INFLUENCE OF PERFORMANCE METRICS IN LOGISTICAL FIRMS IN KENYA. A CASE OF BOLLORE LOGISTICS

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 ABSTRACT

The principle of this study was to assess the factors influencing the implementation of performance metrics in the logistics industry with particular emphasis in the Kenyan logistical firms. The study aimed at establishing the effect of environmental dynamics, I.C.T, human resource management and logistics collaboration on performance of the logistical industry in Kenya. The study focused on the 2011 employees of the Ballore logistics where a sample of 95 employees was selected. Questionnaires were used to collect primary data which was analyzed by descriptive statistics and the regression model. The findings revealed a positive and a statistically significant relationship between environmental dynamics and the implementation of performance metrics in logistic firms and that the relationship between information technology and the implementation of performance metrics in logistic firms was positive and statistically not significant respectively. The study also found that human resource management had a positive and statistically significant relationship with the implementation of performance metrics in logistic firms in Kenya. Finally, the study found that logistics collaboration had a positive and statistically significant relationship with the implementation of performance metrics in logistic firms in Kenya. The study concluded that environmental dynamics, human resource management and logistics collaboration significantly affects the implementation of performance metrics in logistic firms in Kenya. The study recommended that the management of logistic firms in Kenya should develop effective policy strategies and mechanisms on environmental dynamics, human resource management and logistics collaboration to enhance performance of their logistic firms.

Key Words: Environmental Dynamics, I.C.T, Human Resource Management, Logistics Collaboration

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The Strategic Journal of Business & Change Management. **ISSN** 2312-9492 (Online) 2414-8970 (Print). www.strategicjournals.com

INTORODUCTION

Many organizations spend millions of shillings on procurement, which refers to all of the activities required to get a product or service from a supplier to the user. The activities encompass the purchasing function, storing, transportation and management of the relationships between suppliers and internal customers (Weele, 2014). Companies resort to supply chain practices to improve their performance. Supply chain management is applied by companies across the globe due to its demonstrated results such as delivery time reduction, improved financial performance, greater customer satisfaction & building trust among suppliers (D'Amours, Ronnqvist & Weintraub, 2018).

The logistical industry has a unique role in expanding economic opportunity whereby large companies offer Productivity Improvement and the economic growth enormously resulting to the gross domestic product (GDP) of industrialized nations and affects the rate of inflation, interest rates, productivity, energy costs and its availability and other aspects of the economy. (KNBS 2017) In formulating SCM strategy, recognition of a strategy of acquiring supplies to offset uncertainties in product supply or product distribution for an organization has to be been made. It involves making decisions that set and guide resource allocations for the total enterprise within the value chain. (Charvet, 2010).

There is a growing recognition that SCM logistical strategies embedded in large firms are strategic sourcing, partnering, lean manufacturing, communication, postponement, responsiveness and outsourcing. These can be effective tools to satisfy demanding customers and other stakeholders. There is also increasing evidence that most of the large firms in the supply chains have a long way to go before they can realize their full potential for a truly linked SCM system (Kilpatrick, 2016).

Bolloré Transport & Logistics is one of the world's leading transportation groups with more than 36,000 employees spread among 106 countries throughout Europe, Asia, the Americas and Africa where it carries out its business activities in ports, freight forwarding and railways. It is also a major player in oil logistics in France and Europe.

Bollore Transport & Logistics is a freight forwarding company in Kenya is established in the biggest cities in the country. They offer value-added warehousing solutions and dedicated services for commodities. With this uniquely strong network and the quality of commitment of its teams in the field, Bolloré Transport & Logistics in Kenya work to build tailored multimodal transport solutions (and local transportation in Kenya) to meet all demands. Their customers are high-profile players in a range of sectors including mining, oil and gas, telecommunications, Energy and humanitarian aid.

