

# INADEQUATE MANAGEMENT PRACTICES AND THE EFFICIENCY OF SUPPLY CHAIN MANAGEMENT, AT THE PHARMACEUTICAL INDUSTRY IN RWANDA: CASE OF GASABO DISTRICT, RWANDA

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**Abstract:** Due to the fact that supply chains function as a system or network, problems experienced in one part of the supply chain permeate through to the whole supply chain. This can lead to greater inefficiencies in the supply chain as a whole. The general objective of this research was to find out the effect inadequate management practices on the supply chain management efficiency at the pharmaceutical industry, case of Gasabo District, Kigali City. The specific objectives that guided the study included to determine the effect of price oriented approaches on the implementation of an efficient supply chain management; to determine the effect of political issues on the implementation of an efficient supply chain management and to determine the effect of lack of senior management commitment on the implementation of an efficient supply chain management. The researcher used a descriptive research design. The target population for this study includes 56, retail and wholesale pharmacies located in Gasabo District, Kigali City which was taken as the sample size for this research. Primary data was collected using structured questionnaire and then entered in to SPSS version 23 for analysis. The data analysis was done by help of frequency distribution tables, graphs, percentages, Pearson's correlation and regression analysis. The results on objective one showed that 51.8% of the respondents agreed that they have knowledge about supply chain management while 46.4% strongly agreed. The results also showed that price oriented approaches have a strong negative and statistically significant correlation ( $r = -0.67, p = 0.000$ ) with the efficient supply chain. The results on objective two showed that 82.1% of the respondents agreed and the remaining 17.9% strongly agreed that they had the knowledge about the effect of political issues on supply chain management, showing that all the respondents were in agreement. The correlation output between political issues and efficient supply chain showed that the political issues were found to have a negative and significant effect ( $r = -0.424, p = 0.001$ ) on the implementation of an efficiency of the supply chain. 50% of the respondents agreed and 14.3% strongly agreed that the lack of decision making affect the supply chain. The correlation analysis using the Pearson's coefficient of correlation showed that there is a negative and statistically significant effect ( $r = -0.692, p = 0.000$ ) between lack of senior management commitment and efficient supply chain among the pharmacies in Gasabo District. The combined effect of the three indicator variables showed that the  $R = 0.777$  with an  $R^2 = 0.604$ . This indicates that 60.4% of the changes in regard to efficiency of supply chain among the pharmacies is influenced by the combined effect of price oriented approaches, political issues and senior management commitment. Based on the findings of this research, the researcher recommends that the management in the pharmacies and other businesses should be able to show commitment to improving the supply chain.

**Keywords:** supply chain permeate, supply chains function, pharmaceutical industry, system or network, businesses.

## 1. INTRODUCTION

Small and medium sized firms contribute strongly to the development of new ideas and technologies which drive the growth of new industries (Perks & Bouncken, 2004).

Although management and owners of Small and Medium Enterprises (SMEs) develop new ideas and solutions, they are still faced with challenges as they rarely employ formal business objectives within their operations. These challenges are also apparent with the operational supply chain for various SMEs. According to Kisalvi (2002), dynamics and formation of strategic logistical activities and supply chain initiatives are directly connected to the SME managers' or owners' background and history.

Robbins and Coulter (2005) provides that SMEs gather information, identify potential opportunities, and pinpoint possible competitive advantages. With the information and the opportunities, SMEs begin to project operational feasibility and uncover business ideas, taking into account competitors and exploring financial options. SMEs proceed to further pursue their operational success and supply chain effectiveness (Burns, 2005).

These activities include developing a viable organizational mission, exploring organizational culture issues like transportation, procurement, and supply chain, and creating a well thought-out business plan (Kotler, 1997).

Therefore, the need to survive and grow, forces the SMEs to focus and qualify their performance, their investment, their strategic planning forecasts, and their supply chain strategy (Halley & Guilhon, 1997).

Information and communication technologies are important supply chain strategies to gain and maintain customer loyalty and to successfully implement strategic supply chain plans (Li & Lin, 2006).

SMEs' long-term growth and continuity depend on the ability to cope effectively with surprises and radical changes in supply chain technology (Jesselyn, 2006).

