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The Role of Supplier Relationship Management to the Supply Chain Performance of an Organization; A Case of Inyange Industries in Kicukiro District, Rwanda

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The Role of Supplier Relationship Management to the Supply Chain Performance of an Organization; A Case of Inyange Industries in Kicukiro District, Rwanda

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Abstract

The research study was role of supplier relationship management to the supply chain performance of an organisation. A case of Inyange industries in Kicukiro district, Rwanda and the target population was 152 employees and the same sample size was 152 as respondents .Study employed descriptive statistics and inferential statistics, and data was analysed with aid of SPSS software program version 25.0, descriptive statistics and inferential statistics were used to present frequencies tables, percentages, mean and standard deviation and Inferential analysis was employed in order to use Pearson correlation and multiple regression model to test the relationship between the independent variables and dependent variable. Descriptive statistics used to produce frequency tables, percentages and mean and standard deviation. Inferential statistics were used in order to provide person correlation and multiple regression model to test and draw relationship between variables both for independent band dependent, the effect of information sharing on supply chain performance at Inyange Industries in Kicukiro district, Rwanda. The overall means of results was4.48, the effect of quality dependability on supply chain performance at Inyange industries in Kicukiro district, Rwanda. The overall means of results was 4.48, the effect of service reliability on supply chain performance at Inyange Industries in Kicukiro district, Rwanda. The overall means of results was 4.48, the effect of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district, Rwanda. The overall means of results was 4.30 and the data on supply chain performance was analysed, the overall means of results was 4.63. Based on the results, it presented that the supply chain performance was on good grades. It indicated that the relationship between Supplier relationship management and supply chain performance at Inyange Industries in Kicukiro district, Rwanda between Information sharing , Quality dependability ,Service reliability and supply chain strategy and supply chain performance was 0.919, 0.855 ,0 .808 and 0.912 respectively, The results present the variables of supplier relationship management; Information Sharing, was not statistically significant with p value=0.168b, the Quality Dependability was not statistically significant with p value=0.210b, and the Service Reliability was not statistically significant with p value=0.132b and Supply chain strategy was statistically significant with p value=0.000b. It concluded that there was a significant relationship between supplier

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relationship management and supply chain. The study recommended that MINICOM should mobilize Rwandan citizens to be involved in supplier relationship management in far as the value chain is concerned in order to again money thus personal economic improvement.
Keywords: *Supplier Relationship Management, Supply Chain Performance, Inyange Industries, Kicukiro District, Rwanda.*

1. Introduction

Supplier relationship management and supply chain management still experience malpractices in the business environment today, where a significant number of firms encounter disorganized and improper supplier relationships that hinder their daily operations (Lemke, Goffin, & Szwejczewski, 2002). These problems include substandard products, low trustworthiness, lack of customer services, and poor communication, which ultimately lead to portfolio system failures and business setbacks.

Cooperation between buyers and suppliers is essential to ensure performance and increase sales while minimizing inventory control and matching demand and supply (Mutangili, Awuor, & Cheluget, 2020). Inyange Industries, a leading food processing company in Rwanda, faces challenges due to low purchasing power among the majority of Rwandans, leading to limited market influence (Inyange, 2010). Farmers in the country complain about the lack of market for their milk, which could serve as raw material for Inyange Industries. Additionally, the company struggles with surplus milk production, minimal exports, and competition from imported pasteurized milk in the domestic market (Kanimba, 2011).

Furthermore, studies have shown that inadequate supplier management leads to poor supply chain performance. Ratemo (2011) found that suppliers' failure to maintain proper records and long cycle times resulted in increased procurement costs and poor relationships with suppliers. Murithi (2011) observed similar issues in a communications company, including reliance on a single supplier, lack of professionalism in the procurement department, and poor coordination and information sharing among supply chain partners. However, there is a lack of available data on the role of supplier relationship management in organizational supply chain performance, particularly in the case of Inyange Industries in Kicukiro district, Rwanda. This highlights the gap in existing research and underscores the need for further investigation into this area

1.1 Objectives of the Study

1.1.1 General Objective

The general objective of this study was to assess the role of supplier relationship management on supply chain performance.

1.1.2 Specific Objectives

(i) To determine the role of information sharing on supply chain performance at Inyange Industries in Kicukiro district Rwanda

(ii) To assess the role of quality dependability on supply chain performance at Inyange industries in Kicukiro district Rwanda

(iii) To examine the role of service reliability on supply chain performance at Inyange Indstries in Kicukiro district Rwanda

(iv) To analyze the role of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda

1.4 Research Hypotheses

H_{01}= There is no significant role of information sharing on supply chain performance at Inyange industries in Kicukiro district Rwanda

$H0_2$= There is no significant role of quality dependability on supply chain performance at Inyange Industries in Kicukiro district Rwanda

$H0_3$= There is no significant role of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda

$H0_4$=There is no significant role of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda.

2.1 Empirical Review

2.1.1 Information sharing on supply chain performance

In Kenya, Otieno and Getuno (2017) investigated the impact of supplier information sharing and procurement regulations on the performance of public secondary schools in Nairobi County. The study aimed to determine the effects of information sharing and procurement regulations on organizational performance. Using a census approach, data were collected from 76 procurement staff in six secondary schools using questionnaires. Descriptive research design was employed, and Pearson correlation coefficient analysis was conducted to assess the relationship between transparency, procurement reforms, inspections, tendering activities, professionalism, and organizational performance. The findings indicated that transparency, inspections, professionalism, and acceptance level significantly influenced performance, highlighting the implementation of information sharing in procurement processes within public secondary schools.

