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## Effect of Strategic Intent of Patient Relationship Management on the Competitiveness of Public Health Facilities in Kilifi County, Kenya

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### **Abstract:**

*The objectives of this study were to examine the effect of strategic intent of patient relationship management on competitiveness of public health care facilities in Kilifi County. As the complexity of healthcare business is unique, the clear plan of marketing which is Customer Relationship Management (CRM) was not able to be translated into healthcare sector. As a result, the idea of Patient Relationship Management (PRM) has been brought in. The study investigated the nature and scope of PRM, barriers towards implementation and effect of implementation of PRM on competitiveness of public health facilities in Kilifi County. The study employed cross sectional survey where sampling was done through systematic stratified sampling technique. Primary data were collected through structured questionnaire and analyzed through descriptive and relational statistics. The outcome showed fundamentally that the chief purpose and benefit of PRM scheme to the public healthcare facilities were increased access to healthcare and improving patient services hence competitiveness. It was noted that inadequate supporting budget appeared as the major barrier to PRM implementation and that the operational and collaborative function of PRM had a higher effect on competitiveness of healthcare facilities in Kilifi County. Lastly, from the at timeout come, a number of suggestions were made regarding activities that should be undertaken to enhance PRM benefits as well as on the competence of operations in public healthcare establishments in Kilifi County.*

**Keywords:** *Capability based view, customer relationship management, Kenya health policy framework, knowledge based view, Kenya essential package for health, market based view; patient relationship management; resource based view, structure-conduct-performance*

### **1. Background to the Study**

In order for organizations to prosper in the utilization of their assets while exhibiting service competence, they have to holistically indulge in superior tactics in their endeavor to devise and implement their deliberated purpose, which has an effect on organization's revenue, writes Guohui and Eppler, (2008). Patient Relationship Management (PRM) stems out from the idea of customer relationship management abbreviated as CRM, to drive the execution of strategy. Tiwana (2002) state that 'customer relationship management combines business practices and technology; seeking to comprehend a business's clients from various viewpoints to competitively distinguish an establishment's merchandise and services.' According to Benanti, 1998, retaining existing clients proves cheaper than the acquisition of new ones, hence, prompting the need for customer relationship management to create a competitive advantage.

This study was based on hypothetical notions that guided the strategy and approach to be employed in the research study. The concepts dictating this study include the social exchange theory and the competitive advantage theory presented by Homans, (1958) and Porter, (1985) respectively. The social exchange theory hypothesizes that every single individual deliberates on costs and benefits of whichever offer before concluding on acquisition of said product or service when presented. The concept additionally posits that to make a choice, a buyer evaluates the worth derived from the product or service comparing them to the competing businesses' offers. Competitive advantage model shows that any institute can compare positively to competitors by holding a distinctive position in their inventions, rate plan, data, resource and practices. The concept has been employed in this research to demonstrate ways in which healthcare staff can deal with their customers through patient relationship management to affect healthcare facilities' competitiveness and have better performance than its competition.

In the healthcare industry, patients stand as the hospices' main clients hence the term patient relationship management (PRM) applies in place of Customer Relationship Management (CRM). With PRM, healthcare establishments' emphasis is fixed on retention of customer loyalty and, determining and meeting patients' needs (Siau, 2003). Raisinghani et al (2005) contends that many a hospitals' management strategies have been transformed, and their doctors communicate in an in-depth manner with their patients. The patients' prescriptions tools have also developed, and they can employ the internet to find treatment directives. When a hospice gives instantaneous statistics and broadcast them to their present and prospective patients it acquires an edge over other care giving facilities and also improving their association with people. Hospital strategic plans ought to contemplate all-inclusive, effective information structures

focusing on patients. Therefore, when the practices of PRM is applied, hospitals will carve a niche in their field and a competitive advantage over the competition whilst becoming client centered in their processes.

### *1.1. Strategic Intent*

Porter (2010) describes strategic intent as a freely clasped assertion of the direction a company's management plans to guide the firm in, over the course of time. The strategic intent of any industry should be effortlessly grasped by each member of a company so as to have people working to reach a constant general objective. Strategic Intent can be described as the logical aspect of the strategic management method. It points toward the resolve, that any institute strives to achieve.

