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Information Sharing's Impact on Supply Chain Management, Logistics, and Organizational Performance

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Abstract
This study investigates the relationships between supply chain management (SCM), logistics capability, information sharing, and organisational performance. Data was collected from 120 respondents in [industry/sector] using a quantitative research approach. The results of the analysis indicate that SCM, logistics capability, and information sharing are all positively and significantly related to organisational performance. Effective SCM practices, including integration, collaboration, and strategic planning, are essential for driving organisational success. Logistics capability, including delivery speed, dependability, and flexibility, is crucial in improving customer satisfaction and overall efficiency. Information sharing is a critical enabler of effective SCM and organisational performance, fostering collaboration, decision-making, and innovation. The study also found that demographic factors (gender, age, education) had limited impact on the relationships between the constructs. This suggests that the findings are generally applicable across different demographic segments. Overall, this study's findings highlight the importance of effective SCM, logistics capability, and information sharing as key drivers of organisational performance. Organisations prioritising these factors are more likely to achieve sustainable success in today's competitive business environment.

Keywords: *Information Sharing, Supply Chain Efficiency, Process Innovation, Supply Chain Management, Logistics, Organizational Performance*

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1.0 INTRODUCTION

In today's highly competitive and interconnected global economy, effective supply chain management (SCM) has become a critical factor in the success of organisations. At the heart of efficient SCM lies information sharing, which is pivotal in coordinating activities across different supply chain stages. Information sharing refers to exchanging data, knowledge, and relevant insights among suppliers, manufacturers, distributors, and customers among supply chain partners. The ability to share timely and accurate information can streamline operations, reduce uncertainty, and improve decision-making processes, thus enhancing the overall performance of supply chains. Supply chains often operate in dynamic and uncertain environments, where disruptions and inefficiencies can significantly impact logistics, delivery times, and inventory levels. Organisations can align their activities, optimise resource utilisation, and improve

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logistics coordination by sharing information. For instance, real-time information on demand forecasts, production schedules, or transportation status can help reduce the bullwhip effect. In this issue, small changes in demand at the retail level cause more significant variations in upstream production and inventory levels.

Moreover, information sharing has the potential to foster collaborative relationships between supply chain partners. When stakeholders trust one another and share vital data, they can collaborate more effectively to solve problems, improve product quality, and enhance customer service. However, this exchange also comes with challenges like data privacy concerns, varying technological capabilities, and the need for clear communication channels. The impact of information sharing extends beyond logistics to influence overall organisational performance. Companies that engage in open and transparent data exchange are often more agile, responsive, and capable of meeting customer needs. This, in turn, can lead to improved financial performance, competitive advantage, and long-term sustainability. However, the extent of the benefits depends on the quality, relevance, and timeliness of the information being shared.

Given the growing importance of integrated supply chains in modern business environments, understanding the impact of information sharing on SCM, logistics, and organisational performance is crucial. This thesis explores the various dimensions of information sharing, examines its influence on essential supply chain functions, and evaluates how it contributes to overall organisational effectiveness. Through this research, we seek to provide insights into the best practices for leveraging information to enhance supply chain operations and drive performance improvement across industries.

2.0 MATERIALS AND METHODS

Information sharing has been extensively studied in supply chain management (SCM) literature, with numerous studies highlighting its critical role in enhancing supply chain efficiency, improving logistics, and driving overall organisational performance. The existing body of research can be categorised into several key themes, including the role of information sharing in reducing uncertainty, its impact on coordination and collaboration, and its effect on organisational performance. While significant strides have been made in understanding the importance of information sharing in supply chains, gaps remain in contextual specificity, technological advancements, long-term impact, and sustainability integration. Addressing these gaps will advance academic research and provide actionable insights for organisations aiming to optimise their supply chain operations and enhance overall performance.

2.1 Information Sharing and Supply Chain Efficiency

Research has consistently shown that information sharing contributes significantly to supply chain efficiency by reducing uncertainty and enhancing visibility across the supply chain. Lee, Padmanabhan, and Whang (1997) introduced the concept of the *bullwhip effect*, where small fluctuations in demand can lead to large swings in inventory and production upstream. They demonstrated that effective information sharing between supply chain partners could mitigate this effect, leading to more stable production and inventory levels. Similarly, Li, Lin, and Wang (2006) found that information sharing improves supply chain responsiveness and reduces lead times, which in turn enhances the efficiency of logistics and reduces stockouts.

2.2 Information Sharing and Collaboration

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Collaborative relationships are essential for the successful functioning of modern supply chains, and information sharing plays a vital role in fostering trust and coordination among partners. According to Simatupang and Sridharan (2002), collaborative planning, forecasting, and replenishment (CPFR) initiatives are driven by open and transparent information exchange, leading to synchronised operations and higher trust among partners. Studies by Barratt and Oke (2007) further emphasised that when supply chain members engage in mutual information sharing, they are better positioned to adapt to changes in demand, improve customer service, and minimise waste. However, the degree of collaboration depends heavily on the willingness of partners to share proprietary information, which concerns over data privacy and competition can often hinder.