In the education sector of Kenya, Otieno and Getuno (2017) observed similar findings regarding the impact of supplier information sharing and procurement regulations on organizational performance in public secondary schools in Nairobi County. Additionally, in the agricultural sector, Adhaya (2017) found that organization performance and efficiency are affected by specific costing controls resulting from advantageous buyer-supplier relationships. Regarding the role of procurement and disposal act in Kenya, Kosgei and Gitau (2016) noted its potential to enhance competitive growth through various factors such as price negotiations, quality, dependability, timeliness, production, and innovation.

Similarly, Duncan and Elliott (2013) conducted a mixed methods analysis on order processing in EU firms. Their study, involving 76 manufacturing firms and 127 retailers, revealed that the use of electronic point of sales (EPOS) systems improved retailer satisfaction by enhancing loyalty, retention, sales, and market size. The study underscored the importance of EPOS technology in scrutinizing and controlling sales information, although aspects of inventory management such as storage and warehousing were not addressed.

2.1.2 Quality dependability on supply chain performance

At the global level, Boddy et al. (2016) conducted a study on the relationship between quality dependability and the success of implementing partnering performance among European firms. Using a descriptive design, the researchers administered questionnaires to 15 managers and 26 supervisors. Through correlation and regression analyses, the study revealed that quality dependability, encompassing timeliness and exchange credibility of products or services, significantly impacts firm performance.

In Kenya, Kamau (2015) analyzed the buyer-supplier relationship's impact on the dependability of supply chains in a super foam manufacturing firm in Kisumu. Using a descriptive research design, data from 74 questionnaires were analyzed using chi-square cross-tabulation. The study revealed that supplier quality is crucial for customer-centric sustainability and differentiation within supply chains. Dependability of quality dimensions significantly influences firm performance and competitive growth.

Sanchez Rodriguez, Hemsworth, and Martinez Lorente (2005) conducted an empirical study on manufacturing firms in Spain, revealing a positive relationship between supplier development initiatives and purchasing performance. The study categorized supplier development into basic, moderate, and advanced levels based on buying firms' involvement in supplier activities. Purchasing performance assessment focused on quality, cost, and delivery, highlighting the need for further research in developing country contexts..

2.1.3 Service reliability on supply chain performance

In the United States, Ponomarov (2017) examined the understanding of service reliability's impact on supply chain resilience performance in American Homewood, Illinois. The study utilized a descriptive design with a sample of 23 respondents. Descriptive statistics were employed to demonstrate that suppliers, customers, stakeholders, and strategic partners who prioritize trust and commitment exhibit better competitive reliability. Furthermore, the study highlighted the importance of customer-focused supply chain management in enhancing reliability.

Meanwhile, in the United States, Mark and Ram (2019) investigated the relationship between lean reliability and procurement Acts. The study, employing a descriptive research design, involved 23 firms practicing lean methods. Regression analysis revealed the significance of various procurement-related activities mandated by procurement Acts, such as procurement advice, supplier registration maintenance, and secretariat services during tender evaluation committees.

In Mexico, Alfredo et al. (2016) analyzed the reliability of services in the supply chain using self-assessment methods to build resilient systems. The study identified various steps for measuring the reliability of the supply chain, emphasizing the importance of resilient supply chains in ensuring efficiency in global procurement and supply operations. The study also highlighted the impact of supply chain complexity on buyer-supplier relationships..

2.1.4 Supply chain strategy on supply chain performance

The study by Botes, Niemann, and Kotze (2017) investigated buyer-supplier collaboration and its impact on supply chain resilience within the petrochemical industry in South Africa. Their findings revealed that buyer-supplier collaboration facilitates the necessary conditions for achieving supply chain resilience. However, the study focused solely on the petrochemical industry, leaving a gap for further research in other industries. Moreover, it did not explore the fundamental role of supplier collaboration in sustainable supply chain management performance.

In logistics management, physical distribution management involves stocking and transportation activities (Newton, 2016), which significantly influence customer satisfaction. For instance, Croom and Romano (2017) examined the impact of inventory distribution on customer satisfaction using agro-processing firms in Italy. Their regression analysis involving 123 agro-processing firms demonstrated a statistically significant effect of output distribution on retailer satisfaction. Similarly, Willet and Stephenson (2019) investigated the importance of product distribution in influencing customer satisfaction, highlighting retailers' preference for manufacturers who deliver quality products on time.

