

The Effects of Process Alignment on Performance of Pharmaceutical Firms in Kenya

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Abstract

Aim: The purpose of this study was to evaluate the effects of process alignment on performance of pharmaceutical firms in Kenya

Methods: This research adopted a descriptive research design. The target population of interest in this study were the 22 local pharmaceutical manufacturing and 149 importing firms that act as subsidiaries making a total of 171. The study sample was drawn from the list of 171 pharmaceutical firms where various categories with the relevant information for the study were drawn. The study adopted a census sampling technique. The data was analyzed using SPSS version 22 by making use of multiple regressions analysis which helped to generate a weighted estimation equation (OLS) that was used to predict values for dependent variable from the values of the independent variable.

Results: The correlation and regression results revealed that process alignment had a positive and significant relationship with performance of pharmaceutical firms. The null hypothesis was rejected which indicated that there was no significant relationship between resilience building and performance of pharmaceutical firms in Kenya.

Recommendations: The study recommended that pharmaceutical firms should align their processes with those of the customers. The firms are encouraged to adopt management styles which are compatible with the clients in terms of mission and vision, improve or maintain their delivery standards such as on time and quality delivery, implement marketing strategies which are compatible with customers' standards and or exceed their expectations, and finally the management should strive to meet the customer expectations by improving the characteristics of the products. According to the regression analysis results, these activities enhance the performance of the firm

Keywords: *Performance, pharmaceutical firms, process alignment.*

1.0 INTRODUCTION

Pharmaceutical chains and relationships are centered on competing branded medicines and are exposed to complex interactions between various players such as government bodies, health-care providers and manufacturing firms (Goswami *et al.*, 2016). In the past, pharmaceutical firms did not adopt supply chain management concepts but today several factors are forcing pharmaceutical firms to change their traditional manners of conducting business (Ahmad *et al.*, 2012). Their supply chains are more complex and different from other industry supply chains as they handle a diversity of items in widely varying quantities in response to the large number of diagnosis types and procedures (AbuKhousa *et al.*, 2014), and also because they require the participation of different stakeholders such as pharmaceutical manufacturers, wholesalers, distributors, customers, information service providers and regulatory agencies (Rajesh *et al.*, 2016). Supply chain relationships are built around aligned supply business processes. Process alignment is the synchronization of business process objectives and performance metrics with the firm's objectives and strategies to avoid conflicting and uncoordinated activities. This provides clarity and uniformity of tasks and procedures towards achieving the desired goals (Wong *et al.*, 2012).

In India, pharmaceutical supply chains are adopting customer relationship management (CRM) strategies through technology to organize, automate and synchronize business processes (Fowler & Goh, 2012). The objective of supply chain relationship management in this sector of the economy is to enhance profitability, income and customer satisfaction as a strategic approach towards performance (Sambasivan *et al.*, 2012). Supply chain relationship management has emerged as a concept of managing company's interactions with clients, sales agents and customers (Luhmann, 2013). In china, pharmaceutical supply chains relationship management involves linkages between wholesalers, retailers and hospitals. Chinas pharmaceutical industry supply chains are competitive and resilient playing an integral part in continuously bringing stability to the global health care ecosystem (Fredrik *et al.*, 2016).

In the United States of America (USA), pharmaceutical supply chains are complex and are managed through the principle of “back up capability” to provide uninterrupted supply of medication. These chains are highly regulated through collaborative partnerships with all the stakeholders to provide necessary information for decision making (Hammervoll *et al.*, 2017). Supply relationship management have been adopted as a method of ensuring, improved profitability, higher customer satisfaction and increased market share (McAdam *et al.*, 2014). In Sub Saharan Africa, implementation of pharmaceutical supply chain relationship management has proven to be more complex than in other sectors because it requires the participation of many different stakeholders, and also because it is highly influenced by legislations and by healthcare professionals (AbuKhousa *et al.*, 2014; Aronsson *et al.*, 2011). From this distribution perspective, supply chain uncertainty is related to the various attributes associated with the demand, such as product variety and required response time (Hung, 2012). Pharmaceutical Supply chain relationships in Uganda have been operating as loosely and poorly linked due to under-resourcing and fragmentation.