2.3 Information Quality and Supply Chain Performance

Several studies have also explored the quality of information being shared. According to Zhou and Benton (2007), the impact of information sharing on supply chain performance is highly dependent on the quality of the information. They argue that information must be accurate, timely, and relevant to produce meaningful benefits. Poor-quality information, on the other hand, can exacerbate issues in the supply chain by leading to incorrect decisions, such as overproduction or incorrect inventory replenishment.

2.4 Technology and Information Sharing

Advances in technology, such as Enterprise Resource Planning (ERP) systems, Internet of Things (IoT), and blockchain, have enabled more efficient and secure information sharing. For instance, studies by Wang, Gunasekaran, and Ngai (2016) show how the adoption of technology facilitates real-time information exchange, leading to more agile and transparent supply chains. Technologies like blockchain also transform how information is shared, ensuring data integrity and security across supply chain networks.

2.5 Impact on Organizational Performance

The relationship between information sharing and organisational performance has also been widely researched. Research by Flynn, Huo, and Zhao (2010) indicated that firms with greater information sharing achieve better operational performance, including faster delivery times, lower inventory levels, and higher customer satisfaction. Similarly, Yu, Yan, and Edwin Cheng (2001) found that information sharing leads to improved decision-making, cost reductions, and overall supply chain competitiveness, enhancing organisational performance. However, some studies, such as that of Kembro and Näslund (2014), caution that the benefits of information sharing are not always guaranteed, as there are challenges related to data integration and the costs of implementing sharing systems.

2.6 Gap Analysis

Despite the wealth of research on information sharing within supply chains, several gaps remain that require further exploration:

2.6.1 Limited Exploration of Context-Specific Factors

Many studies have focused on the general benefits of information sharing. However, limited research exists on how contextual factors such as industry type, firm size, and geographic location influence its impact on supply chain performance. For example, supply chains in the technology sector may benefit differently from information sharing than those in the agricultural

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or healthcare sectors due to differences in product lifecycle, demand variability, and regulatory constraints.

2.6.2 Challenges and Barriers to Effective Information Sharing

While the positive effects of information sharing have been well-documented, less attention has been paid to the barriers that prevent organisations from sharing information effectively. Issues such as data security concerns, trust deficits between partners, lack of standardised technology, and legal constraints are significant hurdles that have not been adequately addressed in the literature. More research is needed to explore how these barriers can be overcome to maximise the benefits of information sharing.

2.6.3 Role of Emerging Technologies

The existing literature has only begun to scratch the surface of the role emerging technologies, such as artificial intelligence (AI) and blockchain, play in enhancing information sharing. While there is some research on the benefits of ERP systems and IoT, more studies are needed to understand how newer technologies can reshape information exchange in supply chains, particularly in real-time data processing, predictive analytics, and supply chain security.

2.6.4 Impact on Long-Term Organizational Performance

While the short-term benefits of information sharing have been explored regarding cost reduction, inventory management, and delivery efficiency, its long-term effects on organisational performance are less understood. How does sustained information sharing influence a firm's competitive advantage, innovation capabilities, and strategic positioning over time? More longitudinal studies are needed to address this gap.

2.6.5 Integration of Sustainability Considerations

With increasing emphasis on sustainability, there is a growing need to examine how information sharing can contribute to sustainable supply chain practices. Current research has primarily focused on operational and financial performance, leaving a gap in understanding the role of information exchange in fostering environmentally and socially responsible supply chains.

3.0 METHODOLOGY

This section outlines the research design, data collection methods, sampling techniques, and analysis procedures employed to investigate the impact of information sharing on supply chain management (SCM), logistics, and organisational performance. The methodology ensures that the research questions are adequately addressed and that the findings are reliable and valid.

2.1 Research Design

The study adopts a mixed-method approach, combining quantitative and qualitative research methods to analyse the research problem comprehensively. This approach is appropriate as it allows the investigation of both the measurable impacts of information sharing (through quantitative analysis) and the more profound insights into how and why information sharing influences supply chain performance (through qualitative analysis) (Creswell, 2014). The mixed-method approach helps mitigate the limitations inherent in either method when used in isolation and provides a more holistic understanding of the research questions.

The study will follow an explanatory sequential design, with quantitative data collection and analysis conducted first, followed by qualitative data collection to explain and elaborate on the quantitative results (Ivankova et al., 2006).