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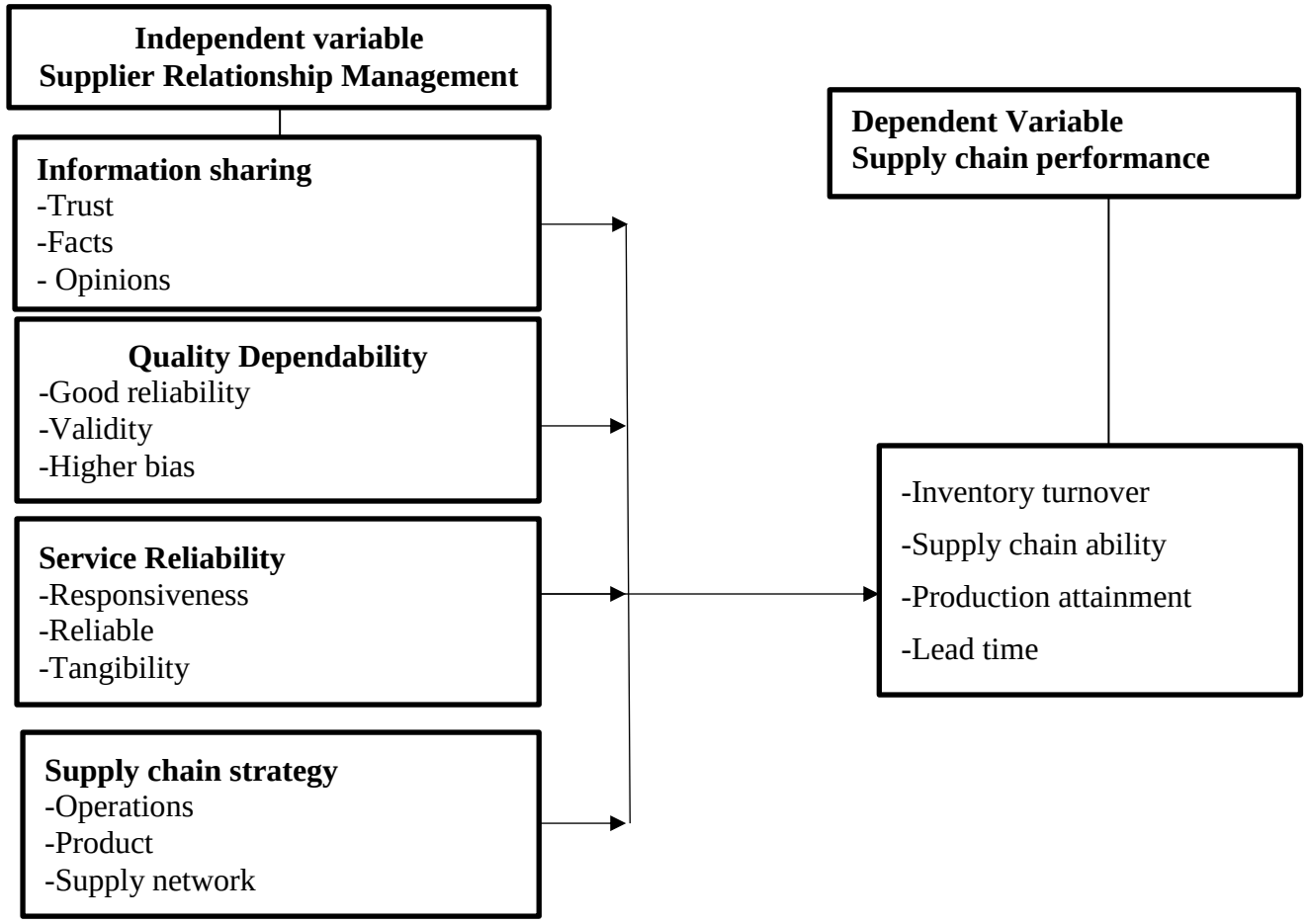
Previous studies have largely overlooked the effect of supplier relationships on procurement performance within departments. For instance, Bart, Colquitt, and Jason (2009) and Cousins, Lamming, Lawson, and Squire (2006) focused primarily on buyer-supplier relationships or performance measurement in strategic buyer-supplier relationships. These studies failed to establish a clear link between supplier relationship management and organizational performance. Thus, this study aims to fill this gap by exploring the management of supply relationships and their impact on procurement performance in the local government ministry. By examining aspects such as supply quality management and supplier collaboration, this study seeks to establish measures that ensure a competitive advantage for suppliers.

In Kenya, Adhaya (2017) investigated the determinants of cost control strategies in the supply chain performance of agricultural organizations. The study aimed to analyze the effect of strategic cost management on organization performance. Through a descriptive design, Adhaya (2017) found that specific costing controls, such as minimum order quantities and just-in-time inventory systems, significantly influence organization performance and efficiency in buyer-supplier relationships.

2.2 Conceptual framework



Source: Researcher, 2023

Figure 1: Conceptual framework of the study

2.5 Research Gap

Numerous studies have examined various aspects of supplier relationship management (SRM) and its impact on supply chain performance. However, critical gaps persist in the existing literature, warranting further investigation. For instance, previous research in Kenya

has focused on the effect of supplier information sharing on procurement performance in public secondary schools (Otieno & Getuno, 2017). While these studies shed light on transparency and professionalism in procurement processes, they overlook the broader implications of SRM on supply chain performance in other sectors, such as agriculture and manufacturing.

Similarly, global studies have explored the relationship between quality dependability and firm performance (Boddy et al., 2016; Vikas et al., 2016), demonstrating the significance of quality elements in achieving competitive advantage. However, these studies primarily examine the impact of quality on individual firm performance rather than its broader implications for supply chain performance.

Moreover, while studies in the United States and Mexico have investigated the reliability of services in supply chains and its influence on resilience (Ponomarov, 2017; Alfredo et al., 2016), they do not fully explore the strategic role of supply chain collaboration in enhancing overall supply chain performance. Additionally, research in South Africa has highlighted the importance of buyer-supplier collaboration in the petrochemical industry (Botes et al., 2017), yet similar studies across diverse industries and regions are lacking. Furthermore, existing literature on physical distribution management and its impact on customer satisfaction primarily focuses on specific industries and regions (Newton, 2016; Croom & Romano, 2017; Willet & Stephenson, 2019), overlooking the broader implications for supply chain performance across various sectors and geographical locations.

Overall, while previous studies have contributed valuable insights into specific aspects of SRM and supply chain performance, there remains a critical gap in understanding the comprehensive role of SRM in driving overall supply chain performance, particularly in diverse industries and regions. This study aims to address this gap by examining the multifaceted relationship between SRM practices and procurement performance, with a focus on enhancing supply chain efficiency and competitiveness in the local government ministry in Kenya.

