THE RELATIONSHIP BETWEEN PHARMACEUTICAL INDUSTRY REGULATIONS AND PERFORMANCE OF PHARMACIES IN TAITA TAVETA COUNTY

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ABSTRACT

The research aims to contribute to understanding the subject matter on the relationship between pharmaceutical industry regulations and pharmacy business performance in Taita Taveta County. The research utilised a descriptive study that was designed to collect, organise and analyse data, and present the study results. The population of the study was forty pharmacies from four sub-counties of Taita Taveta. Questionnaires were prepared to collect primary data and sent to respondents and follow-up calls were used to increase response rate. Secondary data was also used from the pharmacy records at the county offices and pharmacy websites. Data collected was analysed and the results presented. The study results indicate that there was a strong positive significant relationship between pharmaceutical industry regulation adherence and enforcement and the performance of the pharmacy businesses in Taita Taveta County. The study recommends to the pharmaceutical industry strict adherence and enforcement of regulations to regulate businesses that operate pharmacy outlets and shops within Taita Taveta. Further, the pharmaceutical industry should ensure that the products that they stock meet the prescribed standards and are of the desired quality.

Keywords: Pharmaceutical Industry Regulation, Regulations Adherence, Regulations Reinforcement

INTRODUCTION

Adherence to regulation has shown a consistent relationship to the success and growth of a business organisation. A study by Paskalina (2017), which examined the relationship between adherence to school regulations on social behaviours and academic performance at the University of Dodoma showed a positive correlation. Paskalina used a survey research design with a sample of students in forty secondary schools to find out if there is a significant relationship. The results indicated that stringent regulation and routine inspection to enforce regulations result in a positive effect on the business organisation's growth and betterment in school academic performance.

A study on the correlation between regulations and business growth in the pharmacy industry by Kibwage (2008) in Nairobi County showed that pharmaceutical industry problems such as counterfeit drugs, non-professional practitioners, among others can be properly dealt with by strict regulations. This was corroborated by Wang'ombe (1998) who examined pharmaceutical business market failures in the absence of regulations. He explained that market failures are disappointments a businessperson can undergo on the market, while regulations are a set of rules that carry the force of law that controls those under authorities control like business people. Wang'ombe posited that in the absence of regulations in the pharmaceutical business, there emerges the existence of market failures, which results in poor performance of the business organisation. However, other researchers on regulations reveal that uniformly aggressive form of policies is likely to engender political and legalistic resistance and that a more flexible and cooperate style of regulatory enforcement will create higher compliance levels especially if laws have the credible ability to create a stronger legal sanction against the organization that does not comply with laws and regulations, hence the success of business performance (Barfach & Kagen 1982; Scholz 1984; Agrees & Brasthwaite 1992). Despite the study arguments, any researcher with interest in the pharmacy business would want to know the correlation between regulation adherence and business performance, and for this reason, this research seeks to fill the existing gaps in literature.

The six system strong blocks of the World Health Organization on health delivery are: health workforce, service delivery, access to essential pharmaceutical products, health information system, finance, governance, and leadership (WHO, 2010). Amongst the six in Kenya, the pharmaceutical sector is among the vibrant player in economic growth. The Ministry of Medical Services together with the Ministry of Public Health and Sanitation session paper (2010) considered it a key driver towards the increased infrastructure, industrialization, and attainment of Vision 2030. Therefore, pharmaceutical products are very essential to human health and that means, they must be available geographically, and reachable, affordable, safe, efficacious, quality, and appropriate to the patient and the condition being treated (Attridge & Preker, 2005). Ideally, the good health of citizens in any county is correlated to the success of the pharmaceutical industry. However, Rajab (2013) says that the current state of the industry is not well regulated since it is dominated by people who do not qualify to work in the industry. Some counterfeit drugs which cause harm or even death to the clients, and an unsatisfying environment to store and keep pharmaceutical products, and this has contributed a lot to failures on the market which degrades the country's economy and has also contributed to the high cost of public healthcare (Elly, 2013).

A normative theory of market failure shows that regulations have to be instituted to promote and protects social values and economic efficiency by correcting market imperfections (Keitany & Moronge 2013). It is quite clear that high regulations in the pharmaceutical sector ensure that quality medicine is available to clients, dissuade unqualified practitioners, ensure quality service delivery, and more so force adherence to professional ethics (Wafula et al 2012). Well-designed infrastructure and the uses of trained manpower were the only essential requisites for implementations of national pharmaceutical policies in the county as stipulated in PPB (2006)

guidelines. However, enforcement of other regulations which were dormant have come to rise, such as no person shall sell a liquid poison in the bottles unless the bottles are labelled with the words "NOT TO BE TAKEN", No person shall engage in the trade of poisons unless the poison is kept under the key and lock rooms, No person shall run a pharmaceutical business unless he is a professional in the same field, No person shall sell poison except on and under a prescription given by medical professionals who are fully qualified or vet nary surgeon, No prescription shall be dispensed multiple times unless the prescriber reveals thereon, prescription shall be kept in a pharmacy premise not less than two years from the time it is dispensed (PPB, 2006).

Is it ideal or a fact? that good number of businesses have embraced and decided to adhere to laws and regulations and that the business seems to flourish, however, others have resisted on the regulations, some adhere to regulations partially while good number decided to close down whereas a good number still in existence with a mix of good and poor performance (Pambel ,2013). The present study seeks to find the relationship between adherence to pharmacy regulations and business performance in terms of pharmaceutical business growth and profits in the county of Taita Taveta.

Concept of Regulations
Regulation is an administrative law or a rule that carries the force of law prescribed by authority in charge relating to the practices of those under authority's control. Regulations have the effect of law and anybody who violates regulations violates the law. Globally, Pezzola and Sweet (2016) posit that the quality standards pharmaceutical regulations are restructured in global and international markets within the pharmaceutical industry on the rights of ownership and quality of drugs. Further, the authors avow that regulatory infrastructure that European Union and United States influence the standard setting worldwide. In Africa, Angola, the regulations of medical products are backed by the National Medicine Policies (Ndomondo-Sigondo, Naidoo, Dodoo & Kaale, 2017).

In Kenya, the market surveillance regulations are enforced by government agencies to carry out intended legislation. For example, The Ministry of Health (MOH) is responsible in overseeing pharmaceutical products trade and pharmacies via the Pharmacy and Poison Board, which is provided under Chapter 244 of the pharmacy and poison act and chapter 245 of Dangerous Drugs Act of the laws of the country. The Pharmacy and Poisons Board (PPB) as a regulation body was established by the PPB Act and its major roles are: To ensure that all pharmaceutical stores, shops, and products are registered by the board, workers in the industry of pharmaceuticals are qualified personnel and that all pharmacists and pharmaceutical technologists should have practice license and observe the laid down professional ethics. It is by this regulation that the board ensures products registered are of good quality to promote and protect public health. A pharmaceutical product is perceived to be of low quality when it fails to meet pharmacopeia guidelines and standards it claims to comply with (Kaur et al 2008; Shakoor and Behrens 1997; Habiet et al 2010). Therefore, a poor quality pharmaceutical product can either contain an inadequate amount of ingredients, wrong ingredients, an excess quantity of the right ingredients, or right ingredients in the right amounts though with a low dissolution profile (Almozaini, 2013). A major cause for concern is that the use of low-quality drugs can lead to appropriate therapeutic failures and drug resistance (WHO 2003). A lot of money can be lost on poor-quality drugs, and by this, economy of the country is affected (Alfadh et al, 2006).