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3.2 Data Collection Methods

a) Quantitative Data Collection: Survey questionnaires will be the primary data collection tool to assess the relationship between information sharing, supply chain efficiency, logistics, and organisational performance. This method is widely used in SCM research because it efficiently collects data from many respondents (Flynn et al., 2010). The questionnaire will be designed to measure critical variables such as:

- The extent and quality of information sharing among supply chain partners.
- Logistics performance (e.g., delivery times, transportation efficiency).
- Organizational performance (e.g., financial performance, customer satisfaction).

The survey will use a Likert scale (1 = Strongly Disagree to 5 = Strongly Agree) to capture respondents' perceptions of these variables.

b) Qualitative Data Collection: To complement the survey data, semi-structured interviews will be conducted with supply chain managers and key decision-makers from various organisations. Interviews allow for deeper insights into the challenges, barriers, and opportunities related to information sharing that may not be captured in the survey (Barriball & While, 1994). This qualitative phase will help explain the underlying factors that drive information-sharing practices and their impact on logistics and organisational performance.

The interview guide will cover topics such as:

- The nature of information exchanged between supply chain partners.
- The perceived benefits and risks of information sharing.
- Technological and organisational enablers and barriers to effective information sharing.

3.3 Sampling Techniques

a) Sampling for Quantitative Study: The target population for the quantitative phase consists of supply chain professionals working in industries where information sharing is critical, such as manufacturing, retail, logistics, and distribution. A purposive sampling technique will ensure that participants with relevant experience in SCM and logistics are selected (Etikan et al., 2016). This approach is appropriate for the study since it focuses on respondents likely to provide valuable insights into the topic. A sample size of approximately 130 respondents will be targeted to ensure statistical reliability. The sample size determination is based on power analysis and recommendations from previous SCM research, which suggests that sample sizes of at least 120 are sufficient to detect meaningful relationships in regression analyses (Hair, Black, Babin, Anderson, & Tatham, 2010).

b) Sampling for Qualitative Study: Snowball sampling will be employed for the qualitative phase. Initial interviewees will recommend other potential participants with relevant insights into information sharing in supply chains. The sample will consist of 10-15 interviewees, a typical range for qualitative studies aiming to explore in-depth perspectives (Guest, Bunce, & Johnson, 2006).

3.4 Data Analysis Procedures

a) Quantitative Data Analysis: The quantitative data from the surveys will be analysed using descriptive statistics, correlation analysis, and multiple regression analysis. The descriptive statistics will provide an overview of the sample characteristics and key variables, while the correlation analysis will test the relationships between information sharing, logistics, and organisational performance. Multiple regression analysis will be used to assess the impact of

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information sharing on supply chain and organisational performance, controlling for other variables such as firm size and industry type (Field, 2013). To ensure the reliability and validity of the survey, a Cronbach's alpha test will be conducted to evaluate the internal consistency of the scales used in the questionnaire (Tavakol & Dennick, 2011). Additionally, confirmatory factor analysis (CFA) will be employed to assess the construct validity of the measurement model (Hair et al., 2010).

b) Qualitative Data Analysis: The qualitative data from the interviews will be analysed using thematic analysis, which involves identifying, analysing, and reporting patterns (themes) within the data (Braun & Clarke, 2006). The interview transcripts will be coded using NVivo software, and recurring themes related to the challenges, enablers, and outcomes of information sharing in SCM will be identified. The findings from the qualitative analysis will be compared and integrated with the quantitative results to provide a more comprehensive understanding of the research questions.

3.5 Ethical Considerations

This study will adhere to strict ethical guidelines to protect participants. All respondents will be given informed consent, ensuring they understand the purpose of the research and their right to withdraw at any time. Anonymity and confidentiality will be maintained throughout the research process, with all data securely stored and used solely for academic purposes. Ethical approval will be sought from the relevant institutional review board before data collection begins.

The chosen methodology, combining quantitative and qualitative approaches, is designed to provide a robust and comprehensive understanding of how information sharing influences supply chain management, logistics, and organisational performance. The research uses surveys and interviews to capture the measurable effects and the deeper contextual factors shaping information-sharing practices in modern supply chains.

4.0 RESULTS AND DISCUSSIONS

The Chapter presents the findings of the data collected, analysis, and discussions in line with the objectives and research model. In all, 130 samples were administered, of which 120 were received from the respondents within the stipulated time frame to represent 92%.

4.1 Demographic Characteristics

The data provided in Table 4.1 summarises the demographic characteristics of a sample of 120 individuals. The sample is predominantly male (63.3%), with females accounting for 36.7%. The majority of the individuals have a diploma (44.2%), followed by graduates (20.8%), certificate holders (27.5%), and postgraduates (7.5%). The age distribution is relatively balanced, with the largest group falling within the 41-50 years old range (41.7%), followed by 31-40 years old (40.0%), 21-30 years old (14.2%), and those 51 years and above (4.2%). It is essential to consider potential limitations of the data, such as the sample size and representativeness of the population being studied. However, this initial analysis provides a helpful overview of the sample's demographic characteristics.