1.1 Statement of the Problem

Many concerns exist regarding the ability of the supply chain to respond to the changing market requirements. While robust growth is forecast for pharmaceutical industry in Kenya, significant

concerns exist with regard to pharmaceutical supply chain relationship management with Anti-Counterfeiting and Product Protection Program (A-CAPPP, 2012) and Business Monitor International (BMI, 2016) estimating losses encountered amounting to 30% of pharmaceutical products sold and as much as Ksh 22 billion losses annually. With the changing customer behaviors, increased competition, shorter product life cycles, fragmented supply chains in the pharmaceutical industry remain an obstacle to achieving the desired levels of performance (Gholamhossein, 2015). The net results of these are high costs of operation, reduced market share, reduced sales volumes, low returns on investments, high inventory costs, poor forecasting and increased lead times that have impacted performance of pharmaceutical firms in Kenya (Thani et al., 2011).

In United Kingdom, Wieland and Wallenburg (2013) investigated the influence of relational competencies on supply chain resilience with the objective of exploring resilience domain in supply chain management while Carla *et al.* (2014) studied the role of procurement in Supply Chain Management with the objective of understanding the role of procurement in identifying and managing the intra and inter-organizational issues which impact organizational performance. In Kenya, Kenneth and Muli (2012) conducted a study on the factors influencing the influx of counterfeit medicines in Kenya among small and medium enterprises. Muthoni (2015) studied the supply chain integration and performance of pharmaceutical firms in Kenya. Ochieng (2018) researched on supply chain resilience and organizational performance of pharmaceutical manufacturing companies in Nairobi. Based on these and other previous studies, there was need to carry out further studies on the effect of process alignment on performance of pharmaceutical firms in Kenya.

1.2 Objective of the Study

To evaluate the effects of process alignment on performance of pharmaceutical firms in Kenya

2.0 LITERATURE REVIEW

2.1 Network Theory (NT)

This theory was proposed by Salancik (1995). Salancik proposes that Networks ‘embed’ transactions in a social matrix, creates markets. Network theory (NT) contributes profoundly to an understanding of the dynamics of inter-organizational relations by emphasizing the importance of “personal chemistry” between the parties, the build-up of trust through positive long-term cooperative relations and the mutual adaptation of routines and systems through exchange processes. Network issues include buyer-supplier relationships (Gadde & Haakansson, 2001), third party logistics (Halldorsson, 2002), and management roles in supply networks (Harland & Knight, 2001).

According to Arni *et al.* (2007), the performance of a firm depends not only on how efficiently it cooperates with its direct partners but also on how well these partners cooperate with their own business partners. NT can be used to provide a basis for the conceptual analysis of reciprocity in cooperative relationships (Oliver, 1990). It operates with three key constructs to explain inter-organizational relationships and business networks; activities, resources and actors (Gadde *et al.*, 2010). Connections between firms represent exchange relationships and the underlying contract if present (Hearnshaw *et al.*, 2013). When modeling exchange relationships the critical connection types are the presence of contracts and various flow types including material flows, information

flows and financial flows (Ogulini *et al.*, 2012). Material flows refer to the transfer of physical products, information flows refer to the transfer of coordinating data and financial flows refer to the transfer of monetary resources, all relating to the exchange of products or services (Hearnshaw *et al.*, 2013). Relationships combine the resources of two organizations to achieve more advantages than through individual efforts. Links between firms in a network develop through two separate, but closely linked, types of interaction: exchange processes of information, goods and services, and social processes and adaptation processes of personal, technical, legal, logistics, and administrative elements (Johanson & Mattsson, 1987). This theory supports process alignment in that supply chain relationships are bound by network of relational exchanges that build-up through positive long-term cooperative relations and the mutual adaptation of routines and systems through exchange processes. The performance of a firm depends not only on how efficiently it aligns its processes with its direct partners but also on how well these partners cooperate with their own business partners to provide a basis for the reciprocity in cooperative relationships through aligned processes.