The strategic intent concept is linked to the visualization or figurative approach in policy creation (Hart & Banbury, 1994). It can also be looked at as a declaration providing perspective of the means by which the organization ultimately meets its vision (Porter (2010). Strategic intent provides a bearing, a viewpoint on the market in the long-term or the competitive position the organization expects to cultivate and dwell in. It aids in discovery in the sense that it bears promise of knowledge on other establishments in the same market, espousing their finest practices and circumventing drawbacks. As a strategic intent, the importance of front-end planning has been recognized for a long time, but development in this area has been much slower than development of tactics for the execution phase in general healthcare management

### *1.2. Patient Relationship Management*

Customer Relationship management (CRM) has its origin in commercial marketing and therefore it is important to differentiate on how applicable the CRM ideology are to the PRM in the non-governmental sector and communal sector in health care. Briefly, whereas CRM and PRM consist of like methodologies, the objective of CRM is to eventually enhance client expenditure. On the contrary, the PRM endeavors to offer clients the data they require to make superior healthcare decisions that shall in the long run make them spend less and make the system curb some expenditure as well.

Russell & Otley 2009 posit that PRM entails extra patient care; both clinical and non-clinical care, and attention in management of intricate information, implementing sound security and the proper usage of patient information. Regardless of their variances, similarities amongst CRM and PRM facilitate resilient relations that profit from better expectation of client requirements and requests, enhanced communicative networks, apt and reliable facts, and the seizure of implicit data regarding people without putting them to task.

### *1.3. Firm Competitiveness*

Since the late 1980s and early 1990s the word competitiveness focused on the debate on policy and has been rigorously dissected in the educational writings (Porter, 1990). Competitiveness refers to the capacity of any commercial entity to compete with opponents; be it a firm, industry, region or a country. The diverse observations on what competitiveness is and its value in regard to policies that materialized in that period were never categorically resolved (Sanfey and Zeh, 2012).

Competitiveness is linked with competition amongst commercial entities over human resource, markets, materials and technology (Porter, 2010). A noteworthy and distinguishing aspect of competitiveness is that it is dynamic in its nature. Competitiveness causes are not long-lasting hence in due course, competitors discover improved techniques in their operations. Hence therefore it only through constant enhancements in their actions can commercial managers maintain their competitiveness.

### *1.4. Health Sector Overview in Kenya*

In the year 1994, the Kenyan Government sanctioned the KHPF otherwise referred to as the Kenya Health Policy Framework which acted as the blueprint for healthcare services development and management. To put the article into effect, the Ministry of Health in Kenya formulated the Kenya Health Policy Framework Implementation Action Plan then under a Ministerial Reform Committee (MRC) in 1997 and formed the Health Sector Reform Secretariat (HSRS) in the year 2013 which was mandated with spearheading and overseeing this enactment process. In the year 2013, devolution saw all public health services, both primary and secondary levels removed from the national government and Ministry of Health (MOH) and put under the mandate of county governments, ever since, the ministry of health is bound to the role of support provision and methodological direction for counties in addition to being the health sectors regulatory body whilst the counties are taxed with health service provision.

The National Health Sector Strategic Plan II presented the Kenya Essential Package for Health (KEPH) that explains six stages of preemptive and curative services levels. KEPH classifies health service provision as from 1-6. The community is labeled as Level 1, dispensaries as level 2, health centers as level 3, district hospitals are at level 4 with level 5 as provincial hospitals and referral hospitals as; level 6. According to the Master Facility List/Health Information System (MFL/HIS), as of 2013 a total of 9,249 health facilities existed nationally; 3 being referral, 9 level 5 hospices while 264 were in the level 4 category of hospitals and the rest as various other hospices. The existing number of public health facilities in Kilifi County stands at a number of 119 and has no level 5 and 6 centers.

### *1.5. Research Problem*

Patient Relationship Management (PRM), just like CRM is a client dedicated trade stratagem improved by technology that systematizes and improves commercial developments to actively manage lucrative and long-term client relations as suggested by Seeman & O'Hara, 2006. Existing works by Hamel & Prahalad, 2005 advocate that strategic intent

proposes a detailed and considerate future plan that envisages the business benefits as attaining competitive, and ultimately success, principally over careful capacitance of risks and the employment of invention resulting in a competitive authority that other institutions can't easily imitate. This preoccupation is defined as strategic intent or the "dream" which invigorates an institution in the direction of its preferred prospect. The architecture of these solutions encompasses three CRM (and PRM in this case) functional areas namely; operational, analytical and Collaborative areas (Alexandrou, 2007).

