



Supplier Relationship Management And Production Performance Of Manufacturing Industries In Rwanda

A Case Study Of Inyange Industry Company.

Author: Mr. RWIGIMBA Stephane (Department, Business Administration, Mount Kenya University, Rwanda)

Co-Author: Dr. Eugenia Nkechi IRECHUKWU (Department, Business Administration, Mount Kenya University, Rwanda)

Abstract:

Background: The fundamental focus of this research was to evaluate the impact of supplier relationship management and production performance of manufacturing industries in Rwanda, using a case study of Inyange Industries LTD. The specific objectives of the research was to analyze the effect of trust on production performance of Inyange industries LTD and to establish the effect of mutual goals on production performance of Inyange industries LTD and to assess the role of commitment of supplier relationship management on production performance of Inyange industries LTD. The theoretical literature and empirical literature was also reviewed.

Materials and Methods: The researcher used a mixed-method approach by incorporating both quantitative and qualitative methods. Data was collected from 74 people and there was no sampling because the population size was small. To estimate the relationship between the independent and dependent variables as well as the statistical significance of the relationship the researcher used Inferential statistics and to describe the basic features and status of affairs concerning the impact of trust management, mutual goals management, commitment management and production performance the researcher used Descriptive statistics. Two methods (the questionnaire survey and documentary review) were used for data collection. These were applied using two research instruments: the questionnaire and document checklist respectively. Qualitative and quantitative data was analyzed through descriptive and inferential statistics through mean, standard deviation, correlation and multiple regression analysis.

Results: From the findings the firm enhances trust in supplier partnership, there is a direct trust between manufacturers and its suppliers, the regular contact between manufacturers and the suppliers is easier to manage, there is constant sharing of information, the firm enhances open communication between manufacturers and suppliers, there is meaningful and timely information between firms and suppliers, the firm treats suppliers as allies and close friends, there is trust between Inyange and its supplier. The findings also indicates that there is mutual goals making on matters of common interest, there is a well establish supplier partnership in the firm, Manufacturer/supplier collaboration enhances production performance, there is mutual support for both manufacturers and suppliers, the partnership between manufacturers and suppliers ensures efficiency in production operations, there is a well establish supplier partnership in the firm.

Conclusion: The researcher concludes that relationship among the manufacturer and supplier partnership is proportional to the information symmetry that exists. In addition, from the findings in section four, conclusions are made that partnerships with manufacturers and suppliers enable organizations to operate more efficiently. The study recommends the need for manufacturing industries to develop clear supplier development programs. This will enable firms to engage in activities that improve the performance of suppliers thus resulting in better performance of these industries. As in the findings of objective one, performance of industries may be further improved by engaging in supplier development activities.

Key words: Supplier Relationship Management, Production Performance, Manufacturing Industries, Inyange Industry Company, Rwanda.

I. Introduction

The understanding and practicing of supply chain management has become an essential fundamental for staying competitive in the global race and enhancing profitably (Gold & Beske, 2010). The working towards and perception of supply chain management has become a fundamental essential requirement for staying aggressive in the international competition and improving profitability (Gold & Beske 2010). Most companies has begun to realize that it's not now solely adequate to enhance competences within a company, however instead making the supply chain administration competitive among others would significantly enhance their chances of succeeding. This is why competition is no longer between companies and organizations, but amongst supply chains. Intense challenge and globalization of markets over the past decade has impacted to challenges related to make sure that goods and services offered meets patron necessities are delivered in a friendly environment and In a highly quality way (Carr & Sheltzer, 2012).

According to Maraka, Kibet and Iravo (2015) Supplier Relationship Management is illustrated as a complete method to manage a company's interactions with the organization that provides the products and services it uses. The main goal of supplier relationship management (SRM) is to make extra positive and streamline the processes between an enterprise and its suppliers as customer relationship administration CRM is planned to make greater advantageous and streamline the strategies between businesses and its customers. SRM consists of both software and commercial enterprise practices and is part of the data float issue of supply chain management (SCM).

Many enterprises are striving to stay ahead and are facing tremendous challenges; some among them being extended opposition in the market as kindly as running in tough economic provisions demonstrated through Higher inflation rates, volatility and excessive interest rates in foreign money variations, Paiva, (2013) Despite the reality that Inyange enterprise is one of the most main beverage processing corporation opposition has risen to a higher degree of necessitating the need to strengthen methods of staying at the highpoint with the help of all potential possible. The end result of these potentials resulted in an external environment that is unpredictable and dynamic, devastating and often stressful to these groups which are unable and unprepared to respond (Carr & Smeltzer, 2012). Because of these variations, group want to associate their management practices with the shifting environment and emphasis on their customers and manufacturing performance as nicely as achieving a lifestyle of management responsibility.

If companies do not hold and satisfy their customers, then their overall market dominance, Performance financially, client supplier improvement in sales is affected. (Wachiuri, Waiganjo & Oballah2015) mentioned that what drives corporations into business is to grow and the degree of wealth or success is considered in terms of the performance of the business. Supply chain management has become broadly identified as a crucial contributor to strategic accomplishment, assisting companies faces the difficulties of an increasingly dynamic and competitive environment (Mwesigwa & Nondi, 2018). These difficulties have driven companies toward growing stronger relationship with a smaller number of suppliers who have emerge as progressively included in many phases of method effecting day-to-day procedures. (Chardine-Baumann & Botta-Genoulaz, 2014) Such interactions are very interactive and demand regular inter-personal and monitoring liaison between staffs of both events in order to be applicable. The issue of how corporations control these cooperative supplier relationships, via the practice overall performance capacity systems and the improvement of social networks is a crucial avenue of research. Traits such as commitment, collaboration, coordination, flexibility, dependence, communication and trust are extensively viewed to be significant to essential relationships (Doganay & Ergun, 2017).

