

**CONTRIBUTION OF SUPPLY CHAIN MANAGEMENT PRACTICES
ON PERFORMANCE OF CEMENT MANUFACTURING
COMPANIES IN KENYA**

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ABSTRACT

With the growth of cement production and consumption, competition is more intensified, eating into the industry's margins. The industry's net profit margin averaged 10 per cent in 2015 down from 15 percent in 2011. The general objective of the study was to establish the contribution of supply chain management practices on performance of cement manufacturing companies in Kenya. In order to fulfill the purpose of the study, the specific objective of the study were; To establish the contribution of Information, Communication and Technology on performance of cement manufacturing companies in Kenya and to examine the contribution of distribution management on performance of cement manufacturing companies in Kenya. The study utilized a descriptive survey research design. The population of this study comprised senior managers who include heads of procurement related departments and sections whose portfolio hold a crucial role in developing supply chain management in the targeted companies. At least 1040 respondents were targeted to fill the questionnaires. The study employed Yamane's formula (1973) to determine the sample size. Simple random sampling was adopted to select 289 respondents. The questionnaire was used to collect primary data. Descriptive, correlation and regression analysis were used in the analysis of data. The study concluded that ICT and distribution management has a positive and significant effect on performance of cement manufacturing companies in Kenya. The study recommends that the management of cement manufacturing companies in Kenya should ensure adoption of electronic order, electronic requisition and order receipt, payment & dispatch to improve performance. In addition, the management should ensure adoption of E-Procurement, Electronic Data Interchange (EDI) and Enterprise Resource Planning to improve performance.

Keywords; *Information Communication and Technology, Distribution Management, Performance*

INTRODUCTION

With globalization, there has been an increasing interdependence across national and geographical boundaries of people. The intensity of competition has increased tremendously and there has been growing demands for flexible and cost efficient systems that can support customer differentiation (Barasa, 2014). There are increasingly complex consumer demands, changing global regulatory regimes and increased concerns over products safety and security. Import restrictions have been put on the companies that fail to manage sustainably its supply chain and with the emergence of new types of inter-organizational relationships, Companies in most cases have been confronted with the challenge of having to plan and monitor their material and information flows continuously and efficiently from the point of procurement, through production and up to marketing. In manufacturing industry, the demands from customers always vary and it is hard to anticipate. Customers are used to requiring products in a short time frame whenever they increase demand without prior alignment with the company's production plans. In order to cope with these challenges, majority of companies have entered a new era in understanding the dynamics of competitive advantage and the role played by supply chain management (Premkumar *et al.*, 2013).

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 and building trust among suppliers. Effective supply chain management (SCM) has become a potentially valuable way of securing competitive advantage and improving organizational performance since competition is no longer between organizations, but among supply chains (Suhong *et al.*, 2016). It involves bringing the right amount of right product to the right place at the right time while minimizing related cost within and between all parties (Saad *et al.*, 2012). Chopra and Meindl (2015) asserts that Supply chain management is about competing for value, collaborating with customers and suppliers to create a position of strength in the market place based on value derived from end consumer. The companies need to create strong supply chain relationships that enable them to leverage their market orientations by responding to rapid changes in customers' value and competitor moves for them to acquire superior business performance (Martin & Grbac, 2013).

In Germany Khalid *et al.* (2012) found that technological integration emerges as the core supply chain management practices frequently identified and is contingent with a number of other practices. Further, supply chain management practices including long-term relationship development, partner development, joint development, enhanced communication, learning, stakeholder management and innovation have regularly been referred to and are considered important in improving the performance of public institutions. In China, Lin (2014) argued that although agriculture sector was regarded as a mature sector, there remained significant inefficiencies in on-farm resource management that presented opportunities for environmental improvements through supply chain management practices like collaboration, adoption of information technology and enhancement of farm-supplier relationships.

