 983-996. https://doi.org/10.1287/mnsc.2016.2682

38. Linda, M. R., & Thabrani, G. (2021). Supply chain management practices on competitive advantage with supply chain performance as Moderating variable. In *Seventh Padang International Conference on Economics Education, Economics, Business and Management, Accounting and Entrepreneurship (PICEEBA 2021)* (pp. 469-480). Atlantis Press. Retrieved from https://www.atlantis-press.com/article/125964005.pdf

39. 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. https://doi.org/10.1016/j.sbspro.2015.01.1225

40. Masyhuri, M. (2023). Competitive priorities as operations management strategy enablers. *International Journal of Management Science and Application, 2*(2), 37-47. https://doi.org/10.58291/ijmsa.v2i2.132

41. Maya, A. Y., & Shammah, A. S. (2019). The role of knowledge management dimensions in improving competitive advantage: Field study at Tishreen University. *Tishreen University Journal for Research and Scientific Studies-Economic and Legal Sciences Series, 41*(2), 169-186. (In Arabic). Retrieved from https://journal.tishreen.edu.sy/index.php/econ-law/article/view/8610

42. Ministry of Planning and International Cooperation. (2023). *Economic and Social Developments in Yemen 2023.* Republic of Yemen. Retrieved from https://www.mopic-taiz.com/wp-content/uploads/2023/08/YSEU-78-Arabic-version.pdf

43. Moumeni, A., & Terbeche, M.M. (2020). The impact of supply chain management on the competitive advantage of the economic enterprise: The case of "SOITEX" division in Tlemcen. *Journal of the Institute of Economic Sciences, 23*(2), 619-639. http://dx.doi.org/10.54244/1902-023-002-029

44. Mugali, M. B. A. (2018). Relationship between supply chain management and operational performance: Field study in pharmaceutical companies of the public sector. *Journal of Research Contemporary Business, 32*(1), 236-270. (In Arabic). Retrieved from https://search.emarefa.net/detail/BIM-958552

45. Nadarajah, D. (2013). *Fostering sustainable competitive advantage through business process management* (Ph.D. Dissertation). University of Malaya. Retrieved from http://studentsrepo.um.edu.my/5741/

46. Nimeh, H. A., Abdallah, A. B., & Sweis, R. (2018). Lean supply chain management practices and performance: Empirical evidence from manufacturing companies. *International Journal of Supply Chain Management, 7*(1), 1-15. https://ojs.excelingtech.co.uk/index.php/IJSCM/article/view/1844

47. Odongo, E. N. (2017). *Supply chain integration and performance of public universities in Kenya* (Master's Thesis). University of Nairobi, Kenya. Retrieved from http://erepository.uonbi.ac.ke/handle/11295/102100

48. Potjanajaruwit, P. (2018). Competitive advantage effects on firm performance: A case study of startups in Thailand. *Journal of International Studies, 10*(1), 104-111. http://dx.doi.org/10.14254/2071-8330.2018/11-3/9

49. Qureshi, K. M., Mewada, B. G., Buniya, M. K., & Qureshi, M. R. N. M. (2023). Analyzing critical success factors of lean 4.0 implementation in small and medium enterprises for sustainable manufacturing supply chain for industry 4.0 using PLS-SEM. *Sustainability, 15*(6), Article 5528. https://doi.org/10.3390/su15065528

50. Quynh, D. V., & Huy, N. H. (2018). Supply chain management practices, competitive advantages and firm performance: A case of small and medium enterprises (SMEs) in Vietnam. *Journal of Modern Accounting and Auditing, 14*(3), 136-146. https://www.david-publisher.com/Public/uploads/Contribute/5ad55b009b2e9.pdf

51. Rakiman, U.S., Kumar, R. S., Rasi, R. Z., Mohamad, W. M. W., & Haron, H. (2023). The impact of supply chain management practices on competitive advantage. *International Journal of Business and Social Science, 14*(4), 1-19. https://ijbssnet.com/journals/Vol_14_No_4_September_2023/1.pdf

