Relational Behavior and Performance of Manufacturing Firms In Kenya

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Abstract- The main aim of this study was to assess the relationship between relational behaviour and the performance of manufacturing firms in Kenya. While the internal and external environmental factors are pushing businesses to undergo tremendous changes, the supply chain management is becoming one of the core areas that organizations need to align for continued performance. The manufacturing sector in Kenya, although it is one of the critical sectors in the country's economy, has been undergoing through turbulent times in the recent past where over 40% of the industry's leading companies have been posting declined revenues and the profit margin. The tussle of relational behaviour as an aspect of supply chain alignment has however not been adequately addressed in the sector. This study therefore seeks to assess the relationship between rational behaviour and performance of manufacturing firms in Kenya. The study also focused on assessing the moderating effect of quality control and certification on the relationship between relational behaviour and performance of manufacturing firms in Kenya. The paper was anchored on partnership theory. Descriptive research design was adopted. The researcher preferred this method because it allows an in-depth study of the subject. The population of the large sized registered members as per the directory is 461. This study employed Cochran's formula to sample 160 large manufacturing firms from the total population. Semi-structured questionnaires was administered to collect qualitative and quantitative data. Secondary data was collected from firm's reports and websites. Quantitative data was analyzed using both descriptive and inferential statistics and with the help of SPSS while qualitative data was analyzed using content analysis. Multiple regression model was used to show the relationship between the dependent variable and the independent variables. The findings revealed that relational behaviour was one of the key aspects of supply chain alignment that significantly enhanced the performance of manufacturing firms in Kenya. The quality control and certification was also found to significantly moderate the relation between relational behaviour and performance of manufacturing firms. The study concluded that relational behaviour through interactions among stakeholders, flexible logistics and customer focus was essential in the performance of the manufacturing firms. The paper recommends that the manufacturing firms have the duty of ensuring the customers are given effective feedback while interaction between the stakeholders is enhanced for better relationship and enhanced collaboration.

Index Terms- Relational Behaviour, Supply chain Alignment, Firm performance, Manufacturing Firms

I. INTRODUCTION

1.1 Background to the Study

Most of the modern companies are striving to sustain their performance and operations in the market, despite the growing dynamism and over-volatile operating environment. One of the issues of concern that has been arising during these efforts has been the alignment of supply chain practices to ensure effectiveness, efficiency and at the same time save on operational costs. Among the main issues of supply chain alignment that has been arising is the relational behaviour. This is the collection of activities and strategies that a company upholds to build and maintain customer relationships and stakeholder interactions within the supply chain network (Skipworth & Julien, 2015). Internal relational behavior is characterized by cross functional team, logistical flexibility to your end users, mutual understanding, joint problem-solving and joint planning.

The benefits of cross-functional teams have been widely recognized (Fassoula, 2013). The use of cross-functional teams is found to enable strategic alignment of account systems (Yasin, Bayes, & Czuchry 2015). To encourage cross-functional team working, a cross-departmental reward system may be used. Cross-functional activities often improve mutual understanding. The existence of different goals within an organization inhibits internal collaboration (Sabath & Whipple, 2014). Alignment of internal relational behavior is essential to achieve mutually accepted outcomes (Pagell, 2014; O'Leary-Kelly & Flores, 2012).

Since a conflicting objective is often the main obstacle to customer responsiveness, this study suggests stakeholder interactions, logistical flexibility and responsiveness to customer feedback as crucial indicators for relational behavior in supply chains. The lack of shared goals with suppliers is one of the inhibitors of collaboration in planning, forecasting and replenishment (Barratt & Oliveira, 2011). Very often any

transaction or joint effort in improving a supply chain will incur costs and these costs are often unevenly distributed. Supply chain members that choose to push additional costs to other members often inhibit alignment efforts (Chung & Leung, 2012).