Bollore logistics is one of the most developed logistical companies in Africa; the industry is made up of more than 1,200 businesses, encompassing everything from small family organizations to large multinational companies with the likes of Cube Movers Limited, Seaways Kenya LTD and TNT Express Worldwide Kenya Ltd. The industry in Kenya is among the key productive sectors identified for economic growth and development because of its immense potential for wealth, employment creation and poverty alleviation (KNBS, 2017).

Statement of the Problem

According to Transparency, International Kenya (2018), firms that do not have performance metrics have been seen to be performing poorly compared to those who have performance metrics in place. Logistical operations have been identified as a core function of any transport enterprise. Performance metrics are be given less importance compared to the other management activities. Performance metrics assists companies to evaluate, control and improve

production processes and also to compare the performance of different organizations, departments, teams and individuals as well as assess employees. The only performance measurement that is carried out in logistics are largely cost based despite the fact that performance metrics are required to correspond to environmental requirement, enterprise needs and strategies to meet those needs. (Rwoti & Omosa 2018).

Performance measures and metrics are essential for effectively managing logistics operations, particularly in a competitive global economy (Lambert & Cooper, 2011). The global economy is featured with global operations, outsourcing, e-commerce and the challenge for managers of new enterprise environment is to develop suitable performance measures and metrics to make right decisions that would contribute to an improved organizational competitiveness.

Some of the traditional measures and metrics may not be suitable for the new environment wherein many activities are not easily identifiable. Measuring intangibles and nonfinancial performance metrics pose the greater challenge in the knowledge economy. Nevertheless, measuring them is so critical for the successful operations of companies in this environment. Considering the importance of nonfinancial metrics and intangibles, an attempt was made in this research to determine the factors influencing the implementation of performance metrics in supply chain and logistics operations.

Organizations without performance measure and metrics have experienced cases of loss of stock leading to decrease in profits (PPOA 2015). Increasing pressure from stakeholders, government and non-government agencies are forcing the industries to implement performance metrics in logistics operations. Performance metrics are measurable values that demonstrate how effective a company is achieving key business objectives (Bruce,

2018). Factors influencing performance metrics will be important to Bollore logistics because they would help the organization focus on common goals and ensure those goals stay aligned within the organization strategic plan. This research aimed to identify the factors, which hinder the implementation of performance metrics in logistics operations for state corporations.

Research objectives

To find out the factors influencing the implementation of performance metrics in logistics firms in Kenya. A case study of Bollore Logistics. The specific objectives were;

- To find out the effect of environment dynamics in the implementation of performance metrics in logistics firms in Kenya.
- To find out the effect of information technology on implementation of performance metrics in logistics operations firms in Kenya.
- To examine the effect of human resource in the implementation of performance metrics in logistics firms in Kenya.
- To determine the effects of logistics collaboration strategy on the implementation of performance metrics in logistics firms in Kenya.

LITERATURE REVIEW

The Institutional Theory

The institutional theory describes the effects of external institutional pressure on organizations regulatory structures through its rules norms and routines. The rules and norms set by the institution in an environment are endorsed by various factors while undertaking the public procurement function (Lowell 2014). According to Scott (2013), institutions are composed of cultural cognitive and regulative elements together with associated activities and resources giving meaning to life. The three pillars of institutions policy emphasizes on the use of rules, laws and sanctions as enforcement mechanisms with emphasis on compliance. The normative pillar refers

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to how things should be done and the value preferred and desired. The cultural pillar rests on shared understanding (common beliefs, symbols and shared understanding).

Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is an information systems theory that models how users come to accept and use a technology. The model suggests that when users are presented with a new technology, a number of factors influence their decision about how and when they will use it. Perceived usefulness was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance his or her job performance". Davis also defined Perceived ease-of-use as "the degree to which a person believes that using a particular system would be free from effort" .Constant technological change simultaneously creates threats to established business models, while also offering opportunities for novel service offerings (Lai, 2016). Leading firms often seek to shape the evolution of technological applications to their own advantage Lovelock (2016). With the advanced and dynamic growth of technologies, how fast the consumers are accepting these technologies depends on a number of factors such as availability of technology, convenience, consumers' need and security.