Organizational performance involves the proper effect or output of an enterprise as stately in opposition to its supposed outcomes (or objectives or goals). Numerous researchers have recommended exceptional variables as being the required variables that make certain appropriate supplier relationships. Production performance, an exceptional of any enterprise, is completed by means of precious consequences such as degree of competitiveness, manufacturer presence and greater returns. It can also be assessed by using the levels of functioning efficiency and this can be examined with the aid of a range of ways, such as the non-parametric (data envelopment analysis) and the parametric (Stochastic frontier analysis).

The administration of any company would like to remove and perceive the underlying sources of inefficiencies for that reason supporting their corporations to obtain aggressive gain and obtain sustainable competitive benefit, or at least, meet up to the tasks from others, (Yan and Dooley, 2014). Overall performance of overall organizational can be divided in to three parts: Product Performance, operational performance and financial performance (Burnet, 2012). The general objective for this study was to determine the effect of supplier relationship on production performance of manufacturing companies in Rwanda. The research was guided by the following objectives:

- i. To analyze the effect of trust on production performance of Inyange industries Ltd.
- ii. To establish the effect of mutual goals on production performance of Inyange industries Ltd.
- iii. To assess the role of commitment of supplier relationships management on production performance of Inyange industries Ltd.

ii. Theoretical Literature

Trust based Relationship with Suppliers

Maraka, Kibet and Iravo (2015) indicated three major types of trust; “Competence trust”, where supplier trusts that the purchasing enterprise is capable to perform what assured to perform. “Contractual trust”, a certainty that the purchasing enterprise will renew its agreements, and “Goodwill trust”, a certainty that the purchasing organizational will not take unfair decisions, and will constantly acts on mutual goals basis. However, Khan Mohammadi, Talaie, Safari and Salehzadeh (2018) mentioned two points of trust that are close to the above. Trust in partner’s reliability: The belief that the other enterprise is reliable to accomplish what it said. In addition, Trust in partner’s benevolence: A trust that the other enterprise is interested in the partner’s enterprise goal and will not make actions that may harmfully influence it.

Trust between the purchasing enterprise and its suppliers would increase collaboration, reduce conflicts, lead to long-term relationships, facilitate information and enhance satisfaction Maestrini, Luzzini, Maccarrone and Caniato (2017). Trust was considered one main factor for the senior performance of Japanese enterprises compared to British enterprises Singhry and Abd Rahman (2019). Trust forming should not be the concern of the purchasing enterprise only, Doganay and Ergun (2017) illustrated that trust is also crucial and advantageous to the supplier enterprise, which has to put efforts to extend, retain and establish the buying enterprise trust, mostly when such trust can provide more profits for the supplier. Although trust forming is time consuming, difficult and costly process, it leads to successful, strong and long-term customer-seller relationship.

Trust and Production Performance

Trust is a commitment to trust on an exchange partner in which the enterprise has assurance Maestrini, Luzzini, Maccarrone and Caniato (2017) meaning of trust is a probability about exchange partnership that results from partner’s reliability, intentionality, and expertise. Trust plays an important role in making interaction and long term relationship formation Ali, Bentley and Cao (2016). It loads importantly on two performance results: Financial performance (Financial returns and Profitability) and Customer Performance (Satisfaction and Loyalty). Trust is also seen as the expansion to which an enterprise trust that its exchange partner is trustworthy and/or benevolent or some alternative, the popularity of supply chain partnerships has extended over the last few decade with an increasingly benefit in the role of trust in assisting the relationship. There has been an evident increase in the last quarter of 21st century of the role of trust in partnership and alliances management Burnet (2012). Chemjor (2015) mentioned three types of trust; “Competence trust”, where supplier trusts that the purchasing enterprise is capable to perform what assured to perform. “Contractual trust”, a certainty that the purchasing enterprise will renew its agreements. And “Goodwill trust”, a certainty that the purchasing organizational will not take unfair decisions, and will constantly act on mutual goals basis.

Mutual Goals between Supplier Relationship and Production Performance

Lau, Esther and Richard (2010) outlined the origins of supplier partnership to Japanese automotive industry, and established that it was applied in Western companies in the 1990’s. They indicated to data exchange and collaboration efforts to develop supplier capabilities as pillars of supplier capabilities with regards to technology, cost, delivery and quality. It also promotes continuous development Wachiuri, Waiganjo and Oballah (2015). Burnet (2012) stated that the major elements that describe successful supplier development would constitute, but not limited to: improving and integrating, processes and activities, long-term relationship and continuous cooperation, mutual benefits as an outcome of any improvement efforts, and obvious structure for both firms with concern to cost, Profit and price.

Moreover, successful relationship in manufacturing positioning are assigned by supplier development, technology sharing and cost savings Hughes and Jonathan (2010) determined that purchasing company should treat their suppliers as partners. Kosgei and Gitau (2016) discussed that investments in supplier relationship will share the productivity profits. Also, technical assistance offered to suppliers enables them to distribute frequent and Just in

time (JIT) supply of things, improves reliability, delivery and quality by suppliers Lau, Esther and Richard (2010), Furthermore, when the purchasing company provides technical assistance to suppliers, the performance components of the purchasing firm will increase in term of productivity, cost, design and quality. Heikkila, (2012). Supplier development outcomes in improved communication, improved problem solving, reduced costs and risk sharing Heikkila, (2012) Chardine-Baumann and Botta-Genoulaz (2014) empirically discovered that supplier partnership is related with greater competitive performance in terms of flexibility performance, cost, innovation and quality. However, partnership relations between the suppliers and buyers have been showed to positively affect performance financially of the buyer company. Mani, Gunasekaran and Delgado (2018).