Therefore, to consider how to improve the quality of supply chain service without considering the impact of information technology would be to omit from the theoretical framework one of the most important tools for controlling consistency, improving efficiency, improving supply chain operations, facilitating collaboration among suppliers, promoting effective decision-making, and allowing for the automation of many routing supply chain activities that modern business has at its disposal (Chow & Lui, 2001; Bienstock, Royne, Sherrell & Stafford, 2007; Saura, Frances, Contri, & Blasco, 2008).

SMEs need to put more emphasis on adopting changes in technology and on applying the appropriate level of technology to develop new products (Chan, Burns, & Yung, 2000). Examples of supply chain technology that enhance quality and customer satisfaction are financial/ accounting, e-mail, E-commerce (internet based), telephone and fax, E-suppliers, Electronic data interchange (EDI), Bar-coding, warehouse management system (WMS), performance measures, distribution resource planning (DRP), automated storage/retrieval system (AS/RS), vehicle routing/ scheduling, and fiber optics communications technology.

Increasing ability to deliver an order on time, increasing operational efficiency, reducing inventory levels, increasing ability to reduce delivery lead time, skills upgrading/training of workers, acquiring supply sources, increasing capacity, forming strategic alliances, as well as using an outsourcing strategy are other prerequisites enhancing supply chain quality to gain competitive advantage and offer high customer satisfaction (Kearney, 1994; Sum, Teo, & Kwan-kee, 2001).

Effective business design and execution depends on how technology is used to deliver services faster, cheaper, and with better quality than competitors (Nickles, Mueller, & Takacs, 1998; Coyle, Bradi, & Langley, 2003; Salmela & Lukka, 2004).

Another source of a competitive advantage is the SMEs ability to differentiate itself in the eyes of specific customers and in the market in general.

Being more responsive to ever-changing customer demands, being able to reduce lead times through efficient supply chain processes, being able to reduce time in design and manufacturing processes and being able to introduce new products faster than competitors, are all elements that reduce cycle time (Hugo, Babenhorst-Weiss, & Van Rooyen, 2002).

### Statement of the Problem

Due to the fact that supply chains function as a system or network, problems experienced in one part of the supply chain permeate through to the whole supply chain. This can lead to greater inefficiencies in the supply chain as a whole. More consideration should be given to the impact of actions and decisions in one part of the supply chain on the rest of the supply chain to ensure best decisions for the supply chain as a whole (Node & Badenhorst, 2011).

In the assessment of the health commodity supply sector in Rwanda done in September 2003, Lidjsman *et al*, 2004, found that there were some limitations in policies and legal framework, human resources, pharmaceutical supply management systems, and drug use, which were affecting the implementation of an efficient supply chain management. However, this does not mean that it is the same case in these days, in retail and wholesale pharmacies located in Gasabo District, Kigali City, where there has been an improvement, nowadays, in almost everything in Rwanda

### Specific objectives

1. To determine the effect of price oriented approaches on the implementation of supply chain management efficiency
2. To determine the effect of political issues on the implementation of supply chain management efficiency
3. To determine the effect of lack of senior management commitment on the supply chain management efficiency

## 2. LITERATURE REVIEW

### Supply Chain Management

Supply Chain Management (SCM) has been interpreted by various researchers. Based on the relatively recent development of the supply chain literature, it is not surprising that there has been much debate as to a specific SCM definition. Ganeshan and Harrison (1995) has defined SCM as a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers. Lee & Corey (1995) stated that SCM consists of the integration activities taking place among a network of facilities that procure raw material, transform them into intermediate goods and then final products, & deliver products to customers through a distribution system. Christopher (1998) defined the supply chain as the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate customer.

SCM is the "strategic and systematic coordination of the traditional business functions and the tactics across these business functions within a particular firm and across businesses within a supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole" (Mentzer *et al*. 2001)

### Implementation barriers

#### ➤ Price orientation

Dutta *et al*. (2003) highlighted the role of pricing capabilities, defined as a set of complex routines, skills, systems, know-how, coordination mechanisms, and complementary resources, in increasing company performance. According to Dutta *et al*. (2003), pricing capability refers to, on the one hand, the price-setting capability within a firm (identifying competitor prices, setting pricing strategy, translating from pricing strategy to price) and, on the other, to the price-setting capability vis-à-vis customers (convincing customers on price-change logic, negotiating price changes with major customers). In this and subsequent qualitative-research settings, pricing capabilities were found to be positively related to firm performance (Berggren and Eek, 2007; Dutta *et al.*, 2002; Dutta *et al.*, 2003; Hallberg, 2008).