Currently, in Kenya, Public healthcare confidence is so much eroded by funding poor-quality drugs in the health market (WHO 2003; WHO 2002) and this has been majorly caused by employing unqualified personnel to work in the pharmaceutical industry leading to poor formulations of pharmaceutical products and poor information to clients seeking healthcare needs. This can lead to fatal cases like the death of sixty-four patients suffering from meningitis and who contracted

the infection after being prescribed with a fungi-contaminated methylprednisolone acetate by Massachusetts based pharmacy (the Lancet 2013; Dennis 2014; Geoffrey 2013; United States Food and Drug Administration 2014), that caused president Barrack Obama of USA sign into laws compounding of human drugs in the year 2013. The most important function of the regulatory body in the pharmacy industry is to make sure that, the healthcare sector is not compromised based on the safety, quality, and efficacy of the products and if the quality is compromised, definitely the safety or efficacy of the pharmaceutical products will be compromised. An example of this is an adult with malaria which is not severe and who did not improve clinically after being treated with an antimalarial injection whose content of artemether was 74% of the manufacturer's label chain. This is an ideal case of poor quality which often compromise drug efficacy (Keoluangkhot et al., 2008)

Previous studies cited below have found that Poor quality of pharmaceutical products on the healthcare market arises because of the following reasons: the first reason is the failure medical manufacturers to comply with good manufacturing practices (Bate, Mourney, and Houlligan 2012). According to Shakoor, Taylor, and Behrens (1999), another reason is the utilization of low quality pharmaceutical raw materials. Besides, degradation of finished pharmaceutical products because of poor storage practices coupled with very high and very low temperatures (Shakoor, Taylor, and Behrens, 1997) and lastly unscrupulous traders who employ unprofessional who engage in marketing of poor quality medicines and giving poor client information. Pharmacy and Poison Board should be on toes every time to enforce the law but regrettably, challenges still exist if there is no enforcement by the government authority and where offenders are not punished or are given light penalties by the judicial system (Onwujekwe et al 2009 and Newton et al 2006)

The Pharmaceutical Industry in Taita Taveta County
The pharmaceutical sector in Taita Taveta is highly regulated and has offered intensive employment to professionals. The industry is faced with intensive competition since there are a highly populated number of pharmaceutical businesses compared to the population of the county as a whole. Just as the United Nations Industrial Development Organization (2010) entail, the pharmaceutical industry in Taita Taveta County is demand and supply-driven.

Pharmacy and Poison Board remains the regulating agency for the county and inspection team from the headquarters in Nairobi does the inspection routinely in the county. The pharmaceutical industry sector that dominates the market in Taita Taveta County is mainly for the distribution of drugs through wholesalers and retailers. Other regulatory institutions in Taita Taveta County are Anti-counterfeited act 2008 prohibits counterfeit pharmaceutical products. Kenya public procurement and dispensing Act that guides on procedures of pharmaceutical procurement; national quality control laboratory (NQCL) a technical arm of pharmacy and poison board that focuses on quality control. The heavy regulations in Taita Taveta County are aimed at ensuring compliance with global standards and the safety of the customers.

The dominating retail segment of the pharmaceutical industry in Taita Taveta County comprises of pharmaceutical entrepreneurs who decided to open pharmaceutical outlets instead of seeking employment. The main locations of the premises are mostly in rural and urban centers. The retail sector is in the most crucial segment of the medical healthcare segment because it is a point where the professionals meet the patient one on one for instructions and guidelines for the use of pharmaceutical products. Therefore, the segment needs more law enforcers to work closely with the retail sector to safeguard the interest of the customers. Macharia (2016) poised that the retail segment of pharmacy has of late come under security for pharmacy and poison board to ensure compliance and professionalism. According to Verathanjan et al, 2002, the retail sector in Taita Taveta County requires entrepreneurial skills, retail strategy, and professionals just like any other

sector in the competitive market in and out of Kenya. However, increasing demand and elite patients have led to development and commercialization of pharmaceutical products effectively which is termed as a changing doctor centered to patient-oriented and public-oriented approach (Proenca and Mountinlo 1997). Taita Taveta County is made up of sub-counties which include; Voi, Wundanyi, Mwatate, and Taveta where data shall be collected at wholesalers and retail pharmacies for analysis.

Problem Statement
According to Kenya Bureau of Statistics (2019), the health sector focuses on the about 47.6 million Kenyans who consume pharmaceutical products and services. In Kenya Pharmacy and Poisons Board formed by Act of Parliament in 1957, is mandated to regulate all kind of medical business in the country. However, in the process of identifying priority areas of support in medicine in the year 2006, WHO highlighted several shortcomings including the inadequate scope of regulations in the pharmaceutical industry (WHO, 2006). Scholars on Pharmaceutical regulations posit that where pharmaceutical companies adhere to regulations, there is a significant relationship to an increase in business growth.

According to Wafula, Abuya, Amin and Goodman (2014) there still exists a research gap on policy maker's knowledge on operations and regulatory practices based on the SDGs in Kenya's pharmaceutical business. Currently, pharmaceutical companies in Kenya are experiencing deteriorating performance due to the number of challenges one of them being pharmaceutical industry regulation (Kingori, 2010). Some studies done by other authors indicate that Kenyan pharmaceutical business does not adhere to regulations because they conceive that it is more expensive to do so and they would want to cut costs in operating their business, which is contrary to the ideal. This has even raised questions of whether to treat pharmacists and pharmaceutical technologists as professionals or entrepreneurs since they are the only people with permission to run the pharmacy, but this has created a debate and has opened new avenues for scholars (Inegbenebor, 2007). In another study, Miller and Goodman (2016) who carried out empirical research on retail pharmacies performance discovered that there are gaps in pharmaceutical performance, which include client request dispensation, and client attention at pharmacy outlets. Unless clear rules and regulations are set out and regulators follow strictly, to make sure that good pharmaceutical practices are exercised, there arises many dangers in the pharmaceutical sector. According to zakkiudin (2010), pharmaceutical businesses are more likely to malpractices.

Both quacks and professionals via informal channels and distribution that encourages the sales of counterfeit drugs exhibit the malpractice. Several global public health problems have been noted in inpatient and outpatient pharmaceutical outlets that have been caused by counterfeit drugs and poor client education resulting in death, disabilities, and injuries that have affected both children and adults (Kibwage, 2008). According to the draft budget policy (2018), the government of Kenya plans to work on the big four agendas among them is Universal Health Coverage for all Kenyan homes and achieve 100% health coverage for every Kenyan. The researchers find this study timely since pharmaceuticals are special and costly products that are components of local and international trade, which is a major investment for the government of Kenya and development partners and key health expenditure for the household. The study is strategic and will act as a measure of the success of the big four agendas to country Kenya which is being spearheaded by President Uhuru Kenyatta. It will also be a measure of the progress in the attainment of vision 2030 in our Country Kenya.

 All the above research surveys put it clear that indeed, there is a problem in pharmaceutical industries, which has led to poor performance, but the question is why should all this happen

whereas the industry has guidelines on pharmacy laws and regulations and drug inspectors present to enforce the law? Therefore, this study is out to investigate those businesses that adhere to regulations in relation to those that do not adhere to regulations as enlisted on the PPB website yearly, and find out if there is any significant difference in business performance.

Objectives of the Study
The general objective of this study was to determine the relationship between pharmaceutical industry regulations and pharmacy business performance in Taita Taveta County.

Specific Objectives
   i.   To establish the relationship between pharmaceutical industry regulation adherence and performance of pharmacies in Taita Taveta County.
   ii.   To determine the relationship between the enforcement of pharmacy industry regulations and performance of Pharmacies in Taita Taveta County.

Research Hypotheses
H_01: Regulations adherence had no significant influence on the performance of pharmacy businesses in Taita Taveta County

H_02: Regulations reinforcement had no significant influence on the performance of pharmacy businesses in Taita Taveta County

THEORETICAL REVIEW
Market-Based View Theory
According to the proponent of the theory Knecht (2013), a market-based view (MBV) is a tool that analyses company performance based on the company's strategic alignment of its competitor, the internal and external industry structures. Inconsistent with this, the organization's performance and competitive advantage can be explored based on external industry elements like industry regulation, entry or exit barriers, competitor activities, and players' numbers in the market. These external elements have a vital impact on how organizations realign their strategies to have a competitive advantage over its competitors in the industry (Knecht, 2013). Simply, the MBV model argues that when an organization knows its external forces and sector structure that influence its performance, it is likely to create a better strategic market approach to improve the company's overall performance. This implies that positive response and adherence to pharmaceutical industry regulations as a strategy are ideal for the betterment of business performance and this contributes a lot to the objectives of this research study. From this context, the Market Based View theory is pivotal and links with the objective to establish the relationship on pharmaceutical industry regulation and business performance of pharmacies in TaitaTaveta County for competitive advantage.

