KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY

INSTITUTE OF DISTANCE LEARNING

COMMONWEALTH EXCETUTIVE MASTER IN PUBLIC ADMINISTRATION

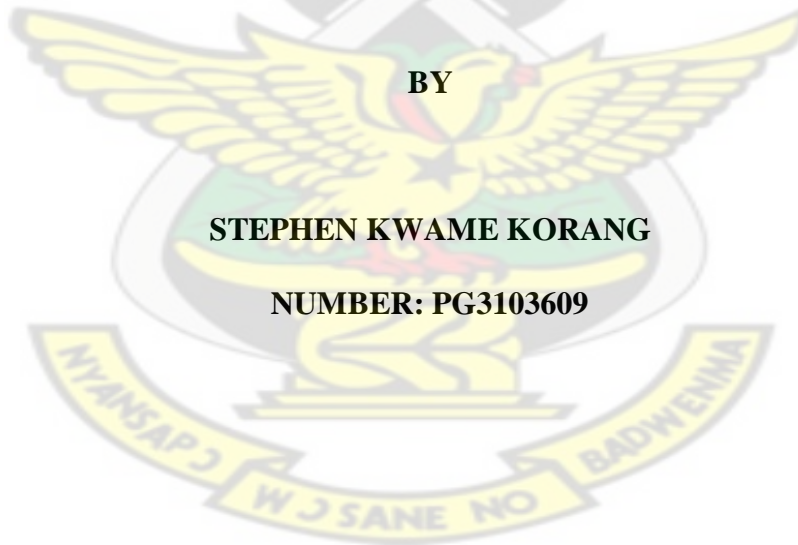**TOPIC: ASSESSING THE PERFORMANCE OF DRUGS SUPPLIERS IN GHANA.**

A CASE STUDY OF THE SUPPLIERS OF THE BRONG-AHAFO REGIONAL

MEDICAL STORES

BY

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ASSESSING THE PERFORMANCE OF DRUGS SUPPLIERS IN GHANA. A CASE STUDY OF THE SUPPLIERS OF THE BRONG-AHAFO REGIONAL MEDICAL STORES

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DECLARATION

I hereby certify this submission is my own work towards the CEMPA and that, to the best of my knowledge; it contains no material previously published by another person or material which has been accepted for the award of any other degree of the University, except where acknowledgement has been made in the text.

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ABSTRACT

Organisations the World over rely on high performing external suppliers in the success of their businesses. This research set out to assess the performance of Pharmaceutical suppliers of the Brong-Ahafo Regional medical stores. The seemingly stock outs of medicines and complaints of hospitals that procure medicines from the Regional medical stores which is seemed to be traced to the performance of the suppliers is the problem for this research. The objectives are to examine whether suppliers are able to supply to award price, to examine the suppliers' ability to meet delivery deadlines, to examine whether suppliers' supply in conformance with quality specifications and finally rating the suppliers. Fifteen out of seventy--six suppliers are sampled purposively based on suppliers on which 80% of funds is spent and those whose products have greater impact on the operations of the Regional medical stores. Structured questionnaires are administered to suppliers and unstructured interview is administered to stock control manager of the regional medical stores and Pharmacists, Doctors and medical superintendents of hospitals in the region. Again, delivery and supply incidence records of suppliers at the regional medical stores are reviewed. The data obtained is analysed using statistical package for social sciences. Major findings are that one third of suppliers are not able to meet the quality specification, majority of the suppliers do not meet the delivery deadlines and one third of the suppliers are not able to supply at the awarded price. Recommendation made include the need for the Regional medical stores to sanction suppliers that do not meet quality specifications and the need to factor in inflation in awarding contract to suppliers. The research concludes by urging the regional medical stores to consider implementing the recommendations of the research to enable it succeed in the sight of hospitals they serve.

TABLE OF CONTENT

CHAPTER TWO: LITERATURE REVIEW

CHAPTER THREE: METHODOLOGY

CHAPTER FOUR: DATA COLLECTION, ANALYSIS AND DISCUSSION

CHAPTER FIVE: SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

LIST OF TABLES

LIST OF ACRONYMS

APQC	American Productivity and Quality Centre
CMS	Central medical Stores
EDLP	Every Day Low Pricing
GHS	Ghana Health Service
GSCF	Global Supply Chain Forum
KNUST	Kwame Nkrumah University of science and Technology
MOH	Ministry of Health
NCT	National Competitive Tendering
POS	Point of Sale
PCF	Process Classification Framework
RHD	Regional Health Directorate
RMS	Regional Medical Stores
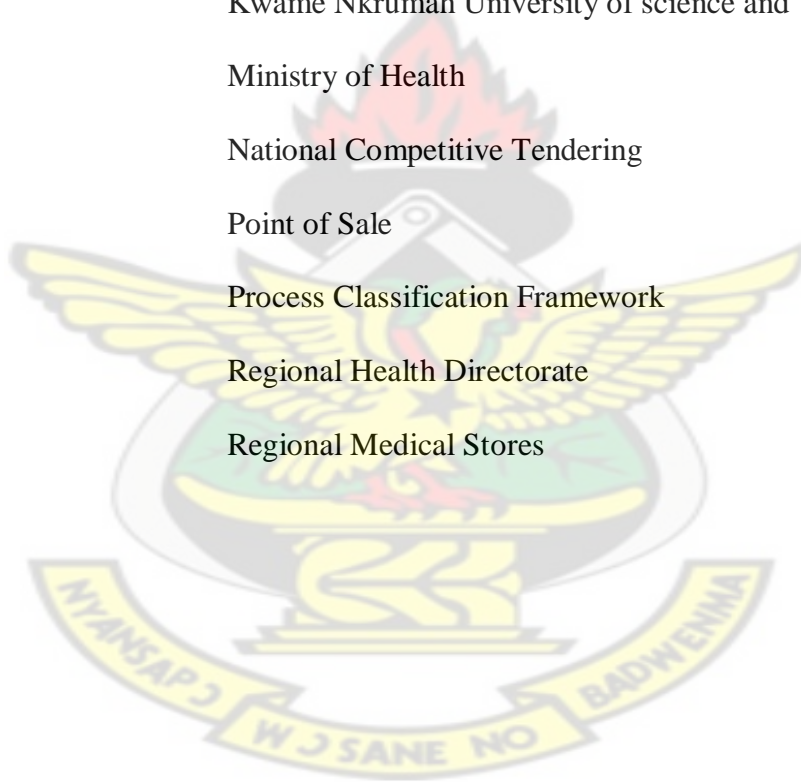
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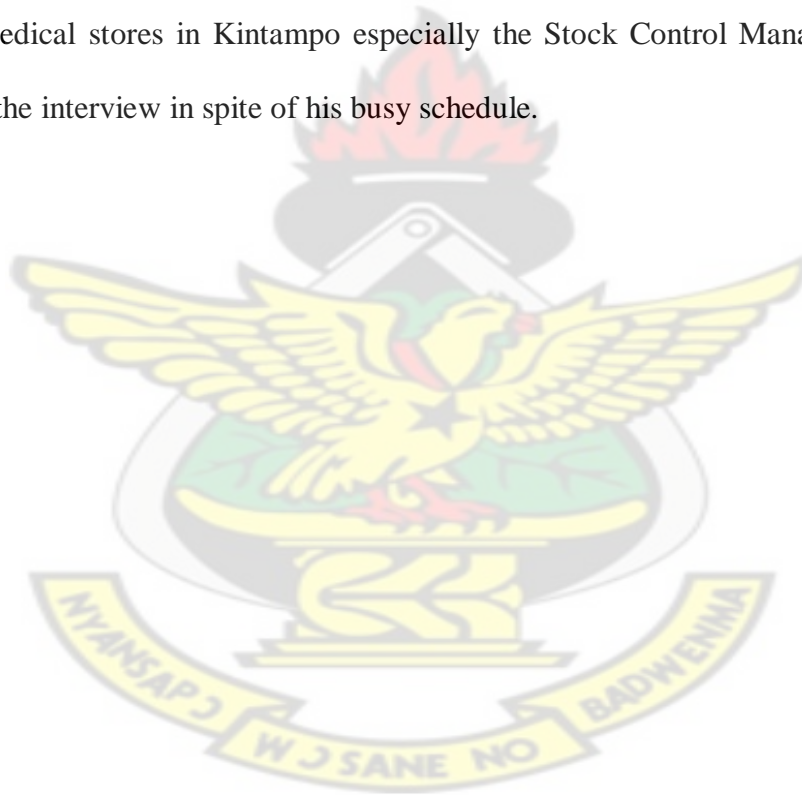
CHAPTER ONE

INTRODUCTION

1.1 Background to the study

In recent years, organizations are moving away from vertical integration toward smaller, leaner operations (Prahalad & Hamel 1990). With this approach organizations in recent times have downsized and focused on core competencies. This calls for other organizations to step in and play the role which were previously being performed in-house. External Suppliers are one of the agents required to play one of such important role. Organizations simply need suppliers' products and services in order to operate in the manner desired and to achieve certain results. Thus the importance of third parties to the success of any modern day business cannot be overemphasized. It must however be pointed out that this success would only be achieved when the supplier is able to perform to meet the needs of the organization in question. A supplier that performs well can help the organization it supplies be more efficient, produce higher quality products or services, reduce costs, and increase profits. On the other hand a supplier that performs poorly can negatively affect the organization it supplies by disrupting its operations, make it fail in the eyes of its customers, increase its costs, and threaten its profits.

Tully (1995) asserts that many organizations have reduced their supplier base to more effectively manage relationships with strategic suppliers by developing cooperative and mutually beneficial relationships with these suppliers. Some of the outcomes of these strategic relations are provision of good quality services which would meet the needs of the clients the organization serves. This attests the fact that organizations to some extent depends on their suppliers for their success. This dependency increases the need to

effectively manage suppliers. Tan (2002) gives the three dimensions underlying supplier management and these according to him are: (1) effective supplier selection; (2) innovative supplier development strategies; and (3) meaningful supplier performance assessment mechanisms. The importance of the third dimension that is supplier performance assessment in supplier management programmes cannot be overemphasized. It is from this basis that the researcher sees it as the starting point in any supplier development programme hence undertaking this research.

Hahn et al (1990) asserts that Quantifiable criteria such as price, delivery, quality, and service are routinely used for supplier selection and performance assessment. Eliram (1990) was however of the view that though this assertion is correct, difficult to quantify factors such as management capability and strategic direction of the supplier have also been shown to be important, particularly in the context of strategic buyer-supplier partnerships. To have an effective supplier assessment therefore requires both the use of quantifiable and difficult to quantify criteria as have demonstrated by these two authorities. Assessing suppliers' performance involves implementing a supplier rating program in the organization. A supplier rating program according to Dominick (2010) is the assessment of certain suppliers' performance by certain raters using specific performance measures. Assessment of certain suppliers presupposes that not all suppliers are assessed. To select which suppliers to evaluate Dominick (2010) suggests that such suppliers to be considered for evaluation should include: (a) those suppliers with whom a lot of money is used to purchase from them and (b) those suppliers who have the most impact on operations of the buyer organization. These two criteria as cited by Dominick (2010) would serve as the basis for selecting suppliers for assessment in this research.

The Regional Medical Stores (RMS) of the Ghana Health Service (GHS)/Ministry of Health (MOH) in the Brong-Ahafo Region is the Regional warehouse for both medicine and non-medicine health commodities for health facilities in the Region. It is a unit of the Brong-Ahafo Regional Health Directorate. It is located in Kintampo- the capital of the KintampoMunicipal Assembly in the North Western part of the Region. It operates using a revolving fund by procuring Health commodities from the Central Medical Stores (CMS) of the MOH in Tema and from private suppliers when not available at the former source. A percentage mark up is put on commodities procured before selling to health facilities in order to continuously protect the revolving fund from being depleted by inflation and operational cost. It must be noted however that there are certain health commodities for certain programmes which are procured from the CMS and issued to Health facilities in the Region at no cost. The RMS visits the CMS on quarterly basis besides the emergency visits. From the private suppliers, health commodities are procured annually using National Competitive Tendering (NCT) in line with the National Procurement law 2003 Act 663.