The healthcare institutions are afflicted by a number of trials that fuel client discontent (Gopal&Beedi, 2014). About 50.66% of the hospitals in the county are public and are government owned according to MOH, health facility master list, 2012. In Kilifi County, although many health facilities exist, they are disproportionately strewn and generally sited along key infrastructures. They lack permanent health providers working in the communities thus limiting competence levels in health care provision (CRA, 2011). Development of cut-throat rivalry in health care provision in the private sector escalates the necessity for public health care workers to gratify client wants to increase contentment and allegiance. Increasing patient satisfaction and developing the loyalty is the core goals of PRM in health industries.

Brand (2010) developed a model for the formulation of strategic intent to show how Strategic intent bears a significant role in policy creation as a theory that can be used to realize competitive advantage. Mariadoss et al., (2014) on the other hand studied the relationship of Strategic intent and performance and looked at resource allocation and noted indirect effect of strategic intent on performance. Many other previous studies have tended to focus on strategic responses to environmental shifts and organizational performance or between strategies and financial performance, all which found out a direct relationship of the variables. There exist few studies on PRM and patient satisfaction but does not incorporate PRM as a strategic intent for competitiveness. Based on this realization, the current study was seeking to riposte the study query; what is the effect of patient relationship management as a strategic intent on competitiveness of selected public health institutions in Kilifi County.

### *1.6. Research Objective*

The main objective was to find out the effects of strategic intent of PRM on the competitiveness of public healthcare facilities in Kilifi County, Kenya. The specific objectives were:

- To investigate the nature and scope of patient relationship management in public health facilities in Kilifi County, Kenya.
- To establish the barriers towards implementation of patient relationship management in public health institutions in Kilifi County, Kenya
- To find out the effect of implementation of patient relationship management programs on competitiveness of public health institutions in Kilifi County in Kenya

### *1.7. Value of the Study*

This research was initiated to observe effects of strategic intent of patient relationship management on competitiveness in Kenya's public health institutions. This study will enrich the body of knowledge on patient relationship management as a strategic intent for competitiveness. Two theories; the exchange theory by Homans, 1958, and the competitive advantage theory by Porter, 1985 will significantly be used to help explore the relationship between PRM and competitiveness.

The findings of this study are expected to increase understanding and improve existing academic knowledge regarding PRM and competitiveness in health institutions. Policy makers and health practitioners will also find the information useful in developing policies and procedures that guide this health process. These conclusions will offer appropriate directorial structure for the improvement of PRM set-ups to certify quality service delivery, in the health sector, for their patients and clients.

The practical contributions of this study are envisaged in Service quality improvement and Patient satisfaction. Statistics queries on patient satisfaction inquiry forms is an effective mode in finding out the foremost problems and impediments hindering patient gratification. The findings of this study will enable relevant stake holders to form resolutions to ease the condition and ensure patient gratification.

## **2. Literature Review**

The chapter presents the literature review which includes the theoretical foundations of the study, concept of PRM, empirical literature, chapter summary and the knowledge gap.

### *2.1. Theoretical Foundation of the Study*

The approach of this research shall be grounded on hypothetical idée as which will steer the, methodology, design and the actions that will be used in this work. The social exchange theory as explained by Homans, (1958) as well as the competitive advantage theory argued by Porter, (2010) shall be applied to direct this research.

### *2.2. The Social Exchange Theory*

According to the theory of social exchange (Homans, 1958), each individual put into consideration the price and the profit of each and every contribution prior to making a decision to consume the product or service being offered. More so, it shows that to reach a conclusion, a client considers the worth of the goods or services and evaluates it against what the rest of the companies in competition are providing.