Expectancy Disconfirmation Theory
Oliver (1997) views Expectancy Disconfirmation Theory to consumers making buying decision; the decision is based on products that the consumers use for determining the quality of services delivered. The connection, which is known as expectancy, is compared with the intended reality to create a discrepancy. Besides, the discrepancy is the disconfirmation and measures of the quality of service and client satisfaction. The high discrepancy is linked to consumer dissatisfaction, which shows that expectations of customers are not met. Poor discrepancy reveals that consumers' expectations are met and customers are satisfied. At a point where there are low discrepancies, customers are said to have satisfaction with the products and the services delivered and this can compel them to buy more hence lead to a successful business and better performance. Parasuraman et al (1985) applied the expectancy disconfirmation model to identify the gaps in quality service deliveries. Gap one occurs when there is a discrepancy between the consumer's expectation and

management perception gap. The gap implies that the management has failed to understand the consumers' expectations and hence provides services that do not meet the expectations of the consumer, which can only happen when the managers of the firms do not adhere to laws and regulations. Gap two indicates that the management perception and services quality service specification. The gap shows a discrepancy in the manager's perception of consumer expectations at the quality specifications of a product and service. Gap three is a discrepancy between service quality specifications at the service delivery gap. The discrepancy occurs when there is a service performance gap.

Gap four indicates the difference between service delivery and extended communication. The discrepancy occurs when promises fail to match quality service delivery. Gap five is between the expected service and perceived service gap. The gap is the quality of service and is influenced by the other four gaps. When there is a lesser gap of discrepancies between consumers and the management, it means satisfaction is made between the two hence better business performances. When business is well managed, the discrepancy gaps are curbed fully and this means managers adhere to laws and regulations as stipulated by the authority. In support of the assertion, the theory supports the objective of the enforcement of the pharmacy industry regulations and business performance in Taita Taveta in matters of product quality and standards.

Conceptual Framework

The conceptual framework represents the researcher's synthesis of the literature on how to explain the phenomenon. The framework help in mapping out the actions needed in the course of the research and gives an understanding of other scholars' power of views and observations on the research subject. In this case, the independent variables or predictors are the dimensions of regulations, which influences the organizational performance. They include regulation enforcement and regulation adherence. Dependent variables are the performance indicators which include growth, employee satisfaction, market share and profits.
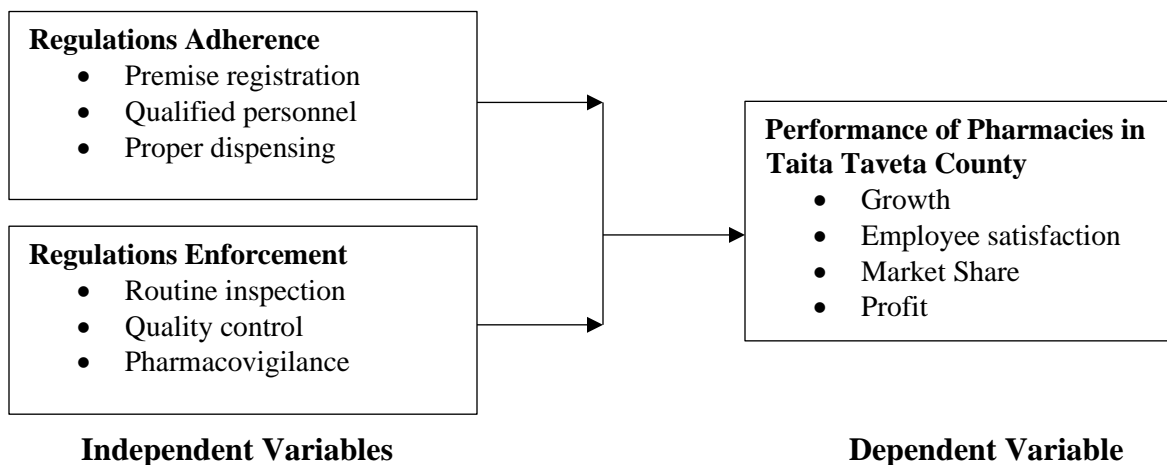
Regulations Adherence
- Premise registration
- Qualified personnel
- Proper dispensing

Regulations Enforcement
- Routine inspection
- Quality control
- Pharmacovigilance

Performance of Pharmacies in Taita Taveta County
- Growth
- Employee satisfaction
- Market Share
- Profit

   Independent Variables   **Dependent Variable**

Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

The study adopted descriptive research design to collect data in a systematic manner based on situation, phenomenon and population. According to Cooper and Schindler (2013), a descriptive study is a research that is focused on finding out what, which, and how of an event or circumstance. Sekarran (2006) states that descriptive research is undertaken to establish and describe the traits of the variables of interest in a phenomenon. Moreover, the researcher established the relationship between pharmaceutical industry regulations and performance of pharmacies in Taita Taveta County.

According to Jacobsen (2011), the target population is the population from which the researcher desired to collect samples. Thus the target overall population are the 40 pharmacies in Taita Taveta county. The unit of observation was one superintendent at the pharmacy who happened to be a member of the pharmaceutical profession e.g. Pharmaceutical technologists and pharmacists. The study adopted a census survey to collect data from 40 superintendents instead of undertaking a simple random sampling. The researcher used questionnaires to focus on important areas related to research. Kiswili, Shale and Osoro (2021) post that questionnaires enable the researcher to focus on important areas related to the research. The researcher, therefore, used semi-structured, unstructured, and structured questionnaires, which were distributed through a method of hand delivery to the Pharmacies respondents, and follow up calls were made to reduce the risk of non-response. Pilot testing identified the weaknesses of the questionnaire. The pilot testing was done at the five pharmacies by issuing questionnaires to the superintendents in Taita Taveta Counties. The researcher used SPSS to aid in the analysis where after the magnitude and nature of the relationship between the variables of this study were targeted by the use of the regression model of analysis. This is where independent variables were pharmaceutical regulations adherence and enforcement tested to determine their influence on the dependent variables which were the performance of the pharmacy business.

RESEARCH FINDINGS AND DISCUSSIONS

Response Rate

The study targeted 40 respondents. Out of the 40 questionnaires given out during data collection, 38 filled ones were received back, with two (2) not returned. This translated to 95% response rate, which was good for analysis.

Table 1: Response Rate

Questionnaires	Frequency	Percent
Returned	38	95
Unreturned	2	5
Total	**38**	**100.0**

Pilot Study Results

Validity of Research instrument

The three broad constructs were regulatory enforcement, regulatory enhancement and organizational performance. The sub constructs and the KMO test carried out yielded the following results on Table 2.

Table 2: Validity of Research instruments

Sub construct	KMO TEST
Routine inspection	0.550
Quality Control	0.587
Pharmacovigilance	0.578
Premise registration	0.691
Qualified Personnel	0.540
Proper dispensing	0.531
Growth	0.700
Employee Satisfaction	0.711
Market Share	0.650
Profits	0.523

The Table 2 provides the findings that show KMO measures of the sub constructs for organizational performances the ranges are 0.523 to 0.711, all above the 0.50. For regulatory enforcement, the sub constructs are all above 0.50 and the regulatory adherence are between 0.531 to 0.711 respectively. This indicates that all the tests are above the threshold of 0.50 as recommended by Kaiser (1974)

Reliability of Research instrument
Reliability of the questionnaire was tested by Cronbach Alpha. The overall Cronbach Alpha was 0.938, which was found to be excellent for analysis, and hence the research instrument was reliable for the current study as shown in table 4.3 below. George and Mallery (as cited in Kimaku, Omwenga & Nzulwa, 2019 and Nyile, Shale & Osoro, 2022) posit that the reliability of the constructs are acceptable based on the rule that when Cronbach's alpha value is greater than 0.9, it is considered excellent; when value is 0.8 is deemed very good and when it is 0.7, it is rated as good. The overall Cronbach Alpha value for the independent variables regulations enforcement was 0.922 (excellent) and for regulations adherence was 0.925 (excellent). The Cronbach Alpha value for the dependent variable performance of pharmacy businesses was 0.966, which was excellent for the study.