2.2 Empirical Review

Wong *et al.* (2012) investigated the relationship between supply chain alignment enablers and firm performance. The methodology used in the study was a systematic literature review (SLR) to ensure it is auditable and repeatable. The findings of the study identified there must be alignment between each firm's supply chain strategy and those of its supply chain partners both internal and external. It was concluded that supply chain alignment results in a fit in terms of objectives, structures and processes within and between different functions and members in a supply chain thus enhancing organizational performance. The study, however, focused on past publications and therefore did not conduct any inferential analysis to show the relationship between process alignment and firm performance. In the current study, the researcher conducted correlation and regression analysis to ascertain the relationship between process alignment and firm performance.

Moreover, Hinkka *et al.* (2013) studied supply chain tracking through aligning buyer and supplier incentives with the objective of depicting how the success of inter-organizational systems (IOS) implementation projects can be increased by aligning the different incentives of buyers and suppliers. The research methodology employed was a case study and its unit of analysis was a network of supplier and wholesaler (buyer) firms acting in the Finnish technical trade industry, which are implementing inter-organizational tracking. The project highlighted the importance of common industry standards, which can help develop own information systems in considering the increasing needs for inter-organizational information exchange thus improving performance.

In the same motivation, Skipworth *et al.* (2015) focused on supply chain alignment for improved business performance with the objective of explaining how supply chain alignment can be achieved and its implications for business performance (BP). A survey approach was selected for the study as it primarily tests existing theories, rather than exploring new and emerging areas. The sample frame comprised 151 randomly selected firms, from a database of 2,338 UK-registered manufacturing firms that employ over 250 staff. The Findings indicated that shareholder and customer alignment have a direct positive impact on BP, while shareholder alignment (SA) is its antecedent. Nevertheless, the study shows a scope gap as it was conducted among UK registered manufacturing firms while the current study was conducted among pharmaceutical firms in Kenya.

In Kenya, Euster (2016) studied the factors affecting the performance of supply chain financing in Kenya with focus on Commercial Bank of Africa. The researcher studied how financial institutions could enhance supply chain sustainability. The study adopted an interdisciplinary research approach that readily integrated three diverse though complementary theories. The sustainable supply chain financing framework proposal suggested that an opportunity for financial institutions in comparison with information transparency, resource rationalization and alignment of incentives can enhance overall supply chain sustainability. It was concluded that close collaborations between stakeholders is an important factor for banks in enhancing the performance of supply chain financing as agreed to by all respondents. Organizations enhancing information transparency can facilitate the alignment of incentives geared to enhance sound supply chain financing performance. The study shows a scope gap as it was conducted among commercial banks while the current study was conducted among pharmaceutical firms in Kenya.

3.0 RESEARCH METHODOLOGY

This research adopted a descriptive research design. The target population of interest in this study were the 22 local pharmaceutical manufacturing and 149 importing firms that act as subsidiaries making a total of 171. The study sample was drawn from the list of 171 pharmaceutical firms, where various categories with the relevant information for the study were drawn. The study adopted a census sampling technique. The data was analyzed using SPSS version 22 by making use of multiple regressions analysis which helped to generate a weighted estimation equation (OLS) that was used to predict values for dependent variable from the values of the independent variable.

4.0 FINDINGS AND DISCUSSION

4.1 Response Rate

The study adopted a census research design where all study subjects were enumerated. Therefore, the number of questionnaires distributed to respondents was 171 in tandem with sample frame. The results are as presented in table 1.

Table 1: Response rate

Questionnaires	Frequency	Percentage (%)
Responsive	134	78
Non-Responsive	37	22
Total	171	100

Out of the 171 questionnaires, 134 were correctly, fully filled and returned. This presented a response rate of 78% which according to Kothari (2011) is appropriate for analysis; while 37 questionnaires were either never filled at all by respondents or not returned and could not be rated representing 22% of the questionnaires.

4.2 Descriptive Results

The respondents were asked to rate the extent to which they agreed with statements in the questionnaires concerning process alignment in their firms and the results presented in table 2.