The theory endeavors to enlighten on characteristics of social actions that do not involve the economy as explained by Emerson(2010).Among the aims of the theory, is the attempt to overcome the issues cropping up from the

entirely rational sculpts of making of decisions by bring argument that behavior will be induced by exchange process (Heckathorn, 2013). Social activities will be stimulated by an exchange process, he continues to argue. Blau, (2011) distinguished between social and economic exchange (he was among the preceding scholars to do so). He argued that in both social and economic exchange, prospects of future profits for the involvement therein are unquestionable. Conversely, view of the social exchange, endeavors to tackle the issues coming up from the entirely rational molds of making of decisions aiming at the movement of property via a social course of action as asserted by Blau(2011) and Emerson (2010).

The monetary examination of social state of affairs that are not economic is referred to as the social exchange, writes Emerson (2010). Financial activities are rooted inside such collective relationships that pose as a weighing scale between one's quest for self- centered benefits and enthusiasm for consistent profitable bond development, argues Granovetter (2008). The process will stimulate activities or a behavior where by the public responds positively to recompense, as per Homans (2010) while reacting with a negative attitude in regard to cost. Exchange within those kinds of relations doesn't consider specified period bonded by time since it depends on the faith between the entities involved, and not responsibilities involving the law and that the responsibilities brought about by the exchange shall be realized eventually. Those kinds of exchanges exhibit flexibility and rarely engage open bargaining, asserts Stafford (2008).

Some sort of provisions needs to be satisfied in order to realize a social exchange, (Kotler 1984). He introduces a number of provisions: not less than two parties should be concerned; both parties (if two) should have something of worth to offer to the other party; they should be well able to deliver the offer and communicate; the parties should be at will to agree to or decline that offer; and each of them should be able to take that exchange as an appropriate one. A triumphant exchange is therefore a one who's worth acknowledged matches the worth set before as the conditions of the exchange. The subsequent suppositions about the character of humans pave the way for social exchange: people go all-out for returns and dodge penalties; people are rational beings, where by the principles they apply for assessing the recompenses and expenses of the exchange association is bound to vary within stance and shall vary from person to person (West and Turner, 2010). The standards of exchanging deals with others for mutual benefit are vital grounds where there lation ships of social exchange are based on (Gouldner, 2008) and(Emerson, 2010). Reciprocity, as the most fund a mental type of interaction of people, as per Homans (2010),mirrors the over ll procedure set up by embracing the relationship of exchange. The basic law of exchanging ideas and deals with others for mutual benefit has its grounds on the mentioned requirement and the anticipation of profits amounting from the trade between the entities concerned business like that, argues Gouldner, (2008) and Chen (2009). Social exchange theory will be used in this study as an outline for comprehending relations as well as conclusions (deductions) of clients from the perspective of loyalty and healthcare service providers from the perspective of the institutional customs at their places of work.

### 2.3. *The Theory of Competitive Advantage*

Porter, (1990), in attempt to clarify the theory of competitive advantage, begins from the point that the properties of the competition and the springs of competitive advantage vary among businesses and also among the subdivisions in that very business, and a given nation may power the finding of the advantage in competition inside a given segment of a business. The hypothesis portray show a firm could be aggressive business wise through posses sing distinctive assets, novelty, exceptional methods or even special information and worth which other companies don't possess. This hypothesis has its grounds on these four notions; Resource-Based View (RBV), Market-Based View (MBV), Capability-Based View (CBV) and Knowledge-Based View.

Porter, (2010) explains that the MB Vapproach claims that business aspects and exterior market point of reference constitute the principal factors that determine company revenue. Two very good theories in this group constitute are the Structure-Conduct-Performance (SCP), by Bain, (2009) and5 Forces Model by Porter (1980). The scholars looked at planning from the perspective of the business and the company's position in the market in comparison to its rivals.A proposition was made by Bain (2009), suggesting the Structure-Conduct-Performance (SCP) paradigm. SCP explains the correlation between industry formation and company conduct or behavior and eventually organization's revenue.

RBV of the organization focuses on the company's inside setting as a push for competitive advantage and stresses on the assets which organizations have worked out to battle in the surroundings. Chandler (1962) was significantly involved in developing the RBV of strategy. Another scholar whose contributions cannot go unmentioned is Ansoff, (1965). The RBV has since the 1980s become a well-liked hypothesis of advantage of competition, writes Furrer et al. (2008).

