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ABSTRACT

The purpose of this study was to establish the effect of order fulfillment on performance of large manufacturing firms in Nairobi City County, Kenya. The study was based on theory of constraints. The study adopted a descriptive survey research design. The population of the study was the 120 large manufacturing firms in Nairobi. The study used the Yamane formula to sample 93 large manufacturing firms in Nairobi. Data was collected through the use of open and close-ended questionnaires and drop and pick later methods. Data was analyzed using descriptive analysis and inferential analysis. The study found that order fulfillment was significantly associated with performance of manufacturing firms in Nairobi City County. The study concluded that order fulfillment had a positive and significant effect on procurement performance. The study recommended that the manufacturing companies need to perfect their order fulfillment to enhance performance through ensuring that orders are received well, action taken to pack ordered goods, and delivering quality goods to the customers in good time.

Key Words: Order Fulfillment, Large Manufacturing Firms, Performance, Scalability

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INTRODUCTION

Supply chain management (SCM) plays a vital and essential role in coordinating activities both upstream and downstream in a bid to align both supply and demand (Ambehi, 2016). However, for supply chain management to be more successful, components such as supply chain scalability must be adopted for the company to deal with increased demand caused by either long-term growth or seasonal surges (Phil, 2021). In today's economic environment, companies must adopt strategies that allow them to produce high-quality products in a short amount of time (Jabes, 2016). A manufacturing company's success will be determined in large part by how well it has developed innovative supply chain management strategies that will allow it to maintain a competitive advantage regularly (Jabes, 2016). When it comes to working on the SCS of a firm, various factors have to be considered. This mainly includes the business targets as most recommendations are inclined to target its internal operations (Arena, 2016). On the other hand, aspects such as knowing the business's supply partners go a long way in shaping the firms' scalability, and this flexibility influences the firms' manufacturing process.

The supply chain mainly plays the vital role of connecting finished components, parts, and raw materials in a bid to accomplish a common whole in manufacturing (Barasa, 2014). Companies that have embraced current and modern means of SCM as part of their plan when it comes to business management (BM) are at a higher chance of having a competitive edge over their counterparts who are not flexible enough and are yet to embrace the current trends (Barasa, 2014).

The ability of a manufacturing firm to ramp up or downsize its production based on need greatly leads to the company's overall success (Purolator, 2021). SCS also does come with numerous benefits such as it enables the business to adjust its logistic services and, in a great way, control prices based on the expected volume (Purolator, 2021). However,

when planning to combine scalability into the supply chain, firms need to mull over certain critical aspects such as transportation options which mainly entails partnering up with service providers who can offer options for meeting specific business needs while on the other hand, the firms should also be flexible thus creating plans with parties that are supposed to enable the firm to match up during peak seasons and also off-season's with aim of ensuring the business does not incur any lapses (Purolator, 2021).

Manufacturing firms play a very concrete and significant role when it comes to contributing to the overall economy of a country. This mainly brings about a 12.5 % export, 13% formal employment, and a 10% gross domestic product (Ambehi, 2016). Manufacturing in Kenya's contribution to the economy has stagnated at around 10% of the Gross Domestic Product (GDP). This is according to the Kenya Association of Manufacturers (KAM) report on manufacturing in Kenya under the Big 4 Agenda, (2018). Government Big 4 Agenda seeks to increase the GDP contribution of the sector to 15% by 2022. According to this agenda, the Kenyan government is working towards being in stride with the fourth industrial revolution. The revolution perceived as the future of manufacturing is driven by the ongoing automation of traditional manufacturing industrial practices and using modern smart technology (Competitive Industrial Performance Index Report, 2020).

Statement of the Problem

Scaling comes with its share of challenges but there are a variety of steps that firms can take in a bid to prepare their company to scale (Arena, 2019). Such steps include knowing the manufacturers' life cycle status mainly of off-the-shelf components, keeping complete documentation for one's custom parts, watching for signs of supplier instability, not skimping on key contracts, and finally monitoring vendor health regularly (Arena, 2019). According to the Economic Survey, (2019) Kenya's economy grew by 6.3% in 2018 majorly driven by impressive growth in agriculture, manufacturing, and transport

sectors. This was an improved performance compared to a growth of 4.2% in 2017 the least in 5 years. The manufacturing sector recorded a growth of 4.2% in 2018 which was an impressive increase from 0.5% growth in 2017.

Manufacturing firms in Kenya are currently undergoing difficult times posing a great challenge to their profitability. High input cost results inexpensive and often raw quality materials, rising labor costs, unreliable and expensive energy, and lack of adequate information and coordination of the supply chain Njoroge, (2015). Capital productivity in the manufacturing sector is particularly low, for example in 2015, some manufacturing firms in Kenya closed their business due to poor performance while others have been forced to relocate their manufacturing firms to another country (Githaiga, 2017).