Table 1: Reliability coefficients (Cronbach Alpha)

S/No.	Variable	No. of Items	Cronbach Alpha Value	Remarks
1	Regulations Enforcement	15	0.922	Excellent
2	Regulations Adherence	14	0.925	Excellent
3	Performance	29	0.966	Excellent
	AVERAGE	**19.33**	**0.938**	**Excellent**

Descriptive Analysis
Descriptive statistics enables researcher to explain the scores of data by use of statistics. Mean and percentages were used to present the study findings

Regulations Adherence
To obtain information about the first independent variable Regulations Adherence, several statements were asked and the respondents required to provide feedback on a likert scale of one (1) to five (5), for 1 being not agreeing at all to the statements, 2 being agreeing to a small extent, 3 being agreeing to some extent, 4 being agreeing to a large extent and 5 being full adherence to the statements as indicated on table 4 below. On the issue of the premise being exclusively for pharmacy and no non-pharmaceutical business in the house, 2.6% of the respondents did not agree at all to the statement, 13.2% agreed to a small extent to the statement, 7.9% of the respondents agreed to some extent to the statement, 18.4% of the respondents agreed to a large extent to the statement whereas 57.9% of the respondents agreed that there was full adherence to the statement, with a mean of 4.16 and standard deviation 1.197.
On whether staff follow stipulated guidelines for dispensing and no prescription is dispensed multiple times; 2.6% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 50.0% of the respondents agreed that there was full adherence to the statement, with a mean of 4.21 and standard deviation 0.905. looking at Brochures and other reading materials for customers if they were clean and well arranged for dispensing procedures; 26.3% of the respondents agreed to some extent to the statement, 28.9% of the respondents agreed to a large

extent to the statement whereas 44.7% of the respondents agreed that there was full adherence to the statement, with a mean of 4.18 and standard deviation 0.834.

Focusing on the dispensing room having sufficient space for the pharmacy business and does not house other non-pharmacy items; 5.3% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 28.9% of the respondents agreed to a large extent to the statement whereas 42.1% of the respondents agreed that there was full adherence to the statement, with a mean of 4.08 and standard deviation 0.941. On the question of the name of the product and expiring dates are confirmed before a product is dispensed to a client; 5.3% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 18.4% of the respondents agreed to a large extent to the statement whereas 52.6% of the respondents agreed that there was full adherence to the statement, with a mean of 4.18 and standard deviation 0.982.

Inquiring on pharmacy timely deliveries services without delays; 5.3% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 13.2% of the respondents agreed to a large extent to the statement whereas 57.9% of the respondents agreed that there was full adherence to the statement, with a mean of 4.24 and standard deviation 0.998. On the statement, the pharmacy offers solutions to customers problems; 2.6% of the respondents did not agree at all to the statement, 2.6% agreed to a small extent to the statement, 26.3% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 44.7% of the respondents agreed that there was full adherence to the statement, with a mean of 4.05 and standard deviation 1.038.

Responding on whether only professional are allowed to handle clients; 10.5% agreed to a small extent to the statement, 13.2% of the respondents agreed to some extent to the statement, 36.8% of the respondents agreed to a large extent to the statement whereas 39.5% of the respondents agreed that there was full adherence to the statement, with a mean of 4.05 and standard deviation 0.985. On the aspect of pharmacy consideration of most experienced professional; 7.9% agreed to a small extent to the statement, 21.1% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 47.4% of the respondents agreed that there was full adherence to the statement, with a mean of 4.11 and standard deviation 1.008.

On the statement that all staff in the pharmacy is registered by PPB; 15.8% of the respondents did not agree at all to the statement, 13.2% agreed to a small extent to the statement, 15.8% of the respondents agreed to some extent to the statement, 13.2% of the respondents agreed to a large extent to the statement whereas 42.1% of the respondents agreed that there was full adherence to the statement, with a mean of 3.53 and standard deviation 1.538. Responses on the premise having sufficient space and no overcrowding by clients showed that 2.6% of the respondents did not agree at all to the statement, 5.3% agreed to a small extent to the statement, 15.8% of the respondents agreed to some extent to the statement, 15.8% of the respondents agreed to a large extent to the statement whereas 60.5% of the respondents agreed that there was full adherence to the statement, with a mean of 4.26 and standard deviation 1.083.

On the statement, their premise is registered by ppb for the consecutive three years; 5.3% of the respondents did not agree at all to the statement, 7.9% agreed to a small extent to the statement, 21.1% of the respondents agreed to some extent to the statement, 31.6% of the respondents agreed to a large extent to the statement whereas 34.2% of the respondents agreed that there was full adherence to the statement, with a mean of 3.82 and standard deviation 1.159. On the statement,

the pharmacy display license from statutory bodies; 2.6% of the respondents did not agree at all to the statement, 5.3% agreed to a small extent to the statement, 18.4% of the respondents agreed to some extent to the statement, 18.4% of the respondents agreed to a large extent to the statement whereas 55.3% of the respondents agreed that there was full adherence to the statement, with a mean of 4.18 and standard deviation 1.087.

Regarding pharmacy officers inspecting the premise regularly to confirm registration, 2.6% of the respondents did not agree at all to the statement, 7.9% agreed to a small extent to the statement, 13.2% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 52.6% of the respondents agreed that there was full adherence to the statement, with a mean of 4.16 and standard deviation 1.103. On the statement, the pharmacy does registration of the premise on time yearly; 5.3% of the respondents did not agree at all to the statement, 10.5% agreed to a small extent to the statement, 7.9% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 52.6% of the respondents agreed that there was full adherence to the statement, with a mean of 4.08 and standard deviation 1.239.

Table 3: Regulations Adherence frequencies

Regulations Adherence	Not at all	small extent	Moderate extent	large extent	Very large extent	Mean	Std. Deviation
The premise is exclusively for pharmacy and no non-pharmaceutical business in the house	2.6	13.2	7.9	18.4	57.9	4.16	1.197
Staff follow stipulated guidelines for dispensing and no prescription is dispensed multiple times	-	2.6	23.7	23.7	50	4.21	.905
Brochures and other reading materials for customers are clean and well arranged for dispensing procedures	-	-	26.3	28.9	44.7	4.18	.834
The dispensing room has sufficient space for the pharmacy business and does not house other non-pharmacy items	-	5.3	23.7	28.9	42.1	4.08	.941
The name of the product and expiring dates are confirmed before a product is dispensed to a client	-	5.3	23.7	18.4	52.6	4.18	.982
The pharmacy timely deliveries services without delays	-	5.3	23.7	13.2	57.9	4.24	.998
The pharmacy offers solutions to customers problems	2.6	2.6	26.3	23.7	44.7	4.05	1.038
Only professional are allowed to handle clients	-	10.5	13.2	36.8	39.5	4.05	.985
The pharmacy considers most experienced than professional	-	7.9	21.1	23.7	47.4	4.11	1.008
All Staff in the pharmacy is registered by PPB	15.8	13.2	15.8	13.2	42.1	3.53	1.538
The premise has sufficient space and no overcrowding by clients	2.6	5.3	15.8	15.8	60.5	4.26	1.083
Their premise is registered by ppb for the consecutive three years	5.3	7.9	21.1	31.6	34.2	3.82	1.159
The pharmacy display license from statutory bodies	2.6	5.3	18.4	18.4	55.3	4.18	1.087
The pharmacy officers inspect the premise regularly to confirm registration	2.6	7.9	13.2	23.7	52.6	4.16	1.103
The pharmacy does registration of the premise on time yearly	5.3	10.5	7.9	23.7	52.6	4.08	1.239
AVERAGE						**4.09**	**1.07**

Regulations Enforcement

To get information for analysis purpose about the second independent variable; regulations reinforcement, the respondents were required to provide feedback about the numerous statements on their level of agreement and the information was captured on a likert scale of one (1) to five (5), for 1 being not agreeing at all to the statements, 2 being agreeing to a small extent, 3 being

agreeing to some extent, 4 being agreeing to a large extent and 5 being full adherence to the statements as shown on table 4 below.