With respect to the KBV, whilst majority of scholars embracing the RBV take knowledge to be a basic asset, several scholars according to Murray,(2000) recognize knowledge as having unique features which mark it as the most vital and precious asset. Information, expertise, knowledge, scholarly (academic) resources and skills pose as the chief pushers of greater competence in the information era, explains Hamel and Prahalad, (1994). A researcher by the name Evans (2003) reasoned that material assets diminish (or reduce) while under use in the company. Contrary, knowledge resources are boosted while in application.

Whereas the MBV of plan puts forward that the mainspring of great profits is the negotiating muscle of the company in its environment (market), and the RBV implies that this is the apparatus of distinctive assets, abilities as well a sunder standing of an organization, the relational view implies that, they are the communal knowledge and harmonizing assets of the system or network. Likewise, returns conservation machinery embedded in the MBV are market barricades to entry, whereas within the RBV, they are company-level barricades to the replication of exclusive or special assets. Within the relational view, these devices consist of dyadic/network barricades to replication as well as the shortage of

prospective associates (partners) -that may stop a network like that from being imitated. This study focuses on how to build a reputation by promoting distinctive features about healthcare facilities.

#### 2.4. Concept of Patient Relationship Management (PRM)

Yousefi and Kargari (2014) undertook a study to examine the idea of PRM, client pleasure plus their connection. They posit that as an industry of healthcare it exhibits its kind of involvement, the clear plan in marketing which is CRM, would never be put into practice in its form hence a new model of PRM. Russell and Otley, (2009) observed that PRM brings in the values of management of client relations and posits that it isn't necessarily a technology but somewhat a vision and remedy fulfilled via technology. Technology grants the ability to attain greater unity between the different segments of the healthcare structure, that in due course perk ups clinical results as well as customer contentment. The structural design of this remedy encompasses three functional areas of CRM strategy execution (and PRM in this case) namely Operational, Analytical and Collaborative areas (Alexandrou, 2007). The initial part, also called the "operational" are the part that coats the front-end trade processes, supervising sales, advertising, promotion, client service as well as order entry. It puts keen interest on the compilation of buyer information or statistics from the entire client touch spots or contact areas as elaborated by Alexandrou (2007). This database includes, registration details, prior transaction histories, customer contacts, and responses collected to marketing stimuli. The next practical area is called the "analytical" area. It consists of the back-end trade processes and the examination of user or client information gathered by the operational area. The purpose or work of the analytical area is aimed at spotting market segmentation while growing it via cross-selling and up-selling prospects, asserts Alexandrou, (2007).

The last practical part, which is also called the "collaborative" area, smoothens the process of client relations while harmonizing, and wiring the same all over the organization. The collaborative area aims at getting individuals, procedures, and information together to provide improved services and keep hold of the clients, writes Alexandrou, (2007). The PRM structural design comes out singly as an account of the reality of clients helped by a faultless internet, working of persons, procedures, and equipment and machinery, all functioning collectively to attain an industry purpose. The Collaborative part gives a continuing face to face connection with clients by incorporate the utilization of institutional information and technologies of management of knowledge to assist in the executive processes (decisions) concerning offerings of products, strategies of marketing, processing of orders as well as client contentment, service to clients and their sustenance, and client preservation as asserts Cunningham, Song, & Chen, (2004).

#### 2.5. Empirical Literature Review

Mock-up for the creation of strategic intent was developed by Brand (2010). The model was founded on a contrast of commerce and the military to reveal just how strategic intent is of significance in approach creation and brings it as an idea that can be utilized to realize competitive advantage. The study focused on strategic intent formulation hence the need to introduce PRM on the execution of strategies for competitiveness. Mariadoss et al., (2014) on the other hand studied the relationship of Strategic intent and performance and pointed at the function of resource allotment and noted the indirect impact of strategic intent on performance. The study was undertaken in production companies only and did not observe the service fraternity.

Dissimilar features of strategic intent have invited various degrees of attention. For example, works by Hamel and Prahalad (1989) revealed that for an institution to materialize its strategic intent, it must converge interest on strategic activities e.g. stimulating workers by communicating the importance and worth of the institutional goals, stirring teamwork, promoting passion by offering ground-breaking functioning descriptions such as environment's change, as well as constantly applying intent to observe and manage the distribution of resources. Many studies have as well recognized the application of strategic intent in conceptualizing company relationships, argues Mantere and Sillince (2007).