Mensah *et al.* (2014) carried out a study in the manufacturing company in Ghana seeking to study examine supply chain management practice and its effect on the performance of Kasapreko Company Limited (KCL). The objectives of the study were to examine supply chain management (SCM) practice in KCL, ascertain the influence of SCM practice on KCL performance, and to describe the trend in sale of KCL. A sample size of two-hundred (200) out

of the numerous customers of KCL was administered with questionnaires in the Greater Accra Region of Ghana. The researchers also interviewed key employees of KCL using a semi-structured interview guide. A descriptive analysis with the aid of SPSS was used to quantify the relationship between the application of supply chain management practice and the performance of KCL. The result of the study indicated that KCL is applying supply chain management practice to its business activities. The study also indicated that supply chain management practice has significantly influence KCL business performance and was evidence in the sales performance of KCL over the years (2004-2010)

In Kenya, Kazi (2012) conducted a study on supply chain management practices and performance at Kenya Medical Supplies Agency. The results of the study provide important insights on supply chain management practices in the health care sector and their effect on performance. The findings revealed that the major supply chain practices that highly impact on the supply chain performance include: Tracking and trace products in the supply chain, alerting customers on product availability, timely delivery and reducing the lead time. Alerting customers on status of shipment was however seen as the least practice that influences the performance of supply chain.

The government envisages that the creation of cement industry will contribute to the enhancement of economic progress, social cohesion and political stability in line with the aspirations of vision 2030 (NPC, 2011). These will assist the government to realize the growth targets for manufacturing industry that is clearly stated in Kenya vision 2030 document that require an increasing investment levels to reach above 30% of GDP (Kenya vision 2030, 2007). Kenyan Cement Manufacturing companies mainly export their products to the countries like Rwanda, Tanzania, Uganda, Burundi, Southern Sudan and Democratic Republic of Congo and Kenya imports about 240,000 metric tonnes per year of iron ore from China, India, the Republic of Korea, and South Africa. For these companies to remain competitive in the global market, they need to incorporate the best supply chain management practices in their management processes.

Statement of the Problem

With the growth of cement production and consumption, competition is more intensified, eating into the industry's margins. The industry's net profit margin averaged 10 per cent in 2015 down from 15 percent in 2011. Cement prices have fallen from an average of \$140 per ton in 2011 to an average of \$100 in 2015 (AIB, 2016). While SCL's sales have increased year on year in the last three years, its profit has decreased year on year within the same period. This suggests depressed margins driven by reduced cement selling price and possibly increased production costs.

Statistics from Kenya Association of Manufacturers have shown that cement manufacturing firms announced plans to shut down their plants and shift operations to as a result of reduced profits (KAM, 2014). This is indicative that performance is wanting in Kenyan cement manufacturing firms (Mohiuddin & Su, 2017). In the pursuit of improved performance manufacturing firms have turned towards supply chain management practices (Muthoni & Nyakagwa, 2014).

Various studies have been conducted on supply chain management practices and organization performance (Kiilu, 2018; Nyauncho & Chirchir, 2016; Audax, 2018; Sheila & Rugami, 2018). These studies have in most cases adopted a case study approach (Molonket, 2014; Nyaboke,

2017; Kitainge, 2019; Kamwara & Ismail, 2018) or a descriptive research design (Sheila & Rugami, 2018; Nyaboke, 2017). A descriptive research design presents the possibility of error and subjectivity since questions are restricting and prescriptive (Creswell & Creswell, 2017; Portney, 2020). However the link between supply chain management and its effect on the performance of cement manufacturing firms is yet to be established. Further, the effort to achieve generalization of the causal relationship between supply chain management practices and performance of cement manufacturing firms call for empirical confirmation in diverse environments, especially developing economies such as Kenya. This situation highlights a noticeable literature gap that exists on the topical, methodological, contextual and conceptual phenomenon. Therefore, this study intends to empirically bridge the manifested gap in the literature by establishing the contribution of supply chain management practices on performance of cement manufacturing companies in Kenya.