The success of the RMS in meeting the needs of its clients in no mean way depends on the suppliers from which it procures these health commodities. The success of the RMS requires that Suppliers supply products that are of right quality at the right time and at the cost with which the RMS can operate harmoniously with its clients. This thus requires the RMS to manage the relationship with its suppliers in a mutually beneficial manner. To do this demands evaluating the performance of these suppliers to get the necessary information to manage this relationship. It is from this background that this study is being undertaking.

1.2: Statement of the Problem

Tan (2002) asserts that the ability of a buying firm to deliver quality products in a timely manner is to a large extent a function of the ability of its suppliers to meet required delivery and quality standards. This goes on to further emphasize the importance of suppliers in the success of a buying firm. Suppliers who deliver quality products enable buying firms to also intend deliver acceptable quality services. In the same vein, suppliers who deliver timely with good price and have the necessary management capabilities enable buying Organisations to succeed in their operations.

It however seem that the Suppliers of the Regional Medical Store for Brong-Ahafo have not been able to perform to meet this expected services to the Regional warehouse. This has been evident from the various reports from the Regional Medical Stores which suggest to this effect. According to such reports Suppliers at times do not deliver on time, do not deliver to specification and seems not to have the necessary capability to deliver as specified in the contract award letters. At various performance review meetings of the RHD this seemingly situation has been collaborated by the reports from the Health facilities who procure medicines from the Regional Medical Stores by the inability of the Regional warehouse to meet their needs in terms of the required commodities in the timely manner and to the quality specifications.

The Brong-Ahafo Regional Health Directorate (RHD) has made attempts in the past in solving this problem. This has been through scheduling meetings with suppliers to discuss how to overcome this problem. This has however not worked out very well probably as a result of the RHD not having enough information about the previous performance of the suppliers.

It is against this background that this research seeks to assess the performance of the suppliers of the RMS to be able to get the necessary information on the performance of the suppliers to be used in the supplier development programme for quality service which would meet the needs of the Brong-Ahafo RMS and subsequently its clients.

1.3: Objectives of the Study

The general objective of the research is to assess the performance of medicine Suppliers of the Brong-Ahafo Regional Medical stores and make the necessary recommendations to the Brong-Ahafo Regional Health Directorate.

The Specific Objectives are;

1. To examine how suppliers supply to meet quality specification of the Regional Medical Stores.
2. To investigate whether suppliers meet delivery deadlines.
3. To investigate suppliers' ability to supply at the awarded price.
4. To rate suppliers with meeting quality specifications, on time delivery and price consistency with award as criteria.

1.4: Research Questions

The following research questions were formulated to clarify the objectives of the research.

1. What are the effects on the services of the RMS when suppliers supply products that do not meet quality specifications?
2. What are the effects of untimely delivery by suppliers on the performance of the RMS in meeting its obligations?
3. What are the effects on the operations of the RMS if suppliers raise their prices above the award price?

4. How would the suppliers of the RMS perform if rated against quality specifications, on time delivery and consistency with award price as criteria of measure?

1.5. Methodology

The study sampled fifteen out of a population of Seventy-six medicine suppliers for the year 2011. Purposive sampling technique was used to get this sample size based on the firms with 80% annual spend on them by the RMS. Delivery records on these firms at the RMS for the year 2011 were reviewed to get data on the sampled firms on their timeliness of delivery, supplying at the awarded price and supplying to meet quality specifications. Also questionnaires were administered to the sampled suppliers to get data on how they operate to meet the needs of the Brong-Ahafo RMS. The data obtained was analysed using Statistical Package for Social Scientist (SPSS).

The stock control manager of the Brong-Ahafo RMS was also interviewed to get data on the performances of suppliers. In order to know more of the effects of the performances of the suppliers along the supply chain, seven Pharmacists and seven Medical superintendents whose hospitals are consumers of the services of the Brong-Ahafo RMS were interviewed. The Brong-Ahafo regional hospital was purposively sampled because it is the major consumer of the services of the Brong-Ahafo RMS. Six other hospitals out of eighteen in the region were sampled using simple random sampling. The results obtained were summarized, presented and analysed.

1.6. Significance of the Study

The research would have a number of significance to the researcher, to the Kwame Nkrumah University of Science and Technology (KNUST) community, the Brong-Ahafo Regional Medical Stores, the Ghana Health Service and the Ministry of Health.

The study would contribute to knowledge in the area of evaluation of the performance of suppliers in general and specifically suppliers of healthcare commodities. As a researcher, it would improve my understanding and my knowledge in how to evaluate the performance of the suppliers in Organisations. This would well equip me in undertaking operational research at my workplace.

To the University Community, the final document could be used as reference for further work by other researchers. Again, it could serve as a reading material for other people to gain knowledge in the research area.

To the RMS, the findings and recommendations that would come out of the research if implemented could help improve the performance of the unit and quality of health care in the Region.

To the Ministry of health, the research findings could be used in developing policies on strategic relationship with its suppliers. It could also be used as reference material for further research and scale up to make generalization on the supplier-buyer relationship in the Ministry of health.

1.7. The Scope of the study

The research was delimited to the Brong-Ahafo RMS of MOH/GHS in Kintampo.

On the research topic, out of numerous areas in logistics and supply chain management, the research is within the scope of evaluating the performance of suppliers. Further it is only the performance of some private suppliers but not the CMS would be evaluated the RMS has no option but to use the CMS as a first point of call as prescribed by the procurement manual of the GHS/MOH. The scope was informed by factors such as chances of control to manage the supplier, familiarity of the researcher in the area of research, the urgency to research into the problem for Organisational decision making and the availability of resources.

1.8. Limitations of the study

This research had so many challenges, which could have prevented it being carried out, but the overriding benefits to the organization were the source of encouragement. Among the challenges encountered were getting the appointment time for the data collection. The participants were very busy people and appointments had to be rescheduled several times before it could finally be done. Again, questionnaires had to be redistributed on many occasions since respondents often misplaced them. In addition, the perception of some of the respondents that the researcher tends to make some financial gains at the end of it and as such needed to be financially motivated before responding was a big challenge.

Another limitation was the time and resources to gather as many data as possible. A study of this process requires following delivery and inspection processes and interacting with the stakeholders. This however, requires time and enormous resources. Though attempts were made to collate the views of the Management of RMS and suppliers, their views may not be a true reflection of the totality of what actually exists.

1.9. Organisation of the Study

The research comprises of five chapters. Each chapter is introduced in a special way to inform readers about what to expect as the chapter progresses. Chapter one consisted of background to the study, statement of the research problems, objective of the study, research questions, methodology   significance of the study, scope of the study and organisation of the study. Chapter Two reviews the relevant literature. Chapter Three considers methodology for the research and a justification for the choice of appropriate method. Chapter four presents results and discussions. Chapter Five provided the summary, findings and recommendation to management

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter basically consists of literature review. Here an attempt was made to gain more knowledge on the body of knowledge within which the topic falls, come out with a conceptual framework and also review literature on the issue at stake. Also various definitions of key words in the topic were established. Further, a research done on similar topic was reviewed.

2.1. Supply chain Management and Supply chain defined.

The Council of Supply Chain Management Professionals (CSCMP) defines Supply Chain Management as encompassing the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. It can thus be explained that Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business mode.

Supply chain has been defined variously by many authorities. Wieland and Wallenburg (2001) defined it as a system of organizations, people, technology, activities, information and resources involved in moving a product or service from supplier to customer. They continue that Supply chain activities transform natural resources, raw materials and

components into a finished product that is delivered to the end customer. This definition has been affirmed and further expatiated by Aitken and Christopher (1998) who have explained supply chain as a network of connected and interdependent organizations mutually and cooperatively working together to control manage and improve the flow of materials and information from suppliers to end users. Lyson and Brian (1998) further emphasis the linkages in Supply chain through its definition which defines supply chain as that network 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 or consumer. From the above definitions, the network nature of supply chain means that supply chains are loosely linked associations of discrete organizations or businesses. Also upstream supply chain linkages indicate a relationship between an organization and its suppliers. On the other hand downstream supply chain linkages indicate a relationship between an organization and its customers.

Mentzer et al (2001) identifies three degrees of supply chain as direct supply chain, extended supply chain and ultimate supply chain. The differences in these are that the number of players and the complexity increase as we move from the direct supply chain to extended supply chain and finally to ultimate supply chain.

Lyson and Brain (2006), have described the processes in supply chain management from both the purchasers' and suppliers' perspective. From the purchasers' perspective, the processes are search, acquire, use, maintain and dispose. From the suppliers' perspective the processes are research, design, manufacture or provide, sell and service.

2.2 Models of supply chain

Wieland and Wallenburg (2001) have identified four common Supply Chain Models and these are the Supply-Chain Operations Reference model (SCOR), one model introduced by the Global Supply Chain Forum (GSCF), the American Productivity & Quality Center's (APQC) Process Classification Framework and the Supply Chain Best Practices Framework. They however indicated that the most common model is the SCOR.

The SCOR, developed by the Supply Chain Council, measures total supply chain performance. It is a process reference model for supply-chain management, spanning from the supplier's supplier to the customer's customer. It includes delivery and order fulfillment performance, production flexibility, warranty and returns processing costs, inventory and asset turns, and other factors in evaluating the overall effective performance of a supply chain.

The framework of the model introduced by the GSCF is built on eight key business processes that are both cross-functional and cross-firm in nature. Each process is managed by a cross-functional team, including representatives from logistics, production, purchasing, finance, marketing and research and development. While each process will interface with key customers and suppliers, the customer relationship management and supplier relationship management processes form the critical linkages in the supply chain.

The American Productivity & Quality Center (APQC) Process Classification Framework (PCF) is a high-level, industry-neutral enterprise process model that allows organizations to see their business processes from a cross-industry viewpoint. The PCF was developed by APQC and its member companies as an open standard to facilitate improvement through process management and benchmarking, regardless of industry, size, or geography. The

PCF organizes operating and management processes into 12 enterprise level categories, including process groups, and over 1,000 processes and associated activities.

2.3. Conceptual framework for the Study

From the literature on supply chain, an upstream supply chain from the purchasers' perspective as described by Larson and Brain (2006) and the direct supply chain as identified by Mentzer et al (2001) formed the basis of the conceptual framework for the study. The medicine suppliers are the supplying Companies, with the Regional Medical Stores as the customer Oganisation and with the Public sector health facilities in Brong-Ahafo as the Consumers. This is represented diagrammatically as below:

Suppliers of B/A-RMS ◄►B/A-RMS ◄►Public Sector health facilities in B/AR

   (Suppliers)   (Organisation)   (Consumers)

Fig. 1 Conceptual framework of the researcher

2.4 Assessment explained

The Oxford Dictionary defines assessment as estimating the size or quality of an activity, a process or a system. Thus assessment tries to establish the effectiveness of an activity, a process and system. Among the reasons of assessing a system such as supplier and customer relationships are giving a profile of how the system is operating, ranking the various players, providing feedback and motivating the players.

2. 5 Medical Suppliers

Dominick (2010) defines a supplier as a business or individual that supplies another business with products or services that is used by the recipient business. It continues that in

some accounting books, "suppliers," specifically mean suppliers of raw materials like grain, wood and copper. By this, these books are not referring to suppliers of goods for distribution or resale and of services like electricity, water, medicines. Thus the definition given by Dominick (2010) is more appropriate as operational definition for the study, since the meaning of suppliers here include that of medical suppliers. that are procured and distributed to health facilities by the Brong-Ahafo regional medical stores.