Theory of Change

A supply chain consists of all parties involved, directly or indirectly, in fulfilling a customer request (Mentzer, 2018). The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves. Within each organization, the supply chain includes all functions involved in receiving and filling a customer request. These functions include, but are not limited to, new product development, marketing, operations, distribution, finance, and customer service (Derrouiche, 2016). Global supply chains are evolving into dynamic process networks. This dynamic environment requires effective communication, team management, and constant lifecycle innovation. Human factors insights in these areas are critical for the effective development of global process networks. The importance of human resources has increased significantly due to new places and the role of men in all sectors of society. It is a rational, human being, which runs all the activities, and whose results depend on the knowledge, abilities, skills & motivation (Tapiero & Kogan, 2017).

Resource Dependency Theory

According to resource dependence theory, firms seek to reduce uncertainty and manage dependence by purposely structuring their exchange relationships, establishing formal and semiformal linkages with other firms. Through interdependence, firms can synergistically combine their own resource sets with the complementary resources of their partners and thus develop a resource bundle that is unique and hard to imitate (Harrison *et al.,* 2017). By cultivating such relationship-specific capabilities that become superior to what the organizations may possess on their own firms can obtain sustainable competitive advantage and improved procurement performance (Paulraj & Chen, 2017). In this aspect, RDT is a relevant theory to supply chain management because it can help elaborate organization-environment boundary spanning activities, implying that a single firm can hardly achieve sustainable growth. Therefore, firms need to depend on the buyer-supplier relationship, which helps improve cooperation and coordination among supply chain members (Dyer, 2011).
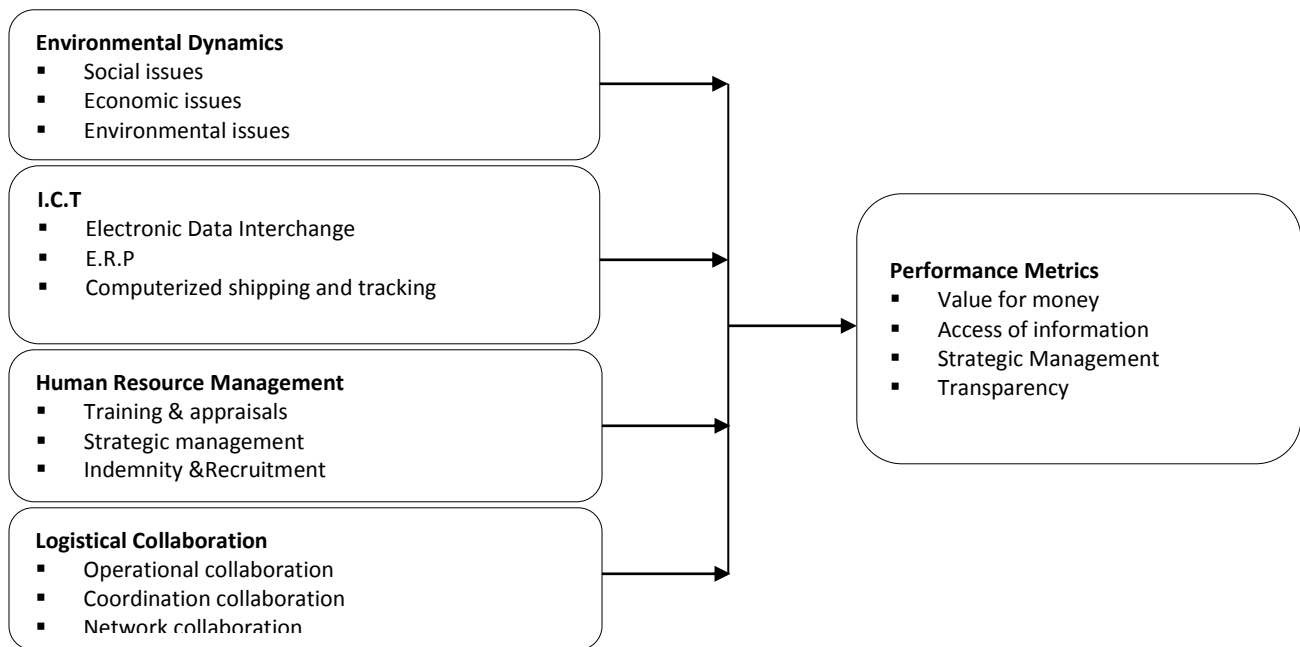
Independent Variables