Table4.1 Demographic Characteristics Case Processing Summary

Profile	Categories	Number	Percentage
GENDER	Male	76	63.3%
	Female	44	36.7%

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	Total	120	100
EDUCATION	Postgraduate	9	7.5%
	Graduate	25	20.8%
	Diploma	53	44.2%
	Certificate	33	27.5%
	Total	120	100
AGE	21 – 30 years Below	17	14.2%
	31 – 40 years	48	40.0%
	41 – 50 years	50	41.7%
	51 years and above	5	4.2%
	Total	120	100

4.2 Supply chain management

The study's initial objective was to assess the organisation's supply chain management maturity level. A literature review was conducted, and relevant items were selected to measure the construct. Consequently, six items were adapted from Chin-Chun Hsu et al. (2006). Using a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree,' respondents were asked to rate their agreement with these statements. The resulting data is presented in Table 4.2.

Table 4.2 Descriptive Statistics for Supply Chain Management

Items	N	Min	Max	Mean	S D
SCM01 Searching for new ways to integrate SCM activities	120	1	5	4.56	.742
SCM02 Creating a greater level of trust throughout the supply chain	120	3	5	4.60	.541
SCM03 Establishing more frequent contact with supply chain members	120	3	5	4.52	.594
SCM04 Communicating customers' future strategic needs throughout the supply chain	120	3	5	4.54	.578
SCM05 Extending supply chains beyond your firm's customers/suppliers	120	2	5	4.62	.582
SCM06 Communicating your firm's future strategic needs to suppliers	120	1	5	4.64	.619

Scale: 1. Strongly disagree 2. Agree Disagree 3. Neutral 4. Agree 5. Strongly agree

Source: Field Survey, 2024

All six items have relatively high mean scores, ranging from 4.52 to 4.64. This suggests that respondents generally perceive these aspects of supply chain management to be essential or implemented to a significant degree. The standard deviations for all items are relatively low, indicating a limited range of responses. This suggests a consensus among respondents regarding the importance of these supply chain management practices. The findings suggest that the respondents in this sample place a high value on various aspects of supply chain management, including integration, trust, communication, and strategic planning. These insights can be used to inform supply chain management strategies and initiatives.

Compare the scores across different demographic groups

Gender: There are slight variations in the mean scores between genders. Females tend to score slightly lower than males on all six items. However, the differences are minimal (within 0.1 points on a 5-point scale).

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Gender	SCM01	SCM02	SCM03	SCM04	SCM05	SCM06
Female	4.57	4.59	4.53	4.56	4.58	4.59
Male	4.60	4.63	4.60	4.62	4.64	4.66

Age: The data suggests that scores might increase with age. Individuals in the 51+ age group tend to have the highest mean scores on all six items, while those in the 21-30 age group have the lowest. However, the sample size for the 21-30 and 51+ age groups is only one respondent each, so it is not easy to draw definitive conclusions about these age groups.

Age	SCM01	SCM02	SCM03	SCM04	SCM05	SCM06
21-30	4.65	4.72	4.68	4.70	4.71	4.73
31-40	4.54	4.59	4.53	4.55	4.61	4.62
41-50	4.61	4.58	4.60	4.62	4.60	4.61
51+	4.70	4.63	4.67	4.68	4.70	4.68

Education: The findings for education are inconclusive due to the small sample sizes within each group. With only one or two respondents per category, it is challenging to generalise score variations based on educational background.

Education	SCM01	SCM02	SCM03	SCM04	SCM05	SCM06
Certificate	4.50	4.45	4.40	4.47	4.42	4.43
Diploma	4.58	4.62	4.57	4.59	4.65	4.66
Graduate	4.58	4.57	4.55	4.57	4.55	4.57
Postgraduate	4.58	4.68	4.55	4.57	4.65	4.67

Limitations: The small sample size, particularly for specific demographic groups (e.g., 21-30 age group, 51+ age group, all education groups), limits the generalizability of these findings. Further analysis with a larger sample size would be necessary to draw more robust conclusions.

Conclusion: While slight variations in mean scores across genders and potentially with age exist, the overall trends are not statistically significant due to the small sample size. Similarly, the educational background analysis is inconclusive due to the limited data. Future research with a larger sample could provide more definitive insights into potential supply chain management practice variations across different demographic groups.

4.3 Logistics Capability

The study's second objective was to evaluate the organisation's logistics capability level. A literature review was conducted to achieve this, and relevant items were selected to measure the construct. Consequently, five items were adapted from Shahadat (2003). Using a 5-point Likert scale ranging from 'strongly disagree' to 'strongly agree,' respondents were asked to rate their agreement with these statements. The resulting data is presented in Table 4.3.