52. Roth, A. V., & Miller, J. G. (1992). Success factors in manufacturing. *Business horizons,* 35(4), 73-81. https://doi.org/10.1016/S0007-6813(05)80165-X

53. Saif, A. A. M., & Aqlan, M. N. M. (2025). The impact of Information technology in the priorities of competitive manufacturing: A field study at the industrial companies of the group of Hayel Saeed Anam & Co. – Yemen. *Sana'a University Journal of Human Sciences, 4*(1), 1-35. (In Arabic). https://doi.org/10.59628/jhs.v4i1.1331

54. Seddik, K. M. (2019). Determination of competitive priorities at Egyptian Garment Manufacturing. *International Journal of Economics Business and Management Studies, 6*(1), 214-222. https://doi.org/10.20448/802.61.214.222

55. Sekaran, U., & Bougie, R. (2016). *Research methods for business: A skill-building approach* (7th ed.). Wiley & Sons. Retrieved from https://digilib.politeknik-pratama.ac.id/assets/dokumen/ebook/feb_f006f-52b62a646e28c8c7870aa1112f-bcd0c49ca_1650455622.pdf

56. Sharma, A., Adhikary, A., & Borah, S. B. (2020). Covid-19s impact on supply chain decisions: Strategic insights from NASDAQ 100 firms using Twitter data. *Journal of Business Research, 117,* 443-449. https://doi.org/10.1016/j.jbusres.2020.05.035

57. Siahaan, T., & Nazaruddin, I. S. (2020). The effect of supply chain management on competitive advantage and operation organization performance at PT PLN (Persero). *International Journal of Research and Review, 7*(4), 80-87. Retrieved from https://www.ijrrjournal.com/IJRR_Vol.7_Issue.4_April2020/IJRR0012.pdf

58. Singh, D., & Verma, A. (2018). Inventory management in supply chain. *Materials Today: Proceedings, 5*(2), 3867-3872. https://doi.org/10.1016/j.matpr.2017.11.641

59. Slack, N., Chambers, S., & Johnston, R. (2010). *Operations management* (6th ed.). Pearson education. Retrieved from https://carlbamford.weebly.com/uploads/4/4/1/3/4413567/operations_management_6th_ed.pdf

60. Tarigan, Z. J. H., Siagian, H., & Bua, R. R. (2019). The impact of information system implementation to the integrated system

http://dx.doi.org/10.21511/ppm.23(3).2025.29

for increasing the supply chain performance of manufacturing companies. *IOP Conference Series: Materials Science and Engineering, 473*(1), 1-7. https://doi.org/10.1088/1757-899X/473/1/012050

61. Tawfik, M. M. (2008). The impact of plant size and type of industry on manufacturing competitive priorities: An empirical investigation. *Competitiveness Review: An International Business Journal, 18*(4), 351-366. https://doi.org/10.1108/10595420810920824

62. Tuazama, P. D. (2015). *Supply chain management practices and organizational performance of supermarkets in Nairobi* (Master's Thesis). University of Nairobi, Kenya. Retrieved from https://www.coursehero.com/file/198200942/Tuazama-Supply-chain-management-practices-and-organizational-performance-of-supermarkets-in-Nairobip/

63. Uwamahoro, A. (2018). Effects of supply chain integration on performance: An analysis of manufacturing firms in Rwanda. *East Africa Research Papers in Business, Entrepreneurship and Management, 3,* 3-20. Retrieved from https://ju.se/download/18.243bd3a4161b08d5c58163c6/1520578298502/EARP-BEM%202018-13%20Uwamahoro.pdf

64. Vencataya, L., Seebaluck, A.K., & Doorga, D. (2016). Assessing the impact of supply chain management on competitive advantage and operational performance: A case of four-star hotels of Mauritius. *International Review of Management and Marketing, 6*(4), 61-69. Retrieved from https://dergipark.org.tr/en/download/article-file/366912