Dependent Variables

Figure 1: Conceptual Framework

Empirical Review

Sustainability has been increasingly discussed within recent years as a cross-sectional character which integrates three issues: economy, environment and society. The term 'sustainability' has a German origin 'nachhaltende Nutzung' and was used in the field of forestry at 1713 by Hans Carl von Carlowitz. He thought about how to guarantee a permanent supply of timber. His idea was not to fell more trees than could grow back (Hahn & Knoke, 2013). In 1972, the concept of sustainable development officially introduced for the first time based on the concept of eco development at the United Nations Conference, held in Stockholm. The concept of sustainable development defined as 'Man is both creature and moulder of his environment, which gives him physical sustenance and affords him the opportunity for intellectual, moral, social and spiritual growth' (Declaration of the United Nations Conference, 1972). According to this definition, governments are the main responsible for improvement and protection of the environment for people now and in the future. Later, this concept has been extended to involve societies with governments to share the prime role

toward the environmental requirements. In order to play this vital role for sustainable development, the economic level of the society should be able to develop and maintain rising in a sufficient way. Due to this evolution in the conceptual definition, the most popular definitions of sustainable development are based on ecological roots. Economic targets are the base of stability in markets; the focus has moved from the ecological to the economical roots. Throughout the logistics activities, more attention is given to the related economic issues such as the production, transportation consumption, waste management and the consequences of actions which reflect the state of the future (Bansel, 2015). Afterwards, the focus has been moved again to the environmental issues. The concept of sustainable development became a kind of benchmark for green logistics. Green logistics is a multifaceted discipline, which comprises economic, environmental and social elements (Mintcheva, 2015). It focuses on actions to minimize harmful effects on the environment and introduces the tools and behaviors that contribute to improve society and its economic level. Green concepts integrate environmental thinking into the

logistics activities in order to develop the society (McKinnon et al., 2011). In 1991, the first green design literature was to consider the need for a green design to reduce the impact of product waste. According to Fortes (2018), the key themes that came out in the literature over the last twenty years are the concepts of green design, green operations, reverse logistics, waste management and green manufacturing. International logistics are mainly done by enterprises in a large scale because they require a chain of resources. Logistics operations affect by the closest environment to the enterprise even if this enterprise is an international one. For many years, logistics activities consider only economic objectives which are mostly maximization of the profit or minimization of the total cost. Currently, planning these activities requires balance between economic, environmental and social priorities. Implementing green logistics leads to sustainable enterprises.

The application and development of Information and Communication Technologies (ICT) have already had significant effects on many industries, especially in the field of logistics. Because of it, the style of business operation, up-/downstream partnership and customer relationship are changing. The application of computers, internet, and information communication systems can be seen in almost every activity in the logistics industry, such as transportation, warehousing, order processing, material management, and procurement. It is suggested that passing information to all businesses in the supply chains via ICT improves performances (Disney et al., 2014). ICT has been promoted as a means to enhance logistics competitiveness. It is one of the few factors which have been proved to have the capability of increasing logistics competence and decreasing its costs simultaneously (Closs et al., 2017; Stock et al., 2011). Today, besides enterprises, governments around the world and the global organizations are all devoting their efforts to searching for chances of new development or

application of information and communications techniques.