3. Materials and Methods

Research design refers to the arrangement of conditions used to gather and analyze data (Jahoda, 2010). It enables researchers to make accurate inferences (Kumar, 2010). The current study utilized a combination of descriptive and correlational, qualitative, and quantitative approaches. Descriptive research design was employed to explore the role of supplier relationship management in supply chain performance, as it allows for the exploration of phenomena that can be described but not mathematically operated (Khan, 2011). Correlational research design was utilized to investigate the relationship between independent and dependent variables (Bhattacharyya, 2006). Specifically, the study focused on determining the extent to which supplier relationship management influences supply chain performance, utilizing a case study of Inyange Industries.

The study population comprised 152 employees of Inyange Industries, distributed across various departments, including Production, Finance and Administration, Logistics and Suppliers, and Suppliers Chain to Retailers. Due to the small size of the population, a census survey approach was adopted to ensure a desirable level of precision (Mugenda, 2008). Therefore, the entire population was included in the study.

Data collection procedures involved obtaining authorization from the University of Kigali and Inyange Industries' Human Resource & Administration department. Questionnaires and interviews were used to collect primary data, while documentary reviews and internet

searches were conducted for secondary data. Questionnaires consisted of pre-formulated questions administered to respondents to gather information efficiently and accurately (Oxford, 2010). Interviews were semi-structured with open-ended questions, targeting individuals knowledgeable about Inyange Industries' operations (Henk & Joanna, 2004). Documentary reviews involved examining organizational policies, scholarly journals, reports, and production plans (Kothari, 1990).

A pilot study was conducted to ensure the accuracy and clarity of the research instruments. The findings were not included in the main study but aimed to test the reliability and validity of the questionnaire items. Reliability testing, measured through Cronbach's alpha, yielded a coefficient of 0.781, indicating high internal consistency among respondents (Sekeran, 2009). Validity was ensured by structuring the questionnaire to address specific research variables related to supplier relationship management and supply chain performance (Mugenda, 2003).

Data analysis involved descriptive and inferential statistics, including frequency tables, percentages, means, standard deviations, Pearson correlation tests, and multiple regression analyses (Kumaran, 2016). The regression model aimed to determine the linear relationship between independent variables (information sharing, quality dependability, service reliability, supply chain strategy) and supply chain performance. A five-point Likert scale was used to measure variables, ranging from strongly agree to strongly disagree (Kothari, 1990). Limitations of the study included the challenges of questionnaire construction, language barriers, and potential omissions. Ethical considerations involved obtaining permission from the organization and ensuring confidentiality and anonymity of respondents' information (Sounders, Lewis, & Thornhill, 2009).

4.1 Presentation of findings

The researcher underwent and used distribution of respondents' Likert scale ratings for several schemes which proved and managed to show frequencies, percentages, the mean, and the standard deviation. It is in this regard, Means was taken as descriptive statistical variable that fall into using the varying intervals and equivalences: It is recognized that mean ranging from 1.0 to 1.80, the mean is very low, and the fact is not noticeable. From 1.81 to 2.60, the mean is low and the fact appears less; 2.61 to 3.40 implies that there is some truth; 3.41 to 4.20 shows that there is a high mean and it is evidence of existence of the fact; 4.21 to 5.0 indicates very high mean that there is extremely strong evidence of the fact's existence. SD greater than 0.5 it is determined that responses were heterogeneous and if it is less than or equal to 0.5, the responses were homogeneous.

4.1.1 The role of information sharing on supply chain performance at Inyanye Industries in Kicukiro district, Rwanda

The first analyzed objective was to assess the effect of information sharing on supply chain performance at Inyange Industries in Kicukiro district Rwanda. The detailed results are presented in the table as follow.

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Table 4.1: The role of information sharing on supply chain performance

	Mean	SD
Within the company there is information on the quality required for the products	4.50	0.97
company has put in place measures for effective information sharing with suppliers	4.23	0.64
There an established electronic system for information in the company	4.44	0.49
There is department within Inyange industries responsible for information handling with suppliers	4.55	0.49
There are restrictions in sharing confidential information with suppliers	4.71	0.45
Overall Mean	**4.48**	

Source: Primary data, 2023

Table 4.1 presents the findings pertaining to the effect of information sharing on supply chain performance at Inyange Industries in Kicukiro district, Rwanda. The mean and standard deviation (SD) for each statement are provided. For instance, regarding the availability of information on the quality required for products within the company, the mean score was 4.50 (SD = 0.97), indicating a very high level of agreement among respondents. Similarly, for the statement concerning the implementation of measures for effective information sharing with suppliers, the mean score was 4.23 (SD = 0.64), signifying a high level of agreement. Furthermore, in terms of the existence of an established electronic system for information within the company, the mean score was 4.44 (SD = 0.49), reflecting a high level of agreement. Additionally, regarding the presence of a department responsible for information handling with suppliers, the mean score was 4.55 (SD = 0.49), indicating a very high level of agreement among respondents.

However, when it comes to the existence of restrictions in sharing confidential information with suppliers, the mean score was 4.71 (SD = 0.45), demonstrating a very high level of agreement among respondents. Overall, the mean score for all statements combined was 4.48, suggesting a consensus ranging between "Agree" and "Strongly Agree" regarding the effect of information sharing on supply chain performance at Inyange Industries in Kicukiro district, Rwanda.

Previous studies by Choy, Lee, and Lo (2002) and Shin, Collier, and Wilson (2000) have highlighted the importance of developing collaborative relationships with suppliers over time. Such relationships enable effective communication and can be extended to multiple tiers within the supply chain, thereby enhancing organizational competitiveness.