Table 2: Descriptive results for process alignment

Statement	no extent	small extent	moderate extent	large extent	very large extent	Mean	SD
Our strategic objectives are compatible with customers	2.23%	8.55%	19.70%	48.70%	20.82%	3.77	0.95
Our relational behavior is compatible to customers	0.74%	8.92%	24.91%	44.61%	20.82%	3.76	0.91
Our performance is acceptable to customers	2.23%	10.04%	20.45%	42.75%	24.54%	3.77	0.9
Our management styles are compatible	1.12%	14.55%	16.04%	44.03%	24.24%	3.76	1.02
Our delivery standards are acceptable	2.23%	7.43%	24.54%	33.83%	31.97%	3.86	1.02
Our firm marketing activities are satisfactory	1.86%	7.81%	19.33%	44.98%	26.02%	3.86	0.96
We provide satisfactory product characteristics	0.37%	6.69%	22.68%	39.03%	31.23%	3.94	0.92
Data exchange with customers is acceptable	2.23%	8.92%	21.19%	39.78%	27.88%	3.82	1.01
Average						3.81	0.97

From the findings, 69.52% of the respondents indicated large extent on the statement about their firms' strategic objectives is compatible with customers (mean=3.77). The findings are in tandem with Sardana *et al.* (2016) that poses that communication, exchanging ideas among different functional divisions will create an active learning and knowledge creation environment towards the strategic alignment of manufacturing, marketing and other functions for better organizational performance. The findings are also were in line to those of Ramis (2016) who asserted that compatibility of strategic objectives with customers is essential in business operation and performance of the company.

The results also showed that 65.43% of the respondents rated large extent on the statement about their firm's relational behavior compatibility to the customers (mean=3.76) which is line with the findings of Maria and Panagiotis, (2019) that information transparency and synchronized processes across supply chain members to increase service levels, maximize profit and respond in real time in dynamic situations. Further, the results revealed that 67.29% of the respondents indicated that their firm performance was acceptable to customers to a large extent (mean=3.77) consistent with Maria and Panagiotis (2019) that aligned processes is characterized with performance aspects of product tracking, information transparency, reduction of the bullwhip effect, inventory accuracy, improvement of product life cycle management, labor cost reduction and flexibility. This also agrees with Um *et al.* (2018) posit that there is need of aligning product

variety with supply chain and business strategy and enterprise's strategy should be thoughtfully matched and aligned, so that it can be pursued with clarity and consistency for better performance. This means that either a high product variety or high customization potential strategy of innovative product differentiation, focused customer service and supply chain agility is followed (Um *et al.*, 2018). In addition, 68.28% of the respondents indicated that the firm management styles were compatible (mean=3.76) which is in line with the findings of Staefan (2019) that deeply shared understandings result from a consensus making and socialization process in which the actors agree on appropriate norms, values, and behaviors which lead to improved performance. Many (65.80%) of the respondents indicated that their firm delivery standards were acceptable to a large extent (mean=3.86) which is consistent with the suggestions by Al-Shboul (2017) that continued and unpredictable changes in the environment leads the firm to speed up its response to change and responsiveness to the customer needs hence performance.

Additionally, 71.00% of the respondents indicated that their firm marketing activities were satisfactory (mean=3.86) indicating an agreement with Aboobucker *et al.* (2019) that firms that target customer intimacy should have the tightest business and IT alignment in customer relations, sales and marketing business processes. Seventy percent of the respondents indicated a large extent on firm's provision of satisfactory product characteristics (mean=3.94) which is consistent with Fantazy and Salem (2016) that if alignment is effective, it should lead to an improvement in performance. The results also revealed that 67.66% of the respondents agreed on a large extent that their firms' data exchange with customers is acceptable (mean=3.82). These findings are in line with Aboobucker *et al.* (2019) that the better the IT–business strategy alignment, the superior the firm performance will be. On a five-point scale, the average mean of the responses was 3.81 which implies that the majority of the respondents agreed to a large extent with statements; however the answers were varied as shown by a standard deviation of 0.97.

4.3 Correlation Analysis

The researcher performed correlation analysis between process alignment and performance of pharmaceutical firms in Kenya. The results in Table 3 show the correlation between process alignment and performance of pharmaceutical firms.