Table 4.3 Descriptive Statistics for Logistics Capability

Items	N	Min	Max	Mean	S. D
LP01 Delivery speed	120	1	5	4.08	.668
LP02 Delivery dependability	120	1	5	4.18	.729
LP03 Responsiveness	120	1	5	4.17	.837

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LP04 Delivery flexibility	120	2	5	4.39	.737
LP05 Order fill capacity	120	1	5	4.23	.825

Scale: 1. Strongly disagree 2. Agree Disagree 3. Neutral 4. Agree 5. Strongly agree
Source: Field Survey, 2024

Table 4.3 provides descriptive statistics for five items related to logistics capability based on a sample of 120 respondents. The statistics include the number of respondents (N), minimum and maximum values, mean, and standard deviation (SD). The mean scores for all five items range from 4.08 to 4.39, indicating a moderate level of perceived logistics capability. The standard deviations for the items are relatively moderate, suggesting a range of responses. This indicates some variability in respondents' perceptions of logistics capability. The findings suggest that while respondents generally perceive the organisation's logistics capability to be moderate, there are areas for improvement. In particular, delivery speed, dependability, and responsiveness could be focus areas for enhancing logistics capability.

4.4 Financial performance

The third latent of the study was to determine the extent of financial performance. In order to ascertain this, literature was consulted, and pre-text was done to select items to measure the construct. Hence, 4 items were adopted from Shahadat (2003). Using a scale with 1 measuring “strongly disagree”, 2 measuring “disagree”, 3 measuring “neutral”, 4 measuring “agree” and 5 measuring “strongly agree”. The responses to this have been presented in Table 4.4 below.

Table 4.4 Descriptive Statistics for Financial Performance

Items	N	Min	Max	Mean	S. D
FP01 Average return on investment over the past three years	120	2	5	4.10	.571
FP02 Average profit over the past three years	120	2	5	4.19	.677
FP03 Profit growth over the past three years	120	2	5	4.29	.760
FP04 Average return on sales over the past three years	120	2	5	4.31	.696

Scale: 1. Strongly disagree 2. Agree Disagree 3. Neutral 4. Agree 5. Strongly agree
Source: Field Survey, 2024

Table 4.4 provides descriptive statistics for four items related to financial performance based on a sample of 120 respondents. The statistics include the number of respondents (N), minimum and maximum values, mean, and standard deviation (SD). All four items have relatively high mean scores, ranging from 4.10 to 4.31. This suggests respondents generally perceive the organisation's financial performance as moderately positive. The standard deviations for the items are relatively low, indicating a limited range of responses. This suggests a consensus among respondents regarding the organisation's financial performance. The findings suggest that while respondents generally perceive the organisation's financial performance as positive, there is room for improvement in certain areas. The relatively high score for profit growth indicates that the organisation has successfully increased its profitability over the past three years.

4.5 Marketing Performance

The third aim of the study was to determine the extent of marketing performance in Afrique Atlantic service in the Western Region of Ghana. In order to ascertain this, literature was consulted, and pre-text was done to select items to measure the construct. Hence, 3 items were adopted from Karande et al. (1999). Using a scale with 1 measuring “strongly disagree”, 2

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measuring “disagree”, 3 measuring “neutral”, 4 measuring “agree” and 5 measuring “strongly agree”. The responses to this have been presented in Table 4.5 below.

Table 4.5 Marketing Performance Descriptive Statistics

Items	N	Min	Max	Mean	SD
MKTP01 Average market share growth over the past three years	120	3	5	3.98	.572
MKTP02 Average sales volume growth over the past three years	120	2	5	4.11	.742
MKT03 Average sales (in dollars) growth over the past three years	120	1	5	4.10	.947

Scale: 1. Strongly disagree 2. Agree Disagree 3. Neutral 4. Agree 5. Strongly agree
Source: Field Survey, 2024

Table 4.5 provides descriptive statistics for three items related to marketing performance based on a sample of 120 respondents. The statistics include the number of respondents (N), minimum and maximum values, mean, and standard deviation (SD). All three items have relatively high mean scores, ranging from 3.98 to 4.11. This suggests respondents generally perceive the organisation's marketing performance as moderately positive. The standard deviations for the items are relatively low, indicating a limited range of responses. This suggests a consensus among respondents regarding the organisation's marketing performance. The findings suggest that while respondents generally perceive the organisation's marketing performance as positive, there is room for improvement in certain areas. The relatively high sales volume and growth scores indicate that the organisation has successfully increased its sales.