2.6 Performance

The Baldrige criteria defined performance as the output results and their outcomes obtained from processes, products, and services that permit evaluation and comparison relative to goals, standards, past results, and other organisations. Also, the Business Dictionary.com defines performance as the accomplishment of a given task measured against preset known standards of accuracy, completeness, cost, and speed. It continues that in a contract, performance is deemed to be the fulfillment of an obligation, in a manner that releases the performer from all liabilities under the contract. By these definitions, the output results and outcomes obtained from performance must permit evaluation and comparison of some sort. Also, from the definitions, performance is defined in the context of preset known standards. Further, the preset known standards should be well defined to enable the performance to be measured. It was from this that the researcher reviewed a number of literatures on price, quality and delivery which were the criteria for assessment in the study to enable the performance to be assessed.

2.7 Price

Price according to Commonwealth of learning (2008) is an important element of the marketing mix. Kotler (2002) quoting Ferguson (1999) to affirm this said Marketers can counter a buyer's request for a lower price in a number of ways. They may be able to show evidence that the life-cycle cost of using the product is lower than that of competitors' products. They can also cite the value of the services the buyer now receives, especially where those services are superior to those offered by competitors. From the customers' perspective price is one important factor which significantly affects the decision to buy a product.

Traditionally, price has operated as the major determinant of buyer choice. This according to Kotler (2002) is still the case in poorer nations, and among poorer groups. Although non-price factors have become more important in recent decades, price still remains one of the most important elements determining market share and profitability. Consumers and purchasing agents have more access to price information and price discounters. Consumers put pressure on retailers to lower their prices. All these observations by Kotler (2002) establish the importance of price in the marketing mix element.

2.7.1 Setting Price

Kotler and Keller (2006) explain that Companies do their pricing in a variety of ways. In small companies, prices are often set by the boss. In large companies, pricing is handled by division and product-line managers. Even here, according to them top management sets

26

general pricing objectives and policies and often approves the prices proposed by lower levels of management. In industries where pricing is a key factor, companies often establish a pricing department to set or assist others in determining appropriate prices. This department reports to the marketing department, finance department, or top management. Others who exert an influence on pricing include sales managers, production managers, finance managers, and accountants.

Kotler (2002) asserts that in setting a product's price, marketers follow the following six-step procedure: (1) selecting the pricing objective; (2) determining demand; (3) estimating costs; (4) analyzing competitors' costs, prices, and offers; (5) selecting a pricing method; and (6) selecting the final price.

Farris and Reibstein (1997) assert that the final price of a commodity must take into account other marketing activities such as the brand's quality and advertising relative to the competition. In a classic study, they examined the relationships among relative price, relative quality, and relative advertising for 227 consumer businesses, and found the following:

- Brands with average relative quality but high relative advertising budgets were able to charge premium prices. Consumers apparently were willing to pay higher prices for known products than for unknown products.

- Brands with high relative quality and high relative advertising obtained the highest prices. Conversely, brands with low quality and low advertising charged the lowest prices.

- A positive relationship between high prices and high advertising is held most strongly in the later stages of the product life cycle for market leaders.

These findings suggest that price is not as important as quality and other benefits in the market offering. One study by Morgan (2000) asked consumers to rate the importance of price and other attributes in using online retailing. Only 19 percent cared about price; far more cared about customer support (65 percent), on-time delivery (58 percent), and product shipping and handling (49 percent).

2.7.2 Causes of Firms Changing Price

A successful price increase can raise profits considerably. For example, if the company's profit margin is 3 percent of sales, a 1 percent price increase will increase profits by 33 percent if sales volume is unaffected. It is important to note however that most firms increase price for raising profit as the main reason. Kotler and Keller (2006) have observed that factors such as cost inflation and over demand are the main reasons why firms increase price. Rising costs unmatched by productivity gains squeeze profit margins and lead companies to regular rounds of price increases. Also when a company cannot supply all of its customers, it can raise its prices, ration supplies to customers, or both.

2.8 Quality

Winston (1997) defines quality in its broad sense as giving your customer slightly more than expected

This becomes a moving target because what the customer receives today affects what they will expect tomorrow

Porter (2009) also indicated that quality has been defined by various Organisations and authorities in a variety of ways. Some of these are as follows:

- The American Society for Quality Control define quality as the totality of features and characteristics of a product or service that bear on its ability to satisfy a given need

- Felgenbaum(1924) defines quality as the total composite product and service characteristics of marketing, engineering, manufacturing, and maintenance through which the product and service in use will meet the expectations of the customer.

- Juran(1923) defines quality as fitness for use; product performance and freedom from deficiencies

- Cosby(1926) defines quality as conformance to requirements

- Harrigton(1928) defines quality as meeting or exceeding customer expectations at a cost that represents value to them.

It is realized from the above definitions that the focus of quality is the customer since all the definitions are geared towards meeting, satisfying or exceeding customer needs. Though all the above definitions fit in one way all the other in the study being undertaken, the one by Crosby would be used as the operational definition in the study.

Porter (2009) in explaining the impact of poor quality of goods and services on performance and operations functions of organizations asserts that poor quality goods and services can have a significant disruptive effect on the performance of the operations functions of organisations. This he buttressed by saying that Organisations may have to

deploy resources in checking quality before product can be used and also poor quality products or service that get to the customer may lead to rejects and loss of goodwill. It therefore beholds on Organisations to strive to get suppliers who can supply quality goods and services.

2.8.1 Quality in the Service Industry

Winston (1997) asserts that quality in the Service Industry eluded the quality writers for some time. It was thought to be intangible and could not be measured. He further indicated that it was Federal Express which broke the barrier to service measurement by recognizing the tangible constructs by which customer's state satisfaction. Federal Express stated quality in time of pick up, accuracy in delivery location, on-time delivery and condition of the package at arrival are some of the quality attributes in the service industry. In this light similar attributes could be used in a hospital to ascertain the quality or otherwise of service being rendered. Some of these are, time waiting beyond the appointed time, promptness with which tests are completed and evaluated, ease of understanding instructions, minimum time used in dispensing medication, bedside manners, and attitude and personality of the physician. Ziethamal et al (1990) offers measurement tool for service quality. The essence of the tool is that it measures the customers' ideal for the industry and then the customers perception of the actual firm. The tool also measures the service providers' perception of how customers would rate an ideal firm. Winston (1997) concluded that Service quality is measured by what is not there rather than what is there.

2.8.2 Quality Measurement

Winston (1997) gives the steps in undertaking quality measurement. The first step is to know how to express quality. This is followed by determining the assurance unit of the measurement. The measuring method is then determined. Relative importance of quality characteristics is then determined. A consensus is then arrived at the on defects and flaws. The next step is to expose latent defectives. Latent defective is explained as the defect which was not detected in the system, or an item which was discovered and adjusted or reworked before shipping. The next step is observing quality statistically using very various statistical modules in expressing quality. The last step is to differentiate the quality measured into quality of design and quality of conformance. Quality of design is described as the target quality and quality of conformance is a comparison of actual to target. With the study undertaken quality of conformance is what was measured. This was evident from the fact quality specifications in in award letters were being compared to what were supplied.

2.8.3 Quality Tools

These are data tools which are needed to accurately understand a process and seek improvement. Winston (1997) gives the analogy that tools help the manager just like tools help a carpenter build a magnificent house. Some of the tools are: flow chart, scatter diagram, histogram, Pareto analysis, cause and effect diagram and specifications. The last of the tools mentioned is used for monitoring purposes whiles the first five are for discovery purposes. Winston (1997) asserted that there is a pattern of flow in the use of the discovery tools. He indicated that the flow chart helps in understanding the existing system and movement of materials, work and people, Pareto analysis and scatter diagrams help to recognize, isolate, and prioritize problems. Cause and effect diagrams help to understand

31

the factors leading up to the problem and histograms help to see the pattern of events. He however stated that not every tool finds its way into every problem-solving improvement project.

2.8.3.1 Specification as a Quality Monitoring Tool

Winston (1997) explains that Customer Specification contain the acceptable product the customer will pay for. These are hard numbers and do not necessarily relate to the suppliers process. Specifications are necessary for clarity on the part of the supplier as well as the customer. Specifications are also used as tool for monitoring the performance of the supplier. It was therefore used in assessing the performance of suppliers in this research.

2.9 Delivery

Porter (2009) asserts that suppliers who can deliver on-time, every time in other words who show reliability are required. In this light the ability to deliver with short lead time and respond quickly once an order has been placed, can be an important aspect of performance.

2.9.1 Problems of Delivery Delays

Delivery delays can cause a great setback for both the supplier and the customer. On the part of the supplier it can lead to failure in the eyes of the customer, lost of sales and ultimately loss of revenue. Kotler and Keller (2006) demonstrated that delivery delay has cost implication and affects the total market logistics cost of a system as a whole as indicated by the formula below:

$M = T + FW + VW + S$

Where M = total market-logistics cost of proposed system

T = total freight cost of proposed system FW = total fixed warehouse cost of proposed system

VW = total variable warehouse costs (including inventory) of proposed system

S = total cost of lost sales due to average delivery delay under proposed system

2.9.2 Causes of Delivery Delays

Senge (1990) has indicated that delivery efficiency declines when a company experience sales surge.

He describes a situation in which a strong sales surge causes the company to fall behind in meeting delivery dates. He said this could partly be attributed to Management's responds by increasing sales force incentives to secure more orders. The sales force succeeds, but once again the company slips in meeting delivery dates. He concludes that this causes customers to bad-mouth the company and eventually sales fall.

2.9.3 Systems to avoid Delivery Delays

Kotler and Keller (2006) have outlined the use of efficient Warehousing, efficient transportation and an up to date Information Technology systems as systems which could be employed to avoid delivery delays.

Because production and consumption patterns rarely match, Warehouses are necessary to store finished goods until they are sold. They therefore help to make goods readily available to avoid delays in delivery. Koselka (1992) has indicated that when the National Semiconductor set up a central distribution warehouse in Singapore, its standard delivery time decreased by 47 percent, its distribution costs fell 2.5 percent, and its sales increased 34 percent.

Efficient transportation is one of the systems which have been shown to facilitate efficient delivery as has been indicated by Koselka (1992). They have explained that in deciding on transportation modes, shippers can choose from private, contract, and common carriers. If

the shipper owns its own truck or air fleet, the shipper becomes a private carrier. A contract carrier is an independent organization selling transportation services to others on a contract basis. A common carrier provides services between predetermined points on a scheduled basis and is available to all shippers at standard rates. They have rated the reliability of the types in the decreasing order from Private to Contract to Common.

Again Kotler and Keller (2006) have asserted that major gains in logistical efficiency have come from advances in information technology. They supported with an example from General Electrics which operates an information system that checks the customer's credit standing upon receipt of an order, and determines whether and where the items are in stock. The computer issues an order to ship, bills the customer, updates the inventory records, sends a production order for new stock, and relays the message back to the sales representative that the customer's order is on its way—all in less than 15 seconds. They further gave another example where Wal-Mart has made major gains in logistical efficiency from advances in information technology. The system begins at the cash register or point-of-sale (POS) terminal. Every time an item is scanned, the information is relayed to headquarters via satellite data links. Using up-to-the-minute sales information, Wal-Mart's Inventory Management System calculates the rate of sales, factors in seasonal and promotional elements, and automatically places replenishment orders to distribution centers and vendor partners

2.10 Review of Research on Delivery, Quality and Price

Rotek International annual report (2010) explains how it assess the performance of its material Suppliers in 2009 using

- Delivery

- Quality

- Price

as indicators of assessment.

Delivery Performance was obtained by recording all delivery activity for Suppliers, and applied a weighting factor for quantity reliability and On-time delivery. On quality performance; Total Quantity Rejected v. Total Quantity Received was recorded. Price performance was divided into two separate performance groups was obtained by recording the price activity for Suppliers. The three criteria for assessment were weighted and analysed. Some of the key findings were that;

- Only 70% of suppliers were able to meet delivery deadlines.