Objectives of the Study

The general objective of the study was to establish the contribution of supply chain management practices on performance of cement manufacturing companies in Kenya.

Specific objectives:

- To establish the contribution of Information, communication and technology on performance of cement manufacturing companies in Kenya
- To examine the contribution of distribution management on performance of cement manufacturing companies in Kenya

Theoretical Review

Game Theory

Game theory is the formal study of decision-making where several players must make choices that potentially affect the interests of the other players; it is official study of conflict and cooperation (Xu, Pan & Ballot, 2013). Game theoretic concepts apply whenever the actions of several agents are interdependent (Dai & Chen, 2012). These agents may be individuals, groups, firms, or any combination of these. The concepts of game theory provide a language to formulate structure, analyze, and understand strategic scenarios (Dai & Chen, 2012). According to (Xu, *et al.*, 2013) the game theory is divided into two main approaches: the non-cooperative and the cooperative game theory.

The cooperative game theory can be applied to the case where players can achieve more benefit by cooperating than staying alone (Xu, *et al.*, 2013). The gain sharing issue was intensively investigated in the cooperative game theory; therefore we adopted cooperative-game-theoretic approaches in constructing the hypothesis on transport management and firm performance. Today cooperation is becoming more and more crucial to improve the global performance of logistics (Drechsel & Kimms, 2010). As the complement of traditional vertical cooperation, a new cooperation model, the horizontal cooperation was proven efficient to reduce global cost and improve service rate in logistics (Drechsel & Kimms, 2010).

In game theory, horizontal cooperation in logistics was proved efficient to reduce global cost and improve the performance level (Crujssen, Cools, & Dullaert, 2007; Pan, Ballot, Fontane & Hakimi, 2012). However, despite these advantages, horizontal cooperation is not considerably employed in logistics (Muir, 2010). One main obstacle in the implementation of horizontal cooperation is the absence of an appropriate cooperation decision making model (Xu, *et al.*, 2013).

In this study cooperative-game-theoretic approach was used to facilitate the decision making in measuring logistics efficiency on transportation and influence it created on firm performance. The cooperative game theory investigated how players interacted with each other in a cooperative relationship, and provided many approaches to fair profit allocation and stable coalition formation, which were important components in the cooperation model (Dror, Hartman & Chang, 2012). This form of cooperation took place between companies operating at the same level of market and it requested them to share private information and resources in logistics (Drechsel & Kimms, 2010).

The aim was to improve the efficiency in logistics; for example, reduce logistics cost (Cruijssen, *et al.*, 2007) or reduce environmental impact caused by transportation activities (Panet *al.*, 2011). The theory focused on transportation cost aspect. It was proved in the literatures that the horizontal cooperation in logistics could result in a 10% or higher percentage of cost reduction in transportation (Groothedde, *et al.*, 2005; Ergun *et al.*, 2007; Pan *et al.*, 2011). Considering the size of manufacturing industry in Kenya, it was a huge stake. The study on the distribution management and manufacturing firm performance in this research was guided by the concepts postulated by the game theory.

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) was presented by Davis (1989). The model main aim is to explain the behavior of ICT usage, that is, what are the main causes of potential adopters of ICT to accept or reject information technology usage. TAM predicts the acceptance of the information system and designs as the problems before users experience with the system (Davis 1989). The TAM prediction of the user acceptance and of any technology is based on perceived usefulness and perceived ease of use. Within the TAM, the perceived usefulness (U) is defined as the extent to which a given user believes that using a system will enhance his/her performance (Davis, 1989). Perceived Ease of Use (EOU) on the other hand is defined as the extent to which a given user believes that by using a given system, his/her efforts will be reduced (Davis, 1989). Both the perceived usefulness and the perceived ease of use are based on the perceptions of the users' belief about the system. According to the TAM, U and EOU impacts significantly on a user's attitude towards the use of a system (Davis, 1989).