4.1.2 The role of quality dependability on supply chain performance at Inyange industries in Kicukiro district Rwanda

The second analyzed objective was the effect of quality dependability on supply chain performance at Inyange industries in Kicukiro district Rwanda. The detailed results are presented in the table

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Table 4.2: The role of quality dependability on supply chain performance

	Mean	Standard Deviation
There is strictness in the working environment for strengthening dependability	4.73	0.44
Are there any qualities possessed by experienced workers in Inyange industries	4.61	0.48
Is the work in the company be completed in the dependable manner	4.50	0.57
Are you organized in your company and tasked in order to maintain trustworthiness	4.51	0.50
Are the workers passionate at the work beyond to ensure dependability demonstration	4.07	0.61
Overall Mean	**4.48**	

Source: Primary data, 2023

Table 4.2 presents the findings regarding the effect of quality dependability on supply chain performance at Inyange Industries in Kicukiro district, Rwanda. The mean and standard deviation (SD) for each statement are provided. For instance, regarding the strictness in the working environment for strengthening dependability, the mean score was 4.73 (SD = 0.44), indicating a very high level of agreement among respondents. Similarly, for the statement concerning the qualities possessed by experienced workers in Inyange Industries, the mean score was 4.61 (SD = 0.48), signifying a very high level of agreement.

Furthermore, in terms of the completion of work in a dependable manner within the company, the mean score was 4.50 (SD = 0.57), demonstrating a very high level of agreement. Additionally, regarding the organization and tasking within the company to maintain trustworthiness, the mean score was 4.51 (SD = 0.50), indicating a very high level of agreement among respondents.

However, when it comes to the passion of workers in ensuring dependability demonstration beyond their work duties, the mean score was 4.07 (SD = 0.61), showing a very high level of agreement among respondents. Overall, the mean score for all statements combined was 4.48, suggesting a consensus ranging between "Agree" and "Strongly Agree" regarding the effect of quality dependability on supply chain performance at Inyange Industries in Kicukiro district, Rwanda.

Previous research conducted by Kumar (2014) has emphasized the importance of quality dependability in enhancing customer satisfaction. Through inferential statistics such as chi-square tests, it was demonstrated that quality dependability plays a crucial role in achieving overall performance.

4.2.3 The role of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda

The third analyzed objective was the effect of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda.the detailed results are presented in the table as follows.

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Table 4.3: The role of service reliability on supply chain performance

	Mean	SD
Does the company evaluate worker to ensure quality of service	4.40	0.49
There have been improvements in production efficiency	4.47	0.57
In Nyange industry's reliability of services is maintained through knowledge applications, technology perception	4.43	0.49
In the company there is an understanding of the reliability of services on performance of supply chain resilience	4.59	0.49
There has been an improvement in production accuracy	4.54	0.49
Overall Mean	**4.48**	

Source: Primary data, 2023

Table 4.3 presents the first specific objective findings related to effect of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda. On there, Does the company evaluate worker to ensure quality of service, respondents 91(59.9%) agreed and 61(40.1%) strongly agreed that there was the company evaluate worker to ensure quality of service with (mean=4.40 which is very high, SD=0.49). On there, had been improvements in production efficiency 76(50.0%) agreed and 75 (49.3) strongly agreed that there was the company evaluate worker to ensure quality of service with (mean=4.43 which is very high, SD=0.49). On there, in Nyange industry's reliability of services is maintained through knowledge applications, technology perception, respondents 86(56.6%) agreed and 66(43.4%) strongly agreed that there was in Nyange industry's reliability of services is maintained through knowledge applications, technology perception with (mean=4.45 which is high, SD=0.49 more homogeneous). It was evidenced that, in the company there is an understanding of the reliability of services on performance of supply chain resilience 62(40.8%) agreed and 90(59.2%) strongly agreed that there was in the company there is an understanding of the reliability of services on performance of supply chain resilience with (mean=4.59 which is high, SD=0.49 more heterogenous). On there, has been an improvement in production accuracy 69(45.4%) agreed and 83(54.6%) strongly agreed that there had been an improvement in production accuracy with (mean=4.54 which is very high, SD=0.49).

Therefore, the overall means of results was 4.48 that is between Agree and Strongly Agree it presents that there was effect of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda. The finding by (Sodhi, M., Son, B.G. , 2012) examined the reliability of services on supply chain management efficiency of firms. The finding showed that reliability of services in supply chain is hindered by buyer supplier relationship disruptions. The improvement of reliability of services affects flexibility in supply chains. However, supply chain reliability is enhanced through stock levels. The result showed that organization frequently relate with suppliers to lay down responsiveness of reliability standards. Hence, there is the need to put re-order or place with order number, customer identifier, product identifier, confirmed date of supplier, shipment information, delivery date and not number.

4.2.4 The role of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda

The fourth analyzed objective was the effect of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda.The study wanted to assess

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effect of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda, the detailed results are presented in the table as follows.

Table 4.4: The role of supply chain strategy on supply chain performance

	Mean	SD
There is Joint problem solving in alignment with supply chain strategy	4.00	0.84
Are there any improved product quality in Inyange industries	4.11	0.91
Are there Supplier development programs in Inyanye Industries	4.19	0.81
Is there any Inclusion of suppliers in planning and goal-setting activities?	4.59	0.93
There is an incompatibility in technology between organization and supplier	4.65	0.47
Overall Mean	**4.30**	

Source: Primary data, 2023

Table 4.4 presents the fourth specific objective findings related to the effect of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda. The respondents evidenced that there is Joint problem solving in alignment with supply chain strategy, respondents 185(55.9%) reported agreed, 41(27.0%) strongly agreed that was there is Joint problem solving in alignment with supply chain strategy, with (mean=4.00 which is very high, SD=0.84). On there, are there any improved product quality in Inyange industries75(49.3%) agreed and 56(36.8) strongly agreed that there was with (mean=4.11 which is very high, SD=0.91). On there, are there Supplier development programs in Inyanye Industries47(30.9) agreed and 67(44.1) strongly agreed that there were re there Supplier development programs in Inyanye Industries with (mean=4.19 which is very high, SD=0.81 more heterogeneous).