- A Purchase Order placed and acknowledged for delivery of 100 units of a material. When the delivery is made, only 95 units arrive.

- In all 2% of the materials delivered did not conform to specification and hence rejected.

The study concluded with some recommendations to Rotek incorporation among which was for Rotek Incorporation to undertake supplier development programme to enable it build strategic relationship with its suppliers.

The study above is similar to the study that was undertaken in the sense that the two studies are all assessing the performance of suppliers with price, quality and delivery as the indicators for assessment. The result and recommendations from the study helped in

making meaningful comparison and come out with appropriate recommendations for the study

CHAPTER THREE

METHODOLOGY

3.0. INTRODUCTION

This chapter begins with a brief profile of the Brong-Ahafo Regional Medical Stores of Ghana Health Services which is the study Organisation. It then continues to deals specifically with method chosen for this research and the justification for choosing such method.

3.1. Profile of the study Organisation

The Brong-Ahafo Regional Medical Stores (B/A-RMS) is one of the ten regional Medical Stores of Ghana Health Services. It is located in Kintampo, the capital of Kintampo Municipal Assembly. It is a converted Warehouse having served as a storage place for military accoutrements for the West Africa Frontier force in the Colonial era. After the then Ministry of Health took over in 1958 to use as Warehouse for health commodities, it used to serve Brong-Ahafo and the three Northern regions of Ghana. With every region having its own RMS currently, it is now for Brong-Ahafo Region alone.

The B/A-RMS is a unit of the Brong-Ahafo Regional Health Directorate under the Health Administration and Support Service (HASS) Budget Management Centre (BMC). It reports to the Regional Director of Health Services (RDHS) through its BMC head. It is headed by a Manager with is supported two stock control officers-one for medicines and the other one for non-medicines. Under these stock control officers are Supply officers and Store keepers. Other staffs are secretarial staff, labourers and cleaners.

The B/A-RMS seeks to exist to ensure that the right quantities of health commodities in the right quality get to the right health facility, in the right condition at the right time and at the right cost. This is achieved by conducting periodic health commodity needs assessments, defining specifications, facilitate in procuring the commodities, storing them and distributing or issuing them to Public health facilities in the Region. It procures the commodities from the Central Medical Stores of the MOH in Tema. Commodities which are not obtained are procured from the Suppliers who are either Manufactures or Distributors for the commodities concerned. Since it is Public Sector Organisation, procurement is done in accordance with the Public Procurement law of Ghana (Act 663, 2003). Inventory of the B/A-RMS is managed in line with the dictates of the MOH/GHS Standard Operating Procedures for managing public sector health commodities. Commodities get to health facilities either through the push system or the pull system.

3.2. Population

The Commonwealth of learning (2008) has described population in research as the totality of group or an aggregate being studied which although need not be human beings. With the research the population was all the suppliers of medicines to the Regional medical stores of MOH/GHS of the Brong-Ahafo Region of Ghana the year 2011. The number of suppliers in the year under review was seventy-eight,

3.3. Sample Size and Technique

A sample is the selected part of the population which is used to ascertain the characteristics of the population. In choosing a sample, the population is assumed to be composed of individual units or members, some of which are included in the sample. Dominick (2010) has

38

indicated that in choosing suppliers for assessment, a reasonable number of suppliers be sampled. He indicates that the suppliers to be chosen, should include (a) those suppliers with whom a lot of money is spent and (b) those suppliers who have the most impact on operations of the Organisation. For suppliers which much is spent on, he recommended use of the time-honored 80-20 rule. Thus 20% of the suppliers whose combined spend is 80% of the total spend are to be selected. This is achieved by arranging the suppliers from the highest to the lowest spend and start adding from top until the combined spend is approximately 80%. For suppliers with greater impact on Organisations' operations Dickson (2010) suggests these are sampled based on the Organisations own operational objectives.

This purposive sampling technique as indicated by Dominick (2010) was used to sample suppliers for the research. A sample size of fifteen was chosen based on the suppliers on whom 80% of resources spent and those which have a greater impact on the operations of the Regional Medical Stores (RMS). Twelve suppliers on which 80% of resources spent on them were arrived at by arranging all suppliers in order of the highest spend to the lowest spend. The amount spent on each of them was added till 80% was arrived at. On the suppliers who have a greater impact on the operations of RMS, the tracer medicine availability list of MOH/GHS for hospitals - a list of fifty medicines which are considered to be essential and be stocked at all times in hospitals- were used to select suppliers to make up the total sample size of the fifteen. It was realized that all the twelve suppliers with the highest spend on them supplied medicines within the tracer medicine availability list. The other three were selected from the remaining sixty-six suppliers which supplied medicines that form part of the tracer medicine availability.

On the people interviewed in the study, the stock control manager was interviewed to gather data on how he perceives the suppliers performance in the context of the criteria for assessment. He being the person in-charge of initiating request for medicines and receiving, checking and storing the medicines was the most appropriate person in the Brong-Ahafo RMS to help provide the needed information to address the research problem. Hence purposive sampling was used to select him out of the staff of the Brong-Ahafo RMS.

In sampling health facilities to be interviewed from consumers' side of the supply chain, the Brong-Ahafo regional hospital in Sunyani was sampled using purposive sampling technique because it is the major consumer of the services of the Brong-Ahafo RMS. Simple random sampling was used to select six out of the remaining eighteen hospitals in the Brong-Ahafo region. In selecting people to be interviewed in each health facility, two people each were interviewed based on their role which helped in providing the necessary data for the research. Purposive sampling was used in selecting the Pharmacist or head of the Pharmacy unit for each of the hospitals, because of the Pharmacists role as the one charge of drug management for hospitals. Again, the Medical Superintendents were selected for interviewing, because being the head for the hospitals are heads of the procurement entities of the various hospitals.

3.4. Data collection Technique

In this research, two main sources of data that is primary and secondary were used. With the secondary source, literature written by numerous authors on various topics which gives comprehensive and analytical view on how to assess the performance of suppliers was reviewed. Among some literature consulted were textbooks, academic journals, articles, and the internet. Primary data used to collect first-hand information on the issue of assessing the

40

performance of suppliers of the Brong-Ahafo RMS. Qualitative method of data gathering, combining the use of questionnaires and interview were used to collect information from suppliers, management of Brong-Ahafo RMS and health facilities who are the consumers of the services of the Brong-Ahafo RMS. In the end, the research attained a holistic view on the performance of suppliers. Further, supply and other incidence records on suppliers at the RMS were reviewed.

3.5. Data collection Instrument

Three main instruments were used to collect the primary data. They were structured questionnaires, interview guide and RMS's record on award letters and suppliers' delivery, price and quality profile.

A structured questionnaire was designed to make an enquiry from suppliers on the how they perform with respect to the contract awarded to them from the RMS. Unstructured interview using was used to get information from the stock control manager of the RMS on the topic being research into. Similarly, unstructured interview was used to get the necessary information from the consumers of the services of the Brong-Ahafo RMS on the effects of the performance of suppliers of the RMS along the supply chain.

Further the RMS's records of award letters to suppliers, and suppliers' supply and incidence records on delivery, quality and price were reviewed. Here suppliers who requested for price increase after being awarded were noted. Those with no request were scored 100, those with request on one commodity 90, two commodities 80 and so on to those with request for ten or more commodities with a score of 1. Also the expected delivery dates and the actual dates in which deliveries were made were noted and compared. Those who met the delivery date

41

were scored 100, those who fall behind 1 day 90; 2 days 80 and so on to those who fall behind for ten or more days being scored 1.Further, suppliers whose commodities were rejected on the basis on non conformance to quality specifications were noted. Here those suppliers with no commodity rejected were scored 100, with 1 rejected 90; with 2 commodities rejected being scored 80, and so on to those with ten or more commodities being rejected being scored 1.

Each of the methods employed – review of documents, interviews, and questionnaires – possess their peculiar strengths and weaknesses (Smith, 1995 in Saunders et al, 2000). These are discussed below:

3.5.1. Interviews

Kahn and Cannel, (1957) in Saunders, et al, (2000) define an interview as a purposeful discussion between two or more people. Interviews require interpersonal skills of a high order that is putting the respondent at ease, asking questions in an interesting manner, noting down the responses without upsetting the conversational flow, giving support without introducing bias. It may be limited or helped by such things as the interviewee's sex, age, background etc. (Oppenheim, 2000). Interviews provide opportunity for the researcher to find out how the respondents feel about situation. This was necessary as it enables the researcher to address an important issue that most people were passionate about. (Saunders et al, 2000).

The stock control officer of the R.M.S. was interviewed. The interview was carried out in a scheduled manner when respondent had time and was prepared for it, in some cases after

close of work and in others during working hours at the offices. In one situation, it was done over a weekend.

The disadvantage of such an approach is the unreliability of information of data acquired (Oppenheim, 2000). In this research, however, the findings of this interview were very much in line with those of other methods. Another disadvantage of using this approach is the possibility that the researcher's biases could influence the interviewee's response (Oppenheim, 2000). To avoid this, the interview guide was designed so as not to be leading, but to allow for a range of possible answers. Thus, leading questions were avoided during the interview process. The interview held at the convenience of the interviewee created the environment for the interviewee to be relaxed and confident. (Un-structured interview guide, Appendices 2, 3 and 4).

3.5.2. Questionnaires

De Vance (1996) in Saunders, et al (2000) defines questionnaires as a general term used to include all techniques of data collection where persons are asked to respond to the same set of question in a set of arrangements. Questionnaires were administered to suppliers to obtain on their performance in supplying the awards of contract given to them by the R.M.S. The questionnaires were distributed to the fifteen sampled organizations. (Appendix 1).

3.6. Data Analysis and Presentations

The data obtained from the administered questionnaire to suppliers was analysed using Statistical Package for Social Scientist (SPSS). The information obtained from the interview of the stock control manager of the Brong-Ahafo RMS and two personalities for each of the sampled seven health facilities were summarized. The data obtained from the review of

documents from the Regional medical stores were scored and tabulated under the three criteria of quality, price and delivery. The various criteria were weighted with quality and delivery being weighted 40% and price 20%. The relative weights were arrived at from the information deduced from the interview of the stock control manager who emphasized more weight on quality and delivery as relative to price. The results obtained were presented in a tabular form. Discussions of the results were made in the context of the objectives of the study.

3.7. Ethical Issues

A lot of writers including Oppenhiem, Saunder et al, talked about ethical issues in research. Oppenhiem (2000) said ethically, the process of data collection should not cause harm to the respondent for participating in the research. According to Saunder, et al (2000), it should also not intrude on the intended participant privacy. The researcher has the responsibility to respect the respondent's rights to privacy, rights to refuse to answer certain questions or not to participate at all (Oppenhiem, 2000).

I therefore saw it as of immense importance as a researcher to adopt certain ethical issues to guide the research process. To do this, I first of all introduced myself and the purpose of the research in the introductory paragraph of the questionnaire, shared the objectives of the research with respondents, assured the participants that the results would only be used for its intended purpose and solicited the consent of the respondent to participate to ensure that I did not intrude on the privacy of participants as a researcher. Another ethical principle adopted was assuring the participating supplier organizations, the management of R.M.S and that of Consumer health facilities that the outcome document of the research would be shared with them. (Covering letter is attached as appendix 5)

Objectivity of data in terms of recording and collection processes is another key ethical principle that was adhered to by ensuring that the data collected during the research process were not misrepresented as argued by Zikman, (1997) in Saunders, et al (2000). This was done through proper coding of the responses to each question and used that to get the summary views of all the respondents in my analysis.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 INTRODUCTION

In this chapter, the researcher analysed results of questionnaires administered to Suppliers of RMS and the responses from interviewing the RMS stock control manager, Medical superintendents, Doctors and Pharmacists from Hospitals in the Region. The motive of the questionnaire administered to suppliers was to gather more information on the suppliers with respect to their operations with RMS. The interview administered to the stock control manager of the RMS was analysed to get insight into how the suppliers performance impact on his work. Also interviews administered to the Medical Superintendents, Doctors and Pharmacists in the various Hospitals was to know the impact of the performance of the suppliers not only on its direct client, RMS, but beyond along the supplier chain. Lastly, a review of the receipts and incidence records of the RMS on the selected suppliers made was aimed at scoring the suppliers using the assessment criteria of price, on time delivery and quality specifications as in award contract.