Commitment to Suppliers Strategy

Commitment is termed as the willingness of each party to give it their all in ensuring that the transaction takes place as planned Botes, Niemann and Kotzé (2017) Maintaining commitment in the buyer supplier relationship has been established to accrue various benefits such as: increased willingness in conducting operations, increased positivity, increased investment, reduced selflessness and increased personal effectiveness hence resulting in improved performance in procurements. Heikkila (2012). This builds trust as the supplies are conducted with the individuals having internal motivation.

iii. Theoretical Framework

Theory of Constraints

The theory of constraints (TOC) is an inclusive management values presented by Eliyahu Goldratt in his book titled Goal in 1984, which aim was to help companies constantly accomplish their objectives. Goldratt adopted the idea to concept management with his critical chain book, published in 1977. The theory of constraints (TOC) is a managing example that overlooks any manageable advice as being, limited in accomplishing more of its objectives by a few amount of constraints. There is at least always a single constraint, and TOC utilizes a focusing progress to recognize the constraints and reorganize other companies around it. TOC address the mutual saying "A chain is no stronger than its weakest link" This means that, progress, organization, etc., Are exposed because the weak individual or part can always break or damage them or at least badly affect the outcome return. The fundamental principle of the theory of constraints is that companies can be controlled and measured by variances on three measurements: Operational expense, inventory and throughout.

The solution for supply chain is to build flow of suppliers to insure higher convenience and to clarify wastages as surpluses, which have a bad impact on the firm performance. The TOC delivery solution is operative when used to involve a sole link in the supply chain and more across the whole system, even if that the system includes many different firms, because a chain is as strong as the weakest link, TOC can be utilized to clarify the difficulties in a supply chain and therefore get the answers for the same. Relationship management and especially supplier relationship is a crucial component in fulfilling the supply chain. It is therefore significant to insure that relationships are well managed, such that there is no leak which is weak within the supply chain as a result of bad relationships.

Commitment Trust Theory

The commitment trust theory of relationship tells that two principal factors trust and commitment should exist for succeeding in a relationship Chemjor, (2015). Annie Brink and Adele Berndt in their "Relationship Marketing and Customer Relationship Management" claimed the theory. Relationship marketing includes making a link with suppliers by providing their honoring commitments and needs. Burnet (2012) mentioned that rather than chasing short-time benefits, companies following the fundamentals of relationship marketing forge strong lasting bonds with their suppliers, as the find, suppliers trust these companies, and the mutual loyalty helps both sides to accomplish their need. Heikkila, (2012) explained trust as the confidence both sides in the relationship have that other side won't do something risky or harmful. Companies develop trust by keeping behind their potentials. Commitment includes a long-lasting need to keep a valued partnership. Wachiuri, Waiganjo and Oballah (2015) concluded that the need provoke the company to constantly invest in maintaining and developing relationships with its clients. Through a range of relationship building actions, the business demonstrates its commitment to the suppliers. According to Muriithi, (2013), the finding of a relationship built on trust and commitment are cooperative behaviors that help both parties to accomplish their needs.

Theory of Production

Theory of production, in economics, is an effort to explain the principles by which a business firm decides how much of each commodity that it sells (its “outputs” or “products”) it will produce, and how much of each kind of labor, raw material, fixed capital good, etc., that it employs (its “inputs” or “factors of production”) it will use (Rajput & Bakar 2012). The theory involves some of the most fundamental principles of economics. These include the relationship between the prices of commodities and the prices (or wages or rents) of the productive factors used to produce them and also the relationships between the prices of commodities and productive factors, on the one hand, the quantities of these commodities and productive factors that are produced or used, on the other.

The various decisions a business enterprise makes about its productive activities can be classified into three layers of increasing complexity. According to Rajput and Bakar (2012) the first layer includes decisions about methods of producing a given quantity of the output in a plant of given size and equipment. It involves the problem of what is called short-run cost minimization. The second layer, including the determination of the most profitable quantities of products to produce in any given plant, deals with what is called short-run profit maximization. The third layer, concerning the determination of the most profitable size and equipment of plant, relates to what is called long-run profit maximization (Rajput & Bakar, 2012).

Theory of Performance

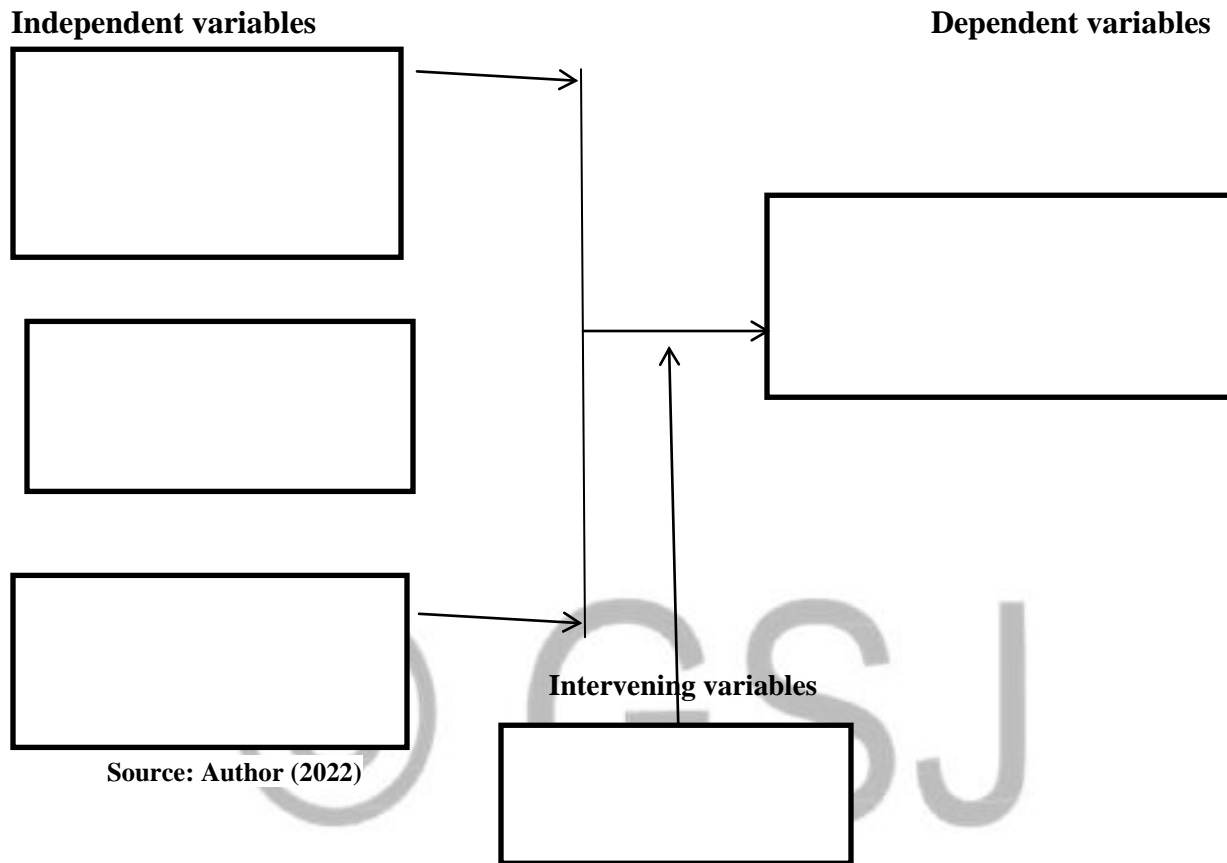
The Theory of Performance (TOP) develops and relates six foundational concepts (italicized) to form a framework that can be used to explain performance as well as performance improvements. Doganay, (2017). To perform is to produce valued results. A performer can be an individual or a group of people engaging in a collaborative effort. Developing performance is a journey, and level of performance describes location in the journey. Current level of performance depends holistically on 6 components: context, level of knowledge, levels of skills, level of identity, personal factors, and fixed factors. Three axioms are proposed for effective performance improvements.