Table 3: Correlation analysis

Variables		Perfor- mance	Data exchange	Satisfactory product x- tics	Satisfactory marketing	Delivery stand	Manage- ment styles	Perfor- mance
Perform	Pearson							
	Correlation	1.000						
	Sig.							
	(2-tailed)							
Data exchange	Pearson							
	Correlation	0.178	1.000					
	Sig.							
	(2-tailed)	0.014						
Product characteristics	Pearson							
	Correlation	0.202**	.734**	1.000				
	Sig.							
	(2-tailed)	0.001	0.000					
Marketing activities	Pearson							
	Correlation	0.208**	.120*	0.079	1.000			
	Sig.							
	(2-tailed)	0.001	0.05	0.194				
Delivery standards	Pearson							
	Correlation	0.165**	.167**	0.106	.242**	1.000		
	Sig.							
	(2-tailed)	0.007	0.006	0.082	0.000			
Management styles	Pearson							
	Correlation	0.017**	0.041	0.069	.287**	.213**	1.000	
	Sig.							
	(2-tailed)	0.001	0.500	0.262	0.000	0.000		
Acceptable performance	Pearson							
	Correlation	0.166	.155*	.205**	0.113	.205**	.195**	1.000
	Sig.							
	(2-tailed)	0.023	0.011	0.001	0.063	0.001	0.001	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The results showed that there is positive and significance correlation between data exchange and performance of pharmaceutical firms ($r=0.178$, $p=0.14$). These results were inconsistent with that of Wong et al., (2012) whose study findings revealed that information sharing helps to improve visibility and therefore improves the allocation of inventory, production scheduling and knowledge transfer process. Additionally, the results revealed positive and significant relationship between provision of satisfactory product characteristics and performance of pharmaceutical firms ($r=0.202$, $p=0.001$) which was in line with Wong et al., (2012) findings that quality of information is achieved by sharing relevant, accurate and sufficient information on supply in a timely manner enhances process alignment and performance of the firm.

Further, it was revealed that the relationship between satisfactory marketing activities and performance of pharmaceutical firms was positive and significant ($r=0.208$, $p=0.001$). These results were consistent with the findings by Khan and Christopher (2012) who found positive and significant relationship between acceptable data exchanges with customers, satisfactory product attributes and performance of pharmaceutical firms. Additionally, the results showed that there is positive and significant relationship between the delivery standards and performance of pharmaceutical firms ($r=0.165$, $p=0.007$). These findings are similar to those of Wong et al., (2012) who found out that there is positive relationship between delivery standards and the performance of firms. Further, there is significant and positive relationship between compatible management styles and performance of pharmaceutical firms ($r=0.017$, $p=0.001$). Finally, the study revealed positive and insignificant association between acceptable firm's performance and performance of pharmaceutical firms ($r=0.166$, $p=0.023$). These findings were in inconsistent with that of Sik (2017) who established positive relationship between compatible management styles and the performance of an organization.

4.4 Regression Analysis

Regression analysis was conducted to show the influence of process alignment on performance of pharmaceutical firms in Kenya.

Table 4: Model summary

Variable	R	R Square	Adjusted R Square	Std. Error of the estimate
Coefficient	.835 ^a	.697	.653	.4888

a. Predictor: Process Alignment

ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.422	6	1.237	2.519	.000 ^b
1 Residual	62.368	127	0.4910		
Total	69.790	133			

a. Dependent variable: performance of pharmaceutical firms

b. Predictors: process alignment

Coefficient

Variables	β	Std. Error	t	Sig.
(Constant)	1.056	0.207	5.101	0.000
Our management styles are compatible	0.640	0.032	20.00	0.003
Our delivery standards are acceptable	0.480	0.031	15.483	0.007
Our firm marketing activities are satisfactory	0.401	0.033	12.151	0.003
We provide satisfactory product characteristics	0.084	0.049	1.7140	0.004

a. Dependent variable: performance of pharmaceutical firms

Regression model:

$$Y_1 = 1.056 + 0.64 \text{ MS} + 0.48 \text{ DS} + 0.401 \text{ MA} + 0.084 \text{ SP} + \varepsilon$$

Where:

Y_1 = Performance

MS=compatible Management Styles

DS= Acceptable Delivery Standards,

MA=Satisfactory Marketing Activities

PC=satisfactory Product Characteristics and

ε - Error term

Process alignment was found to be satisfactory in explaining performance of pharmaceutical firms as supported by coefficient of determination also known as the R^2 of 69.7%. The R^2 of 69.7% means that process alignment can explain 69.7 % of the variations in the dependent variable; performance of pharmaceutical firms as shown in table 4. The ANOVA for process alignment showed that it is a good predictor of performance of pharmaceutical firms as supported by a calculated F statistic of 2.519 which is greater than the critical F statistic of 2.19 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level.