65. Wad, A. J. (2018). *The effect of applying the Blue Ocean Strategy on the competitive advantage* (Unpublished Master's Thesis). Syrian Virtual University, Damascus, Syria. Retrieved from https://pedia.svuonline.org/course/index.php?categoryid=13&lang=ar

66. Wijetunge, W. A. D. S. (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. Retrieved from https://iraj.doionline.org/dx/IJMAS-IRAJ-DOIONLINE-6811

67. Xia, T., Wang, Y., Lv, L., Shen, L., & Cheng, T. C. E. (2023). Financing decisions of the low-carbon supply chain under chain-to-chain competition. *International Journal of Production Research, 61*(18), 6153-6176. https://doi.org/10.1080/00207543.2021.2023833

68. Younis, H., Shbikat, N., Bwaliez, O. M., Hazaimeh, I., & Sundarakani, B. (2025). An overarching framework for the successful adoption of IoT in supply chains. *Benchmarking: An International Journal*. https://doi.org/10.1108/bij-10-2023-0750

69. Zarafili. L. S. J., & Al-Bashabsheh. S. A. (2023). The impact of supply chain on achieving competitive advantage on the Jordanian companies for the human pharmaceutical industry. *Mutah Journal of Humanities and Social Sciences, 38*(4). (In Arabic). https://doi.org/10.35682/mjhss.v38i4.725

70. Zhang, X., Zhao, Q., Zhang, J., & Yue, X. (2023). Logistics service supply chain vertical integration decisions under service efficiency competition. *Sustainability, 15*(5), Article 3915. https://doi.org/10.3390/su15053915

APPENDIX A

Table A1. Questionnaire

Part 1. Personal and Job Details			
The name of the company:			
1	Gender	□ male	□ female
2	Age	□ less than 30 years old □ 40 - 30 years old 50 – 41 □ years old □ more than 50 years old	
3	Education Level	□ High school or less □ Post-secondary diploma □ Bachelor's degree □ Master's degree □ Ph.D.	
4	Occupation	□ General Manager/Deputy General Manager □ Department Manager □Section Head □ Supervisor □ Specialist	
5	Work Experience	□ less than 5 years □ 5-10 years □ 11-15 years □ more than 15 years	

Part 2								
	Paragraph	Response Alternatives 1 to 7)						
		Strongly Agree (7)	Agree (6)	Somewhat Agre (5)	Neutral (4)	Somewhat disagree (3)	Disagree (2)	Strongly Disagree (1)
The first axis: Independent variable (Supply chain management practices)								
The first dimension: Supplier relationship								
1	The company management is keen to form a long-term relationship with suppliers.							
2	The management exchanges information with suppliers in a transparent manner.							
3	The management works to involve suppliers in its various activities.							
4	Post supply services are tailored to the requirements of the company.							
5	The management carefully considers suppliers' complaints.							
The second dimension: Customer relationship								
6	The management is keen to develop long-term relationships with customers.							
7	The management is keen to evaluate customer satisfaction on an ongoing basis.							
8	The management carefully considers customer complaints.							
9	The management considers customer suggestions in developing its products.							
10	The management continuously determines customers' future expectations.							
The third dimension: Internal operations								
11	The company is characterized by the ability to respond to external changes by restructuring its internal activities.							
12	The management holds regular meetings between different organizational units.							
13	The company forms functional teams to solve problems.							
14	The management controls the volume of inventory through modern systems.							
15	The company follows international standards in carrying out its various operations.							
The fourth dimension: Information sharing								
16	Internal networks are available to share information quickly.							
17	There is a standardized information system across all departments for decision-making.							
18	The company shares information with partners clearly and transparently.							