This should not come as a surprise since performance measurement and management plays a critical role in the operation of any organization, be it a factory, business, hospital or school. As noted by Magretta and Stone (2002), performance measures are critical because they enhance communication – they enable the organization to address the following critical question – “Given our mission, how is our performance going to be defined?” Yet, it should also come as a surprise that in spite of this longevity of focus, this topic is still surprised by a great deal of confusion and conflict. For example, until more recently we have not agreed on what we mean by performance measurement (Franco-Santos *et al.*, 2007; Bourne and Bourne, 2011; Melnyk, *et al.*, 2004, 2014) and performance management (Bourne and Bourne, 2011; Melnyk, *et al.*, 2004, 2014). This confusion is present in both academic research and in the practitioner press. Confounding this confusion is the tight interrelationship that exists between theory and practice.

iv. Conceptual Framework

The research presented conceptual framework showing the relationship between the two variables and the intervening variables from the environment that can affect the relationship between the two.

Figure 1: The Conceptual Framework



v. Research Materials and Methods

Research Design

The research design refers to the overall strategy that choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring effectively addressing the research problem (Kaplan, 2012) A research design is the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance with research purpose. It is the blueprint for collection, measurement and analysis of data. The researcher used a descriptive research design in this study. The research used both qualitative and quantitative data.

3.3 Study Population

A study population is mostly a large collection of objects or individuals that is the major focus of a scientific question (Kaplan, 2012). It is also well-known as a defined collection of objects or individuals known to have related characteristics. The population of this research was 74 employees of Inyange Industry Ltd.

Table 1: Study of the Population

No	Department	Category	Population	Sample Size
1	Production	Manager	2	2

		Other staff	28	28
2	Finance and administration	Managers	2	2
		Other staff	10	10
3	Logistics and suppliers	Managers	2	2
		Other staff	24	24
4	Suppliers	Retailer	6	6
5	Total	Managers	6	6
		Other staff	62	62
		Suppliers	6	6

Source: Primary data, 2022

Sampling Technique and Sample Size

Sample Size

Sample size refers to the part of the population that the researcher considers more appropriate and manageable for the study. Since the population is small. The study considered the whole population as sample size. The sample size of this research was 74 respondents selected as the total population

Table 2: Sample size of the Study

Sloven's formula was applied to come up with the sample size in the table below

No	Department	Category	Population	Sample Size
1	Production	Manager	2	2
		Other staff	28	28
2	Finance and administration	Managers	2	2
		Other staff	10	10
3	Logistics and suppliers	Managers	2	2
		Other staff	24	24
4	Suppliers	Retailer	6	6
5	Total	Managers	6	6
		Other staff	62	62
		Suppliers	6	6

Source: Primary data, 2022

Sampling Techniques

The researcher used simple random sampling technique and purposive sampling technique. Simple random sampling technique was used on lower level employees while managers used purposive sampling technique because they have classified information.

Data Collection Methods Questionnaire

The questionnaire was designed and distributed to respondents to get the needed information. Josh (2015). This tool helped the researcher to present a questionnaire to the respondents who are Inyange Industries LTD employees. This helped the researcher to obtain in-depth answers.

Interview

An interview is essentially a structured conversation where one participant asks questions, and the other provides answers. Josh (2015), an interview definition can be crafted as a gentle conversation between two people or more where questions are asked to a person to get the required responses or answers.

Documentary Study

Documentary study or library search is the data collection process that is based on reading books and other documents relevant to the study. Josh (2015). These consisted of reading textbooks providing several related kinds of literature, various reports and journals with information related to financial materials and other relevant documents concerning Inyange Industries LTD also was consulted.

Data Analysis

The researcher used Microsoft Excel and Statistical Package for Social Sciences version 22.0 (SPSS) to analyze data. The analysis was based on both descriptive statistics (frequency distribution) and inferential statistics (regression analysis).

Descriptive Statistics

Descriptive statistics was used as it helped to describe the basic features and status of affairs concerning the impact of trust management, mutual goals management, and commitment management and production performance. Descriptive statistics provided simple summaries about the sample and the measures/response items.