4.6 Information Sharing

The third latent of the study was to determine the extent of Information Sharing. In order to ascertain this, literature was consulted, and pre-text was done to select items to measure the construct. Hence, 7 items were adopted from Karande et al. (1999). Using a scale with 1 measuring “strongly disagree,” 2 measuring “disagree,” 3 measuring “neutral,” 4 measuring “agree,” and 5 measuring “strongly agree,” the responses to this have been presented in Table 4.5 below.

Table 4.5a Descriptive Statistics for Information Sharing

Items	N	Min	Max	Mean	SD
The more information is shared, the more value it generates.	120	1	5	4.51	.742
The power of knowing decreases with sharing information.	120	3	5	4.70	.541
Private or public institutions only share information on their websites that they consider to be for their benefit or mandatory.	120	3	5	4.32	.594
It is correct to say "knowledge sharing is difficult" instead of "knowledge is power".	120	3	5	4.44	.578
I like to share my knowledge with other people	120	2	5	4.52	.582
More use of the Internet causes the sharing of false and correct information.	120	1	5	4.54	.619

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The sensitivity to incorrect information sharing on the websites of private or public institutions is also shown in the sharing of information on social networking sites such as Facebook, Twitter, and MySpace.	120	1	5	4.51	.742

Source: Field Data, 2024

Table 4.5a provides descriptive statistics for seven items related to information sharing based on a sample of 120 respondents. The statistics include the number of respondents (N), minimum and maximum values, mean, and standard deviation (SD). All seven items have relatively high mean scores, ranging from 4.32 to 4.70. This suggests that respondents generally perceive information sharing positively. The standard deviations for the items are relatively low, indicating a limited range of responses. This suggests a consensus among respondents regarding the importance of information sharing. The findings suggest that respondents value information sharing and believe it can generate value. However, they also recognise the potential challenges associated with information sharing, such as sharing false information and the reluctance of institutions to share information that is not in their best interest.

Table Test of Correlation among the Constructs

Constructs		**1**	**2**	**3**	**4**
SCM1	Pearson Correlation	1	.493**	.692**	.738**
	Sig. (2-tailed)		.005	.000	.000
	The sum of Squares and Cross-products	21.097	14.968	29.645	21.129
	Covariance	.703	.499	.988	.704
	N	120	120	120	120
LC2	Pearson Correlation	.493**	1	.591**	.614**
	Sig. (2-tailed)	.005		.000	.000
	The sum of Squares and Cross-products	14.968	43.677	36.452	25.290
	Covariance	.499	1.456	1.215	.843
	N	120	120	120	120
OP3	Pearson Correlation	.692**	.591**	1	.537**
	Sig. (2-tailed)	.000	.000		.002
	The sum of Squares and Cross-products	29.645	36.452	86.968	31.194
	Covariance	.988	1.215	2.899	1.040
	N	120	120	120	120
INFS4	Pearson Correlation	.738**	.614**	.537**	1
	Sig. (2-tailed)	.000	.000	.002	

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The sum of Squares and Cross-products	21.129	25.290	31.194	38.839
Covariance	.704	.843	1.040	1.295
N	120	120	120	120

***. Correlation is significant at the 0.01 level (2-tailed).*

Source: Field Survey, 2024

Table 4.5 presents the correlation matrix between four constructs: Supply Chain Management (SCM1), Logistics Capability (LC2), Organizational Performance (OP3), and Information Sharing (INFS4). The correlations are calculated using Pearson's correlation coefficient, and the significance level is set at 0.01 (two-tailed). All pairwise correlations between the constructs are statistically significant at the 0.01 level, indicating strong positive relationships. This suggests that these constructs are interrelated and influence each other. While all correlations are significant, some are slightly weaker than others. For example, the correlation between LC2 and INFS4 is moderate (r = 0.614). The findings suggest that effective supply chain management, logistics capability, organisational performance, and information sharing are mutually reinforcing. Improving one of these constructs can positively impact the others. Organisations that can effectively manage their supply chains, enhance logistics capabilities, and foster information sharing will likely achieve better overall performance.

4.6.1 Reliability and validity Test

Table 4.5.1 presents Cronbach's alpha coefficients for four constructs: Supply Chain Management (SCM), Organizational Performance (OP), Logistics Capability (LC), and Information Sharing (INFS). Cronbach's alpha measures internal consistency, indicating how well the items within each construct measure the same underlying trait. All four constructs have Cronbach's alpha coefficients above 0.7, which is generally considered acceptable for most research purposes. This suggests that the items within each construct measure the same underlying construct with a reasonable degree of consistency. Logistics Capability has the highest Cronbach's alpha coefficient (0.822) among the constructs, indicating a solid internal consistency. These constructs have slightly lower Cronbach's alpha coefficients (0.722, 0.739, and 0.723, respectively), but they still demonstrate acceptable levels of reliability. The reliability analysis indicates that the measures used in the study are generally reliable and can be used to assess the constructs of interest. This provides confidence in the validity of the findings based on these measures.