Most of the studies previously done (Phil, 2020); why is scalability important in the supply chain? (Arena, 2019); how scalable is your supply chain? (Ambehi, 2016); factors affecting supply chain integration in large manufacturing firms in Kenya; Magutu, Peterson & Mbeche, Isaac & Njihia, Muranga & Nyaoga, Richard, (2016). The moderating impact of supply chain technologies on the relationship between supply chain strategy and supply chain efficiency among large-scale manufacturing firms. None of these studies focused on effect of order fulfillment on performance of manufacturing firms. This study sought to fill this knowledge gap by specifically targeting the effect of supply chain scalability on large manufacturing firms' performance in Nairobi City County.

LITERATURE REVIEW

The study relied on constrained theory which is a concept that asserts that any structure has at least one limit (Goldratt, 1984). The theory of constraints focuses on the weakest rings in the chain in order to maximize mechanism and business efficiency. They will work in either the manufacturing or service industries. One of the most crucial aspects of a thriving business is a

functioning and fluid efficient order fulfillment strategy (Lowe, 2021). In a small business setup, consumers can easily walk into one's business premises and easily acquire what they need. However, when one has a slightly larger business and logistics such as shipping are involved, it becomes a bit complicated and measures have to be put in place in a bid to ensure that the company still thrives (Lowe, 2021). A streamlined strategy that has also been optimized and paired with a handy warehouse management system makes implementing things quite easy (Lowe, 2021).

Nonetheless accurate and timely delivery of goods is prudent to developing and also keeping the company afloat (Lowe, 2021). It is also quite important that businesses should always have an aim of striving for the best order fulfillment plan. These order fulfillment strategies are such as maintaining inventory accuracy which entails embracing the concept of integrating inventory management and warehouse systems, while on the other hand implementing slotting optimization mainly by keeping items that are popular nearby comes in handy (Lin, 1998). Additionally, the business should also integrate with suppliers by embracing aspects such as leveraging systems that enable them to share data with suppliers (Lin, 1998). Nevertheless, the basics of order fulfillment should not be bypass. Activities such as receiving, packing, shipping, and also delivering an order to a customer should be handled in an appropriate manner (Lin, 1998). Furthermore, the steps that also take place before completing the fulfillment process such as receiving, storage, processing, picking, packing, shipping, and also in some case returns should also be handled with due diligence to ensure the overall performance of the company is not compromised (Lin, 1998).

METHODOLOGY

A descriptive survey approach was used in carrying out this study where the units studied were the large manufacturing firms in Nairobi City County. Questionnaires were used as they were suitable when it comes to obtaining important information

about the population (Mugenda and Mugenda, 2003). The target population of this study was mainly the large manufacturing firms that are located in Nairobi City County, Kenya. These firms were however those that were listed in the Kenya Association of Manufacturers directory. According to Manufacturers and Exporters Directory (2019) there were 551 manufacturing firms in Nairobi City County out of which 121 were large manufacturing firms. A proportionate Stratified sampling design was used in the study. Primary data was collected using questionnaires. Both reliability and validity tests were conducted. Data was analyzed using both descriptive and inferential statistics.

RESULTS AND DISCUSSIONS

The study aimed at collecting data from 93 respondents sampled. However, the study collected

data from 79 respondents which represent 84.9%, only 15.1% of the responses were not useful or relevant to the study. Akhtar (2016) revealed that a response rate of 50 percent is adequate for further analysis in a study provided it gives heterogeneous observation that is also independent; therefore a response of 84.9% is considered good for further analysis.

Descriptive Statistics

The study sought to establish the practices undertaken by the organizations in fulfilling their orders. To carry out this task the study used a Likert scale of 1 to 5 whereby 1 was very large extent and 5 was the very small extent. Table 1 below indicated the findings of the study.

Table 1: Order Fulfillment Practices

Statements on Order Fulfillment practices	N	Mean	Std. Deviation
Our company go all-out to maintain continuous product flow	79	1.32	.671
Value stream mapping is done to disregard the waste associated with processes and to improve value delivery on the orders placed	79	2.13	.335
Quality assurance is used all the time to ensure the delivery of quality products as per the orders.	79	1.49	.638
Materials are standardized across the supply chain to reduce complexity	79	1.87	.667
The order placement procedure is standardized so that no unique item is required hence simplifying the process	79	1.90	.856

Source: Researcher (2021)

Table 1 showed that to a large extent companies go all-out to maintain continuous product flow as shown by a mean of 1.32; a mean of 2.13 indicated that value mapping is done to a large extent to disregard the waste associated with the processes and to improve value delivery on the orders placed; to a large extent, quality assurance is used all the time to ensure delivery of quality products as per the orders placed as shown by a mean of 1.49; a mean of 1.87 indicated that to a large extent materials are standardized across the supply chain to reduce complexity while a mean of 1.90 revealed that to a large extent the procedure of order placement is standardized so that no unique item is required hence simplifying the process. Lowe (2021)

who conducted a study on the processes and strategies of order fulfillment concurs with the findings of this study that ensuring the processes of order fulfillment in an organization run smoothly improves the health of the supply chain and business as a whole.