In other words, descriptive statistics are preferred because they present lots of quantitative measures/descriptions in a manageable form. For example, the researcher used frequency distribution and percentage tables to describe the nature of responses on each of the response items under the study variables (trust management, common goals management, and commitment management and production performance).

Inferential Statistics

Inferential statistics are used to estimate the relationship between the independent and dependent variables as well as the statistical significance of the relationship. The regression model and output represents each of the independent variables under logistics management (trust management, mutual goals management and commitment management) as well as the dependent variable (production performance) and estimate how much change in the dependent variable (Y) is caused by each of the independent variables (X_1 , X_2 , X_3). The model for the regression analysis is indicated below:

$$Y = A + B_1 X_1 + B_2 X_2 + B_3 X_3 + E$$

Where:

Y: is the performance of supply chain

A: is the Y intercept when X is 0

B1, B2, and B3 are variables attached to the regression weights

X1: Trust

X2: Mutual Goals

X3: Commitment

E: Error Term/Other unobserved factors

vi. Results

Response Rate

Table 3 shows that the scholar distributed the questionnaire to 74 respondents who included 44 staff of IIL and 30 suppliers of IIL products. Table 4.1 shows that out of 44 ILL staffs, 37 (84 % answer rate) were able to provide data while 17 of the 30 suppliers of IIL products (56% response rate) were also able to provide data.

Table 3: Reply Rate

Sample Category	Sample Size	Actual Respondents	Response Rate
IIL's Staffs	44	37	84%
IIL's Suppliers	30	17	56%
Total	74	54	72.9%

4.2 Profile of Respondents

The researcher had to establish the gender of the respondents. The results were recorded in figure 3 below. The study above shows that 80% of the respondents were male while 20% were female. However, both genders were well represented to carry the study out.

Table 4 : Respondents Profile Characteristics

Gender	Frequency	Percent
Male	64	80
Female	10	20
Total	74	100

Level of Education	Frequency	Percent
University	36	48
Tertiary (TVET)	28	36
Secondary	10	16
Total	121	100

Period of work/supplying IIL Products	Frequency	Percent
0-2 years	44	62
2-4 years	23	15
4-6 years	7	23
Total	121	100

Source: Primary Data, 2022

As indicated in Table 4, it is observed that 80% of respondents were male while the remaining 20% were female. This indicates that high rate of women economic empowerment, which enables them to engage in business. In terms of education, 36% had completed tertiary (technical and vocational education and training (TVET)) education while

16% had completed secondary while 48% had completed university. This signifies that all respondent were highly educated and therefore able to provide valid and reliable information. It also signifies how Rwandans have been empowered in terms of literacy and training to improve their lives. Regarding duration of supplying goods from IIL at the time of the study, 15% had had been supplying IIL’s products for a period of 2-4 years while 23% had supplied for a period of 4-6 years and 62% had supplied for 0-2 years at the time of the study. This signifies that most respondents have insider knowledge about supplier relationship management of IIL thus highlighting the validity and reliability of the data provided.

Analysis of Specific Objectives

Effect of Trust on Production Performance of Inyange Industries LTD

The researcher sought to establish effect of supplier relationships management strategies in manufacturing industries in Rwanda. The strategies at hand include; trust, mutual goals and commitment to suppliers Strategies research findings are as in the Table 5

Table 5 Effect of Trust on Production Performance of Inyange Industries Ltd

Response Item	1	2	3	4	Mean	Std. Dev.
There is trust between Manufactures and suppliers achieved through communication	70%	26%	-	6%	4.254	.451
There is transparency achieved through effective communication	56%	15%	9%	4%	4.253	.874
There is engagement of manufacturers and other suppliers in mutually beneficial value exchanges	21%	-	7%	-	4.124	.652
Senior staff professionals utilize a variety of media to communicate with suppliers	66%	16%	7%	6%	3.985	.461
Estimating Suppliers’ power and influence	59%	5%	5%	-	3.641	.658
Documentation of Suppliers	72%	8%	9%	11%	3.487	.823

Source: Primary Data, 2022

From the findings in the above Table shows that the respondents agreed to a great extent ($3.487 \leq \text{mean} \leq 4.254$, with a significant standard deviation) the firm enhances trust in supplier partnership, there is a direct trust between manufacturers and its suppliers, the regular contact between manufacturers and the suppliers is easier to manage, there is constant sharing of information, the firm enhances open communication between manufacturers and suppliers, there is meaningful and timely information between firms and suppliers, the firm treats suppliers as allies and close friends, there is trust between Inyange and its supplier. This means that manufacturing firms in Rwanda such as Inyange industries Ltd use supplier relationships management strategies to a great extent with an overall

mean of (3.95). This implies that the manufacturing industries were mindful about the supplier relationships management strategies.

Effect of Mutual Goals on Production Performance of Inyange Industries LTD

This section sought to establish Effect of Mutual Goals on Production Performance of Inyange Industries Limited. The research findings are as in the Table 6

Table 6 Effect of Mutual Goals on Production Performance of Inyange Industries Ltd.

Response Item	1	2	3	4	Mean	Std. Dev.
There is mutual support for both manufacturers and suppliers	80%	16%	-	4%	4.347	.685
Manufacturer/supplier collaboration enhances production performance	76%	11%	7%	6%	4.225	.464
There is a well establish manufacturer supplier partnership in the firm	91%	-	9%	-	4.201	.541
There is joint decision making on matters of common interest	66%	19%	5%	11%	3.984	.320
The partnership between manufacturers and suppliers ensures efficiency in production performance	89%	4%	7%	-	3.968	.396
Mobilization of industry production performance	77%	9%	8%	6%	3.862	.321

Source: Primary Data, 2022

The respondents agreed to a very great extent ($4.354 \leq \text{mean}$, with a significant standard deviation) there is mutual goals making on matters of common interest, the respondents also agreed to a great extent ($3.54 \leq \text{mean} \leq 4.225$ with a significant standard deviation) there is a well establish supplier partnership in the firm, Manufacturer/supplier collaboration enhances production performance, there is mutual support for both manufacturers and suppliers, the partnership between manufacturers and suppliers ensures efficiency in production operations, there is a well establish supplier partnership in the firm. This means that the manufacturing industries embrace manufacturer/supplier partnership strategy to a great extent with an overall mean of (4.02). These findings were in line with Dyer and Ouchi (1993) who argues that the importance of manufacturer/supplier partnerships facilitates easier management.