Projects serve the needs of stakeholders by ensuring that their expectations and needs are realized. Project management does not occur in a vacuum but requires an infusion of enthusiasm and commitment powered by the full range of project stakeholder energy sources in an energy grid that can develop a positive or negative trajectory (Evans & Cowles, 2013). The key to effectively harnessing this force is for project managers to know how to connect into this organizational grid and how to identify tipping-point key stakeholders and their value propositions. Project managers are unlikely to deliver project success without paying attention to the expectations and needs of key influence-drivers and the diverse range of project stakeholders that may cumulatively exert a significant impact on the perception of project success. A project that does not meet expectations of influential stakeholders is not likely to be regarded as successful, even if it remains within the original time, budget and scope. (Bobbitt, 2014)

Intrieri, (2015) study on skills needed for radical supply chain and logistics collaboration shows that logistics collaboration is gaining focus among proffesionals in the supply chain and logistics fields. He recommends that firms should conduct their business dealings more like interpersonal rather than adversarial relationships. Joe, (2017) conducted a study on collaborative logistics among manufacturing firms in Australia and the results from the findings reveal that organizations are forming traditional and web-based partnerships with the aim to lower the transportation costs along with reducing inventory.

Blanchard, (2012) study on lean supply chain logistics best practices on wine and spirits companies in U.S.A shows how firms are using collaborative logistics to unlock collaborative synergies and build longterm relationships. Sandberg, (2013) carried out a survey on Swedish Manufacturing companies focusing on

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logistics collaboration in their supply chains. The study revealed that logistics collaboration in the Swedish manufacturing companies' supply chains is rather operative in its character and does not reach the strategic level and that the degree of process approach in the collaborations is low. The study concluding that this area has a great potential for improvements.

METHODOLOGY

This study was conducted through a descriptive research questionnaire design. The unit of analysis was the 2011 employees of Bollore logistics ltd in Kenya. A sample size of 95 employees was adjusted using the Yamane formula. To collect primary data, questionnaires were used. The researcher collected secondary data through documents such as books, journals, reports, internal policy and procedure manual and other documents through libraries and internet based research to produce justifiable results (Norland, 2013). Data analysis was done using Statistical Package for Social Science. Quantitative data was analyzed using descriptive statistics and qualitative data was analyzed using content analysis.

RESULTS

Table 1: Environmental Dynamic Strategies used by the Company

Strategy	Frequency	Percent
Social issues strategies	47	60.3
Economic issues strategies	20	25.6
Environmental issues strategies	11	14.1
Total	78	100.0

Table 1 showed that 60.3% of the respondents indicated that their organizations used social issues strategies, while 25.6% indicated that the company used economic issues strategies whereas 14.1% indicated that the firm used environmental issues strategies. The findings evidenced that majority of the companies used strategies which was in agreement with Aghazadehh (2013) who pointed out that strategies were the most commonly used form of logistics as most companies want physical distribution of goods. The study also showed that environmental strategies were not common in the logistics industry and according to Kariko, (2012) environmental strategies are up coming and are likely to be embraced more in the near future.

Table 2: Environmental Dynamics and Performance Metrics

Statements	Mean	Std. Deviation
Organizations operations lead directly or indirectly to maintenance of people's well-being (preferably an improvement): during its operation.	4.22	0.991
The firms operations lead directly or indirectly to the maintenance or strengthening of the integrity of bio-physical systems	4.12	0.950
Your firm is financially healthy and its operations contributes to the long-term viability of the local, regional and global economy.	4.26	0.923
Your firm faces challenges measuring environmental performance in the current supply chain practices and increased collaboration between shippers.	4.91	1.241
Overall mean	4.38	

Table 2 showed that the respondents agreed organizations operations lead directly or indirectly to maintenance of people's well-being (preferably an improvement): during its operation as indicated by the mean value of 4.22 which corresponds to Likert scale value of '4' which stands for agree. The findings

also showed that the respondents agreed that the firms operations lead directly or indirectly to the maintenance or strengthening of the integrity of biophysical systems as shown by the mean value of 4.12. Additionally, the results indicated that there firm was financially healthy and its operations contributed to the long-term viability of the local, regional and global economy as indicated by a mean value of 4.26 respectively. Finally, the respondents also agreed that the firm faced challenges measuring environmental performance in the current supply chain practices and increased collaboration between shippers as indicated by a mean value of 4.91 respectively. The overall mean value of 4.38 indicated that the respondents agreed that environmental dynamics affects the implementation of performance metrics in logistics operations.