Relational behaviour is the consistency and fit in strategic goals, metrics and activities between firms interlinked from upstream to downstream and which are involved in customer value creation (Melnyk, Stewart & Swink, 2014). Supply chain relational behaviour involves strategic collaboration and coordination across the supply chain. Flynn, Huo and Zhao (2010) underscore the value of supply chain relational behaviour alignment in managing intra and inter firm relationships in a value chain. The management of a supply chain emphasizes the need to align all the activities that create value for customers and are performed across the supply chain, in order to achieve high levels of customer service in a cost effective way (Skipworth & Julien, 2015).

The sharing of goals, cost and profits is only part of relational behavior. At an operational level, focal firms need to jointly solve problems and plan with the stakeholders and customers to improve delivery performance (Auramo *et al.,* 2010). Sanders and Premus (2015) suggested that closer collaboration with stakeholders increases supply chain integration and performance.

In Africa supply chain alignment is on an upward trend due to the following drivers for this model include: expanding companies that require additional resources but cannot afford or are not willing to invest in their acquisition; the pursuit and attraction of new talent; the reduction of operating costs; and carbon footprint reduction. Supply chain alignment has meant that capital investments in this model are minimal (Von Maltitz, (2014). The manufacturing sector is the third biggest industrial sector after agriculture and transport and communication (KPMG, 2014). It is the third leading sector contributing to GDP in Kenya. Although Kenya is the most industrially developed country in East Africa, the manufacturing sector constitutes merely 10 per cent of the industrial sector contribution to GDP (RoK, 2014). The growth in manufacturing industry has declined to 3.3 per cent in 2011 as compared to 4.4 per cent in the year 2010 mainly due to a challenging operating environment (KNBS, 2012). Furthermore, the manufacturing sector has high yet untapped potential to contribute to employment and GDP growth.

Statistics from World Bank (2016) show that Kenyan manufacturers have registered stagnation and declining profits for the last five years due to unpredictable operating environment. Further statistics from Kenya Association of Manufacturers have shown that certain firms announced plans to shut down their plants and shift operations to Egypt as a result of reduced profits (KAM, 2014).

1.2 Statement of the Problem

The manufacturing sector is one of the Kenya's main economic pillars, contributing over an average of 12% of the country's annual GDP. Despite the essentiality of the sector, its performance has been declined over the recent past. This has been characterized by declined revenues and profits, increased losses, closure of operations, and increased redundancy and retrenchment to salvage the costs of operations (KAM, 2019). While supply chain alignment through aspects such as supplier relational behaviour has been proved to influence performance particularly among the manufacturing firms, this has inadequately been proved in the Kenya's context. This raises the question on whether indeed, relational behaviour as an aspect of supply chain alignment could be the missing factor. This study therefore seeks to fill the existing methodological, contextual and empirical gaps by assessing the influence of relational behaviour on the performance of manufacturing firms in Kenya.

1.3 Study Objectives
1. To establish the relationship between relational behavior and performance of manufacturing firms in Kenya.
2. To determine the moderating influence of quality control and certification on the relationship between relational behaviour and performance of manufacturing firms in Kenya.

1.4 Study Hypotheses
1. H_O: There is no significant relationship between relational behavior and performance of manufacturing firms in Kenya
2. H_O: Quality control and certification has no significant moderating effect on the relationship between relational behaviour and performance of manufacturing firms in Kenya

1.5 Scope of the Paper
The study's scope is to investigate the relationship between relational behaviour and performance of manufacturing firms in Kenya. The study focused on the manufacturing firms in Kenya. The KAM (2019) lists 461 large manufacturing firms drawn from 12 sub-sectors. The supply chain management form these companies will be the units of observation for the study.

II. LITERATURE REVIEW

2.1 Relational Behavior and Firm Performance
In practice, management studies have rarely considered concurrently the various supply chain alignments such as shareholder and customer alignment. For example, the value chain theory of Porter focuses on the building blocks by which a firm creates a product, which is valuable to the customers, assuming that there is no need to trade-off with shareholder value. However, in the mid-2000s some studies have started to examine the links between shareholder and customer value (Bourguignon, 2015).