The Role of Commitment of Supplier Relationships Management and Production Performance of Inyange Industries LTD

The researcher sought to establish the Role of Commitment of Supplier Relationships Management and Production Performance of Inyange Industries. The research findings are as in the Table 7

Table 7: The Role of Commitment of Supplier Relationships Management and Production Performance of Inyange Industries Limited.

Response Item	1	2	3	4	Mean	Std. Dev.
There is commitment to a lasting relationship of limited help thus high production performance	50%	32%	-	8%	4.621	.682
The commitment among manufacturers and suppliers brings the desire to develop a stable relationship	46%	13%	9%	6%	4.600	.667
There is willingness to make short-term sacrifices to maintain the relationship, a confidence in the stability of the relationship, and investments in the relationship thus improving production performance	31%	-	7%	-	4.411	.545
Commitment of supply chain partners willing to invest resources to achieve long term success is sacrificing short-term interests	86%	19%	7%	11%	4.354	.354
There is a sustained commitment from both sides to achieve their common goals of the supply chain	56%	8%	5%	-	4.324	.564
Commitment to a partner in relation to play is key to achieving favorable results for both parties, and has a direct impact on performance	57%	4%	9%	6%	4.251	.524

Source: Primary Data, 2022

From the findings in the above table shows that the respondents agreed to a very great extent ($4.411 \leq \text{mean} \leq 4.621$), with a significant standard deviation on the responses. This means that the manufacturing firms have commitment to supplier's strategy in place with an overall mean of (4.41).

Inferential Statistics and Analysis

The inferential statistic and analysis shows how changes in independent variables result into changes in the dependent variable. The Pearson correlation and multiple linear regression analysis were used to determine the relationship and the significance of the effect supplier relationship management activities on Production performance in Inyange Industries Ltd between 2018 and 2021. The multiple linear regression model helps to demonstrate how much of the changes in the satisfaction rate of Inyange industries Ltd's performance between 2018 and 2021 is attributed to Trust (X_1), Mutual goals (X_2) and Commitment (X_3) which are the predictor variables for this research.

Pearson Correlation Analysis

The analysis of the findings in this research constituted descriptive and inferential statistics. Correlation analysis is one of the inferential statistics that the study conducted. Correlation analysis involves determining the degree and direction of association between two variables. This study conducted correlation between the three Supplier relationship management practices and production performance.

Correlation between Trust and Production Performance

The researcher conducted correlation between Trust and Production performance by computing Pearson's correlation coefficient. The findings indicated Pearson's correlation value of 0.75 with a significance value of 0.01. This implied that there is a strong positive significant association between Trust and Production performance.

Table 8: Correlation between Trust and Production performance.

		Trust	Production performance
Trust	Pearson Correlation	1	.750**
	Sig. (2-tailed)	.	.001
	N	150	150
Production performance	Pearson Correlation	.0*	1
	Sig. (2-tailed)	.000	.
	N	150	150

Source: Primary data,(2022)

Correlation between Mutual goals and Production performance

This was assessed by computing the Pearson's correlation coefficient. From the findings, the Pearson's correlation coefficient for Mutual goals and Production performance was found to be 0.71. The significance value was reported as 0.01. This is an indication of a strong positive correlation between mutual goals and Production performance. The findings are summarized in the following Table.

Table 9: Correlation between Mutual goals and Production performance.

		Mutual goals	Production performance
Mutual goals	Pearson Correlation	1	.710**
	Sig. (2-tailed)	.	.001
	N	150	150
Production performance	Pearson Correlation	.710**	1
	Sig. (2-tailed)	.001	.
	N	150	150

Source: Primary

data,(2022)

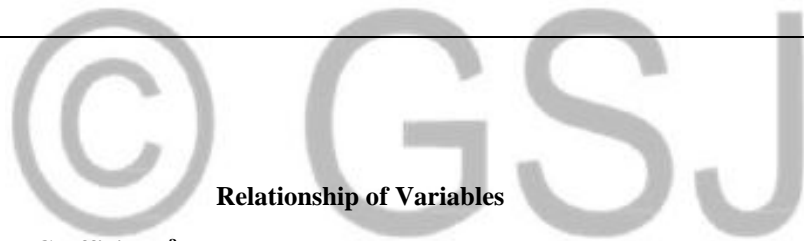
Correlation between Commitment and Production performance

Lastly, the researcher conducted correlation analysis between commitment and production performance. The Pearson's correlation coefficient was found to be 0.68 with a significance value of 0.01. This is an indication that there is a strong positive significant relationship between commitment and production performance. The results are summarized in the following table.

Table 10: Correlation between Mutual Goals and Production Performance.