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Table A1 (cont.). Questionnaire

	Part 2							
	Paragraph	Response Alternatives 1 to 7)						
		Strongly Agree (7)	Agree (6)	Somewhat Agre (5)	Neutral (4)	Somewhat disagree (3)	Disagree (2)	Strongly Disagree (1)
19	The company relies on an automated ordering system for supplies.							
20	The company provides adequate information to partners in a timely manner.							
The second axis: Dependent variable (Priorities of competitive manufacturing)								
The first dimension: Cost								
21	The company has a plan to minimize raw material costs.							
22	The cost of the company's products is less than that of competitors' products.							
23	The company limits the size of the order to match the cost.							
24	The company uses its available resources economically and rationally to minimize costs.							
25	The company's research and development policy seeks to minimize costs.							
The second dimension: Quality								
26	The company's products match the needs and desires of customers.							
27	The company pays attention to customer complaints, especially those related to quality.							
28	The company uses appropriate means of transport to maintain the quality of its products.							
29	The company directs customers toward proper storage conditions to preserve the quality of its products.							
30	The company inspects and tests the product during the manufacturing process.							
The third dimension: Flexibility								
31	The company has the ability to develop its products according to customers' wishes.							
32	The company has the ability to respond to any change in the amount of demand for its products.							
33	The company's management responds quickly to constant changes in consumer tastes.							
34	The machines and machinery used by the company are characterized by their multipurpose nature.							
35	The company's employees have multiple skills that enable them to perform more than one job or function.							
The fourth dimension: Delivery								
36	The company receives orders from suppliers on time.							
37	The company adheres to the delivery dates set with customers at all times.							
38	The company delivers customer orders faster than its competitors.							
39	The company has rapid product development programs.							
40	The company is interested in minimizing the waiting time for customers to receive the product.							

APPENDIX B

Table B1. The relative distribution of the target study population and sample, and the number of questionnaires distributed, recovered, and valid for the analysis

No.	Company	General Manager / Deputy General Manager	Department Manager	Section Head	Supervisor	Specialist	Population size	Sample size (distributed questionnaires)	Recovered questionnaires	Valid questionnaires for analysis	Percentage of valid questionnaires
1	Yemen Company for Industry and Commerce (YCIC)	1	7	7	7	7	29	29	28	27	93%
2	National Dairy and Food Co (Nadfood)	1	7	7	6	6	27	27	26	26	96%
3	General Industries & Packages Co. (GenPack)	1	7	6	5	5	24	24	24	24	100%
4	Advanced Food Industries (AFI)	1	6	4	4	4	19	19	19	19	100%
5	Yemen Company for Packaging Material Industry (YCPMI)	1	2	3	2	2	10	10	10	10	100%
6	United Industries Company (UIC)	1	2	3	2	2	10	10	10	10	100%
7	Yemen company for ghee & soap industry (YCGSI)	1	7	6	5	5	24	24	24	24	100%
8	National Company for Sponge and Plastic Industry (NCSPI)	1	7	6	5	5	24	24	24	24	100%
9	National Carton Industries Company (NCIC)	1	3	3	2	2	11	11	11	11	100%
10	Yemen Company for Flour Mills & Silos (YCFMS) [Aden]	1	6	6	8	8	29	29	26	26	90%
11	Al-Alam Industrial Company (AIC)	1	3	3	3	2	12	12	10	10	83%
12	National Cement Company (NCC)	1	6	4	5	5	21	21	21	21	100%
13	Yemen Egyptian Company for Medical Industries & Trading (YEBH)	1	3	3	2	2	11	11	11	9	82%
14	Arwa Mineral Water Company (ARWA)	1	4	4	3	3	15	15	13	13	87%
15	Hadramout Industrial Complex (HICO)	1	4	4	3	3	15	15	15	15	100%
16	Yemen Company for Flour Mills & Silos (YCFMS) [Hodeidah]	1	4	4	3	3	15	15	11	10	67%
17	Raas Issa Industrial Company (RIIC)	1	4	4	3	3	15	15	12	11	73%
18	Company for Sugar Refining (YCSR)	1	4	4	3	3	15	15	13	11	73%
	Total	18	86	81	71	70	326	326	308	301	92%

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