4.1. Presentation and Analysis of Questionnaires

Table 4.1.1: Years of operation as a supplier

Response	Number of Suppliers	Percentage (%)
4-6	2	13.3
7-9	4	26.7
10 and above	9	60.0
Total	15	100

Source: Field work June, 2011

Years of operations in the researcher's review signifies a ability to understand what is required to meet the customers in the drug supply industry needs .it was observed that a little more than 13% had been in operation for between four and six years. About 26% of the suppliers have been in business for between seven and nine years and 60% for over ten years. This results showing majority of the suppliers being in the business for over a decade signifies their long time experience and an understanding what it takes to meet clients needs.

Table 4.1.2: Years as a supplier of BA-RMS

Response	Number of suppliers	Percentage (%)
1-3	3	20.0
4-6	4	26.7
7-9	3	20.0
10 and above	5	33.3
Total	15	100

Source: Field work June, 2011

It was also observed as in table two above that whiles only 20% of the suppliers have worked with the BA-RMS for between one and three years, over 33% have worked with it for over a decade now. Again, 20% have worked with the RMS for between seven and nine years. These revelations show that majority of the suppliers have worked the BA-RMS for over seven years. It could therefore be inferred that majority having worked with the BA-RMS for over seven years understand what it takes to meet the price consistency, on time delivery and quality specification needs of the BA-RMS.

Table 4.1.3: **Type of health commodities being supplied**

Response	Number of suppliers	Percentage (%)
Pharmaceuticals	7	46.7
Non-Pharmaceuticals	0	0
Both Pharmaceutical and non-Pharmaceuticals	8	53.3
Total	15	100

Source: Field work June, 2011

The researcher also wanted to find out if all suppliers to the BA-RMS are suppliers of Pharmaceuticals only, non-Pharmaceuticals or both. A supplier who suppliers Pharmaceuticals only suppliers only medicines such as Paracetamol. On the other hand a supplier that supplies only non-Pharmaceuticals supplies non-Pharmaceutical health commodity such as cotton. There are however some suppliers who supply both health commodities. It was observed that 46.7% of the suppliers supply only Pharmaceuticals, whereas over 53% supply both and with none supplying only non-pharmaceuticals. Whereas majority of the suppliers supplying both Pharmaceuticals and non-Pharmaceuticals could be good in meeting other needs of the BA-RMS, it could however lead to lack of concentration on the part of the suppliers on focusing in meeting Pharmaceutical supply needs of the BA-RMS.

Table 4.1.4: **Suppliers position in the supply chain**

Response	Number of suppliers	Percentage (%)
Manufacturers(M)	1	6.7
Distributers(D)	4	26.7
Both(M&D)	10	66.6
Total	15	100

Source: Field work June, 2011

In the opinion of the researcher, the position of the supplier in the supply chain is an indication of the effect of the supplier's action on the entire supply cahin. It was observed as in table 4.1.4 that 6.7% were Manufactures, 26.7% as distributors only and 66.6% as both Manufacturers and distributors. With most of the suppliers being both M&D implies that they have more control on their operations, hence should be able to meet the needs of the BA-RMS.

Table 4.1.5: Price setting within supplier organization

Response	Number of Suppliers	Percentage (%)
The managing director	4	26.7
The marketing manager	3	20.0
The pricing department	8	53.3
Total	15	100

Source: Field work June, 2011

The researcher was of the view that the number of people responsible for setting price could have an influence on how quickly price is arrived, changed or negotiated on. It was observed that in 26.7% of the supplier organization, prices are set by Managing Directors, in 20% of the organization it is set by Marketing Managers and in 53.3% the price department does this.

Since more than one person set price in most of the supplier organizations, it is expected that request for price changes after winning at an award should not occur so often.

Table 4.1.6: **Pricing objective of suppliers**

Response	Number of suppliers	Percentage (%)
Survival	5	33.3
Maximize return profit	3	20.0
Maximize market share	7	46.7
Total	15	100

Source: Field work June, 2011

It was the view of the researcher that, the pricing objective of a supplier would influence how quickly and often the supplier would be prepared to change its price. It was observed that 20% of the suppliers have the objective to maximize return profit, 33.3% with objective of survival and 46.7% to maximize market share. With a great number of suppliers having the objective to maximize market share, it could be inferred that that these firms would often be prepared to come out with price that would satisfy the BA-RMS.

Table 4.1.7: **Causes leading to price increase**

Response	Number of Suppliers	Percentage (%)
Inflation	8	53.3
To raise profits	5	33.4
Excess demand	2	13.3
Total	15	100

Source: Field work June, 2011

The researcher sought to find out the causes that lead suppliers to increase their prices after winning an award in order to get a deep understanding of why the suppliers are not

consistence in their pricing after winning an award. In this it was realized that majority of them (53.3%) stated inflation which occur after winning the award is what makes them take such decision. 33.4 % stated their desire to make them raise profit leads to such decision and few (13.3%) believe excess demand on them by their other clients leads to such decision. This situation could lead to the BA-RMS not to experience stable prices expecially in times when the economy experiences high inflation. This could seriously affect the operations of health facilities who are the consumers of the products of the BA-RMS.

Table 4.1.8: Suppliers understanding of Quality

Response	Number of Suppliers	Percentage (%)
Fitness for use	5	33.4
Conformance to requirements	6	40.0
Meeting or exceeding customer expectation	4	26.6
Total	15	100

Source: Field work June, 2011

The researcher sought to find out the Suppliers understanding of Quality in other to know more on what attribute these Suppliers would offer to meet the quality needs of BA-RMS. Here it was observed that 40% stated they understand quality to mean conformance to requirements, 33.4% claimed they understand it to mean fitness to use and 26.3% stated they understand it to mean meeting or exceeding customer expectation. With this understanding, the Suppliers of BA-RMS should not be having problem to supply medicines to conform to specifications as in contract award letters which are the requirements of BA-RMS.

51

Table 4.1.9: Ensuring Quality of service

Response	Number of Suppliers	Percentage (%)
Conformance to specification	5	33.3
Accuracy in quantities awarded	6	40.0
Good condition of commodities on arrival at receipt point	4	26.7
Total	15	100

Source: Field work June, 2011

After finding out the Suppliers' understanding of quality, the researcher went on further to determine what suppliers do to ensure quality service. Here, 40% of the suppliers stated they work to ensure to supply to meet the quantity needs as awarded them. Also, 33.3% indicated they make sure they conform to specification and 26.6% indicated they make sure the goods on arrival at the receipt point are always in good condition as expected. All these claims suggest that the suppliers do really ensure the provision of quality service for the BA-RMS.

In discussing the questionnaires for the suppliers together with interviews conducted in the research it was observed that 40% of the suppliers understand quality as conformance to specification. This is in line with the definition given by Crosby as quoted by Porter (2009). To give a true meaning to this definition requires the need to have stated requirement by the customer in order to assess quality. From the interview response of the stock control manager it was realized that the BA-RMS has some requirements which are always stated in tender documents and in the award letters. This is in line with what Winston (1997) explains as Customer specification which he said contains the acceptable product the customer will pay

for. From the above, it indicates that the BA-RMS and its suppliers have an understanding of what quality is and how to achieve it. However, in rating the suppliers in the research, the results as indicated in table number 4.2.1 indicate that all the suppliers have at least one out of ten representing 10% of the products rejected for non-conformance to requirements. Some have even as high as 30% rejected for non-conformance. These qualities problems sometimes move down the supply chain to consumers as indicated by both Medical superintendents and Pharmacists of the hospitals as some commodities do not meet the expected twelve months shelve life. There is the need for the RMS to work seriously to address this challenge because as has been indicated by Porter (2009), poor quality goods and services can have a significant disruptive effect on the performance of the operations and functions of organizations. The BA-RMS supplying health commodities to health facilities need to work to ensure that its suppliers supply the best quality of commodities to enable it in turn supply same to hospitals to help achieve the country's goals in the health sector.

Table 4.1.10: Meeting delivery deadlines

Response	Number of Suppliers	Percentage (%)
Yes	8	53.3
No	7	46.7
Total	15	100

Source: Field work June, 2011

The researcher in trying to understand to understand the proportion of the suppliers that are able to meet the deadlines for supply to the BA-RMS, observed that majority of them (53.3%) answered in the affirmative whiles 46.7% answered they have not been meeting the

delivery deadlines for supply. However with as much as over 46% not meeting the deadlines for delivery for health commodities for the provision of essential service should be a cause for worry. This is more so for medicines which are very critical for life saving.

Table 4.1.12: Causes of Late delivery

Response	Number of Suppliers	Percentage (%)
When there is sales surge	2	13.3
When there is communication problems between customers and supplier	7	46.7
when there is delay in getting raw materials or supplies	1	6.7
No response	5	33.3
Total	15	100

Source: Field work June, 2011

In trying to understand the reasons for not meeting delivery deadlines by these suppliers, 46.7% stated communication problems between them and the BA-RMS is the cause. Others reasons assigned were when the suppliers have to meet other clients needs which are similar to that of BA-RMS, and lastly for the Manufactures when their raw material supplies are delayed. It is worth noting here that as much as 33.3% did not give any response as to what cause delivery delays.

54

Table 4.1.13: Ways to minimize late deliveries

Response	Number of Suppliers	Percentage (%)
Linkage between customers and suppliers through effective communication	1	6.7
Award letter through electronics means besides posting them.	2	13.3
Better system of communication between customers and suppliers.	1	6.7
Deadline from delivery should be extended from two to four weeks.	1	6.7
The customer should extend the period of receipts to include weekends.	1	6.7
The customer should pick supply from supplier's warehouse.	2	13.3
Awards be given to only firms with capacity to deliver.	1	6.7
Customers should bear with suppliers in case of delivery delays which may not be on the supply side.	1	6.7
Firms with no capacity to deliver be discourage to tender.	1	6.7
Government to help streamline port operations		
No response	4	26.7
Total	15	100

Source: Field work June, 2011

4.2 Presentation of scoring results and its analysis of Suppliers

Further the RMS's records of award letters to suppliers, and suppliers' supply and incidence records on delivery, quality and price were reviewed. Here suppliers who requested for price increase after being awarded a contract were noted. Those with no request were scored 100, those with request on one commodity 90, two commodities 80 and so on to those with request for ten or more commodities with a score of 1. Also the expected supply dates and the actual dates in which supplies were made were noted and compared. Those who met the delivery date were scored 100, those who fell behind 1 day 90; 2 days 80 and so on to those who fell behind for ten or more days being scored 1.Further, suppliers whose commodities were rejected on the basis on non conformance to quality specifications such as specified range of shelf life were noted. Here those suppliers with no commodity rejected were scored 100, with 1 rejected 90; with 2 commodities rejected being scored 80, and so on to those with ten or more commodities being rejected being scored 1. From the interview results of the stock control manager of the BA-RMS, the three criteria the researcher used has different weights based on how each of the impacts on the Operations of the Organization. Considering his recommendations a score of 40% each was given to on time delivery and conformance to quality specifications, while a score of 20% was given to adherence to award price as in the contract award letter. The results obtained are as in the table 4.2.1 below:

In concluding, the researcher tried to seek suggestions from the suppliers on what could be done to avoid late deliveries. Some of the suggestion that came was that there was the need for better systems of communication between the customer and the supplier, proper assessment of suppliers to ensure that only firms with the capacity are given award to supply,

to extend the period to receive commodities to include week-ends and the need for the government to streamline port operations.