On there, is there any Inclusion of suppliers in planning and goal-setting activities2(1.3) agreed and 126(82.9%) strongly agreed that there was Inclusion of suppliers in planning and goal-setting activities with (mean=4.59 which is high, SD=0.93 more heterogenous). On there, there is an incompatibility in technology between organization and supplier 52(34.2%) agreed and 100(65.8%) strongly agreed that there was an incompatibility in technology between organization and supplier s with (mean=4.65 which is high, SD=0.47). Therefore, the overall means of results was **4.30** that is between Agree and Strongly Agree it presents that there was effect of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda. These findings correspond with those by (Rezaei, J., Ortt, R. , 2013) who recommend that supplier relationships are typically prioritized according to both spend and a set of business criticality criteria reflecting the strategic importance of the supplier to the organization.

4.2.4 Supply chain performance

Researcher analyzed the factors of supply chain performance; the results were presented in the table as follows.

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Table 4.5 Supply chain performance

	Mean	SD
Does Company undertake Inventory turnover computation in line with cost of goods per sold good by the average inventory	4.63	0.48
Does Inyange industries need to measure inventory turnover in order to know financial position of sales in the company	4.65	0.47
Does the Company compare inventory ration to its rivals in order to know position of company inventory in sales generation	4.63	0.48
Does production attainment measure the degree to which manufacturing function capabilities to ensure production output in Inyange industries	4.38	0.48
Does Inyange industries undertakes production performance metric to measure production levels over time	4.58	0.49
Does Inyange industries management have experience for collaborating with overseas suppliers	4.27	0.44
Does supply chain ability care about warehouse ran out of stock	4.84	0.64
There exists commitment between suppliers and our organization in order to achieve expected profits	4.90	0.42
There direct communication between suppliers and company to ensure logistic capacity attained	4.80	0.69
Overall Mean	**4.63**	

Source: Primary, 2023

Table 4.5 presents data on the supply chain performance, with specific items focusing; Does Company undertake Inventory turnover computation in line with cost of goods per sold good by the average inventory project55(36.2) agreed and 97(63.8) strongly agreed that there was Company undertake Inventory turnover computation in line with cost of goods per sold good by with (mean=4.63 which is very high, SD=0.48 more heterogeneous). It was evidenced that Does Inyange industries need to measure inventory turnover in order to know financial position of sales in the company a significant proportion 53(34.9%) reported agree and 99(65.1%) strongly agreed that there was Inyange industries need to measure inventory turnover in order to know financial position of sales in the company (mean=4.65 which is very high, SD=0.47 more homogeneous).

On there, Does the Company compare inventory ration to its rivals in order to know position of company inventory in sales generation 56(36.8%) agreed and 96(63.2%) strongly agreed that there was the Company compare inventory ration to its rivals in order to know position of company inventory in sales generation with (mean=4.63 which is very high, SD=0.48 more homogeneous). On there, does production attainment measure the degree to which manufacturing function capabilities to ensure production output in Inyange industries,94(61.8%)agreed and 58(38.2%) strongly agreed that there was production attainment measure the degree to which manufacturing function capabilities to ensure production output in Inyange industries with (mean=4.38 which is high, SD=0.48).On there, does Inyange industries undertakes production performance metric to measure

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production levels over time 63(41.4%)agreed and 89(58.6) strongly agreed that there was Inyange industries undertakes production performance metric to measure production levels over time on (mean=4.58 which is very high, SD=0.49 more homogeneous). On there, Does Inyange industries management have experience for collaborating with overseas suppliers 110(72.4) agreed and 42(27.6) strongly agreed that there was Inyange industries management have experience for collaborating with overseas suppliers on (Mean=4.27 which is high, SD=0.44 more homogeneous).

On there, does supply chain ability care about warehouse ran out of stock (0) agreed and 143(94.1) strongly agreed that there was supply chain ability care about warehouse ran out of stock on (mean=4.84 which is high, SD=0.64 heterogeneous). It is evidenced, there exists commitment between suppliers and our organization in order to achieve expected profits (0) agreed and 140(92.1%) strongly agreed with this statement that there was there exists commitment between suppliers and our organization in order to achieve expected profits on (mean=4.90 which is very high, SD=0.42). It was evidenced that, there direct communication between suppliers and company to ensure logistic capacity attained respondents (0%) and 140(92.1%) strongly agreed that there was direct communication between suppliers and company to ensure logistic capacity attained on (mean=4.80 which is very high, SD=0.69 heterogeneous). The overall means of results was **4.63** that is between Agree and Strongly Agree it presents that there was supply chain performance. Supplier relationship management has been commended by this study for improving Production performance through better trustworthy, mutual goals and commitment functions. However, the findings are varied. Some empirical literature (Monday, Ondieki, J. N., Oteki, E. V., 2014) suggest that supplier relationship management worked towards other factors. While Zsidisin and Ellram, (2011) (Zsidisin, G.A.,Ellram, L.A., 2001) suggested that production performance functions are costly to most manufacturing firms as they involve high wastage production and unpredictable costs.