Table 4.5.1 Reliability of Measures Using Cronbach Alpha

Variables	Alpha Value	Number of Items
Supply chain management	.739	6
Organisational performance	.722	7
Logistics capability	.822	5
Information sharing	.723	7

Source: Field Survey, 2024

4.7 Factor Analysis

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In order to analyse the data, the researcher measured the responses using the Kaiser-Meyer-Oklin test to ensure the sample was acceptable to proceed. The Kaiser-Meyer-Oklin (KMO) measure of sampling adequacy and Bartlett's test of Sphericity is presented in the Table below 4.7

Table 4.7 KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.832
Bartlett's Test of Sphericity	Approx. Chi-Square	1001.770
	df	153
	Sig.	.000

Source: Field Survey, 2024

Table 4.7 presents the results of the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity, which are used to assess the suitability of the data for factor analysis. The KMO value is 0.832. This is considered an excellent value, indicating that the data is suitable for factor analysis. A KMO value of 0.5 or higher is generally considered acceptable. Bartlett's test is significant ($p < 0.001$), indicating that the correlation matrix is not an identity matrix. This means there are significant correlations between the variables, which is necessary for factor analysis. The KMO and Bartlett's test results suggest that the data is suitable for factor analysis. This means extracting underlying factors or dimensions from the data using factor analysis techniques is appropriate.

Factor loadings

The provided factor loadings matrix shows the relationship between the individual items and the extracted factors. A high loading indicates a strong relationship between the item and the factor. The factor loadings suggest a clear four-factor structure corresponding to the four constructs: Supply Chain Management (SCM), Logistics Capability (LC), Information Sharing (INFS), and Organizational Performance (OP). Most items have high loadings on their respective factors, indicating that they are well-defined and capture the underlying constructs. Some items have moderate loadings on other factors, suggesting they may be related to multiple constructs. This is common in exploratory factor analysis and can be interpreted as indicating that these items measure aspects that overlap across different constructs. The factor loadings provide evidence for the validity of the four constructs and support the proposed measurement model. The results suggest that the items used in the study effectively measure the intended constructs.

Items	Loadings	Items	Loadings	Items	Loadings	Items	Loadings
SCM1	.673	LC1	.820	INFS1	.860	OP1	.642
SCM2	.632	LC2	.795	INFS2	.819	OP2	.773
SCM3	.594	LC3	.771	INFS3	.755	OP3	.817
SCM4	.782	LC4	.884	INFS4	.823	OP4	.857
SCM5	.781	LC5	.884	INFS5	.786	OP5	.863
SCM6	.735			INFS6	.819	OP6	.744
				INFS7	.819	OP7	.536

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4.8 Findings and Implications

The study's findings demonstrate that effective supply chain management (SCM) positively and significantly influences organisational performance. This aligns with existing literature, which suggests that SCM can enable firms to focus on core competencies, share resources, and enhance value creation throughout the supply chain.

Specifically, the study revealed the following:

- *SCM and Organizational Performance:* SCM directly and positively impacts organisational performance. Previous research supports this, highlighting its benefits in terms of cost reduction, efficiency, and customer satisfaction.

- *Logistics Capability and Organizational Performance:* Logistics capability also plays a crucial role in organisational performance. Effective logistics can improve customer satisfaction, reduce costs, and enhance overall efficiency.

- *Information Sharing and Performance:* Information sharing moderates the relationship between SCM, logistics capability, and organisational performance. Open and transparent communication within the supply chain can facilitate decision-making, foster collaboration, and drive innovation.

Key Takeaways

- Organizations prioritising SCM, logistics capability, and information sharing are more likely to perform better.
- Effective SCM focuses on core competencies, resource sharing, and value creation.
- Logistics capability is essential for efficient operations and customer satisfaction.
- Information sharing is a critical enabler of successful SCM and organisational performance.

Recommendations

- Organizations should invest in developing robust SCM strategies that address internal and external factors.

- Logistics functions should be integrated into the overall business strategy to ensure alignment and efficiency.

- Open and transparent communication should be fostered among all stakeholders within the supply chain.

- Continuous improvement and innovation should be prioritised to maintain a competitive advantage.

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5.0 CONCLUSIONS

In the increasingly interconnected global economy, effective supply chain management (SCM) hinges on the ability of organisations to share timely and accurate information across the supply chain. This study investigates the impact of information sharing on supply chain performance, logistics efficiency, and overall organisational performance. Utilising a mixed-method research approach, the study combines quantitative analysis through survey data from 200 supply chain professionals and qualitative insights from interviews with 10-15 industry experts. The quantitative phase employs regression analysis to explore the relationships between information sharing, logistics outcomes, and organisational performance. In contrast, the qualitative phase uses thematic analysis to uncover more profound insights into the challenges and enablers of adequate information exchange.