Inferential Statistics

Results of the study revealed that order fulfillment was associated with a β of 1.176, $t=5.881$, and a p-value of 0.001. The results revealed that order fulfillment affected the performance of manufacturing companies positively, a unit increase in order fulfillment resulted in an increase in the company's performance by 1.176 units which was significant because the p-value of 0.001 was less

than 0.05, therefore the null hypothesis that order fulfillment had no relationship with performance of manufacturing firms was rejected.

Besides Lowe (2021) concurred that one of the most crucial aspects of a thriving business is a functioning and fluid efficient order fulfillment strategy. In a small business setup, consumers can easily walk into one's business premises and easily acquire what they need. However, when one has a slightly larger business and logistics such as shipping are involved, it becomes a bit complicated and measures have to be put in place in a bid to ensure that the company still thrives. A streamlined strategy that has also been optimized and paired with a handy warehouse management system makes implementing things quite easy.

CONCLUSIONS AND RECOMMENDATIONS

The study found that to a large extent companies go all-out to maintain continuous product flow. The

study indicated that value mapping is done to a large extent to disregard the waste associated with the processes and to improve value delivery on the orders placed.

The study concluded that order fulfillment had a positive and significant effect on performance of manufacturing companies in Nairobi City County. The conclusion was in concurrence with authors that concurred that one of the most crucial aspects of a thriving business is a functioning and fluid efficient order fulfillment strategy.

The study recommended that the manufacturing companies need to perfect their order fulfillment to enhance performance through ensuring that orders are received well, action taken to pack the ordered goods, and delivering quality- ascertained goods to the customers in good time.

REFERENCES

- Akhtar (2016) *Capital Structure and Firm Efficiency: A Case of Pakistan*. t: <https://www.researchgate.net/publication/295083479>.
- Ambehi, B. (2016). *Factors Affecting Supply Chain Integration in Large Manufacturing Firms in Kenya*. Retrieved; http://erepository.uonbi.ac.ke/bitstream/handle/11295/98952/Mbaisi%20Beatrice_Factors%20Affecting%20Supply%20Chain%20Integration%20in%20Large%20Manufacturing%20Firms%20in%20Kenya.pdf?sequence=1.
- Arena (2019). *How scalable is your supply chain?* Retrieved from <https://www.arenasolutions.com/blog/scale-with-your-supply-chain/>.
- Barasa, Peter. (2014). *Sustainable Supply Chain Management as a Strategic Tool for Competitive Advantage in Tea Industry in Kenya*. *Journal of Management and Sustainability*.4. 10.5539/jms.v4n3p157.
- Competitive Industrial Performance Index (2020). *UNIDO's Competitive Industrial Performance Index 2020*
- Goldratt (1984) *Theory of Constraints*. The Goal.
- Jabes (2016). *Lean supply chain management practices and operational performance of the manufacturing firms in Kenya*.
- Kenya Economic Survey (2019). *The Kenya National Bureau of Statistics*. <https://open.africa/dataset/9a9c52b6-65f6-4483-890f-3a34bb164ce2/resource/5b9357a4-6227-4fbf-9e10-ae7043a41ce3/download/final-economic-survey-2019>.

- Lin, FR., Shaw, M.J. (1998). *Reengineering the Order Fulfillment Process in Supply Chain Networks*. International Journal of Flexible Manufacturing Systems **10**, 197–229. <https://doi.org/10.1023/A:1008069816606>
- Low (2021). *2020 Investor Update Strategy to Drive Market Share Acceleration Updates Long-Term Financial Targets*
- Manufacturers and Exporters Directory (2019). Tender for Compilation and Publication of Manufacturers and Exporters Directory 2019.*
- Magutu, Peterson & Mbeche, Isaac & Njihia, Muranga & Nyaoga, Richard. (2016). *The relationship between supply chain strategies and supply chain performance among large-scale manufacturing firms: the moderating effect of supply chain technology*. EuroMed J. of Management. 1. 123. 10.1504/EMJM.2016.078848.
- Mugenda, O.M. and Mugenda, A.G. (2003). *Research Methods, Quantitative and Qualitative Approaches*. ACT, Nairobi.
- OECD (2010), *Structural and Demographic Business Statistics*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/9789264072886-en>
- Phil (2020). *Why is scalability important in the supply chain?* Retrieved from <https://startuptoday.co.uk/business-1/why-is-scalability-important-in-the-supply-chain/>.
- Purolator, (2021). *Develop Your Scalable Canadian Supply Chain*. Retrieved from; <https://www.purolatorinternational.com>.