Vivian and Mary (2011) in the case study in client relationship management in the healthcare fraternity in Ghana evaluate PRM realization and means to improve it in public healthcare systems in Ghana. It was realized that the size of health institution (hospital), the data system, competence of workers, advancement of higher-ranking managers, capabilities of information management, have noteworthy effect on the adoption of CRM systems.

Khadijeh and Mehrdad (2014) on their case study on PRM technique as an attempt towards happiness of patients in public health institutions showed that PRM is the chief model to increase the contentment of patients and as a result keeping away from patient agitation. It has been found that CRM with the revenue exploitation motto could not be put to use directly in health fraternity. In its place, PRM with the major purpose of putting to use the patient information successfully for forecast of trend of sickness and disease over time, categorization of the kind of disease and applying follow-up structure may enhance the value of care that is offered to the client.

Consequently, this would directly amount to improved client contentment as well as most excellent maintenance (retention) plan for health fraternity. In this survey it was noted that the major issue so curvy a shortage of well-organized communication between health institution workers and patients, therefore a calling for a scheme of PRM to respond to this issue is to be made available.

Gatobu (2012) carried out a survey to attempt to establish if sustainable competitive advantage of companies can be attained via management of client bond. The work paid attention on mobile telephone dealers in Kenya. The survey realized that management of Customer Relationship has a significant effect on company's share of market as well as competitiveness. The outcome showed that rigorous client connection management amounts to a boost in the company's share of market plus its competitiveness. Wambura (2012) did a survey to examine the challenges of putting into practice the strategy of CRM in Nairobi City Water and Sewerage Company. The scholar proposed that the institution could introduce definite improvement procedures to offset or respond to the challenges in the execution of the strategy.

Khaligh, Miremadi, and Aminilari (2012) examined the effect of CRM in improvement of client reliability and maintenance in telecom institution in the country of Iran. The results revealed that, dedication and visualization of the organization net work is very much essential for a flourishing CRM execution. The arrangement of the plan must be founded on elasticity and openness of the guiding principles particularly pricing procedures. The said aspects are crucial in improving client devotion hence increasing organizations profits.

According to Matias (2012), previous experience reveals a slow pace of service delivery in Public Hospitals which was not witnessed in other categories of the hospitals. A delay in offering services, frequent disputes between management and staff in relation to delayed payment of dues, inadequate working equipment and poor work environment formed part of disruptions of service delivery. These disruptions were not witnessed in private facilities as their operations were smoother and the process from admission to discharge had very minimal disruptions.

### 2.6. Summary and Knowledge Gap

George (2015) explains that nowadays, we lack an overall remedy that offers the purpose needed for subsequent generations of customer commitment in healthcare. The study results plainly reveal how crucial or main stakeholders in the healthcare sector should make effort hand in hand to introduce those traits to one stage that profit the entire clientele with no respect of age, status of health, scientific ability, or socioeconomic status. Attributes e.g. bi-directional messaging with associates of a complete care team, multimedia learning resources, interactive health coaching, and integration with community and other non-clinical assets have laid in silos as of today, causing difficulty for the client. Overcoming this will require a broader, more open framework and technology architecture than what patient portals today can provide. This study was seeking to fill in the knowledge and process gap pertaining to this perspective by reviewing the three components areas of PRM in Operations, analytics and collaboration as strategic intents in competitiveness of healthcare institution.

In Kenya, which is known for extensive social programs, where care of health is a recurrent problem in politics, about 26.6 Million individuals had no insurance of health by 2005, MOH (2007). Facts like that are causing scholars to doubt whether the present system of health care is sufficient. The issues are so intricate, that the system of healthcare globally require basic modification in how business is done, argues Wanless D, (2010). Devoid of the transformation, projections propose, the present networks shall in due course crumple. Somehow surveys done have never looked into the challenges and problems associated with maintainability of the institutions of health, via tactical intents. The purpose of this work, therefore is to look into addressing this knowledge gap.

## 3. Research Methodology

The chapter provides the methodology of the research which includes; the design of the research, population of study, methods of sampling and size of sampling, collection of information, procedure and data analysis.