About the statement the PPB officers regularly do training for the staffs; 5.3% agreed to a small extent to the statement, 31.6% of the respondents agreed to some extent to the statement, 26.3% of the respondents agreed to a large extent to the statement whereas 36.8% of the respondents agreed that there was full adherence to the statement, with a mean of 3.95 and standard deviation 0.957. On the second statement, inspectors from PPB regularly visit the pharmacy for inspection; 2.6% of the respondents did not agree at all to the statement, 28.9% of the respondents agreed to some extent to the statement, 18.4% of the respondents agreed to a large extent to the statement whereas 50.0% of the respondents agreed that there was full adherence to the statement, with a mean of 4.13 and standard deviation 1.018.

On the statement; Inspection keeps constant communication with the outlets; 2.6% of the respondents did not agree at all to the statement, 2.6% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 21.1% of the respondents agreed to a large extent to the statement whereas 50% of the respondents agreed that there was full adherence to the statement, with a mean of 4.13 and standard deviation 1.044.

Regarding the statement, PPB officers award staffs some points according to the performance; 2.6% of the respondents did not agree at all to the statement, 5.3% agreed to a small extent to the statement, 21.1% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 47.4% of the respondents agreed that there was full adherence to the statement, with a mean of 4.08 and standard deviation 1.075.
On the statement, the pharmacy dispenses only products registered by PPB; 5.3% of the respondents did not agree at all to the statement, 5.3% agreed to a small extent to the statement, 10.5% of the respondents agreed to some extent to the statement, 15.8% of the respondents agreed to a large extent to the statement whereas 63.2% of the respondents agreed that there was full adherence to the statement, with a mean of 4.26 and standard deviation 1.178.

Concerning the statement, the patients are informed in advance about quality of services and goods; 5.3% agreed to a small extent to the statement, 42.1% of the respondents agreed to some extent to the statement, 13.2% of the respondents agreed to a large extent to the statement whereas 39.5% of the respondents agreed that there was full adherence to the statement, with a mean of 3.87 and standard deviation 1.018. On the statement, the pharmacy is reliable and has loyal or repeatedly customers; 2.6% agreed to a small extent to the statement, 13.2% of the respondents agreed to some extent to the statement, 36.8% of the respondents agreed to a large extent to the statement whereas 47.4% of the respondents agreed that there was full adherence to the statement, with a mean of 4.29 and standard deviation 0.802.

About the statement, Pharmacy offers drugs from registered industries; 5.3% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 18.4% of the respondents agreed to a large extent to the statement whereas 52.6% of the respondents agreed that there was full adherence to the statement, with a mean of 4.18 and standard deviation 0.982. On the statement, is an incinerator available for disposing of unwanted drugs; 7.9% of the respondents did not agree at all to the statement, 5.3% agreed to a small extent to the statement, 23.7% of the respondents agreed to some extent to the statement, 13.2% of the respondents agreed to a large extent to the statement whereas 50.0% of the respondents agreed that there was full adherence to the statement, with a mean of 3.92 and standard deviation 1.302.

Concerning the statement, are inspectors notified of the expiries; 10.5% of the respondents did not agree at all to the statement, 7.9% of the respondents agreed to some extent to the statement, 23.7% of the respondents agreed to a large extent to the statement whereas 57.9% of the respondents agreed that there was full adherence to the statement, with a mean of 4.18 and standard deviation 1.270. Regarding the statement, the PPB officer samples some patients from the outlets for testing; 13.2% agreed to a small extent to the statement, 21.1% of the respondents agreed to some extent to the statement, 13.2% of the respondents agreed to a large extent to the statement whereas 52.6% of the respondents agreed that there was full adherence to the statement, with a mean of 4.05 and standard deviation 1.138.

On the statement, major side's effects of the drugs are notified by the PPB" 23.7% of the respondents agreed to some extent to the statement, 21.1% of the respondents agreed to a large extent to the statement whereas 55.3% of the respondents agreed that there was full adherence to the statement, with a mean of 4.32 and standard deviation 0.842.

On the statement "Non-effective drugs are deregistered and outlets informed; 2.6% agreed to a small extent to the statement, 15.8% of the respondents agreed to some extent to the statement, 10.5% of the respondents agreed to a large extent to the statement whereas 71.1% of the respondents agreed that there was full adherence to the statement, with a mean of 4.50 and standard deviation 0.862. Finally, about the statement, effective drugs are registered and approved by PPB" 2.6% of the respondents did not agree at all to the statement, 2.6% agreed to a small extent to the statement, 18.4% of the respondents agreed to some extent to the statement, 13.2% of the respondents agreed to a large extent to the statement whereas 63.2% of the respondents agreed that there was full adherence to the statement, with a mean of 4.32 and standard deviation 1.042.

Table 4: Regulations Enforcement frequencies

Regulations Enforcement	Not at all	small extent	Moderate extent	large extent	Very large extent	Mean	Std. Deviation
The PPB officers regularly do training for the staffs	-	5.3	31.6	26.3	36.8	3.95	.957
Inspectors from PPB regularly visit the pharmacy for inspection	2.6	-	28.9	18.4	50	4.13	1.018
Inspection keeps constant communication with the outlets	2.6	2.6	23.7	21.1	50	4.13	1.044
PPB officers award staffs some points according to the performance	2.6	5.3	21.1	23.7	47.4	4.08	1.075
The pharmacy dispenses only products registered by PPB	5.3	5.3	10.5	15.8	63.2	4.26	1.178
The patients are informed in advance about quality of services and goods	-	5.3	42.1	13.2	39.5	3.87	1.018
The pharmacy is reliable and has loyal or repeatedly customers	-	2.6	13.2	36.8	47.4	4.29	.802
Pharmacy offers drugs from registered industries	-	5.3	23.7	18.4	52.6	4.18	.982
Is an incinerator available for disposing of unwanted drugs?	7.9	5.3	23.7	13.2	50	3.92	1.302
Are inspectors notified of the expiries?	10.5	-	7.9	23.7	57.9	4.18	1.270
The PPB officer samples some patients from the outlets for testing	-	13.2	21.1	13.2	52.6	4.05	1.138
Major side's effects of the drugs are notified By the PPB	-	-	23.7	21.1	55.3	4.32	.842
Non-effective drugs are deregistered and outlets informed	-	2.6	15.8	10.5	71.1	4.50	.862
Effective drugs are registered and approved by PPB	2.6	2.6	18.4	13.2	63.2	4.32	1.042

Performance of Pharmacy Businesses

To acquire information for analysis purpose about the independent variable; performance of pharmacy businesses, the respondents were asked to provide feedback on the several statements about success of their businesses. The information on what their feeling was about the statements was captured on a likert scale of one (1) to five (5), for 1 being not at all successful, 2 being to a small extent successful, 3 being to some extent successful, 4 being to a large extent successful and 5 being very successful as indicated on table 4.6 below. On the statement, customers increase in numbers for the pharmacy; 5.3% of the respondents went for the not all successful in regard to the statement, 5.3% of the respondents agreed that the success was to a small extent, 2.6% of the respondents agreed that the success was to some extent, 39.5% of the respondents agreed that the success was to a large extent whereas 47.4% of the respondents chose very successful in regard to the statement, with a mean of 4.18 and standard deviation 1.087.