In ranking the suppliers performance using the criteria of assessing them Hills Pharmacy, Palb Pharmacy were the best. This followed by Danadams Pharmaceuticals, Supra Pharma, Tobinco Pharmaceuticals, Intravenous Limited and Sinopharm Limited. The worst performing supplier was Senti Chemist Limited.

4.4 DISCUSSION

This section discusses the results presented in context with the objective of the research.

In researching into suppliers understanding of quality, it was observed that 40% of the suppliers understand quality as conformance to specification. This is in line with the definition of quality given by Crosby as quoted by Porter (2009). To give this definition it true meaning requires the need to have stated requirement by the customer in order to assess quality. From the interview response of the stock control manager as in appendix 6, the requirements of BA-RMS are always stated in tender documents and in the award letters. This is in line with what Winston (1997) explains as Customer specification which he said contains the acceptable product the customer will pay for. From the above, it indicates that the BA-RMS and its suppliers have an understanding of what quality is and how to achieve it. However, in rating the suppliers in the research, the results as indicated in table number 4.2.1 all the suppliers have at least one out of ten representing 10% of the products rejected for non-conformance to requirements. Some have even as high as 40% rejected for non-conformance. These quality problems sometimes move down the supply chain to consumers as indicated by both Medical superintendents and Pharmacist of the hospitals (appendices 7&8 respectively) as some commodities do not meet the expected twelve months shelve life.

From Table number 4.1.8, majority of the suppliers (53.3%) were not able to supply at the award price as a result of inflation. It was therefore not surprising that in rating the suppliers' as many as one third could not supply at least one commodity at the award price. This could seriously affect the performance of the BA-RMS and its clients. This has resulted in inconsistency in pricing which disrupt planning as was asserted by the Medical

Superintendents and the Pharmacists of the Hospitals in the region in their interview results as indicated in appendices 7 and 8 respectively.

Again, from Table number 4.1.11, fifty-three percent (53.3%) were not able to meet delivery deadlines. One reason given by them was when there were communication problems between them and the RMS which resulted in sometimes getting the award letters almost at the deadline of delivery. Other reasons given as the cause of delivery delays were when the suppliers also experienced delays from their suppliers and again when they had excess demand from their other clients. The last reason is in line with what Senge (1990) indicates cause delivery efficiency to decline. From the rating results as indicated in Table number 4.2.1, only six out of the sampled fifteen suppliers representing (40%) met the delivery deadline. Not meeting delivery deadlines of the BA-RMS seriously affected its consumers. This was confirmed from the responses from the Medical Superintendents and Pharmacists in the Region as the major cause of medicine stock outs in their Hospitals as indicated in appendices 7 and 8 respectively. In giving suggestions of what could be done to meet delivery deadlines, the suppliers suggested among other things the need for better linkages between the BA-RMS and its suppliers, the use of Information, communication and technology to communicate with suppliers besides the postal system, the need to award suppliers who have the capacity to deliver and the need for the government to streamline port operations to avoid clearing delays at the port. Besides these suggestions Kotler and Keller (2006) outlined the use of efficient Warehousing, efficient transportation and an up to date Information Technology systems as systems which could be employed to avoid delivery delays. Suppliers Warehouses are necessary to store finished goods until they are sold. They therefore help to make goods readily available to avoid delays in delivery.

Suppliers' not meeting delivery deadlines of the BA-RMS not only affected its operations, but also seriously affected the operations of Hospitals in the Region. This was amply expressed by the Pharmacists in the Hospitals in expressing their frustrations of not getting all they request as a result of suppliers' delivery delays to the BA-RMS and eventually resulting in stock outs at the hospitals (Appendix 8).

In rating the suppliers with price, delivery and quality as criteria, it was found that as indicated on table number 4.2.1, Hills Pharmacy and Palb Pharmaceuticals had the highest weighted score while Seinti Chemist had the lowest weighted score. It is being suggested that those suppliers with very good performance should be given preference in the next competitive tender process, those with average performance should be made to come out with planned remedial actions for performance improvement and those with poor performance should be disqualified and be accepted back only when they have come out with clear indication to perform better.
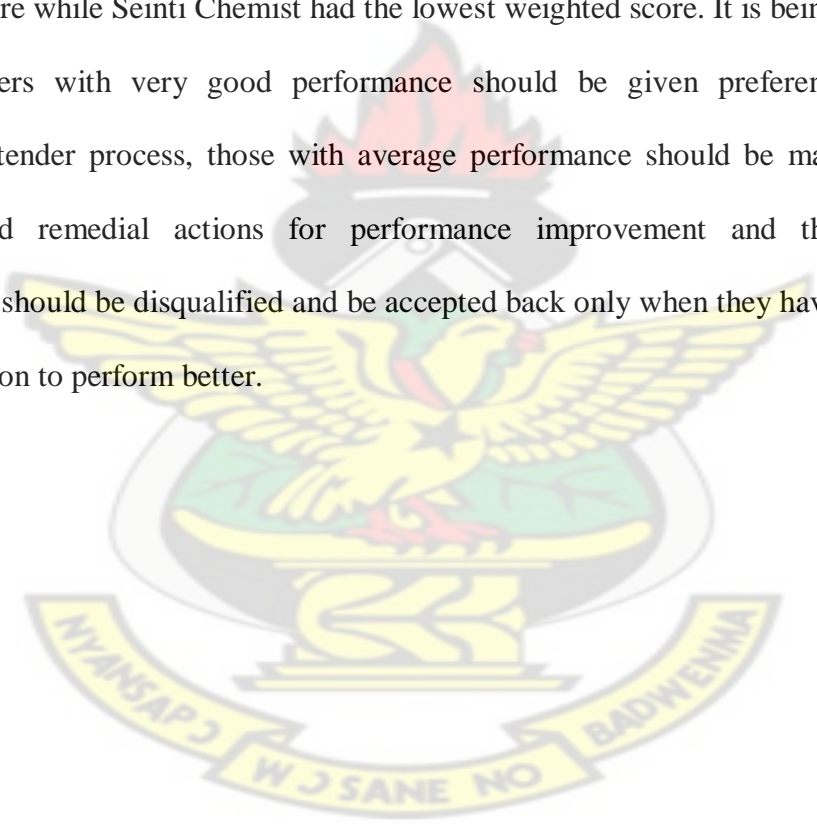
CHAPTER FIVE

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSIONS

5.0. INTRODUCTION

This chapter deals with the summary of findings of the research, the recommendations made to the Regional Health Directorate in Sunyani with the aim of improving the performance of Medicine suppliers of the Regional Medical Stores all with the aim of making it responsive and successful in the face of its clients. It ended with the conclusion of the entire research carried out.

5.1. SUMMARY OF FINDINGS

Organisations the world over relies on external suppliers in the successes of their businesses. It is also clear that this success would only be achieved when the supplier is able to perform to meet the needs of the Organisation in question.

This research therefore set out to assess the performance of Medicine suppliers of the Brog-Ahafo Regional medical stores of the Ghana Health Service. The seemingly stock outs and complaints of clients of the Regional medical stores which seemed to be traced to the performance of suppliers was the problem that set the basis for this research. Some of the objectives used were to examine whether suppliers are able to supply to award price, to investigate the suppliers' ability to meet delivery deadlines, to examine whether suppliers supply in conformance to quality specifications and finally rate the suppliers with quality, price and delivery as criteria. Fifteen out of sixty-six suppliers were sampled based on the suppliers on which 80% of resources is spent on and those with greater impact on the operations of the Regional medical stores. Textbooks, journals, publications and the internet

were used as secondary source of data. The primary source was from incidence reports on suppliers and copies of award letters at the Regional medical stores. The data collection instruments used was structured questionnaires administered to suppliers and unstructured interview guide administered to the stock control manager of the Regional medical stores and Medical Superintendents and Pharmacists of Hospitals in the Region. The data obtained was analysed using Statistical package for social scientist. The results obtained were presented and discussed. Findings from this research were obtained and the necessary recommendations made to the Regional Health directorate of Ghana health services. The major findings made in this research were the following:

- The Regional medical stores and its suppliers have a clear understanding of what quality requirements are. These are stated in tender documents and award letters. However, in supplying the medicines, not all suppliers conform to these quality requirements and for some firms as many as 30% of commodities supplied did not conform to quality standards.

- Citing inflation as a major factor, one third of the suppliers could not deliver at least one of the commodities supplied at the award price.

- With meeting delivery deadlines only 40% of suppliers met delivery deadlines for all the medicines awarded to them. The major reasons cited were ineffective communication from the side of the Regional medical stores to award winners and when the suppliers have excess demand from other clients.

- Most of the suppliers had average performance on the rating using quality, price and delivery as the criteria for evaluation.

Other findings that came out of the research were that the Regional Medical Stores has not formally assessed its suppliers before. What it has been doing is recording delivery times and conformance to quality incidence on suppliers. Also, it was found out that the communication between the RMS and its suppliers were not of the best. Suppliers complained of getting award letters sometimes very close to deadlines for delivery. This always leads to suppliers not able to meet delivery deadlines. Subsequent to this, it was again found out that the clients of the RMS, on the other side of the supply chain that is hospitals in the region experience stock out of essential medicines.

Lastly, it was found that prices of the medicines change many times within a year which affects the operations of hospitals in the region as result of suppliers of the RMS not able to supply at the award price.

5.2. RECOMMENDATIONS

Based on the findings of the research, the following recommendations are made to the Regional Director of Ghana health services and the management of the Regional medical stores:

- The Regional medical stores should make it a policy to consistently assess its suppliers.

- The Regional health directorate should sanction suppliers for non conformance to quality specifications as suppliers are always aware of these specifications and their importance.

- The Regional health directorate in awarding suppliers should factor in a projection for inflation to enable suppliers be able to supply at the award price.

- In evaluating bids during the tendering process, suppliers' capability in terms of having efficient warehouse and transportation systems should be given some premium to avoid delivery delays.

- For now the RMS in addition to its traditional means of communicating with its suppliers should explore the use of the Internet. In the future, an up to date information technology systems that seeks to integrate the information systems of the Regional medical stores with that of its strategic partners should be explored to ensure delivery efficiency.

5.3. CONCLUSIONS

The study set out to assess the performance of medicine Suppliers of the Brong-Ahafo Regional Medical Stores has revealed performance challenges of the Suppliers in the areas of timely delivery, supplying at the award price and meeting quality specifications. It therefore beholds on the Management of the RMS to explore all possible means to address these challenges to be able to be responsive to the Hospitals in the Region they serve. The recommendations given by the researcher if implemented would go a long way to help address these challenges.

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APPENDIX 1: QUESTIONAIRE FOR SUPPLIERS

NUMBER: ……………….   **DATE**: ……………………

NAME OF SUPPLIER:

INTRODUCTION:

This Questionnaire seeks to collect views from sampled suppliers of the Regional Medical Stores of Ministry of Health/Ghana Health Services of Brong-Ahafo Region to obtain information on their performance using price, delivery and quality as a criteria of measure. Respondents are assured of maximum confidentiality of information given. Recipients can also choose to participate or not to participate.