Information Technology

This section sought to assess the information technology components their company used and the extent to which various statements regarding information technology affected implementation of performance metrics.

Results showed that 14% of the respondents indicated that their firm uses fixed automated machinery, whereas 25% indicated that they use mobile technology while 61% use various software. These finding indicated logistic firms used a variety of logistic software in their operations. Barrat (2016) explains that software are more common as they are usually part of the bigger and more complex logistics functions. The study also showed that fixed automated machinery was least common used form of logistics automation which was in agreement with Bell, Ti and Lyon (2014) who site costs of automated machineries and their maintainance being significantly high and therefore companies tend to stick to mannual labour.

Table 3: Information Technology and Performance Metrics

Statements	Mean	Std. Deviation
Logistics automation is important in reducing inventory, profit maximization ensuring optimal inventory placement	4.10	.640
Cost of labor in the supply chain has reduced as a result of logistics automation	4.61	.493
Automation of logistics has helped minimize transportation cost	4.45	.503
Automation of logistics helps in elimination of obsolete inventory and better demand forecasting	3.94	.705
Overall mean	4.28	

Table 3 showed that the respondents agreed that logistics automation was important in reducing inventory, profit maximization ensuring optimal inventory placement as indicated by mean value of 4.10, which corresponds to the scale value of 4 in the Likert scale. Further, the respondents agreed that automation of logistics had helped minimize transportation cost and that cost of labor in the supply chain had reduced as a result of logistics automation as indicated by mean values of 4.61 and 4.45 respectively. However, the respondents were neutral on whether automation of logistics helps in elimination of obsolete inventory and better demand forecasting as shown by a mean vale of 3.94, which corresponds to the scale value of 3 which stand for neutral in the Likert scale. The overall mean of 4.28 indicates that the respondents agreed that information communication and logistics automation affects the implementation of performance metrics in logistics operations.

Human Resource Management

This section sought to establish how human resource management affects logistical performance the

company and the extent to various statements on how human resource management affects implementation of performance metrics. The results showed that 38.5% of the respondents indicated that the logistics firm used HRM components at a large extent while 61.5% of the respondents indicated that the company used HRM components at a moderate extent. This was in agreement with Staff (2012) who points out that logistical companies strive to use greater amounts of utilizing employees and materials not just for sustainability purposes but also to minimize on cost of raw materials.

Table 4: Human Resource Management and Performance Metrics

Statements	Mean	Std. Deviation
Training programs in your organization are undertaken after a systematic needs analysis.	3.59	.497
Your organization has a structured and effective employee reward systems and organizational capability assessment.	4.16	.465
Your organization continuously reviews its strategic objectives to meet the changing needs of the market.	4.47	.674
Recruitment and retention of employees in your organization is undertaken after a systematic needs analysis.	3.84	.543
Overall mean	4.02	

The results on table 4 showed that the respondents were neutral on whether training programs in their organization was undertaken after a systematic needs analysis as indicate by the mean value of 3.59, which corresponds to the scale value of 3 in the Likert scale. The results also showed that the respondents agreed that their organization had a structured and effective employee reward systems and organizational capability assessment as shown by a mean value of 4.16 respectively. Additionally, the results showed that the respondents agreed that organization continuously reviews its strategic objectives to meet the changing needs of the market as shown by the mean value of 4.47 but they were indifference on whether recruitment and retention of employees in the organization was undertaken after a systematic needs analysis as indicated by mean value of 3.84 respectively. The overall mean of 4.02 indicated that the respondents agreed that human resources management affects the implementation of performance metrics in logistics operations.