Regarding the statement existing customers buying newly introduced products from the outlet; 10.5% of the respondents agreed that the success was to a small extent, 15.8% of the respondents agreed that the success was to some extent, 7.9% of the respondents agreed that the success was to a large extent whereas 65.8% of the respondents chose very successful in regard to the statement, with a mean of 4.29 and standard deviation 1.088. About the statement, customers introducing new clients to the outlet, 5.3% of the respondents agreed that the success was to a small extent, 10.5% of the respondents agreed that the success was to some extent, 47.4% of the respondents agreed that the success was to a large extent whereas 36.8% of the respondents chose very successful in regard to the statement, with a mean of 4.16 and standard deviation 0.823.

On the statement, customer satisfaction increase indicted by reduced numbers of customer or complains; 5.3% of the respondents agreed that the success was to a small extent, 44.7% of the respondents agreed that the success was to some extent, 13.2% of the respondents agreed that the success was to a large extent whereas 36.8% of the respondents chose very successful in regard to the statement, with a mean of 3.82 and standard deviation 1.010. Concerning the statement the loyalty of existing customers by not switching to competing for pharmaceutical outlets; 2.6% of the respondents went for the not all successful in regard to the statement, 7.9% of the respondents agreed that the success was to a small extent, 10.5% of the respondents agreed that the success was to some extent, 39.5% of the respondents agreed that the success was to a large extent whereas 39.5% of the respondents chose very successful in regard to the statement, with a mean of 4.05 and standard deviation 1.038.

On the statement, introduction of newly quality drugs in the outlet; 2.6% of the respondents went for the not all successful in regard to the statement, 7.9% of the respondents agreed that the success was to a small extent, 34.9% of the respondents agreed that the success was to some extent, 7.9% of the respondents agreed that the success was to a large extent whereas 47.4% of the respondents chose very successful in regard to the statement, with a mean of 3.89 and standard deviation 1.181. Regarding the statement, enhancement of existing service delivery methods in pharmacy 5.3% of the respondents agreed that the success was to a small extent, 13.2% of the respondents agreed that the success was to some extent, 47.4% of the respondents agreed that the success was to a large extent whereas 34.2% of the respondents chose very successful in regard to the statement, with a mean of 4.11 and standard deviation 0.831.

Regarding the statement, technological incorporation in the delivery of services in the pharmacy; 26.3% of the respondents agreed that the success was to some extent, 15.8% of the respondents agreed that the success was to a large extent whereas 57.9% of the respondents chose very successful in regard to the statement, with a mean of 4.32 and standard deviation 0.873. About the statement, introduction of new strategic partners to enhance organizational learning; 2.6% of the

respondents agreed that the success was to a small extent, 18.4% of the respondents agreed that the success was to some extent, 42.1% of the respondents agreed that the success was to a large extent whereas 36.8% of the respondents chose very successful in regard to the statement, with a mean of 4.13 and standard deviation 0.811.

On the statement, improvements in new methods and procedures in the pharmacy; 2.6% of the respondents went for the not all successful in regard to the statement, 44.7% of the respondents agreed that the success was to some extent, 10.5% of the respondents agreed that the success was to a large extent whereas 42.1% of the respondents chose very successful in regard to the statement, with a mean of 3.89 and standard deviation 1.060. Concerning the statement reduced staff turnover; 2.6% of the respondents went for the not all successful in regard to the statement, 10.5% of the respondents agreed that the success was to a small extent, 13.2% of the respondents agreed that the success was to some extent, 13.2% of the respondents agreed that the success was to a large extent whereas 60.5% of the respondents chose very successful in regard to the statement, with a mean of 4.18 and standard deviation 1.182.

On the statement, Improved staff development and training; 7.9% of the respondents agreed that the success was to a small extent, 10.5% of the respondents agreed that the success was to some extent, 44.7% of the respondents agreed that the success was to a large extent whereas 36.8% of the respondents chose very successful in regard to the statement, with a mean of 4.11 and standard deviation 0.894. Concerning the statement improved employee commitment; 5.3% of the respondents agreed that the success was to a small extent, 7.9% of the respondents agreed that the success was to some extent, 26.3% of the respondents agreed that the success was to a large extent whereas 60.5% of the respondents chose very successful in regard to the statement, with a mean of 4.42 and standard deviation 0.858.

About the statement improved patience by employees; 2.6% of the respondents agreed that the success was to a small extent, 13.2% of the respondents agreed that the success was to some extent, 57.9% of the respondents agreed that the success was to a large extent whereas 26.3% of the respondents chose very successful in regard to the statement, with a mean of 4.08 and standard deviation 0.712. Regarding the statement "Reduced staff grievances; 5.3% of the respondents went for the not all successful in regard to the statement, 18.4% of the respondents agreed that the success was to a small extent, 26.3% of the respondents agreed that the success was to some extent, 10.5% of the respondents agreed that the success was to a large extent whereas 39.5% of the respondents chose very successful in regard to the statement, with a mean of 3.61 and standard deviation 1.326.

Concerning the statement increased in number of branches; 2.6% of the respondents went for the not all successful in regard to the statement, 5.3% of the respondents agreed that the success was to a small extent, 23.7% of the respondents agreed that the success was to some extent, 10.5% of the respondents agreed that the success was to a large extent whereas 57.9% of the respondents chose very successful in regard to the statement, with a mean of 4.16 and standard deviation 1.128.

About the statement, acquisition of business units from the competitors; 7.9% of the respondents agreed that the success was to a small extent, 18.4% of the respondents agreed that the success was to some extent, 42.1% of the respondents agreed that the success was to a large extent whereas 31.6% of the respondents chose very successful in regard to the statement, with a mean of 3.97 and standard deviation 0.915. On the statement increased number of business assets; 2.6% of the respondents agreed that the success was to a small extent, 31.6% of the respondents agreed that the success was to some extent, 15.8% of the respondents agreed that the success was to a large

extent whereas 50.0% of the respondents chose very successful in regard to the statement, with a mean of 4.13 and standard deviation 0.963.

Concerning the statement innovation of new products; 2.6% of the respondents went for the not all successful in regard to the statement, 5.3% of the respondents agreed that the success was to a small extent, 15.8% of the respondents agreed that the success was to some extent, 39.5% of the respondents agreed that the success was to a large extent whereas 36.8% of the respondents chose very successful in regard to the statement, with a mean of 4.03 and standard deviation 1.000. About the statement growth in market share; 2.6% of the respondents went for the not all successful in regard to the statement, 5.3% of the respondents agreed that the success was to a small extent, 28.9% of the respondents agreed that the success was to some extent, 13.2% of the respondents agreed that the success was to a large extent whereas 50.0% of the respondents chose very successful in regard to the statement, with a mean of 4.03 and standard deviation 1.127.

Regarding the statement increase in the distribution channel; 5.3% of the respondents agreed that the success was to a small extent, 13.2% of the respondents agreed that the success was to some extent, 36.8% of the respondents agreed that the success was to a large extent whereas 44.7% of the respondents chose very successful in regard to the statement, with a mean of 4.21 and standard deviation 0.875. Concerning the statement opening of new market territories; 2.6% of the respondents agreed that the success was to a small extent, 28.9% of the respondents agreed that the success was to some extent, 10.5% of the respondents agreed that the success was to a large extent whereas 57.9% of the respondents chose very successful in regard to the statement, with a mean of 4.24 and standard deviation 0.971. About the statement ,New agency business from manufacturers or distributors; 23.7% of the respondents agreed that the success was to some extent, 47.4% of the respondents agreed that the success was to a large extent whereas 28.9% of the respondents chose very successful in regard to the statement, with a mean of 4.05 and standard deviation 0.733.