The tension between delivering customer and shareholder value is a problem all profit-driven organizations have to manage. Still, there is debate in the literature over whether shareholders, or customers, should take priority (Rappaport, 2013). The reality is that the ultimate goal of any company is to make a sustained return for their shareholders. Some argue that organizations are in business primarily to maximize shareholder value and can do so by also delivering customer value, thereby maintaining competitiveness. Some scholars have argued that customer value come first because a business is more likely to achieve its goals when it organizes itself to meet the current and potential needs of customers (Doyle, 2014).

Supply chain between different stake-holder is meant to inform and complement each other. Such a novel theoretical lens to supply chain alignment is interesting because it considers the

alignment, or fit, between shareholder and CA, as a reason for achieving sustainable business performance. Marquez and Blanchard (2009) emphasize the importance of connecting customer value with business targets, and Cao *et al.* (2012) find evidence that strategic alignment (where functional strategies are aligned with business strategies) may not lead to improved firm performance if those strategies are not appropriate for the competitive environment.

Customer alignment can inform the process of supplier alignment and therefore allow shareholders to better align their objectives with a congruent business strategy. Frohlich (2012) argues that the lack of alignment between business models and practices and response to customer needs will have an adverse effect on shareholder value. In a way, supply chain alignment or doing the right things ensures customer loyalty and thus promises continuous revenue, thus contributing to shareholder value.

Shareholder value promises continuous investment which supports the implementation of the business unit and supply chain strategies to meet customer need (Slater & Narver, 2014; Kaplan & Norton, 2014), thus suggesting the joint effects of Customer and supplier alignment for enhancing both shareholder and customer value, therefore leading to superior business performance. From this perspective, SA and CA reinforce each other, meaning that supply chain alignment positively affects customer value and eventually business performance.

2.2 Quality Control and Certifications and Firm Performance

Casadesus and De-Castro (2015) affirmed that quality management and other quality practices plays a considerable role in better managing and aligning supply chain relations. Theodorakioglou *et al.* (2016) examined how the EFQM model facilitates intra-firm coordination and concluded that quality practices results in better intra-organizational alignment. Yang *et al.* (2013) developed and applied a six sigma methodology in a leading manufacturing organization to improve supply chain operations. They concluded that such methodology could play a considerable role for successful supply chain thinking. Similarly, Mehrjerdi (2013) confirmed the role of implementing six sigma tools in improving coordination efforts in supply chains.

It is widely accepted that the ultimate aim of implementing ISO standards is to satisfy the demand of external customers as well as potential customers (Douglas, Coleman & Oddy, 2013). Bagchi *et al.* (2013) referred to a study conducted in the USA and the UK in 2004, 2005, 2006 that concluded that the internal benefits of earlier versions of ISO 9000 takes precedence over external benefits. However, Robinson and Malhotra (2015) argued that quality practices must expand from traditional intra-firm mind sets to include inter-organizational supply chain activities. In that sense, Boiral and Roy (2010) assumed that ISO 9000 leads to better intra-organizational processes and in turn will provide organizations with better ability to respond to customers and competitors pressures. Several studies referred to the importance of the dual focus on internal (intra-organization) and external (inter-organization) quality performance as a key strategy for achieving competitive differentiation (Mellat-Parast, 2013).

In that sense, Carmignani (2009) highlighted the importance and the potentiality of quality models to support the supply chain integration efforts. Casadesus and DeCastro (2015) analysed the impact of ISO 9000 quality assurance implementation on adherence to strategies in favour of a SCM philosophy through examining whether ISO 9000 implementers improves relationship with suppliers. The results provided doubtable affirmation on how ISO 9000 implementation favours SCM strategies. Yet, they concluded that quality management practices provide a great deal of help and support for relationships in the supply chain.

2.3 Theoretical Review Partnership Theory

The study was informed by partnership theory. The theory is built on the urge to enhance the relationships and partnerships between the stakeholders in an organization, for an enhanced effectiveness and efficiency in operations. In its basic nature, the partnership model depicts the buyer and supplier as partners with a common interest which is customer satisfaction (Xu, Huo & Sun, 2014). Partnership is a relationship based on mutual trust, openness, shared risks and rewards that enables an organisation gain competitive advantage leading in the company achieving a performance that's far much greater than the firm would have achieved when operating as single entities (Kumar, 2013).