This theory is relevant to the Kenyan manufacturing sector since technology is seen as the key driver to enhance supply chain competitive advantage. Adoption of supply chain information technology increases firms performances through provision of timely information hence mitigating supply chain risks (Dehning, Richardson & Zmud, 2007). The perceived ease of use is highly related to the training and skills that the employees possess. The Kenyan manufacturing firms should train their staffs on the implementation of the systems to enable them apply the technology effectively and efficiently. Implementation of ICT enables the supply chain managers to avoid the narrow focus of the relationship between suppliers, customers and logistical providers by establishing long term relationships and strategic alliances and therefore viewing the customers as partners other than rivals (Williams, 2006).

In order to effectively manage supply chain risks, Kenyan manufacturing firms require a large data base of information which it can analyze and make decisions on how to mitigate supply chain risks. Adoption of ICT systems that will enhance the competitiveness of the supply chains helps in the development of the capabilities and skills that would have otherwise not been

achieved (Borges, Hoppen & Luce, 2009). However, adopting technology alone may not be a source of competitive advantage, since they are readily available in the market, only when the technology is embedded into the organizational supply chain risk management strategies is likely to achieve sustainable benefits expected (Barney, 2012). Firms should therefore use their existing ICT infrastructure and skills to manage supply chain risks and therefore improve the performance of the firm.

Conceptual Framework

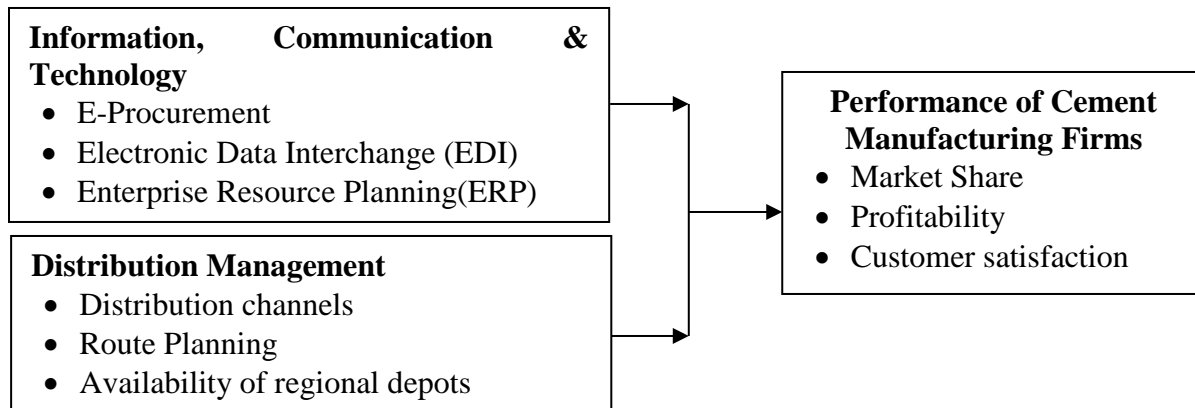


Figure 1: Conceptual Framework

Empirical Literature

Atieno (2014) sought to establish the influence of ICT on supply chain performance among logistics firms in Nairobi. The study employed a descriptive research design. The population comprised of approximately 1000 logistics firms in Kenya. The study targeted 30 large firms operating in Nairobi County because logistic firms in Nairobi were likely to have adopted the use of ICT in managing their supply chain processes as opposed to other Counties in Kenya. The study found that the logistics firms adopted ICT in supply chain that affects supply chain performance significantly. Radio Frequency Identification (RFID) and Global Positioning Systems (GPS) affect the supply chain performance of the logistics firms to great extents among other ICT applications.

Kariithi and Kihara (2017) study evaluated how information communication and technology affected performance of manufacturing in Kenya. The study adopted a descriptive design to explain the interaction between the determinant variables and performance of manufacturing firms in Kenya. The study targeted employees of registered pharmaceutical manufacturers in Nairobi County. Primary data was collected using structured questionnaires which were dropped and picked later and covered all the objectives of the study with a sample size of 252. In regard to information communication technology the study findings indicated it positively and significantly affected performance of Pharmaceutical manufacturing industry in Kenya.