On the statement New product lines growth; 39.5% of the respondents agreed that the success was to some extent, 18.4% of the respondents agreed that the success was to a large extent whereas 42.1% of the respondents chose very successful in regard to the statement, with a mean of 4.03 and standard deviation 0.915. Concerning the statement "Return on sales (profit/total assets)" 2.6% of the respondents went for the not all successful in regard to the statement, 5.3% of the respondents agreed that the success was to a small extent, 13.2% of the respondents agreed that the success was to some extent, 15.8% of the respondents agreed that the success was to a large extent whereas 63.2% of the respondents chose very successful in regard to the statement, with a mean of 4.32 and standard deviation 1.068.

About the statement Return on assets (profits/total assets); 7.9% of the respondents agreed that the success was to a small extent, 10.5% of the respondents agreed that the success was to some extent, 42.1% of the respondents agreed that the success was to a large extent whereas 39.5% of the respondents chose very successful in regard to the statement, with a mean of 4.13 and standard deviation 0.906. Regarding the statement "General profitability of the firm/sales growth" 2.6% of the respondents went for the not all successful in regard to the statement, 13.2% of the respondents agreed that the success was to some extent, 15.8% of the respondents agreed that the success was to a large extent whereas 68.4% of the respondents chose very successful in regard to the statement, with a mean of 4.47 and standard deviation 0.922.

Concerning the statement, cash flow excluding investments; 5.3% of the respondents agreed that the success was to a small extent, 13.2% of the respondents agreed that the success was to some

extent, 44.7% of the respondents agreed that the success was to a large extent whereas 36.8% of the respondents chose very successful in regard to the statement, with a mean of 4.13 and standard deviation 0.844. Finally, about the statement Financial risk position; 5.3% of the respondents went for the not all successful in regard to the statement, 13.2% of the respondents agreed that the success was to a small extent, 23.7% of the respondents agreed that the success was to some extent, 7.9% of the respondents agreed that the success was to a large extent whereas 50.0% of the respondents chose very successful in regard to the statement, with a mean of 3.84 and standard deviation 1.326.

Table 5: Performance of Pharmacy Businesses

Performance of Pharmacy Businesses	Not at all	small extent	Moderate extent	large extent	Very large extent	Mean	Std. Deviation
Customers increase in numbers for the pharmacy	5.3	5.3	2.6	39.5	47.4	4.18	1.087
Existing customers buying newly introduced products from the outlet	-	10.5	15.8	7.9	65.8	4.29	1.088
Customer's introducing new clients to the outlet	-	5.3	10.5	47.4	36.8	4.16	.823
Customer satisfaction increase indicted by reduced numbers of customer or complains	-	5.3	44.7	13.2	36.8	3.82	1.010
The loyalty of existing customers by not switching to competing for pharmaceutical outlets	2.6	7.9	10.5	39.5	39.5	4.05	1.038
Introduction of newly quality drugs in the outlet	2.6	7.9	34.9	7.9	47.4	3.89	1.181
Enhancement of existing service delivery methods in pharmacy	-	5.3	13.2	47.4	34.2	4.11	.831
Technological incorporation in the delivery of services in the pharmacy	-	-	26.3	15.8	57.9	4.32	.873
Introduction of new strategic partners to enhance organizational learning	-	2.6	18.4	42.1	36.8	4.13	.811
Improvements in new methods and procedures in the pharmacy	2.6	-	44.7	10.5	42.1	3.89	1.060
Reduced staff turnover	2.6	10.5	13.2	13.2	60.5	4.18	1.182
Improved staff development and training	-	7.9	10.5	44.7	36.8	4.11	.894
Improved employee commitment	-	5.3	7.9	26.3	60.5	4.42	.858
Improved patience by employees	-	2.6	13.2	57.9	26.3	4.08	.712
Reduced staff grievances	5.3	18.4	26.3	10.5	39.5	3.61	1.326
Increased in number of branches	2.6	5.3	23.7	10.5	57.9	4.16	1.128
Acquisition of business units from the competitors	-	7.9	18.4	42.1	31.6	3.97	.915
Increased number of business assets	-	2.6	31.6	15.8	50	4.13	.963
Innovation of new products	2.6	5.3	15.8	39.5	36.8	4.03	1.000
Growth in market share	2.6	5.3	28.9	13.2	50	4.03	1.127
Increase in the distribution channel	-	5.3	13.2	36.8	44.7	4.21	.875
Opening of new market territories	-	2.6	28.9	10.5	57.9	4.24	.971
New agency business from manufacturers or distributors	-	-	23.7	47.4	28.9	4.05	.733
New product lines growth	-	-	39.5	18.4	42.1	4.03	.915
Return on sales (profit/total assets)	2.6	5.3	13.2	15.8	63.2	4.32	1.068
Return on assets (profits/total assets)	-	7.9	10.5	42.1	39.5	4.13	.906
General profitability of the firm/sales growth	2.6	-	13.2	15.8	68.4	4.47	.922
Cash flow excluding investments	-	5.3	13.2	44.7	36.8	4.13	.844
Financial risk position	5.3	13.2	23.7	7.9	50	3.84	1.326

Correlation Analysis

To establish the existence or otherwise of relationship between the variables (dependent and independent), a correlation matrix was formulated as shown in table 4.7 below. Pearson's correlation coefficient was used for the correlation analysis. It was used to check the linear

relationship between the variables of interest in the study. The coefficient of determination was equally meant to identify the goodness - of - fit. The correlation coefficient (r) normally ranges between value -1 to 1, where -1 implies perfect negative correlation whereas +1 implies perfect positive relationship and zero (0) correlation means no correlation. Perfect correlation means that a unit change in independent variable, leads to a constant similar change in the dependent variable in the same direction, correlation will be perfect positive and in the opposite direction for perfect negative correlation (Kothari, 2004).

The results of the correlation analysis revealed that there was strong positive linear correlation between regulation adherence and performance of pharmacy businesses since $r=0.870$, p-value is <0.001 denoting that the coefficient is statistically significant as shown in Table 6.

Table 6: Correlation Analysis

Correlations		Performance of Pharmacy Businesses (Y)	Regulation Adherence (X_1)	Regulation Enforcement (X_2)
Performance of Pharmacy Businesses (Y)	Pearson Correlation	1	.870**	.851**
	Sig. (2-tailed)		.000	.000
	N	38	38	38
Regulation Adherence (X_1)	Pearson Correlation	.870**	1	.915**
	Sig. (2-tailed)	.000		.000
	N	38	38	38
Regulation Enforcement (X_2)	Pearson Correlation	.851**	.915**	1
	Sig. (2-tailed)	.000	.000	
	N	38	38	38
**. Correlation is significant at the 0.01 level (2-tailed).				

Regression Analysis
Multiple regressions was applied in the study to determine the relationship between the independent variables, which are pharmaceutical regulations and enforcement, and their influence on the dependent variable, which is the performance of the pharmacy business.
Hypothesis one: H_01: Pharmaceutical industry regulation adherence had no significant influence on the performance of pharmacy businesses in Taita Taveta County

To determine whether regulation adherence had any significant influence on the performance of pharmacy businesses in Taita Taveta County, the independent variable Regulations Adherence was regressed against the dependent variable performance of pharmacy businesses.
From table 4.8 (ii) below, the regression model of X_1 and Y was significant with F (1, 36) = 112.440, p-value < 0.001), implying that Regulations Adherence is a valid predictor in the model. The Coefficient of determination R^2 of 0.757 showed that 75.7% of performance of pharmacy businesses can be explained by regulations adherence. The remaining percentage of performance of pharmacy businesses can be described by other factors not included in the model. The R of 0.870 from table 4.8 (i) shows there is a strong positive correlation between extent of Regulations Adherence and Performance of Pharmacy Businesses in Taita Taveta County.

From hypothesis 1 (one) of the study that, H_01: Regulations Adherence has no significant performance of pharmacy businesses in Taita Taveta County, and based on the study findings, the

results revealed that there was a positive significant relationship between regulations adherence and performance of the pharmacy businesses in Taita Taveta County.