#### ➤ Political environment

Taking an example of multinational companies, political risk emanating from the political environment refers to the risk that a host country will make political decisions that will prove to have adverse effects on the multinational's profits and/or goals (Griffen, 2005). He, Griffen, 2005, continue to tell us that adverse political actions can range from very detrimental, such as widespread destruction due to revolution, to those of a more financial nature, such as the creation of laws that prevent the movement of capital.

### ➤ Trust to suppliers

Defining trust in a similar way to goodwill trust (Sako, 1992), Wasti & Wasti, 2007, argued that the length of the relationship, the extent of face-to-face communication between the parties, continuous repeated exchange, assistance provided by the buyer, and the buyer's ownership of supplier stock would positively predict the supplier's trust in the buyer.

### ➤ Supplier selection skills

(Kagnicioglu, 2006) considers that the supplier selection is critical procurement activity in the supply chain management because of the crucial role of the characteristics of the suppliers on price, quality, delivery and service in achieving the objectives of the supply chain. According to (Gencer and Gurpinar, 2007) suppliers selection representing an initial step in the process of creating activities of products and representing a key factor for companies that want to be successful in today's stringent market conditions, while according to (Shen and Yu, 2013), the efficiency of suppliers is one of the most important competencies for supply chain. The success of the entire supply chain according to (Jafarnejad and Salimi, 2013) largely depends of suppliers' selection, while Singh et. Al.(2012) emphasize that the process of suppliers' selection is one of the most important factors that have a direct impact on performance organizations.

### ➤ Senior management commitment

Top management commitment refers to the demonstration of top management's belief in the importance of KAM (Key Account Management) (Millman and Wilson, 1999). Top management should affirm the importance of the KAM program as a major strategic orientation for the company (Pardo, 1999). Top management commitment is also needed to avoid interdepartmental conflicts; very often, the KAM function tends to threaten the status quo of the organization (Millman and Wilson, 1999). Thus, top management should make clear to the whole organization that the KAM function should not be treated competitively by other units; on the contrary, all can (and should) contribute to the better management of relationships with key accounts.

### Business Performance

Business performance is the effort expended by a business firm in achieving its objectives of customer satisfaction, employee satisfaction, societal satisfaction, and ultimately profitability. Several studies such as Richard, Devinney, George and Johnson (2009), and Ibeto (2011), have shown that the effort expended by multinational business managers in achieving their goal in Nigeria has not been very successful. Richards *et al* (2009), maintain that the successful performance of multinational companies depends to a great extent on the political environment of the host country. According to these scholars, political environment refers to forces and issues emanating from the political decisions of government, which are capable of altering the expected outcome and value of a given economic action, by changing the probability of achieving business objectives. Ibeto (2011) described the political environment as factors arising from changes in government policies and programs, which influence the ability of economic entities in achieving their goal.