Logistics Collaboration

This section sought to assess the logistics collaboration components used by their company and the extent to which various statements how logistics collaboration affected implementation of performance metrics. The results showed that 56.9% of the respondents indicated that their logistical firm uses operational collaboration whereas 27.5% indicated that the firm uses medium term collaboration while 15.7% indicated that the company uses long-term collaboration. The findings revealed that the companies mostly engage in operational collaboration, which is in agreement with Andrews (2014) who states that companies usually engage in operational collaboration to fulfill short-term goals. Most scholars and professionals however recommend long-term collaboration. This study disagrees through the findings by revealing that long-term collaboration was the least used. Cao and Qingyu (2011) indicate that companies may avoid getting in long-term collaboration due to factors such as restriction of flexibility, clash of cultures and a lot of research and planning which are inevitable.

Table 5: Logistics Collaboration and Performance Metrics

Statements	Mean	Std. Deviation
Collaborative logistics has enhanced reduction of inventory and firms that want to archive optimization of SCM should consider logistics collaboration	3.65	.483
The company can attribute cost savings in the supply chain to logistics collaboration	4.22	.642
Logistics collaboration has helped eliminate obsolete inventory and have better demand forecasting	4.31	.678
Manufacturing costs in the supply chain have been driven down by the use of logistics collaboration	4.55	.503
Overall mean	4.18	

The results on table 5 showed that the respondents were neutral on whether collaborative logistics had enhanced reduction of inventory and firms that want to archive optimization of SCM should consider logistics collaboration as indicated by the mean value of 3.65. The results also showed that the respondents agreed that a company could attribute cost savings in the supply chain to logistics collaboration and logistics collaboration had helped eliminate obsolete inventory and have better demand forecasting as shown by the mean values of 4.22 and 4.31 respectively. The results further showed that the respondents agreed that manufacturing costs in the supply chain have been driven down by the use of logistics collaboration as indicated by the mean value of 4.55 respectively. The overall mean of 4.18 indicated that the respondents agreed that logistics collaboration affects the implementation of performance metrics in logistics operations.

Performance Metrics

This section assessed the various performance metrics of the organization. The results were as follows;

Table 6: Performance Metrics

Metric	Mean	Std. Deviation
Value for money	2.36	1.034
Access of information	2.68	.789
Strategic management	2.78	.636
Transparency	3.64	.483

The results on table 6 showed that the mean values for access to information and value for money were 2.68 and 2.36 which correspond to the scale value of 2 which stands for large extent hence an indication that the firms value for and access to information had grown to a large extent. Further, the results indicated that strategic management had an average value of 2.78 which shows the company applied it to a large extent while the mean value for transparency was 3.64 which corresponds to the scale value of 3 which stand for moderate extent respectively.

Regression Analysis

Regression analysis was done to measure the strength of relationship between the four studied independent variables and the dependent variable. The regression results comprised of the model summary, analysis of variance (ANOVA) and regression coefficients.

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Model Summary

Table 7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.590[a]	.348	.312	2.45468

a. Predictors: (Constant), Logistics collaboration, Environmental dynamics , Information technology , Human resource management

The model summary results on table 7 showed that the R square value is 0.348, which indicated that 34.8% of the variations in the dependent variable (performance metrics) is explained by the independent variables, which comprise of information technology, human resource management, environmental dynamics and logistics collaboration. The other parentage 65.2% is explained by other factors, which the study did not consider, and the error term.

Table 8: Analysis of Variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	234.469	4	58.617	9.728	.000[b]
	Residual	439.857	73	6.025		
	Total	674.325	77			

a. Dependent Variable: Performance metrics

b. Predictors: (Constant), Logistics collaboration, Environmental dynamics, Information technology , Human resource management

Table 8 shows that the F statistics value of 9.728 was statistically significant at 95% confidence level as indicated by the P value (0.00<0.05). This indicated that the regression model was significant and fit to analyze the relationship between the dependent and independent variables.