The results were fitted in the Model $Y = \beta_0 + \beta_1 X_1 + e$

The study therefore rejected the null hypothesis (H_01: Regulations adherence had no significant influence on the performance of pharmacy businesses in Taita Taveta County) and concluded that actually regulations adherence (X_1) did have significant influence on the performance of the pharmacy businesses (Y) in Taita Taveta County.
The Model equation therefore became $Y = 0.728 + 0.826 X_1$

The beta coefficient value for regulations adherence (0.826) meant that for every one (1) unit increase in the dimension of regulations adherence in pharmacy businesses, it leads to 0.826 increase in performance of the pharmacy businesses as shown in table 4.8(iii).

Table 7: Regression analysis for construct Regulations Adherence

i) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
					Change Statistics				
1	.870a	.757	.751	.355	.757	112.440	1	36	.000

a. Predictors: (Constant), Regulations Adherence (X_1)

ii) ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	14.172	1	14.172	112.440	.000b
	Residual	4.538	36	.126		
	Total	18.710	37			

a. Dependent Variable: Performance of Pharmacy Businesses (Y)

b. Predictors: (Constant), Regulations Adherence (X_1)

iii) Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.728	.323		2.252	.031		
	Regulations Adherence (X_1)	.826	.078	.870	10.604	.000	1.000	1.000

a. Dependent Variable: Performance of Pharmacy Businesses (Y)

Discussion on the findings of relationship between regulations adherence and performance of pharmacy businesses

The R-value (correlation coefficient, r = 0.870) indicated that there was a strong positive correlation between regulations adherence and performance of pharmacy businesses. This was an indication that regulations adherence had a strong influence on the performance of pharmacy businesses in Taita Taveta County. The p- value < 0.001 signified that regulations adherence was statistically significant at 5% level of significance.

The research findings were in concurrence with a study by Graham Pambel (2013) who concluded that regulations adherence in terms of average inventory holding had a positive relationship on the profitability of pharmacies in South Africa. Similarly, the study also agree with findings by Arentz, Recker, Vuong, &Wambach (2016), who found out that by putting up regulations that allow pharmacies to operate several branches and adhering to the same not only had a fixed cost reducing effect but also increased profitability and encouraged entry in less favourable markets in Germany pharmacy market. The study findings also agreed with Irungu (2017) verdict that quality service deliveries adherence was significantly correlated with the performance of pharmacy businesses within the Nairobi Central Business Development.

Hypothesis Two; $H_0$2: Pharmaceutical industry regulation reinforcement had no significant influence on the performance of pharmacy businesses in Taita Taveta County

To confirm whether regulation reinforcement had any significant influence on the performance of pharmacy businesses in Taita Taveta County, the independent variable regulations reinforcement was regressed against the dependent variable performance of pharmacy businesses. From table 4.9 (ii) below, the regression model of X_2 and Y was significant with $F(1, 36) = 94.608$, p-value < 0.001), implying that Regulations Reinforcement is a valid predictor in the model. The Coefficient of determination R^2 of 0.724 showed that 72.4% of performance of pharmacy businesses could be explained by regulations reinforcement. The remaining percentage (27.6%) of performance of pharmacy businesses can be described by other factors not included in the model. The R of 0.851 from table 4.9(i) shows there is a strong positive correlation between extent of Regulations Reinforcement and Performance of Pharmacy Businesses in Taita Taveta County.

From hypothesis 2 (two) of the study that, **$H_0$2:** Regulations reinforcement had no significant performance of pharmacy businesses in Taita Taveta County, and grounded on the study findings, the results showed that there was a positive significant relationship between regulations reinforcement and performance of the pharmacy businesses in Taita Taveta County.

The results were fitted in the Model **$Y = β_0 + β_1X_2 + e$**

The study therefore rejected the null hypothesis (**$H_0$2**: Regulations Reinforcement had no significant influence on the performance of pharmacy businesses in Taita Taveta County) and concluded that indeed Regulations Reinforcement (X_2) did have significant influence on the performance of the pharmacy businesses (Y) in Taita Taveta County.
The Model equation therefore became $Y = 0.728 + 0.812 X_2$
The beta coefficient value for regulations reinforcement (0.812) meant that for every one (1) unit increase in the dimension of regulations reinforcement in pharmacy businesses, it leads to 0.812 increase in performance of the pharmacy businesses as shown in table 4.9(iii).

Table 8: Regression analysis for construct Regulations Enforcement

i **Model Summary**										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.851ᵃ	.724	.717	.378	.724	94.608	1	36	.000	
a. Predictors: (Constant), Regulations Enforcement (X_2)										

ii **ANOVAᵃ**						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	13.553	1	13.553	94.608	.000ᵇ

Residual	5.157	36	.143
Total	18.710	37	

a. Dependent Variable: Performance of Pharmacy Businesses (Y)

b. Predictors: (Constant), Regulations Enforcement (X_2)

iii Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.728	.352		2.067	.046		
	Regulations Enforcement	.812	.083	.851	9.727	.000	1.000	1.000

a. Dependent Variable: Performance of Pharmacy Businesses (Y)

Discussion on the findings of relationship between regulations enforcement and performance of pharmacy businesses

The R-value (correlation coefficient, r = 0.851) indicated that there was a strong positive correlation between regulations enforcement and performance of pharmacy businesses. This was an indication that regulations enforcement had a strong influence on the performance of pharmacy businesses in Taita Taveta County. The p- value < 0.001 signified that regulations adherence was statistically significant at 5% level of significance.

The research findings were in tandem with study by Knecht (2013) who concluded that reduced profitability of pharmaceutical firms was as a result of statutory reduction in regulation reinforcement in some countries in Europe. Similarly, the study findings agreed with Philipsen (2013) findings that reinforcement of pharmaceutical firms regulations provide better solutions in profitability than stricter entry or conduct requirements alone without buttressing. The study results are also in agreement with Ramanathan, He, Black, Ghobadian & Gallear (2017) findings that adoption and reinforcement of environmental regulations innovatively resulted to better performance and profitability of firms.

CONCLUSIONS OF THE STUDY

Specific objective 1: To establish the relationship between pharmaceutical industry regulations adherence and business performance of pharmacies in Taita Taveta County.

The study results indicates that there was a strong positive significant relationship between pharmaceutical industry regulation and performance of the pharmacy businesses in Taita Taveta County. Because of these findings, the null hypothesis that H_01: Pharmaceutical industry regulation adherence had no significant influence on the performance of pharmacy businesses in Taita Taveta County was rejected and the alternative hypothesis (H_A1: Pharmaceutical industry regulation adherence had a significant influence on the performance of pharmacy businesses in Taita Taveta County) was accepted.

Specific objective 2: to determine the relationship between pharmaceutical industry regulations the enforcement of pharmacy industry regulations and business performance of pharmacies in Taita Taveta County

The study results indicates that there is a strong positive significant relationship between pharmaceutical industry regulation reinforcement and performance of the pharmacy businesses in Taita Taveta County. As a result of these findings, the null hypothesis that H_02: Pharmaceutical industry regulation reinforcement had no significant influence on the performance of pharmacy businesses in Taita Taveta County was rejected and the alternative hypothesis (H_A2:

Pharmaceutical industry regulation reinforcement had a significant influence on the performance of pharmacy businesses in Taita Taveta County) was accepted.

RECOMMENDATIONS OF THE STUDY

The study findings led to the recommendations suggested. First, on the pharmaceutical adherence strict enforcement of the regulation must be implemented to regulate businesses that operate pharmacy outlets and shops within the County of Taita Taveta. The professional institution practicing pharmacy and the law enforcers in the government should implement the implementation of the regulations.

Secondly, on pharmaceutical industry regulation reinforcement the pharmacy shops and outlets should ensure that the products that they stock meet the standards that is prescribed and are of the desired quality. Such products offered to the market to consumers will not injure the consumer to an extent of affecting their healthy. Finally, the business performance in the pharmaceutical sector will be able to maximize on its profit and growth when the Pharmacy and Poison Body takes charge and strengthen the monitoring arm to implement regulations to control quacks in the industry.

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