The results of regression coefficients for Process Alignment showed that acceptable levels of customer service and performance of pharmaceutical firms have a positive and insignificant relationship ($\beta = 0.059$, $p = 0.062$) which is in contrast with Khan *et al* (2012) who found out that acceptable performance by the firms has direct effect on the performance of pharmaceutical companies. Compatible Management styles was also found to have a positive and significant relationship on performance of pharmaceutical firms' performance ($\beta = 0.64$, $p = 0.003$). Further acceptable effective delivery standards and performance of pharmaceutical firms have a positive and significant relationship ($\beta = 0.48$, $p = 0.007$) which is supported by Li (2015) whose study results revealed a positive and significant association between delivery standards and the performance of the pharmaceutical firms.

Satisfactory strategic marketing activities and performance of pharmaceutical firms have a positive and significant relationship ($r = 0.401$, $p = 0.003$) while satisfactory product characteristics and

performance of pharmaceutical firms are positively and significantly related ($\beta = 0.084$, $p = 0.004$). These findings are supported by Bill-Wang (2016) who found out that effective marketing strategies in conjunction with satisfactory product characteristics have significant and positive relationship with the performance of firms. In addition, data exchange and performance of pharmaceutical firms was found to have positive and insignificant relationship ($\beta = 0.005$, $p = 0.911$). This is in line with Narayanan (2004) whose study found that there is consistent relationship between data exchange and performance of the pharmaceutical firms.

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATION

5.1 Summary of Findings

The fourth objective of the study was to examine how process alignment influenced performance of pharmaceutical firms in Kenya. Most pharmaceutical firms have put in place process alignment policies which have significant and positive effect on performance of the pharmaceutical firms in Kenya. Compatible management styles are very crucial in assessing the performance of a company since management sets the policies, strategies, foundations and the guidelines of the firms' operations. Additionally, most of the firms have adopted management styles which are customer and performance oriented such as high and reliable delivery standards, satisfactory product characteristics, satisfactory marketing activities and acceptable levels of data exchange with customers. These practices assist the firms gain solid market share and customer loyalty hence improved performance.

The correlation results revealed that process alignment had a positive but significant relationship with performance of pharmaceutical firms. The regression results showed a coefficient of determination, that is, R^2 of 69.7% which means that process alignment explains 69.7% of the variations performance of pharmaceutical firms. The Null hypothesis was rejected confirming the existence of a significant but positive relationship between process alignment and performance of pharmaceutical firms in Kenya. Many firms have failed due to improper process alignment and could not easily convert their resources and match their process with the standards and customer requirements. Therefore, firms should develop process aligning policies that should be reviewed frequently and aligned to the changing needs of the customers and those of their stakeholders.

5.2 Conclusion

The study concluded that process alignment has a positive and significant effect on performance of the pharmaceutical firms in Kenya. The pharmaceutical firms that have process alignment policies improve the quality of the products and services which significantly impacts their performance. Further, acceptable performance standards and appropriate ethics and values within the company enhances the performance of the company. The results concluded that the inclusion of customer in process alignment plans and developments enhances the performance of the pharmaceutical firms.

5.3 Recommendation

Based on study findings, pharmaceutical firms should align their processes with those of the customers. The firms are encouraged to adopt management styles which are compatible with the clients in terms of mission and vision, improve or maintain their delivery standards such as on time and quality delivery, implement marketing strategies which are compatible with customers'

standards and or exceed their expectations, and finally the management should strive to meet the customer expectations by improving the characteristics of the products. According to the regression analysis results, these activities enhance the firm performance.