Cheptora, Osoro and Musau (2018) sought to the impact of Information and Communication Technology on procurement performance in manufacturing firms in Kenya, a case of Nzoia sugar company Ltd. The study sought to establish whether Information communication technology had significance to the procurement performance. The study was conducted using a descriptive research design with a target population of 526 respondents, which translated to a

sample size of 220 from Procurement, Finance, Human Resource, General administration and information communication technology departments. The study findings established that Information communication technology had significance to the procurement performance in manufacturing firms in Kenya, a case of Nzoia sugar company Ltd.

Nyambura (2016) study examined the influence of distribution management on the performance of pharmaceutical manufacturing firms in Kenya. The specific goals included examining the effect of distribution management on the performance of pharmaceutical manufacturing firms in Kenya. A descriptive research design was used in the process of data collection. The targeted population included 5 selected manufacturing pharmaceutical firms in Nairobi County as well as 310 employees. To choose the 175 respondents the study utilized the stratified random sampling so that to ensure that there was equal representation. The study results indicated that distribution management affected performance of pharmaceutical manufacturing firms in Kenya.

Robert and Okoth (2019) study analyzed factors affecting performance of distribution logistics among production firms in Kenya: a case of Kibos Sugar Company limited and allied industries. The study applied descriptive approach through survey design. The target population comprised 122 employees. The sample size of the study was 24 respondents arrived at using the method of proportional allocation. Data analysis was done by descriptive statistics. The study realized that accuracy of data collected, size of data base and ability of management information system to predict future decisions are significant elements of information systems that has got vast influence on the performance of distribution logistics.

Adimo and Osodo (2017) study investigated the relationship between differentiation strategy and performance of Sameer Africa Ltd located in Nairobi, Kenya. Informed by the study this paper discusses the extent to which channel differentiation strategy adopted by Sameer Africa (K) Limited influenced the company's performance. The study employed a correlational research design. The study targeted 112 employees of Sameer Africa (K) Limited comprising of senior management, HODs and junior staff and 90 dealers based in Nairobi. A sample of 134 respondents was selected by use of stratified and simple random sampling techniques. Primary data was collected through self-administered questionnaires. From the findings of the study, majority of the respondents believed that Sameer Africa (K) Ltd could achieve competitive advantage through channel differentiation.

METHODOLOGY

The study adopted a descriptive survey design and employed positivism philosophy. The target population of the research entailed eight cement manufacturing companies in Kenya. At least 1040 respondents were targeted to fill the questionnaires. The research employed Yamane's formula (1973) to determine the sample size.

$$n = \frac{N}{1 + N(e^2)}$$

From the formula, the appropriate sample size was 289 respondents. The study therefore used 289 respondents for convenience purpose. The questionnaire was the instrument of data collection. Research instruments were piloted to 28 respondents from the cement manufacturing companies in Athi River which were not be part of the actual study. This study used both descriptive and inferential statistics to analyse the quantitative data. Content analysis will be adopted to analyze qualitative data.

RESULTS

ICT and Performance of Cement Manufacturing Companies

From the results, the respondents agreed that The Company has good networks with high levels of ICT utilization. This is shown by a mean of 3.901 (std. dv = 1.002). In addition, with a mean of 3.844 (std. dv = 0.989), the respondents agreed that the ERP system has been integrated into the procurement functions of the organization. The respondents also agreed that the communication system provides opportunities for suppliers to give feedback. This is supported by a mean of 3.755 (std. dv = 0.981).

With a mean of 3.720 (std. dv = 0.885), the respondents agreed that customer orders are expedited using the ERP system. The respondents also agreed that use of ICT has improved the marketing potential of the organization. This is supported by a mean of 3.661 (std. dv = 1.293). In addition, as shown by a mean of 3.620 (std. dv = 1.589), the respondents agreed that EDI has totally replaced paperwork in procurement functions.