4.2 Inferential Statistics

This section presents the findings from inferential statistical test including correlation coefficient and multiple linear regression analysis between independent variable and dependent variables in this research study.

4.2.1 Test of Normality

The researcher sought to assess the normality of the data distribution. The findings were presented

Table 4.6 Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Information Sharing	.182	152	.000	.845	152	.000
Quality Dependability	.265	152	.000	.849	152	.000
Service Reliability	.270	152	.000	.730	152	.000
Supply Chain Strategy	.206	152	.000	.819	152	.000

a. Lilliefors Significance Correction

Source: Primary data, 2023

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Since the dataset had fewer than two thousand elements, the most preferred test was the Shapiro-Wilk. This resulted in a significance level for the unit of the quotient of, Information sharing value, Quality dependability value, Service reliability value and Supply chain strategy value divided by the respective product accounts to result to 0.000, 0.000 and 0.000 respectively. These are all Lower than 0.05 implying that the data originated from a normal distribution and is not suitable for the study. Despite the elements required by the Kolmogorov-Smirnov test, its results are similar to the Shapiro-Wilk test.

As highlighted by (Cooper, D. Schindler, P. , 2012), normality tests the difference between forecasted and obtained responses variable which need to be generally distributed about the distributed dependent variable scores. Shapiro Wilk test was utilized by the researcher to confirm the normality test. The null hypothesis for the test of the data was considered normally distributed if the significant value (p-value) > 0.05; on the contrary the null hypothesis was rejected if the value is < 0.05, which indicated normal distribution of data.

4.2.2 Correlation

Table 4.7 Correlation

		Information Sharing	Quality Dependability	Service Reliability	Supply Chain Strategy	Supply Chain Performance
Information Sharing	Pearson Correlation	1				
	Sig. (2-Tailed)					
	N	152				
Quality Dependability	Pearson Correlation	.940**	1			
	Sig. (2-Tailed)	0.000				
	N	152	152			
Service Reliability	Pearson Correlation	.862**	.905**	1		
	Sig. (2-Tailed)	0.000	0.000			
	N	152	152	152		
Supply Chain Strategy	Pearson Correlation	.960**	.890**	.771**	1	
	Sig. (2-Tailed)	0.000	0.000	0.000		
	N	152	152	152	152	
Supply Chain Performance	Pearson Correlation	.919**	.885**	.808**	.912**	1
	Sig. (2-Tailed)	0.000	0.000	0.000	0.000	
	N	152	152	152	152	152

**. Correlation Is Significant At The 0.01 Level (2-Tailed).

Source: Primary data, 2023

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The results present the relationship between the role of supplier relationship management to the supply chain performance of an organisation. A case of Inyange industries in Kicukiro district, Rwanda**.** Supplier relationship management factor taken are project are; C Information Sharing, Quality Dependability, Service Reliability and supply chain strategy. It is in this regard,

The statistical package for social science (SPSS) software version 25.0 was used to determine the pearson coefficients. The pearson coefficient correlation is between -1 and 1 where -1 to 0 presents negative correlation (-1 to -0.5 indicates high negative correlation and -0.5 to 0 indicates low negative correlation) and 0 to 1 presents positive correlation (0 to 0.5 presents low positive correlation while 0.5 to 1 presents high positive correlation). According to the results, the correlation between Information Sharing, Quality Dependability, Service Reliability and Supply chain strategy was **0.919, 0.885, 0.808 and 0. 912** respectively, it presents that there was a significant relationship between Supplier relationship management and supply chain performance

4.2.3 Regression Analysis

Table 4.8 of Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.929[a]	.864	.860	1.29859

a. Predictors: (Constant), Supply chain strategy, Service reliability, Quality dependability, Information sharing

Source: Primary data, 2023

The results present the Model Summary, the researcher sought to know the Role of supplier relationship Management to the supply chain performance of an organisation. A Case of Inyange industries in Kicukiro District, Rwanda, from the view, the researcher used regression analysis to measure on the effect of information sharing on supply chain performance at Inyange Industries in Kicukiro district Rwanda**,** the effect of quality dependability on supply chain performance at Inyange industries in Kicukiro district Rwanda, effect of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda and effect of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda**,**Correlation coefficient (**R=0.929[a])** demonstrated the relationship between Supplier relationship management and supply chain performance of Inyange Industries, therefore The results present the Model Summary, the results present that the R Square=0.864. It was statistically significant clear that **86.4%** of all variables of supplier relationship management supply chain performance can be explained by one's of all variables of the Supplier relationship management.

Table 4.9 ANOVA of supplier relationship management on the supply chain performance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1570.945	4	392.736	232.894	.000[b]
	Residual	247.890	147	1.686		
	Total	1818.836	151			

a. Dependent Variable: Supply chain performance

b. Predictors: (Constant), Supply chain strategy, Service reliability, Quality dependability, Information sharing

Source: Primary data, 2023

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The results indicate ANOVA[a], the results presented than the variables were statistically significant with F= 232.894 and p value=0.000b, it means that there was a significant relationship between Supplier relationship management and supply chain performance

Table 4.10 Coefficientsa of supplier relationship management on supply chain performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	16.346	1.354		12.075	.000
	Information Sharing	.290	.210	.220	1.385	.168
	Quality dependability	.211	.167	.135	1.258	.210
	Service Reliability	.178	.117	.118	1.515	.132
	Supply Chain Strategy	.470	.115	.489	4.074	.000

a. Dependent Variable: SUPPLY CHAIN PERFORMANCE

Source: Primary data, 2023

The results present the constant of independent variables of supplier relationship management. It is statistically significant since p value is less than 0.05. The results present the variables of supplier relationship management; Information Sharing, was not statistically significant with p value=0.168[b], the Quality Dependability was not statistically significant with p value=0.210[b], and the Service Reliability was not statistically significant with p value=0.132[b] and Supply chain strategy was statistically significant with p value=0.000[b].