REFERENCES

- Aboobucker, I. & Bao, Y. (2018), “What obstruct customer acceptance of internet banking? Security and privacy, risk, trust and website usability and the role of moderators”, *The Journal of High Technology Management Research*, 29 (1), 109-123
- Durga Prasad, K. G., Venkata Subbaiah, K., & Narayana Rao, K. (2012). Aligning the competitive strategy with supply chain strategy through QFD. *Journal of Advances in Management Research*, 9(2), 189-198
- Eckstein, D., Goellner, M., Blome, C. and Henke, M. (2015), The performance impact of supply chain agility and supply chain adaptability: the moderating effect of product complexity. *International Journal of Production Research*, 53(10), 3028-3046.
- Euster, S. G. (2016). *Factors Affecting the Performance of Supply Chain Financing In Kenya: A Case Study of Commercial Bank of Africa, Kenya* (Doctoral dissertation, United States International University-Africa).
- Fredrik Karlsson, Ella Kolkowska, Frans Prenkert, (2016) Inter-organizational information security: a systematic literature review. *Information & Computer Security*, 24 (5), 418-451
- Goswami, D., Boon-Itt, S., Jain, N., & Agarwal, D. R. (2016). Communication drivers for drug adoption in an uncertain world. *International Journal of Pharmaceutical and Healthcare Marketing*, 10(1), 75-103.
- Halldórsson, A., & Skjøtt-Larsen, T. (2004). Developing logistics competencies through third party logistics relationships. *International Journal of Operations & Production Management*, 24(2), 192-206.
- Hinkka, V., Främling, K., & Tätilä, J. (2013). Supply chain tracking: aligning buyer and supplier incentives. *Industrial Management & Data Systems*, 113(8), 1133-1148.
- Johanson, J., & Mattsson, L. G. (1987). Interorganizational relations in industrial systems: a network approach compared with the transaction-cost approach. *International Studies of Management & Organization*, 17(1), 34-48.
- Khan, O., Christopher, M., & Creazza, A. (2012). Aligning product design with the supply chain: a case study. *Supply Chain Management: An International Journal*, 17(3), 323-336.
- Ochieng, A. O. (2018). *Supply Chain Resilience and Organizational Performance of Pharmaceutical Manufacturing Companies in Nairobi* (Doctoral dissertation, university of Nairobi).
- Ogulin, R., Selen, W., & Ashayeri, J. (2012). Determinants of informal coordination in networked supply chains. *Journal of Enterprise Information Management*, 25(4), 328-348.

- Ramish, A., & Aslam, H. (2016). Measuring supply chain knowledge management (SCKM) performance based on double/triple loop learning principle. *International Journal of Productivity and Performance Management*, 65(5), 704-722.
- Salancik, G. R. (1995). Wanted: A good network theory of organization.
- Sambasivan, M., Siew-Phaik, L., Abidin Mohamed, Z., & Choy Leong, Y. (2011). Impact of interdependence between supply chain partners on strategic alliance outcomes: Role of relational capital as a mediating construct. *Management Decision*, 49(4), 548-569
- Sardana, D., Terziovski, M. and Gupta, N. (2016). The impact of strategic alignment and responsiveness to market on manufacturing firm's performance. *International Journal of Production Economics*, Vol. 177(1) 131-138
- Sik Jeong, J., & Hong, P. (2007). Customer orientation and performance outcomes in supply chain management. *Journal of Enterprise Information Management*, 20(5), 578-594
- Skipworth, H., Godsell, J., Wong, C. Y., Saghiri, S., & Julien, D. (2015). Supply chain alignment for improved business performance: an empirical study. *Supply Chain Management: An International Journal*, 20(5), 511-533
- Wieland, A., & Wallenburg, C. M. (2013). The influence of relational competencies on supply chain resilience: a relational view. *International Journal of Physical Distribution & Logistics Management*.
- Wong, C., Skipworth, H., Godsell, J. & Achimugu, N. (2012). Towards a theory of supply chain alignment enablers: a systematic literature review, *Supply Chain Management: an International Journal*, 17 (4) 419-437.