Table 1: ICT and Performance of Cement Manufacturing Companies

	1	2	3	4	5	Mean	Std. Deviation
The company has good networks with high levels of ICT utilization	10.0	2.3	11.9	34.4	32.4	3.901	1.002
The communication system provides opportunities for suppliers to give feedback	2.8	9.0	27.6	41.4	19.3	3.755	0.981
EDI has totally replaced paperwork in procurement functions	1.1	13.1	11.4	31.4	33.1	3.620	1.589
The ERP system has been integrated into the procurement functions of the organization	13.8	11.7	11.0	33.1	30.3	3.844	0.989
Customer orders are expedited using the ERP system	8.3	13.8	17.2	29.0	31.7	3.720	0.885
Use of ICT has improved the marketing potential of the organization	2.3	16.8	6.5	42.5	31.9	3.661	1.293

The respondents were further requested to indicate other aspects of the Information Communication and Technology on performance of their organization. The respondents indicated that Radio Frequency Identification (RFID) and Global Positioning Systems (GPS) affect the supply chain performance of the logistics firms to great extents among other ICT applications. In addition, the respondents indicated that Information communication technology affects the performance in manufacturing firms in Kenya. These statements are in line with the findings of Cheptora, Osoro and Musau (2018) who found that there is a positive relationship between ICT and organization performance.

Distribution Management and Performance of Cement Manufacturing Companies

The respondents agreed that distribution channels ensure that products are available at all times. This is shown by a mean of 3.979 (std. dv = 0.863). In addition, with a mean of 3.871 (std. dv = 1.241), the respondents agreed that distribution channels allows direct contact between producers and consumers hence breaking the bulk. The respondents also agreed that their organization ensures cost of goods are not inflated due to poor channel choice involving many agents. This is supported by a mean of 3.721 (std. dv = 0.705).

With a mean of 3.696 (std. dv = 0.933), the respondents agreed that the company has an integrated route planning and execution systems. The respondents also agreed that distribution channels ensure a variety of products are available in one location. This is supported by a mean of 3.637 (std. dv = 0.984). In addition, as shown by a mean of 3.548 (std. dv = 0.804), the respondents agreed that there are adequate and accessible regional depots for supplying company products.

Table 2: Distribution Management and Performance of Cement Manufacturing Companies

	1	2	3	4	5	Mean	Std. Deviation
Distribution channels ensures that products are available at all times	4.1	4.1	20.0	33.1	38.6	3.979	0.863
Distribution channels allows direct contact between producers and consumers hence breaking the bulk	10.6	11.7	1.7	31.3	54.8	3.871	1.241
Distribution channels ensures a variety of products are available in one location	8.3	7.6	13.8	42.8	27.6	3.637	0.984
Our organization ensures cost of goods are not inflated due to poor channel choice involving many agents	11.0	10.5	8.5	12.0	39.0	3.721	0.705
The company has an integrated route planning and execution systems	8.7	7.2	13.8	38.3	32.0	3.696	0.933
There are adequate and accessible regional depots for supplying company products	8.3	9.7	17.2	38.6	26.2	3.548	0.804

The respondents were further requested to indicate other aspects of the distribution management on performance of their organization. The respondents revealed that accuracy of data collected, size of data base and ability of management information system to predict future decisions are significant elements of information systems that has got vast influence on the organization performance. In addition, the respondents revealed that results indicated that distribution management affects performance of manufacturing firms in Kenya. These arguments are in line with the results of Robert and Okoth (2019) who found that distribution management affects organization performance.

Correlation Analysis

The present study used Pearson correlation analysis to determine the strength of association between independent variables (ICT and distribution management) and the dependent variable (performance of cement manufacturing companies).