According to SPSS generation of table 4.12 in regard to the equation $Y= \beta 0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$, where by Y= Supply chain performance then the Equation served as;

Y= 16.346+0.290X1+0.211X2+0. 178X3+0.470X4,

It is in this regard that using the regression equation mentioned above in respect to the holding all constants (Information Sharing, Quality Dependability, Service Reliability and Supply chain strategy) in line with the supply chain performance was at **16.346**, This indicated that, this ensured supply chain performance, there was a need undergo Information Sharing, Quality Dependability, Service Reliability and Supply chain strategy to undertook and ensure supply chain performance

The SPSS Calculated the t-statistic as t-test increased on 1.385 and t-test increased on 1.258 and t-test increased on 1.515 and t -test increased on 4.074 and. The results present the variables of Supplier Relationship management; Information Sharing, was not statistically significant with p value=0.168[b], the Quality Dependability was not statistically significant with p value=0.210[b], and the Service Reliability was not statistically significant with p value=0.132[b] and Supply chain strategy was statistically significant with p value=0.000[b].

From the table 4.13 Coefficients of Supplier relationship management and supply chain performance, Unstandardized Coefficients were used in order to attain the t-test used in explanation above by B values undergo series of dividing from B value and std error thus attainment of the t-test; 16.346, divided 1.354 resulted into constant with 12.075, then 0.290 divided 0.210 resulted into Information sharing factor with 1.385,then 0.211 divided 0.167 resulted into Quality dependability factor with 1.258, and then 0.178 divided 0.117 resulted into Service Reliability and factor with 1.515 and then 0.470 divided 0.115 resulted into Supply chain strategy factor with 4.074 value .

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4.3 Hypothesis testing

In order to test the study's four formulated hypothesis, the t statistic that tests whether a B value is significantly different from zero (HO: β=0) The study computed simple regression analysis to test the study hypothesis. For p-value<0.05, H0 was rejected; and H1.H2, H3 accepted

4.3.1 Testing research hypothesis one

H_{01}= There is no significant role of information sharing on supply chain performance at Inyange industries in Kicukiro district Rwanda**.** As evident in Table 4.12, the Unstandardized beta value effect of information sharing on supply chain performance at Inyange industries in Kicukiro district Rwanda was insignificantly greater than zero (β_1=0. 290, p-value=0.168 <0.05, t= 1.385). The null hypothesis was accepted because p-value=0.168 is greater than 5% level of significant, hence, information sharing had insignificant effect on Supply chain performance in Inyange Industries.

4.3.2 Testing research hypothesis two

H_{02}= There is no significant role of quality dependability on supply chain performance at Inyange Industries in Kicukiro district Rwanda**.** As evident in Table 4.12, the Unstandardized beta value of quality dependability on supply chain performance at Inyange Industries in Kicukiro district Rwanda was insignificantly greater than zero (β_2=**0.211**, p-value=0.210<0.05, t= 8.103). The null hypothesis was accepted because p-value=0.987 is greater than 5% level of significant, hence, quality dependability had insignificant role on supply chain performance in Inyange Industries

4.3.3 Testing research hypothesis three

$H0_3$= There is no significant role of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda**.** As evident in Table 4.12, the Unstandardized beta value of service reliability on supply chain performance at Inyange Industries in Kicukiro district Rwanda was insignificantly greater than zero (β_3=0.178, p-value=0.132<0.05, t= 1.515). The null hypothesis was accepted because p-value=0.987 is greater than 5% level of significant, hence, service reliability had insignificant role on supply chain performance in Inyange Industries

4.3.4 Testing research hypothesis three

H_{04} = There is no significant role of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda**.** As evident in Table 4.12, the Unstandardized beta value of supply chain strategy on supply chain performance at Inyange Industries in Kicukiro district Rwanda was significantly greater than zero (β_4=0.470, p-value=0.000<0.05, t= 4.074). Subsequently the null hypothesis was rejected because p-value=0.000 is less than 5% level of significant, hence supply chain strategy had a statistically significant role on supply chain performance in Inyange Industries

5.1 Conclusion

In conclusion, Supplier Relationship management is of highly valuable in context supplier relationship management activities in order to achieve the supply chain performance operations. Supplier Relationship management provided a crucial mechanism of how any Supplier Relationship management works and other related activities in which they can be measured and how it can help to the achievement of supplier relationship management objectives (Muriithi, K. 2013). From this perspective view in as far as the study is concerned, a researcher concluded while basing on the results obtained. According to the results, the

correlation between Information Sharing, Quality Dependability, Service Reliability and Supply chain strategy was 0.919, 0.885, 0.808 and 0. 912 respectively, and the results presented than the variables were statistically significant with p value=0.000b, it concluded that there was a significant relationship between Supplier relationship management to the supply Chain performance of An Organisation. A Case of Inyange Industries in Kicukiro District, Rwanda.

5.2 Recommendations

Based on the study findings, it is recommended that stakeholders in supplier relationship management and supply chain performance focus on leveraging information to sustain value chain properties. The government, particularly MINICOM, should encourage citizen participation in supplier relationship management to enhance personal economic growth. Furthermore, MINICOM should offer professional guidelines based on insights from Inyange Industries to promote effective supplier relationship management practices and improve overall supply chain performance.

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