The theory further states that any partnership is always based on value and present for each other (Wong *et al.,* 2012). The solid and long term relationship simply implies continuous improvement of the organization performance. Suppliers must provide better services that are of high quality than his competition at a price reasonable and still achieve goals to remain in business. Partnership model according to Zhao and Yeung (2011), increases company efficiency through way of cooperative; both parties obtain cost reduction which leads to price reduction and therefore increasing the market share profit margin as well. This leads to a company gaining a competitive edge and efficiency (Wagner & Bode, 2013). .

The partnership theory has three elements which are drivers, facilitators' and used components. The drivers each party must have a driver strong enough to provide them with realistic expectation of significance benefit through strengthening of the relationship (Gianakis, 2012). Facilitators on the other hand have included corporate compatibility, mutuality, managerial philosophy and techniques and symmetry. In conclusion in order to gain leadership position against your competitors and ensure the company grows partnership can be used to achieve the above. This theory is relevant because relational behaviour entails partnering with various players in the supply chain.
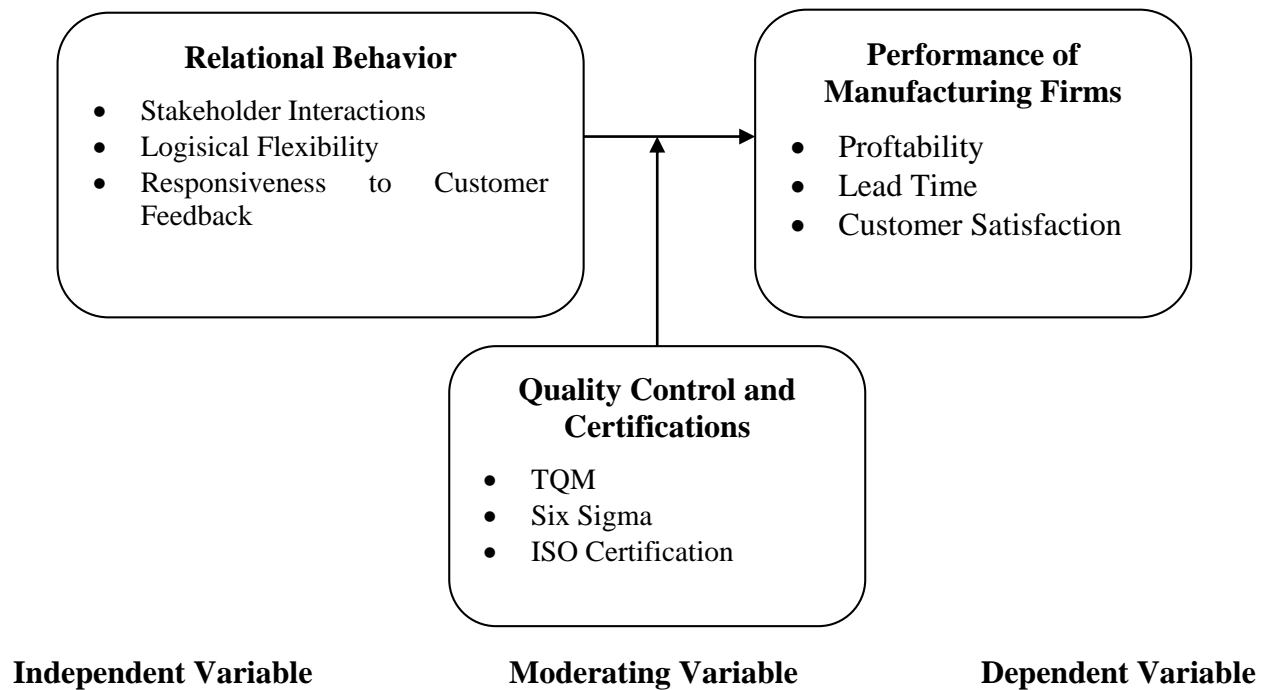
2.4 Conceptual Framework