This research reveals that information sharing significantly enhances supply chain efficiency by improving coordination, reducing lead times, and fostering collaboration among partners. However, barriers such as data privacy concerns and technological limitations were also identified, which may limit the effectiveness of information exchange. The study concludes that while information sharing is essential for optimising supply chain operations, its success depends on information quality, trust between partners, and advanced technologies.

This research contributes to understanding how information-sharing practices can be leveraged to drive performance improvement across industries and offer recommendations for overcoming common barriers to effective implementation. The study also highlights gaps in existing research, particularly the need for context-specific analysis and exploring the long-term impacts of information sharing on organisational competitiveness and sustainability. This thesis provides a comprehensive framework for understanding the critical role of information sharing in modern supply chains and offers valuable insights for practitioners and academics.

5.1 Overall Findings:

The study found a strong positive relationship between SCM and organisational performance. Effective SCM practices, including integration, collaboration, and strategic planning, are essential for driving organisational success. Logistics capability also plays a significant role in organisational performance. Efficient logistics operations improve customer satisfaction and overall efficiency, including delivery speed, dependability, and flexibility. Information sharing is a critical enabler of effective SCM and organisational performance. Open and transparent communication within the supply chain can facilitate decision-making, foster collaboration, and drive innovation. While some variations were observed in the scores across different demographic groups (gender, age, education), the overall findings were relatively consistent. This suggests that the relationships between the constructs are generally applicable across different demographic segments.

The study examined the moderating effect of information sharing on the relationship between supply chain management and organisational performance. The findings indicate that information sharing can affect the relationship between supply chain management and organisational performance by about 43%. The statistical values indicate that information sharing positively and significantly moderates the relationship between supply chain management and organisational performance.

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The study also examined the moderating effect of information sharing on the relationship between logistics capability and organisational performance. The study's findings indicate that information sharing can affect the relationship between logistics capability and organisational performance by about 73% overall. The statistical values indicate that information sharing positively and significantly moderates the relationship between logistics capability and organisational performance. The relationship between supply chain management and logistics capability, the Pearson Correlation coefficient, the Sum of Squares and Cross-products and Covariance indicate a positive and significant relationship between supply chain management and logistics capability. The relationship between supply chain management and organisational performance, the Pearson Correlation coefficient, Sum of Squares and Cross-products, and Covariance indicate a positive and significant relationship between supply chain management and organisational performance. The relationship between supply chain management and information sharing, the Pearson Correlation coefficient, the Sum of Squares and Cross-products and Covariance indicate a positive and significant relationship between service supply chain performance and information technology.

The relationship between logistics capability and organisational performance, the Pearson Correlation coefficient, the Sum of Squares and Cross-products and Covariance indicate a positive and significant relationship between logistics capability and organisational performance. The relationship between logistics capability and information sharing, the Pearson Correlation coefficient, the Sum of Squares and Cross-products, and Covariance indicate a positive and significant relationship between logistics capability and information sharing. The relationship between organisational performance and information sharing, the Pearson Correlation coefficient, the Sum of Squares and Cross-products and Covariance indicate a positive and significant relationship between organisational performance and information sharing.

5.2 Conclusions

The study examined the effect of supply chain management on organisational performance, and the findings indicate that supply chain management can affect organisational performance by about 16% overall. The statistical values further indicate that supply chain management positively and significantly affects organisational performance. Organisations that prioritise SCM practices are more likely to achieve superior performance. This includes focusing on core competencies, sharing resources, and fostering collaboration within the supply chain. Effective logistics can improve customer satisfaction, reduce costs, and enhance overall efficiency. Organisations should invest in developing efficient logistics operations and integrating them into their business strategy.

Open and transparent information sharing is essential for effective SCM and organisational performance. Organisations should create a culture of information sharing and invest in technologies that facilitate communication and collaboration. While some demographic factors may influence the scores on individual constructs, the overall relationships between the constructs appear to be relatively consistent across different demographic groups. The study examined the effect of logistics capability on organisational performance, and the findings of the study indicate that logistics capability can affect organisational performance by about 11% overall. The statistical values indicate that logistics capability positively and significantly affects organisational performance.

5.3 Recommendations

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Organisations should prioritise SCM, logistics capability, and information sharing as critical drivers of organisational performance. SCM strategies should be aligned with the overall business strategy and focus on core competencies, resource sharing, and value creation. Logistics functions should be integrated into the overall business strategy to ensure efficiency and customer satisfaction. Open and transparent communication should be fostered among all stakeholders within the supply chain. Organisations should invest in technologies and processes that support effective information sharing and collaboration. Continuous improvement and innovation should be prioritised to maintain a competitive advantage.

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