Company Background

1) Period of Operation as a supplier in years

a. 1-3

b.4 – 6

c.7 – 9

d. 10 and above

2) How long have you been supplying the RMS.?

 a. 1 -3years

 b. 4 – 6years

c. 7 – 9years

d. 10years and above
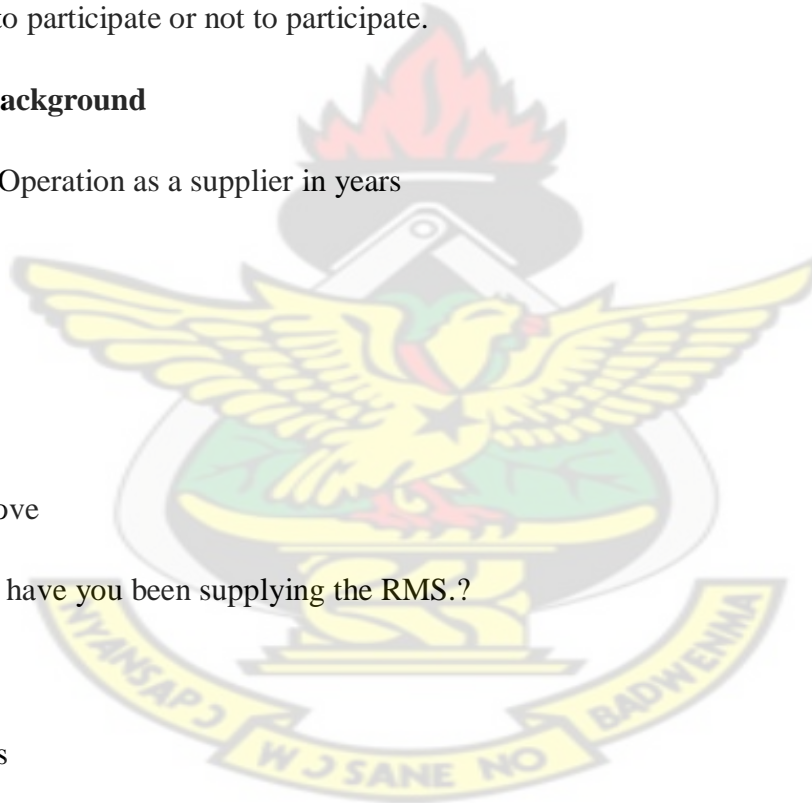
3) What types of Health commodities do you supply the RMS?

a. Pharmaceuticals

a. Non Pharmaceutical Medical supplies.

4) What level are you in the supply chain?

a. Manufacturer

b. distributer

c. Others (state)

FOCUS

1. Who determines the setting of prices in your organization?
   a. The Managing Director
   b. The Marketing Manager
   c. The pricing department
   d. Other (state)
2. What is your pricing objective?
   a. Survival
   b. Maximise Current profit
   c. Maximise market share
   d. Others (state)
3. What pricing method are you using
   a. Mark-up pricing
   b. Target return pricing
   c. Going rate pricing
   d. Others (state)
4. In selecting your final price what additional factors do you consider besides the pricing method?
   a. The impact of price on consumers

b. Competition in the market

c. Discounts to be offered

d. Others (state)

5. What causes you to increase your price?

    a. Cost inflation

    b. To raise profit

    c. Over demand

    d. Others (state)

6. What quality attributes do you offer?

    a. Fitness for use

    b. Conformance to requirements

    c. Meeting or exceeding customer expectation

    d. Others (state)

7. What do you do to ensure quality?

    a. Conformance to specification

    b. Accuracy in delivery

    c. Condition of commodities

    d. Others (state)

8. Do you sometimes fall behind in meeting delivery deadlines?

    a. Yes

    b. No.

9. If no skip to question 10. If yes what are some of the causes of this?

    a. When there is sales surge

    b. When there is communication problem between customer and supplier

    c. When there is delay in getting raw materials or supplies.

    d. Others (state)

10. What systems do you suggest be put in place to avoid delivery delays?

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………………………………………………………………………………………

………………………………………………………………………………………

APPENDIX 2: UNSTRUCTURED INTERVIEW FOR STOCK CONTROL MANAGER OF THE RMS

1. How long have you held this position?
   ....
   ....
   ....
   ....

2. What sort of commodities have you been managing?
   ....
   ....
   ....
   ....
   ....

1. How often have you been evaluating your suppliers?
   ....
   ....
   ....

2. If you are to evaluate them now what are some of the standards you will use?
   ....
   ....
   ....

3. How do you think are the importance of these standards to the RMS?
   ....
   ....
   ....

4. What weight would you have assigned to these standards?
   ....
   ....
   ....
   ....

5. What are the systems in place to track down the performance of the suppliers in terms of:
   a) The quality of commodities supplied
   …………………………………………………………………………………....
   ....
   ....
   ....
   b) Whether delivery deadlines are met
   ……………………………………………………………………………………
   c) Whether prices are maintained after winning an award
   …………………………………………………………………………………..

6. Who develops these develop these systems?

....
....
....
....

7. What are the importances of these systems to the RMS?

....
....
....

8. What are some of the challenges that you have been encountering in with the suppliers performance in the standards mentioned above?

....
....
....

9. What are some of the reasons that you believed have led to these challenges to occur?...

....
....
....

10. What do you do if supplier(s) is/are not performing as expected?

....
....
....

11. What is the RMS doing to ensure that its suppliers perform to meet its needs?

....
....
....
....

12. What other things do you personally think should be done to ensure that the suppliers perform to meet the expectation of the RMS

……………………………………………………………………………….

APPENDIX 3: INTERVIEW GUIDE FOR MEDICAL SUPERINTENDENTS OF HEALTH FACILITIES.

INTRODUCTION:

This Interview seeks to collect views from Medical Superintendents of sampled health facilities in Brong-Ahafo region who are the consumers of services of the B/A- RMS to obtain information on the effects of performance of suppliers of B/A-RMS on their health facilities. The criteria of measure being used in the study are price, delivery and quality specifications. Respondents are assured of maximum confidentiality of information given. Recipients can also choose to participate or not to participate.

NUMBER: ……………….   **DATE**: ……………………

NAME OF HEALTH FACILITY: …………………………………………

1. What are the systems in place in this hospital for procuring medicines used in this hospital?

    ……………………………………………………………………………………
    ……………………………………………………………………………………
    …………………………………………………………………

2. Which individuals are involved in making sure that you get your medicine needs of this hospital?

    ……………………………………………………………………………………………………
    ……………………………………………………………………………………………………
    ………………………………………………………………………

3. What are the major challenges that you encounter in getting all the medicines that you need for this hospital?

    ……………………………………………………………………………………
    ……………………………………………………………………………………
    …………………………………………………………………

4. What challenges do you specifically encounter with regard to your major supplier in meeting quality specifications of medicines that you procure?

……………………………………………………………………………………………
……………………………………………………………………………………………
………………………………………………………………………

5. What challenges do you specifically encounter with regard to your major supplier in meeting delivery deadlines medicines that you procure?

……………………………………………………………………………………………
……………………………………………………………………………………………
………………………………………………………………………

6. What challenges do you specifically encounter with regard to your major supplier giving you consistent price for medicines that you procure?

……………………………………………………………………………………………
……………………………………………………………………………………………
………………………………………………………………………

7. How long have these challenges persist?

……………………………………………………………………………………………
……………………………………………………………………………………………
………………………………………………………………………...

8. What do you think are the sources of these challenges?

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……………………………………………………………………………………………
……………………………………………………………………………………………

9. What do you think can be done to overcome these challenges?

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……………………………………………………………………………………………
………………………………………………………………………

10. Do you have any other suggestions that would help improve supply chain management in general in the GHS?

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……………………………………………………………………………………………
………………………………………………………………...........................

APPENDIX 4: INTERVIEW GUIDE FOR PHARMACISTS OF HEALTH FACILITIES.

INTRODUCTION:

This Interview seeks to collect views from Pharmacists of sampled health facilities in Brong-Ahafo region who are the consumers of services of the B/A- RMS to obtain information on the effects of performance of suppliers of B/A-RMS on their health facilities. The criteria of measure being used in the study are price, delivery and quality specifications. Respondents are assured of maximum confidentiality of information given. Recipients can also choose to participate or not to participate.

NUMBER: ………………. **DATE**: ……………………

NAME OF HEALTH FACILITY: ……………………………………

1. What is your role in this hospital?

   …………………………………………………………………………………………
   …………………………………………………………………………………………
   ……………………………………………………………

2. What specific role do you play in the supply chain management of this hospital?
   …………………………………………………………………………………………
   …………………………………………………………………………………………
   ……………………………………………………………

3. How do you get medicines from to use in this hospital?

   …………………………………………………………………………………………
   …………………………………………………………………………………………
   ……………………………………………………………

4. Are there any guidelines in your operations on how to get medicines for use in this Hospital?

   …………………………………………………………………………………………
   …………………………………………………………………………………………
   ……………………………………………………………

5. What are some of the challenges that you encounter in meeting the medicine needs of your clients?

………………………………………………………………………………………
………………………………………………………………………………………
………………………………………………………………

6. What challenges do you specifically encounter with regard to your major supplier in meeting quality specifications of medicines that you procure?

………………………………………………………………………………………
………………………………………………………………………………………
………………………………………………………………

7. What challenges do you specifically encounter with regard to your major supplier in meeting delivery deadlines medicines that you procure?

8. What challenges do you specifically encounter with regard to your major supplier giving you consistent price for medicines that you procure?

………………………………………………………………………………………
………………………………………………………………………………………
………………………………………………………………

9. What do you normally do in the face of these challenges enumerated above?

………………………………………………………………………………………
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10. What suggestions would you give so that your major supplier is able to serve you in the best way to help you also to be able to achieve your corporate objective?

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………………………………………………………………………………………
………………………………………………………………………………………

APPENDIX 5: COVERING LETTER

REGIONAL HEALTH DIRECTORATE

POST OFFICE BOX 104

SUNYANI

BRONG AHAFO REGION

3RD JUNE 2011

KNUST

1. THE MANAGING DIRECTOR

……………………………………………………

……………………………………………………

…………………………………………………..

2. THE STOCK CONTROL MANAGER

REGIONAL MEDICAL STORES

BRONG-AHAFO

Dear Sir,

EVALUATING THE PERFORMANCE OF SUPPLIERS –THE CASE OF THE BRONG-AHAFO REGIONAL MEDICAL STORES OF BRONG-AHAFO

Dear Sir/Madam,

I am Stephen Kwame Korang currently with the Regional Health Directorate of Ghana Health Service and pursuing an Executives Master's programme in Public Administration at the Kwame Nkrumah University of Science and Technology. I am undertaking a research in evaluating the performance of suppliers with the Brong-Ahafo Regional medical stores as a case. I am humbly requesting you to help to complete the questionnaires that will distribute

to you and a short interview at your convenience. The research findings will be shared with you on request.

Thank you

Regards

…………………………………………………………………

Stephen Kwame Korang

APPENDIX 6: RESULTS OF THE INTERVIEW OF THE RMS STOCK CONTROL MANAGER

In finding out how long the stock control manager has held his position, he indicated that he has held the position for six years now. He however explained that he started as storekeeper some seventeen years now and rose through the ranks to his current position. He again explained that the RMS is his fifth work station in the Ghana health Service. From this narration, the researcher could deduce that the stock control manager has developed a consistent carrier with an enormous experience.

In finding out the sort of stocks that are managed by him, he indicated that he manages Pharmaceuticals health commodities that are stocked at the RMS. In explaining his position in the organisational hierarchy, he said that at the medical stores is the General Manager, who is assisted by two stock control managers, one for the Pharmaceuticals and the other for the non Pharmaceutical health commodities. From the narrations given here, it was realised that he is one of the second in command for the management of the RMS.

In finding out how often the RMS has assessed its suppliers, he indicated that formally they have not undertaken such an exercise before. What he indicated that they have been doing is to document incidence of non-conformance to delivery schedules, expiry dates and other issues bothering on quality of commodities such as cartons that are intact, no broken parts of tablets and no colour changes in tablets.

In finding out some of the standards he believes should form the criteria for assessment, he indicated that quality with respect to specifications, on time delivery and price and price consistence to ward letters should be the criteria for assessment. He indicated the importance of these criteria and asserted that if they can get suppliers who can perform very well in these criteria, then the BA-RMS would definitely succeed in the face of its clients. He buttressed this by saying that once they get good quality commodities delivered on time with consistent good price, then the BA-RMS would be in the formidable position to deliver same or better to its clients.