Relational Behavior

- Stakeholder Interactions
- Logisical Flexibility
- Responsiveness to Customer Feedback

Performance of Manufacturing Firms

- Proftability
- Lead Time
- Customer Satisfaction

Quality Control and Certifications

- TQM
- Six Sigma
- ISO Certification

Independent Variable   **Moderating Variable**   **Dependent Variable**

Figure 1: Conceptual Framework

III. RESEARCH METHODOLOGY

3.1 Research Design

A descriptive design was adopted in this paper. The design is used because it sets out to describe weather supply chain alignment is related to performance of manufacturing firms in Kenya. The study adopted the design as it helps describe the situation as it exists. Earlier related studies had also utilized descriptive research design such as those by Mugo (2012) and Rotich (2011) who studied strategic supply chain practices influence on performance of institutions in Kenya.

3.2 Population of the Study

The study targeted the manufacturing firms in Nairobi Kenya. The KAM directory has listing of members (firms) by sectors which contains a register of 12 sectors of those in manufacturing firms spread all over the country (KAM, 2017). The population of the large sized registered members as per the directory is 461.

3.3 Sampling

A sampling formula by Cochran (1977) was used to establish the appropriate sample size for the study. formula was used to calculate the sample size as advanced.
$n_o = z^2p(1-P)/e^2$
$n_1 = 246/\{1+246/461\} = 160$
Where;
n_1 is the corrected sample size and n_0 the >5% sample calculated above. This gave a sample of 160.

3.4 Data Collection Instruments

The research utilized a structured questionnaire to collect data. The questionnaire was divided into six sections. The first section focused on background information of the organizations while the other five sections each focused on a single research objective.

3.5 Data Collection Procedures

In relation to the data collection procedure the study developed a timetable for data collection and scheduled appointments with the respondents, specifying in detail the date, time and place where the data was to be collected. The unit of analysis in this study was the manufacturing firm. Since the study was majorly based on supply chain alignment influence on performance of manufacturing firms, the target respondents were the heads of procurement in charge of supply chain management or its equivalent.

3.9 Data Analysis and Presentation

This study adopted a descriptive data analysis and inferential data analysis. Descriptive data analysis was adopted for this study because descriptive analysis was used to describe the basic features of the data in a study. It provides simple summaries about the sample and the measures (Kothari, 2014). The study adopted inferential data analysis in order to enable it reach conclusions that extend beyond the immediate data alone to infer from the sample data about the population. Inferential statistics facilitate inferences from sample data to population conditions. The study used SPSS version 21 and MS Excel to facilitate the analysis of data. SPSS is used to undertake calculations on the data. The study utilized SPSS to develop a multiple regression model to make inferences on the effect of each of the independent variables on the dependent variable.

IV.   DATA ANALYSIS AND DISCUSSION

4.1 Instrument Return Rate

Out of the 160 questionnaire issued, 127 questionnaires were properly filled and returned for analysis. This represented a response rate of 79.4%.

4.2 Reliability Test

Table 1 sows the reliability test results. The findings revealed that all the variables had a Cronbach's alpha above the 0.70 threshold. This implied that they had met the reliability test hence reliable for analysis.

Table 1: Reliability Test Results

Variable	Number of Items	Cronbach's Alpha
Relation Behaviour	13	0.814
Quality Control and Certification	13	0.799
Firm Performance	8	0.822

4.3 Influence of Relational Behaviour on Firm Performance

The study sought to assess the relationship between relational behaviour and performance of manufacturing firms in Kenya. The study sought to evaluate the influence of stakeholder interactions, logistical flexibility and responsiveness to customer feedback on the performance of manufacturing firms in Kenya. These were the main aspects of relational behaviour. The respondents were asked to indicate their level of agreement with specific statements on relational behaviour. The findings are as shown in Table 2.