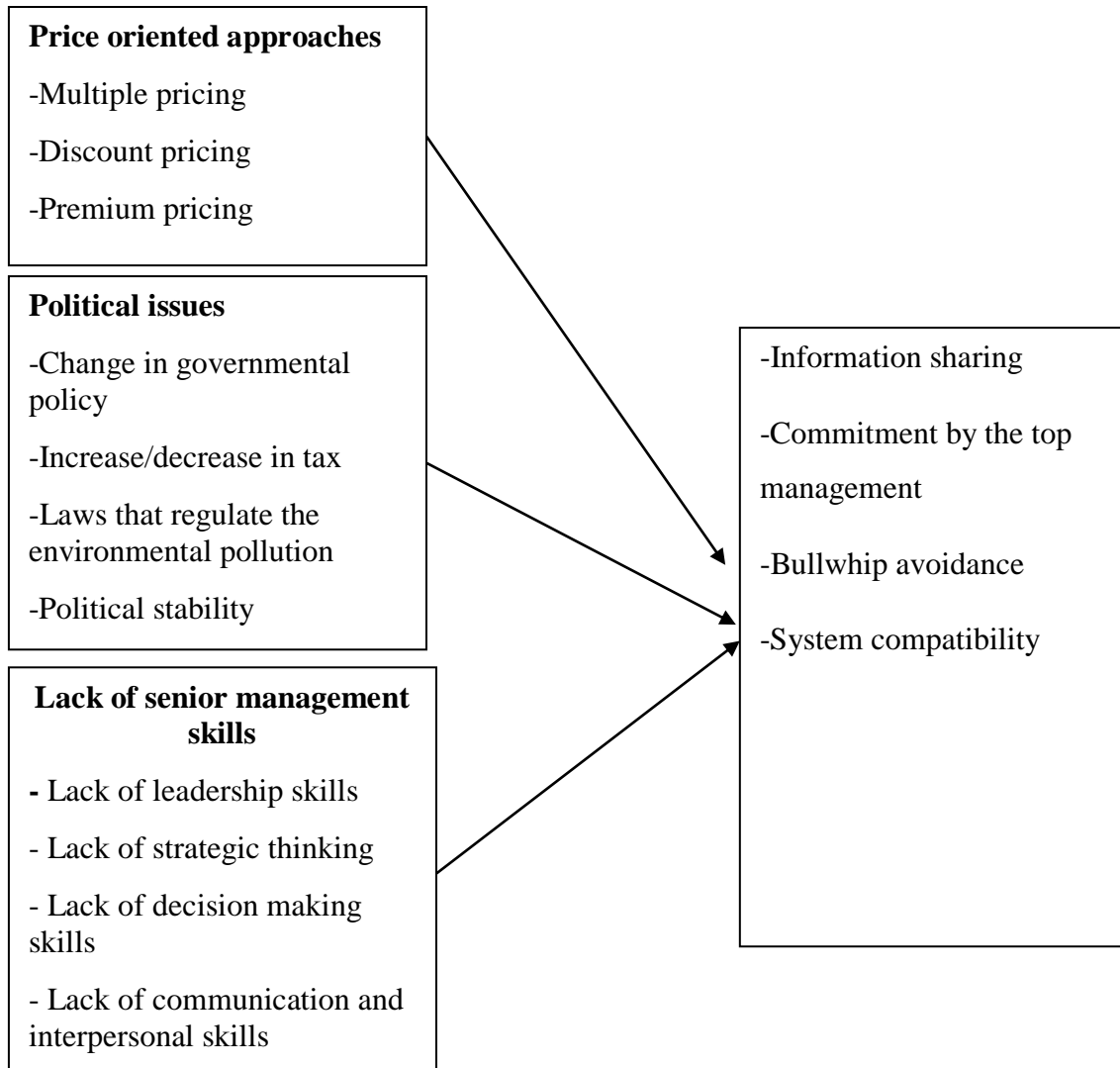
### Conceptual Framework

A conceptual framework is a structure which the researcher believes can best explain the natural progression of the phenomenon to be studied (Camp, 2001). It is linked with the concepts, empirical research and important theories used in promoting and systemizing the knowledge espoused by the researcher (Peshkin, 1993).

It is there researcher's explanation of how the research problem would be explored. The conceptual framework presents an integrated way of looking at a problem under study (Liehr & Smith, 1999). In a statistical perspective, the conceptual framework describes the relationship between the main concepts of a study. It is arranged in a logical structure to aid provide a picture or visual display of how ideas in a study relate to one another (Grant & Osanloo, 2014). Interestingly, it shows the series of action the researcher intends carrying out in a research study (Dixon, Gulliver & Gibbon, 2001). The framework makes it easier for the researcher to easily specify and define the concepts within the problem of the study (Luse, Mennecke & Townsend, 2012). Miles and Huberman (1994) opine that conceptual frameworks can be 'graphical or in a narrative form showing the key variables or constructs to be studied and the presumed relationships between them.

**Independent variable:  
Inadequate Management practices**

**Dependent variable:  
Supply chain  
management efficiency**



Source: Researcher 2021

**Conceptual Framework**

This conceptual framework illustrates the independent variable which in this research was inadequacy of managerial practices including the price oriented approaches, political issues, and lack of management skills on one side and the dependent variable the supply chain management efficiency on the other side. It shows how those three (indicators of independent) variables which are, price oriented approach, political issues, and lack of management skills can affect the (dependent) variable which is the supply chain management efficiency.