Table 3: Correlation Coefficients

		Organization Performance	ICT	Distribution Management
Organization Performance	Pearson Correlation		1	
	Sig. (2-tailed)			
ICT	N	271		
	Pearson Correlation	.840**	1	

	Sig. (2-tailed)	.006		
	N	271	271	
	Pearson	.902**	.189	1
Distribution	Correlation			
Management	Sig. (2-tailed)	.003	.081	
	N	271	271	271

The results revealed that there was a very strong relationship between ICT and performance of cement manufacturing companies ($r = 0.840$, p value = 0.006). The relationship was significant since the p value 0.006 was less than 0.05 (significant level). The findings are in line with the findings of Kariithi and Kihara (2017) who indicated that there is a very strong relationship between ICT and performance of manufacturing companies.

There was a very strong relationship between distribution management and performance of cement manufacturing companies ($r = 0.902$, p value = 0.003). The relationship was significant since the p value 0.003 was less than 0.05 (significant level). The findings are in line with the findings of Nyambura (2016) who indicated that there is a very strong relationship between distribution management and performance of manufacturing companies.

Regression Analysis

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.912	.831	.834	.11288

The r-squared for the relationship between the independent variables and the dependent variable was 0.831. This implied that 83.1% of the variation in the dependent variable (performance of cement manufacturing companies) could be explained by independent variables (ICT and distribution management).

Table 5: Analysis of Variance

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	84.024	2	42.012	89.691	.000 ^b
1 Residual	2.948	268	.011		
Total	86.972	270			

The ANOVA was used to determine whether the model was a good fit for the data. F calculated was 89.691 while the F critical was 2.871. The p value was 0.000. Since the F -calculated was greater than the F -critical and the p value 0.000 was less than 0.05, the model was considered as a good fit for the data. Therefore, the model can be used to predict the influence of ICT and distribution management on performance of cement manufacturing companies.

Table 6: Regression Coefficients

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	0.228	0.039		0.972	0.001
ICT	0.459	0.102	0.460	4.121	0.002
Distribution Management	0.464	0.089	0.456	5.084	0.003

The results revealed that ICT has a significant effect on performance of cement manufacturing companies ($\beta_1=0.459$, p value= 0.002). The relationship was considered significant since the p

value 0.002 was less than the significant level of 0.05. The findings are in line with the findings of Kariithi and Kihara (2017) who indicated that there is a very strong relationship between ICT and performance of manufacturing companies.

In addition, the results revealed that distribution management has a significant effect on performance of cement manufacturing companies ($\beta_1=0.464$, p value= 0.003). The relationship was considered significant since the p value 0.003 was less than the significant level of 0.05. The findings are in line with the findings of Nyambura (2016) who indicated that there is a very strong relationship between distribution management and performance of manufacturing companies.

Conclusions

The study concludes that ICT has a positive and significant effect on performance of cement manufacturing companies in Kenya. Findings revealed that ICT (E-Procurement, Electronic Data Interchange (EDI) and Enterprise Resource Planning) influence performance of cement manufacturing companies in Kenya. This implies that improving ICT (E-Procurement, Electronic Data Interchange (EDI) and Enterprise Resource Planning) would lead to improvement in performance of cement manufacturing companies.

The study concludes that distribution management has a positive and significant effect on performance of cement manufacturing companies in Kenya. Findings revealed that distribution management (distribution channels, route planning and availability of regional depots) influence performance of cement manufacturing companies in Kenya. This implies that improving distribution management (distribution channels, route planning and availability of regional depots) would lead to improvement in performance of cement manufacturing companies.

Recommendations

This study recommends that the management of cement manufacturing companies should ensure adoption of E-Procurement, Electronic Data Interchange (EDI) and Enterprise Resource Planning to improve performance.

This study also recommends that the management of cement manufacturing companies in Kenya should ensure proper distribution channels, route planning and availability of regional depots.

The study suggests further studies on the contribution of supply chain management practices on performance of other manufacturing companies in Kenya.

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