The findings imply that the aspects of relational behaviour have not been satisfactorily met among the surveyed manufacturing firms. According to Chae, Yen, and Sheu (2015), relational behaviour is mainly aimed at enhancing the connection between the customer and the organization and between the suppliers and the organization. This relationship is directed towards minimizing the costs of operations and ensuring that the organization attracts and retains customers at the lowest cost possible. The findings are in line with those by Wagner and Bode (2013) who found out that enhancing the relationship between the company and its stakeholders is one of the key aspects of supply chain alignment that steer the performance and competitiveness of modern businesses.

Table 2: Descriptive Results on Relational Behaviour Systems

Measurement Aspect	N	Mean	Std. Dev.
The company caries out a frequent stakeholder analysis practice to identify key stakeholders	127	3.75	0.90
The stakeholders in the company are effectively involved in key decision making processes	127	3.72	0.89
There are frequent stakeholder meetings to assess their views on various aspects on the organization	127	3.67	1.01
There are flexible logistics frameworks in our company	127	3.8	0.97
The management has embraced a way of rotating cycles and procedures in our logistics process	127	3.85	0.98
There are follow-ups to ensure the timelines in our logistics process can be adjusted when need be	127	3.99	0.87
There is a customer feedback platform to ensure customers receive feedback effectively	127	3.7	0.97
The customer queries are received and replied to timely	127	3.96	0.94
The company has embraced use of ICT in handling customer feedback and communication	127	4.12	0.92

4.4 Quality Control and Certifications

The study sought to establish the relationship between quality control and certifications and performance of manufacturing firms in Kenya. The respondents were asked to indicate their level of agreement or disagreement on specific statements regarding influence of quality control and certifications on the performance of manufacturing firms in Kenya. The findings are as shown on Table 3. The findings reveal that indeed the quality control and certifications have been instrumental to the utilization of relational behaviour in enhancing the performance of manufacturing firms in Kenya.

Table 3: Descriptive Results on Quality Control and Certification

Measurement Aspect	N	Mean	Std. Dev.
The six sigma tool plays a significant role in cost reduction	127	3.86	0.93
ISO certifications play a significant role in cost reduction	127	3.84	0.91
Total quality management plays a significant role in improving productivity	127	3.98	0.93
The six sigma tool plays a significant role in improving productivity	127	3.91	0.83
ISO certifications plays a significant role in improving productivity	127	3.9	0.94
Total quality management plays a significant role in improving lead time	127	4.08	0.86
The six sigma tool plays a significant role in improving lead time	127	3.85	0.91
ISO certifications plays a significant role in improving lead time	127	4.06	0.97
ISO certifications plays a significant role in improving lead time	127	3.86	0.93

4.5 Performance of Manufacturing Firms

The study sought to establish the performance of the manufacturing firms in Kenya. The findings as shown in Table 4 revealed that majority of the respondents disagreed that their company has been committed to reduce the costs of operation in all its activities. Majority of the respondents disagreed that through focus on waiting time and reduce it significantly we have achieved better supply chain performance. It was further established that most of the organizations did not adequately involve their suppliers in designing of the products based on the customer specifications to enhance satisfaction. The respondents further disagreed that through continued focus on relational behaviour, their respective companies had been able to enhance their profitability.

Table 4: Descriptive Results on Organizational Performance

Statement	Mean	Std. Dev.
Our company has been committed to reduce the costs of operation in all its activities	2.61	1.35
Through focus on waiting time and reduce it significantly we have achieved better supply chain performance	2.46	1.35
We adequately involve our suppliers in designing of the products based on the customer specifications to enhance satisfaction	2.51	1.28
We have adopted new technologies in the supply chain systems to reduce lead time and promote effectiveness	3.21	1.27
Through relational behaviour, the company has been able to enhance its profitability	2.18	1.29

4.6 Hypotheses Testing

H_{O1}: There is no significant relationship between relational behavior and performance of manufacturing firms in Kenya

The linear regression model was carried out to reveal the relationship between the two variables and the findings are as herein presented. As the model summary in Table 5 reveal, the R Square (R^2) for the model was 0.193. This implies that relational behaviour influences up to 19.3% variation in the performance of manufacturing firms in Kenya. This confirms that relational behaviour has an influence on the performance of manufacturing firms in Kenya.