		Commitment	Production performance
Commitment	Pearson Correlation	1	.680**
	Sig. (2-tailed)	.	.001
	N	150	150
Production performance	Pearson Correlation	.680**	1
	Sig. (2-tailed)	.001	.
	N	150	150

Source: Primary data,(2022)



Relationship of Variables

Table 11: Regression Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	SE	Beta		
(Constant)	3.544	.425		8.545	.045
1 Trust (X ₁)	.541(β ₁)	.154	.656	5.574	.035
Mutual Goals (X ₂)	.644(β ₂)	.874	.241	2.486	.049
Commitment (X ₃)	.148(β ₃)	.441	.282	1.031	.038

a. Dependent variables: Production Performance

The following regression result was obtained:

$$Y = 3.544 + 0.541X_1 + 0.644X_2 + 0.148X_3 \quad P=0.039a$$

From the model, when other factors Trust based on Partnership are at zero, the performance of manufacturing firms will be 3.544. Holding other factors constant, a unit increase in would lead to 0.541 (p=.035) increase in performance of manufacturing firms. However, holding other factors constant, a unit increase in mutual goals would lead to a 0.644 (p=0.049) increase in production performance of manufacturing firms. The Table above also shows that holding other factors constant, a 30 unit increase in commitment to Suppliers would lead to a 0.148 (p=0.038) increase in performance of large manufacturing firms. The study sought to establish the relationship that exists

between manufacturer – supplier relationships Management Strategies and production performance of manufacturing industries in Rwanda. The researcher conducted a regression analysis to assist explain this relationship. The study adopted the following linear regression model to depict the expected relationship between the variables: $Y=(X_1, X_2, X_3)$:

Whereby: Y represents Production performance, which was measured using the responses on the effect of various manufacturers – supplier trust relationship variables. ; x1 is trust Partnership; x2 is mutual goals: and x3 is commitment to manufacture and supplier partnership; B0 is the model’s constant, and $\beta_1 - \beta_3$ are the regression coefficients while ϵ is the model’s significance from f-significance results obtained from analysis of variance (ANOVA). All the three independent variables were also measured using the responses on each of the variables obtained from the respondents. The results are illustrated and explained next.

Table 12: Model's Goodness of Fit Statistics

Table 12.1 : Model Summary^b

Model	R	R Square	Adjusted R Square	SE of the Estimate
1	.734 ^a	.539	.503	.1752

a. Predictors: (Constant), Supplier relationship management activities

b. Dependent Variable: Production performance

Predictors: (Constant), Trust, Mutual goals and Commitment to Suppliers.

Table 4.7 Shows that there is an linear association between the dependent and independent variables as shown by a correlation (R) coefficient of 0.734. The determination coefficient as measured by the adjusted R-square presents a moderately strong relationship was 0.50, depicting that the model accounts for 50.3% of the total observation.

Table 12.2 : Analysis of Variance (ANOVA^a)

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	2.164	4.541	11.657	12.118	0.039a
1	Residual	9.775	115	0.085		
	Total	11.939	119			

a. Predictors: (Constant), Trust, Mutual goals, and Commitment to Suppliers

b. Dependent Variable: Production Performance

The ANOVA statistics presented in the table above show the model was significant as af $p = 0.039$ was established.

Hypotheses Testing

Hypothesis 1

The first null hypothesis (H_01) states that Trust (X_1) has no statistically significant effect on Production performance in Inyange Industries Ltd between 2018 and 2021. However, hypothesis test based on the multiple linear regression produced a coefficient of $\beta_1=.241$, with $p=0.002<.05$ at a 5 percent level of significance as in Table 4.1 which shows that trust (X_1) had a statistically significant and positive effect on production performance in Inyange Industries Limited between 2018 and 2021. Therefore, the researcher rejects the stated first null hypothesis (H_01) as false by adopting the alternative hypothesis (H_{a1}) that: *Ha1: Inventory Trust has a statistical significant and positive effect on production performance in Inyange Industries Limited between 2018 and 2021.*

Hypothesis 2

The second null hypothesis (H_02) stated that Mutual goals (X_2) have no statistically significant effect on Production performance in Inyange Industries Limited between 2018 and 2021. However, the regression coefficient ($\beta_2=.311$, with $p=.001<.05$ at a 5% level of significance) in Table 4.2 shows that mutual goals (X_2) had a positive and

statistically significant effect on production performance in Inyange Industries Limited between 2018 and 2021. Thus, the researcher rejects the second null hypothesis and adopts the second alternative hypothesis (H_{a2}) by stating that: *Ha2: Mutual goals (X_2) had a positive and statistical significant effect on production performance in Inyange Industries Limited between 2018 and 2021.*

Hypothesis 3

The third null hypothesis (H_{03}) stated that commitment has no statistically significant effect on production performance in Inyange Industries Limited between 2018 and 2021. However, the regression coefficient ($\beta_3=0.402$; with $p=0.000<0.05$ at a 5 percent significance level) shows that commitment (X_3) had a positive and statistically significant effect on production performance in Inyange Industries Limited in the period covered by this study. Hence, the researcher rejects the third null hypothesis and adopts the third alternative hypothesis (H_{a3}) by stating that: *Ha3: Commitment has a statistical significant and positive effect on production performance in Inyange Industries Limited between 2018 and 2021.*

vii. Discussions of Findings

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 (Ondiek, 2019; Monday, 2018) suggest that supplier relationship management has not worked in isolation of other factors. While Zsidisin and Ellram, (2011) suggested that production performance functions are costly to most manufacturing firms as they involve high wastage production and unpredictable costs. This section provides a discussion of the main findings from the research and links them with findings from the selected empirical literature. The first objective focused on assessing the effect of trust on production performance of Inyange industries Ltd. Findings show that customers were satisfied with Inyange industries Ltd's partnership process because it improved service delivery and the bond between suppliers and Inyange Industries Ltd. This observation explain that Trust is consistent a commitment to trust on an exchange partner in which the enterprise has assurance Maestrini, Luzzini, Maccarrone and Caniato, (2017) meaning of trust is a probability about exchange partnership that results from partner's reliability, intentionality, and expertise. Trust plays an important role in making interaction and long-term relationship formation Ali, Bentley and Cao (2016).

It loads importantly on two performance results: Financial performance (Financial returns and Profitability) and Customer Performance (Satisfaction and Loyalty). Trust is also seen as the expansion to which an enterprise trust that its exchange partner is trustworthy and/or benevolent or some alternative, the popularity of supply chain partnerships has extended over the last few decade with an increasingly benefit in the role of trust in assisting the relationship. The second objective concentrated on examining the effect of mutual goals on production performance of Inyange industries Ltd. It is observed that data exchange and collaboration efforts to develop supplier capabilities as pillars of supplier capabilities with regards to technology, cost, delivery and quality.