Regression Coefficients

Table 9: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
	(Constant)	12.539	2.963		4.232	.000
	Environmental dynamics	.059	.020	.287	2.973	.004
1	Information technology	1.377	.778	.171	1.769	.081
	Human resource management	.363	.099	.371	3.666	.000
	Logistics collaboration	.331	.074	.440	4.474	.000

a. Dependent Variable: Performance metrics

The results on table 9 showed that there was a positive (B = 0.059) and a statistically significant (P value = 0.00<0.05) relationship between environmental dynamics and the implementation of performance metrics in logistic firms. The results however indicate that the relationship between information technology and the implementation of performance metrics in logistic firms was positive (B = 1.377) and statistically insignificant (P value = 0.081>0.05). Further, the results show that human resource management had a positive (B = 0.363) and statistically significant (P value = 0.00<0.05)

relationship with the implementation of performance metrics in logistic firms. Finally, the results indicate that logistics collaboration had a positive (B = 0.331) and statistically significant (P value = 0.000<0.05) relationship with the implementation of performance metrics in logistic firms.

CONCLUSIONS

The study's first objective sought to establish how environment dynamics effect the implementation of performance metrics in logistics operations. The results revealed that environment dynamics positively and significantly affected the implementation of performance metrics in logistics operations. The study therefore concluded that the implementation of performance metrics in logistics operations is significantly affected by the firms' environmental dynamics.

Secondly, the study sought to answer whether information technology affects the implementation of performance metrics in logistics operations. The results however established a positive and insignificant relationship between information technology and performance metrics implementations. The study thus concludes that information technology does not have a statistically significant effect on the implementation of performance metrics in logistic firms in Kenya.

Thirdly, the study sought to determine whether human resource management affects implementation of performance metrics in logistics operations. The findings suggest that there is a positive and statistically significant relationship between human resource management and the implementation of performance metrics in logistic firms. The study based on this finding concludes that human resource management significantly influences the implementation of performance metrics in logistic firms in Kenya.

Finally, the study sought to answer the question whether logistics collaboration affects the implementation of performance metrics in logistical operations in Kenya. The study observed that the relationship between logistics collaboration and the implementation of performance metric in logistic firms in Kenya was positive and statistically significant. The study based on this observation concludes that logistics collaboration significantly influences the implementation of performance metrics in logistic firms in Kenya.

RECOMMENDATIONS

The study results led to the conclusion that environmental dynamics significantly affect implementation of performance metrics in logistics operations in Kenya. The study therefore recommended that the management of logistic firms in Kenya should come up with strategic policies and mechanisms to enhance environmental dynamics so as to enhance the performance of their firms.

In addition, the results of the study led to the conclusion that information technology does not have a statistically significant effect on the implementation of performance metric in logistic firms in Kenya. The study however recommends that the management of logistic firms should ensure that they automate their operations to enhance efficiency and reduce cost associated with manual operations.

Further, the study based on the findings concluded that human resource management significantly influences the implementation of performance metrics in logistic firms in Kenya. The study based on this conclusion recommends that the management of logistics firms should develop effective human resource development and training policies to enhance the performance metrics of their logistic firms.

Finally, the study made the conclusion that logistics collaboration significantly influences the implementation of performance metrics in logistic firms in Kenya. The study based on this observation recommends that the management of logistic firms

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should institute and enter into various collaborations with stakeholders and suppliers to enhance the firms' performance.

Suggestions for Further Research

This study was a case study of a single logistic firm known as the Ballore logistics. However, in Kenya there are several logistics firms, which are in operation. This study therefore recommended a similar study but a study which will cover a number of logistic firms and seeks the views of the various employees in those firms. The study's model summary also revealed that the considered variables (information technology, human resource management, environmental dynamics and logistics collaboration) accounted for 34.8% of the variation in performance metrics of logistic firms. This indicated that there were several other factors which affect performance metrics of logistics firms thus a similar study can be carried out where other variables and measures will be employed to determine the influence on logistic firm's performance.

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