Table 5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.439[a]	.193	.187	.61302

a. Predictors: (Constant), Relational Behaviour

The Analysis of Variance (ANOVA) results are as shown in Table 6. As the findings indicate, the F-Statistics for the model was 29.891 at a significant level of 0.000<0.05. This implies that there is a significant influence of relational behaviour on the performance of manufacturing firms in Kenya. Zachmann (2012) stated that when relational behaviour is well though and directed towards meeting the customer needs, it significantly influences the organizational performance by giving it a modern approach to new ways of supply chain and improving the existing products and supply chain channels.

Table 61: Analysis of Variance (ANOVA) for Relational Behaviour

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	11.233	1	11.233	29.891	.000[b]
	Residual	46.975	125	.376		
	Total	58.208	126			

a. Dependent Variable: Performance of Manufacturing Firms

b. Predictors: (Constant), Relational Behaviour

The regression coefficients results as shown in Table 7 revealed that the Beta (ß) coefficient for relational behaviour was 0.518 which implies that a unit change in relational behaviour would lead to an increase in performance of manufacturing firms by up to 51.8%. The P-value for Relational behaviour was 0.000 which is less than the standard P-value of 0.05. This implies that there is a significant and positive relationship between relational behaviour and manufacturing firms. On this merit, we therefore reject the null hypothesis that there is no significant influence of relational behaviour on the performance of manufacturing firms in Kenya.

Table 7: Regression Coefficients for Relational Behaviour

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.515	.337		4.500	.000
	Relational Behaviour	.518	.095	.439	5.467	.000

a. Dependent Variable: Performance of Manufacturing Firms

H~O2~: Quality control and certification has no significant moderating effect on the relationship between relational behaviour and performance of manufacturing firms in Kenya

The regression coefficients for the moderated model are as shown in Table 8. The revealed that the Beta coefficient for the interaction between relational behaviour and quality control and certification was -0.029 at a significant level of 0.188. This implies that quality control and certification when interacted with relational behaviour had a negative and insignificant effect on the performance of the manufacturing firms. WE therefore fail to reject the null hypothesis that there is no significant moderating effect of quality control and certification on the relationship between relational behaviour and performance of manufacturing firms.

Table 8: Regression Coefficients (Moderated)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.046	.144		14.196	.000
Relational Behaviour*Moderator	-.029	.022	-.167	-1.323	.188

a. Dependent Variable: Performance of Manufacturing Firms

V. CONCLUSIONS AND RECOMMENDATIONS

Based on the study findings, the study concluded that relational behaviour influences performance. Relational behaviour has significant relationship with performance of manufacturing firms in Kenya. The sub-constructs of relational behaviour that is stakeholder interactions, logistical flexibility, responsiveness to customer feedback influences performance positively. The study also concluded that quality control and certifications has no moderating influence on the relationship between relational behaviour and performance of manufacturing firms in Kenya.

The study recommended that the management of manufacturing firms in Kenya should put in place relational behaviour strategies as it leads to high performance. The firms should ensure they have stakeholder interactions, responsiveness to customer feedback and logistical flexibility in the companies. The study also recommends that future scholars and researchers should aim to test the relationship between relational behaviour and performance using different sub constructs apart from stakeholder interactions, responsiveness to customer feedback and logistical flexibility.

Contribution of the Study to Theory and Existing Knowledge

The findings of the study can be linked to the partnership theory. In its basic nature, the partnership model depicts the buyer and supplier as partners with a common interest which is customer satisfaction. Partnership is a relationship based on mutual trust, openness, shared risks and rewards that enables an organisation gain competitive advantage leading in the company achieving a performance that's far much greater than the firm would have achieved when operating as single entities. This model requires efficient information exchange between the partners which is a critical element of any partnership.

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