Even though business companies deal with prices every day, most of them are not aware of the effect of different types of pricing and the impact they can have on their performances. For example, Zantac, an anti-ulcer drug, was launched at a price premium of 20 percent-100percent reflecting its value to customers in different markets at the insistence of Glaxo’s CEO, who overruled other constituencies in marketing and sales arguing for competition-based pricing at a discount vis-a`-vis the then market leader Tagamet (Pittet al., 1997). Mainly as a result of Zantac, accounting for close to half of company sales, Glaxo became the most profitable company in any industry in the decade from 1985 to 1995. This shows

one of the impacts of pricing on a business, because when these drugs are purchased, there will be not much inventory, the goods are passing quickly.

About political issues, the conceptual framework tells us that change in governmental policy, increase/decrease in tax, laws that regulate environmental policy and political stability can have a significant impact on supply chain management efficiency, and it is true. For example, according to my ascertainment, the Rwanda Food and Drug Authority (RFDA) have recently set a law regarding the visa payment of drugs entering in Rwanda. This has caused an increase in cost to the drugs and medical equipment entering in Rwanda; therefore, it has had an impact in setting up the price higher, either in wholesale pharmacies or in retail pharmacies.

Finally, comes the senior management commitment, without which the supply chain management would be like sheep without shepherds. It is the one which sets leadership, strategic thinking, communication and interpersonal skills. This senior management commitment is the one which gives the direction to the implementation of an efficient supply chain management.

### 3. METHODOLOGY

#### Research Design

The goal of descriptive research is to describe a phenomenon and its characteristics. This research is more concerned with what rather than how or why something has happened. Therefore, observation and survey tools are often used to gather data (Gall, Gall, & Borg, 2007). In such research, the data may be collected qualitatively, but it is often analyzed quantitatively, using frequencies, percentages, averages, or other statistical analyses to determine relationships. In this study, the researcher used descriptive research design, and questionnaire to gather data for analysis.

#### Population and Sample Size

The population of interest is the study's target population that it intends to study or treat. In clinical research studies, it is often not appropriate or feasible to recruit the entire population of interest. Instead, investigator recruits a sample from the population of interest to include in their study. In such cases, the objective of the research study is to generalize the study findings from the sample to the population of interest (Van den Broeck *et al.*, 2013). The target population for this study included 56, retail and wholesale pharmacies located in Gasabo District, Kigali City. Using the universal sampling, the sample size was equal to the target population. This study means that 56 pharmacies in Gasabo District as shown in the table 1 in Appendix III.

#### Sampling technique

In this study the target population was 56 which was considered to be the sample for the study since it was manageable. As stated by Ghauri and Gronhaug (2005), if a target population is less than a hundred, it can be considered manageable and therefore, a researcher can use all as the sample. In this case, therefore census method was used as the technique for this research. The use of census as discussed by Gravetter *et al.*, (2011) reduces the sampling errors and biases. It allows the researcher to review all respondents accessible. Hence, this study used census which enabled the researcher to analyze all the 56 pharmacies in Gasabo District.

#### Methods of Data Collection

Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes (Kabir, 2016). Data that has been collected from first-hand-experience is known as primary data. Primary data has not been published yet and is more reliable, authentic and objective. Primary data has not been changed or altered by human beings; therefore its validity is greater than secondary data (Kabir, 2016).

### 4. SUMMARY OF FINDINGS

The background information showed that 37.5% of the pharmacies contacted have been existing in Gasabo District between 3-6 years (see Figure 4.1). In terms of gender of the pharmacists involved, 55.36% were male while 44.64% were female (see Figure 4.2); 62.5% of the respondents had a working experience in the same pharmacy between 3-4 years (see Table 4.1) while 98.2% of the respondents indicated bachelor's degree as their highest level of education (see Table 4.2).