It also promotes continuous development. This finding is corroborated by Burnet (2012) who stated that the major elements that describe successful supplier development would constitute, but not limited to: improving and integrating, processes and activities, long-term relationship and continuous cooperation, mutual benefits as an outcome of any improvement efforts, and obvious structure for both firms with concern to cost, Profit and price. Moreover, successful relationship in manufacturing positioning are assigned by supplier development, technology sharing and cost savings Hughes and Jonathan (2010) determined that purchasing company should treat their suppliers as partners. Kosgei and Gitau (2016) discussed that investments in supplier relationship will share the productivity profits.

The third objective drew attention towards assessing the role of commitment of supplier relationships management on production performance of Inyange industries Ltd. It was observed that maintaining commitment in the manufacturer supplier relationship has been established to accrue various benefits such as: increased willingness in conducting operations, increased positivity, increased investment, reduced selflessness and increased personal effectiveness hence resulting in improved performance in procurements. This corroborates the findings by Heikkila, (2012). Who demonstrated that commitment builds trust as the supplies are conducted with the individuals having internal motivation.

Furthermore, a company's ability to strategically position suppliers in such way as to comprehend the profits of both the expansion as well as the partner types may be the major key to future competitive improvement in supply

chain management (Cox 2001) and thus signifies a strategic advance for firms with a huge number of suppliers. (Zsidisin & Ellram, 2001) discusses that relationship with chosen suppliers result in common advantages such as long-term competitive advantages, productivity improvement, reducing overall cost, flexibility to cope with changes, and enhance customer satisfaction in the market place. Lastly, it was also observed that not every supplier succeeds for the same level of attachment in such a system companies should strategically commit to each supplier to identify which suppliers are better positioned to deliver the greatest return to the company through closer cooperation, other than having a “one size fits all” approach for supplier management.

Findings on Trust on Production Performance of Inyange Industry Company

From the findings shows that the respondents agreed to a great extent ($3.487 \leq \text{mean} \leq 4.254$, with a significant standard deviation) the firm enhances trust in supplier partnership, there is a direct trust between manufacturers and its suppliers, the regular contact between manufacturers and the suppliers is easier to manage, there is constant sharing of information, the firm enhances open communication between manufacturers and suppliers, there is meaningful and timely information between firms and suppliers, the firm treats suppliers as allies and close friends, there is trust between Inyange and its supplier. The manufacturing industries periodically evaluates the importance of its relationship with suppliers, it is therefore apparent that manufacturing firms realize the importance to embraces manufacturer-supplier relationship management strategies. The study above indicates that respondents agreed that there is suppliers and manufacturer partnership. It is clear that suppliers and manufacturers partnership affects manufacturing industry's production performance.

Findings on Mutual Goals on Production Performance of Inyange Industries Limited

The respondents agreed to a very great extend ($4.354 \leq \text{mean}$, with a significant standard deviation) there is mutual goals making on matters of common interest, the respondents also agreed to a great extent ($3.54 \leq \text{mean} \leq 4.225$ with a significant standard deviation) there is a well establish supplier partnership in the firm, Manufacturer/supplier collaboration enhances production performance, there is mutual support for both manufacturers and suppliers, the partnership between manufacturers and suppliers ensures efficiency in production operations, there is a well establish supplier partnership in the firm.

This shows that mutual goals that would greatly strengthen both intra and inter organizational integration and be the key to a seamless supply chain performance. The study also established manufacturer-supplier relationship geared towards meeting efficiently and effectively the production performance. It clear that manufacturing industries face challenges in implementation of supply relationship management practices. Manufacturing industries' encounters a challenge when seeking partnerships with its suppliers due to completion issues and lack of goodwill. It is apparent that mutual goals affect production performance.

Findings on the Role of Commitment of Supplier Relationships Management and Production Performance of Inyange Industries

From the findings shows that the respondents agreed to a very great extent ($4.411 \leq \text{mean} \leq 4.621$, with a significant standard deviation on the responses). This means that the manufacturing firms have commitment to supplier's strategy in place with an overall mean of (4.41). In general, the adoption of commitment maybe appropriate in the following conditions: innovative products; products with high monetary density, high specialization and wide range; markets characterized by long delivery time, low delivery frequency and high demand uncertainty; and manufacturing or logistics systems with small economies of scales and no need for special knowledge.

vii. Recommendations

The study concludes that though supplier relationship and manufacturer segmentation are practiced to a certain extent, they do have significant association with performance of industries. Only information sharing showed statistically significant association with performance and thus increasing information sharing were more likely to result in improved performance. From the conclusions, the study recommends the following. The study recommends the need for manufacturing industries to develop clear supplier development programs. This will enable firms to engage in activities that improve the performance of suppliers thus resulting in better performance of these industries. As in the findings of objective one, performance of industries may be further improved by engaging in supplier development activities. The study also recommends that industries should strategically manage their supply base on the basis of value of spend or nature of items being purchased. This will enable the firms to categorize their suppliers and thus proper treatment accorded to every supplier based on their importance.

Information sharing was found to increase performance of manufacturing firm. It is therefore recommended that manufacturing industries should share important information with its suppliers in order to improve on their performance. Manufacturing industries are also advised to adopt the practices that are currently adopted at a very small extent because they can significantly improve Production performance from the current position.

viii. Conclusions

From the findings above, the researcher concludes that relationship among the manufacturer and supplier partnership is proportional to the information symmetry that exists. Also, from the findings in section four above, conclusions are made that partnerships with manufacturers and suppliers enable organizations to operate more efficiently. Manufacturer-Supplier relationship aligned organizations can work closely together and eliminate wasteful time and effort. It is therefore clear that the partnership emphasizes long-term relationship between trading partners and “promotes mutual planning and problem solving efforts”.

viii. REFERENCES

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