In indicating the relative importance of these criteria, he suggested that a weight of 40% percent each is placed on quality and delivery, while 20% is placed on price. He explained that quality goods delivered on time would let the RMS be more responsive to its clients. He

explained the price criterion should have a lower weight, because most of the times only few firms call for higher price adjustment once an award has been given to them.

In trying to understand what systems are in place to track down the performance of suppliers in terms of the criteria given, he said conformance to specifications which is made clear in the award letters given to suppliers are used to track down suppliers' performance. He also said that in tender document and in the suppliers' quotes, issues of expiry dates, required brands, provision of samples, prices and scheduled of delivery are clearly defined. He explained the importance of these documents as he indicated form the standards to track down the performance of suppliers. He emphasised that because of the importance of these systems, they are not developed by the stores unit alone but other units like the procurement unit and senior management of the Regional Health Directorate.

With some of the challenges with regard to the suppliers' performance, he indicated deliveries that do not meet deadlines, non-conformance to specifications and suppliers' calling for price increase adjustments as the major challenges that he faces with his work with suppliers. He believes some of the reasons for these unfortunate happenings are some suppliers' not having the necessary capacity to deliver and some too in attempt to win awards tender under conditions which they would not be able to respond as expected once they win the award.

On what is done if suppliers' are not performing as expected, he indicated he reports to the Manager of the RMS who reports to the Regional director of health services which may lead to cancellation of award and its subsequent re-award to another firm. He however, concluded that this is undesirable as the 'harm had already been done' to quote his own words.

In finding out, what the BA-RMS is doing to avoid such unfortunate happenings, he said of recent times suppliers are met to discuss the importance of these standards to the operations of the BA-RMS and the need for the suppliers to help achieve these standards. Also once an award is given and delivery deadlines are getting closer, the BA-RMS uses telephone calls to remind the suppliers concerned of the deadlines and the need to meet it.

In concluding with what he personally believes should be done to help suppliers perform to meet the expectations of the BA-RMS, he suggested a more co-operative approach in relating to suppliers. Again, he said the number of suppliers be reduced to few to help build better relations with them. He also said in the future the BA-RMS should be thinking of using an

information technology which could be integrated to that of its suppliers to enable each of them respond to the others needs.

KNUST

APPENDIX 7: RESULTS OF INTERVIEW OF MEDICAL SUPERINTENDENTS

In order to know more of the effects of the performances of the suppliers of the BA-RMS along the supply chain, seven Pharmacists and seven Medical superintendents-who were also Medical officers, were interviewed? The Brong-Ahafo regional hospital was purposively sampled because it is the major consumer of the services of the BA-RMS. Six other hospitals out of eighteen in the region were sampled using simple random sampling. The interviewed was done on one on one basis with the researcher visiting the interviewees at their hospitals.

In finding out the systems in place to procure medicines for their hospitals, four of the six medical superintendents explained that, their Pharmacy units submit their annual needs to their respective Procurement committees which act on it in accordance with the Public procurement law (Act 668, 2003). Three however indicated that the needs are submitted by their Pharmacists to them and with the Pharmacists and sometimes the hospital Administrators make sure they get the medicines for the hospital. All of them indicated that they source their medicines first from the BA-RMS stores thus their major supplier. They asserted that it is only when they do not get from this first source that they source from private providers. These responses indicate that BA-RMS is the first source for medicines for in the Region. Also while four out of the seven hospitals had procurement committees in place, the other three use some of their hospital management for procuring medicines for the hospital. The researcher also noted that in all the hospitals the Pharmacists play important role in the procurement of medicines.

With the individuals involved in the procurement of medicines, those hospitals with procurement committees indicated membership of their committees as including the Medical superintendents as chairmen with the Pharmacist, the hospital administrators, Accountants, Supply officers and head of the nursing departments as members. The regional hospital further indicated that they usually co-opt nurses and anesthetists to help in their committee deliberations when procuring medicines which are used by them. The other three hospitals however indicated that though they have procurement committees, they are not able to meet as expected and looking at the urgency of drugs in their hospitals operations, when their Pharmacists submit their needs they quickly act on it when two or more of their management members including the Medical superintendent who is the head of the budget management

unit (BMC) and their Pharmacists. From the above responses the two key people involved in the procurement of medicines for the hospitals are the Pharmacists and Medical Superintendents.

All the seven Medical superintendents cited medicines that do not meet their quality specifications, problems of not getting their requested medicines on time, frequent price changes and sometimes late receipt of invoices of medicines procured from the BA-RMS as their major challenges. When asked further what they mean by medicines that do not conform to quality specifications, the Medical Superintendent of the Regional hospital indicated among others that they expect all medicines procured for the hospital to have at least twelve months shelve life but they sometimes get medicines with six months to expiry which did not help in their operations. Three other medical superintendents indicated that though the MOH/GHS drug policy requires that they stock and prescribe medicines in generic names, sometimes some prescribers with experience with particular brands of medicines request specific brands which are not normally obtained at the BA-RMS. Thus from these responses it was realized that meeting quality specifications, getting their medicines on time, frequent price changes are the major challenges they encounter in sourcing the medicines from the BA-RMS.

Getting the medicine needs on time from the BA-RMS was a major challenge that the Medical Superintendents kept on emphasizing during the interview. They claimed sometimes when they request, from the BA-RMS, they do not get all the quantities they need or they do not get what is requested at all with the explanation that the suppliers of the BA-RMS have not delivered at all or have partly delivered. This they claimed makes them experience stock outs of essential medicines at the hospitals. One medical superintendent in emphasizing the enormity of the problem claimed that in the previous year his hospital could get only 20% of all medicines requested on time, 30% after two weeks, and 30% after a month and the rest not at all. He supported this with a result of an operational research conducted by the Pharmacy unit of his hospital. From these results it could be said that on time delivery by the BA-RMS to its consumers is a challenge for the hospitals in the region. This is traced to the delivery failure of the medicine suppliers of the BA-RMS.

Four medical superintendents expressed concerned about price changes of medicines over short periods. While they admit this could be due to inflations, they believed the BA-RMS should be doing more in negotiating with its suppliers to ensure that prices are more stable over a fairly long period of time. Probing further, the Medical superintendent of the Regional hospital showed invoices that show how a price of Amoxycillin 250mg capsule changed three times within a matter of six months. All however indicated that the BA-RMS has always showed them evidence of this price increase as resulting from the price increases from their suppliers. Inconsistent pricing seriously affects planning for organizations such as hospitals. It is therefore important that suppliers of medicines to health institutions are able to be consistent in their pricing.

On how long these challenges persisted, all interviewed indicated this challenge has persisted over a long period. Four of them however indicated that in the last three years, they have seen some improvement. They however emphasized that there is still more to be done to improve the situation. The causes of these challenges, the interviewees claim could be traced to the suppliers of the RMS. Five of them however believed that the BA-RMS can not absolve itself from the blame since they deal directly with the suppliers and it is their responsibility that the suppliers perform to their satisfaction. Two of them however, had dissent view of this blame game since they insist that the BA-RMS has performed very well in times when their suppliers have performed to satisfaction.

To overcome these challenges, they made a number of suggestions including, the need to have frequent meetings with the BA-RMS to discuss how to overcome these challenges, the need to get the hospitals more involved in the procurement of medicines by the BA-RMS, the need for the BA-RMS to be more firm on the terms and conditions on award of contract to suppliers.

To improve supply chain management in general in GHS, the interviewees came out with suggestions such as the need for the GHS to employ more supply chain management professionals, the need to train people who are involved in supply chain management in the GHS, the need for the BA-RMS to deal with fewer suppliers who can perform to their satisfaction and lastly the need for the MOH/GHS to make sure that the CMS is able to

provide to meet the needs of the RMSs to reduce or eliminate need for the BA- RMS to rely heavily on private suppliers.

APPENDIX 8: RESULTS OF INTERVIEW OF PHARMACISTS

All the interviewees responded that they are responsible for providing, safe, efficacious, medicines for clients of the hospital. Four of them in explaining further, indicated that they achieve this by working through committees in the hospital such as the drugs and therapeutic committees, the quality assurance committees and the procurement committees of their respective hospitals. They also indicated that they are responsible for managing their subordinate staff in their units. Two others in addition indicated that as members of their hospitals core management committees, they play key roles in the overall management of their hospitals.

Five of the Pharmacist in explaining their specific role in acquisition of medicines for their hospitals indicated that they do quantification of annual medicine needs, submit procurement plans to their respective procurement committees and participate fully in the work of their respective procurement committees to achieve their core mandate of ensuring the availability of safe, efficacious medicines for the clients of their hospitals. Besides the above, two others further indicated that as management members and members of various committees, they also help to ensure the availability of other health commodities and other services required for the efficient running of their respective hospitals.

All the interviewees indicated that they use the BA-RMS as their first point of call and is only when medicines are not available that they resort to private providers. They indicated that all these are done in line with existing rules and regulations of the GHS and in accordance with the Procurement law (Act 668, 2003). Two Pharmacists from hospitals including that of the Regional hospital indicated that they source from the BA-RMS on quarterly basis and bi-annually from Private providers. Five others indicated that though they prepare annual procurement plan, they procure as and when the need arises. Two of the above five in explaining further indicated that sometimes they bought medicines as often as ten times in a year, while the other three said they bought about six times in a year.

With the challenges encountered by interviewees in procuring from the BA-RMS, they indicated non-conformance to quality specifications, non-availability at the BA-RMS, delays in delivery and frequent price increases. These seem to be similar to the challenges

enumerated by the Medical Superintendents. Two of the Pharmacists further stated in addition that they do not receive an updated price list from the BA-RMS which seriously affects their planning processes. One further indicated that the location of the BA-RMS not being central in the Region makes them travel longer distance before being able to get their medicines. This according to him comes with its attended cost.

With regard to challenges in non-conformance to quality specifications, the interviewees indicated they sometimes procure medicines from the BA-RMS with shelve life as near as three months and other times too they do not get the specific brand they request but rather the generic forms. With this generic as opposed to the brand, six of the interviewees were quick to add that they cannot blame the RMS so much since the National Drug policy requires stocking of generic medicines. They were however of the view that if the medicines stocked are of the innovator brand that could help since most prescribers are more familiar with them and seem to have more confidence in them. The interviewees asserted that they have been experiencing frequent stock outs in their hospitals as a result of they not getting full commodity supply and even sometimes not getting some essential medicines at all. When asked further what they think are the causes of this non-availability at the BA-RMS, two of them responded that it is always explained to them that the BA-RMS face similar challenge with the CMS and their private suppliers also fail to supply on time. One other major concern the Pharmacists raised was the frequent increase in prices of medicines by the BA-RMS. One claimed 'they always start it low at the beginning of the year and end the year with high prices'. He continued that he could only describe this as a 'baiting' pricing strategy.

The interviewees responded that when they have non-conformance challenge with the BA-RMS, they normally report to them. One indicated that when the shelve life is not within as expected, there is arrangement such that when a quantity expires before being used, the same is replaced by the BA-RMS. When there is non-availability at the BA-RMS, they resort to their private suppliers. This one of them said normally leads to stock outs since they have to at this point go through the process of sourcing from private suppliers which takes sometime hence creating stock outs at the hospital.

In concluding the interview, the Pharmacists gave some suggestions to the BA-RMS which if implemented they believe would help improve Pharmaceutical care operations of the hospitals in the Region. These include the need for the BA-RMS to establish strategic relations with its suppliers to enable them perform as expected. Asked how, the Pharmacist of the Regional hospital indicated that they could have long term agreement such as three or more years purchase agreement with some key suppliers for vital medicines, so that these suppliers can also plan ahead to be able to supply as expected to the BA-RMS. Another suggestion was that the BA-RMS should insist on deadlines as indicated in contract award letters and re-award to alternative suppliers if the first choice supplier fails to meet the delivery deadline. Lastly, they suggested there is the need to improve the operations of the CMS to help serve the BA-RMS better.