In regard to objective one, 51.8% of the respondents agreed that they have knowledge about supply chain management while 46.4% strongly agreed. On whether the respondents were aware of barriers which can affect an efficient supply chain management, all the respondent agreed to this as indicated by 71.4% who agreed and 28.6% who strongly agreed (see Table 4.3). The results also showed that price oriented approaches have a strong negative and statistically significant correlation ( $r = -0.67, p = 0.000$ ) with the efficient supply chain and therefore the first null hypothesis was rejected (see Table 4.4). The results shown in Table 4.5 shows that the model was significant ( $F = 43.949, p = 0.000$ ). It means that price oriented approaches are key factors to be considered while determining the efficiency within any given supply chain.

The results on objective two showed that 82.1% of the respondents agreed and the remaining 17.9% strongly agreed that they had the knowledge about the effect of political issues on supply chain management, showing that all the respondents were in agreement. On whether their business faces an increase/decrease in tax, 85.7% were agreeing and 8.9% strongly agreeing (see Table 4.6). The correlation output between political issues and efficient supply chain showed that the political issues were found to have a negative and significant effect ( $r = -0.424, p = 0.001$ ) on the implementation of an efficiency of the supply chain showing that the second null hypothesis was rejected (see Table 4.7). The regression model analysis showed that the model was significant ( $F = 11.81, p = 0.001$ ) indicating that political issues are key factors to consider if an efficient supply chain is to be maintained (see Table 4.8).

All the respondents were in agreement about their awareness, as indicated by 83.9% who agreed and 16.1% who strongly agreed about their awareness of the senior management commitment in a supply chain management of a company. 50% of the respondents agreed and 14.3% strongly agreed that the lack of decision making affect the supply chain (see Table 4.9). The correlation analysis using the Pearson's coefficient of correlation showed that there is a negative and statistically significant effect ( $r = -0.692, p = 0.000$ ) between lack of senior management commitment and efficient supply chain among the pharmacies in Gasabo District. The p-value results indicated that the null hypothesis was rejected (see Table 4.10). On the regression output between efficient supply chain (ESC) and senior management commitment (SMC), Table 4.11 shows that the model was significant ( $F = 49.75, p = 0.000$ ). This implied that senior management commitment is a key determinant of efficiency in supply chain and a lack of it would lead to inefficiency in the supply chain.

The combined effect of price oriented approaches, political issues and senior management commitment on the efficiency of supply chain shows that the  $R = 0.777$  with an  $R^2 = 0.604$ . This indicates that 60.4% of the changes in regard to efficiency of supply chain among the pharmacies is influenced by the combined effect of price oriented approaches, political issues and senior management commitment (see Table 4.12). The individual contribution of the three indicator variables showed that both price oriented approaches ( $\beta_1 = -0.242, p = 0.009$ ) and senior management commitment ( $\beta_3 = -0.231, p = 0.000$ ) have negative significant effect on efficiency of the supply chain since both had p-values less than 5% level of significance. However, it was found out that when combined with the other two indicator variables, the political issues have negative but not statistically significant effect on the efficiency of supply chain ( $\beta_2 = -0.134, p = 0.178$ ) since the p-value is greater than 5% level of significance (see Table 4.13).

## 5. CONCLUSION

The result in this research have shown that price oriented approaches, political issues and lack of senior management commitment have detrimental effect on the efficiency of the supply chain. When combined, the three have a significant and negative effect, affecting the efficiency of the supply chain by 60.4%. This implies that there is need to concentrate on these factor whenever considering building efficient the supply chain. Moreover, the pharmacies' supply chain will adversely be affected when the three key factors identified in this dissertation are not considered effectively. It is therefore important for management to show their commitment in the supply chain as well as incorporating practices that can aim to enhance the supply chain.

## 6. RECOMMENDATIONS

Based on the findings of this research, the researcher recommends that the management in the pharmacies and other businesses should be able to show commitment to improving the supply chain. This recommendation is informed by the results which showed that lack of commitment from senior management lead to negative effects to the supply chain. In addition, political issues were also seen as barriers to efficient supply chain. Therefore, it is highly recommended that the

policy makers and the government agents should be in position to help organizations understand whenever there are political and regulatory changes. They should also be able to offer a window for adoption of new regulations to allow for smooth transition. Lastly, the researcher recommends that there should be effective management within the pharmacy that is able to read and study the markets in order to ensure effectiveness in the supply chain. This would enable the management to take proactive pricing strategies that do not harm their supply chain as well as been abreast with the political and regulatory dynamics that affect the market operations.

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