### 3.1. Research Design

The work put to use a cross-sectional survey design. It entailed collection of information on several cases, at a definite given time to gather a body of quantifiable information regarding two or many variables, whereby an examination was conducted to spot molds of association as assert Bryman and Bell, (2011). The workout to use a number of clusters of persons who vary in the variable of interest, but share aspects e.g. ethnicity, background of education and socio-economic status.

### 3.2. Population of Study

Since the research was carried out in public health care facilities in Kilifi, the target population was the public healthcare facilities in the county. According to MOH, health facilities list, 2015; Kilifi County had a total of 94 public health care facilities with 722 medical officers, nurses and clinical officers. (MOH/HIS 2018). The purpose of using this study population was to enable the research to obtain reliable and accurate information from respondents who share some common characteristics such as socioeconomic status and educational background to avoid bias.

### 3.3. Sampling Techniques and Sample Size

The study employed a systematic stratified sampling for healthcare facilities in Kilifi County. The population was public health facilities (County hospitals, sub county hospitals, health centers and dispensaries). There were 94 public health facilities in Kilifi County which were classified into four strata according to KEPH care levels.

All the healthcare professionals were classified in each stratum composing of medical officers (doctors), nurses and clinical officers, who were considered for the study. Systematic stratified sampling technique was then used to select respondents; medical officers, clinical officer and nurse or nurse specialist from each stratum.

The sampling formula that was used to calculate the sample size is:

$$N_h = (N_h / N * n)$$

$N_h$  is the sample size for stratum  $h$ ,  $N_h$  is the population size for strata  $h$ ,  $N$  is the total population size and  $n$  is total sample size

Stratum	Population Size	No. Of Facilities	Sample Size
Level 1	2	1	0
Level2	55	75	7
Level 3	137	13	17
Level 4	528	5	67
Total	722	94	91

Table 1: Sample Size

The respondents in each health facility were randomly selected to get the required sample size from each stratum.

### 3.4. Data Collection

This study applied Primary data collected through structured questionnaire. The research instrument was divided into 4 sections, requiring responses to various dimensions based on the Likert type scale for purposes of enabling easy rating /ranking of answers, coding and data analysis.

The first section A consisted of a brief background information of healthcare facility and the respondent which are the subjects of the study. The second section, B was focusing on the research objective questions and lastly, the third section, C, focused on the various independent variable areas of patient relationship management to examine the effects of strategic intent of PRM on competitiveness of public health facilities.

The questionnaire was administered through email, drop and pick and by personal administration depending on which method was convenient to the specific respondents. The questionnaire was therefore issued to 91 respondents from the random population of each stratum.

### 3.5. Data Analysis

The information from questionnaire was coded and keyed in into the computer using SPSS Version 25 for examination. It provided correlations, standard deviations, means, as well as frequency distribution of every independent and dependent variable. The standard deviation, percentage and mean are the most frequently applied descriptive statistics. Pie charts, histogram and tables were applied for extra representation.

Quantitative data was analyzed by relational statistics. Correlation and regression analysis were used to test on the effects of the operational, analytical and collaborative areas of patient relationship management and the competitiveness of the healthcare facilities. The multiple regression model presented below was used to test on the relationship between the variables of the study:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + Y_0$$

Where:

Y = Competitiveness of healthcare Facilities

$\beta_1 X_1$  = Operational areas of PRM (Front office touch points)

$\beta_2 X_2$  = Analytics areas of PRM

$\beta_3 X_3$  = Collaborative areas of PRM

$\beta_0$  = Constant

$Y_0$  = Error term

Data presentation was done using percentages and frequency tables.

## 4. Data Analysis, Findings and Discussion

This chapter presents the study findings, analysis and presentation of results. The analysis is based on the data collected from the public healthcare facilities in Kilifi County. The questionnaires were designed based on the objective of the study.

### 4.1. Respondent Profile

From the population of a total of 94 health care facilities, 91 respondents out of targeted of 91 filled the questionnaire representing 100% response rate which the research found adequate and sufficient for the purpose of data analysis. The female were 59 respondents which represented 64.8% while 32 were male representing 35.2%. Table 2 shows the details about the gender of the respondent.

	Frequency	Percentage (%)
Male	32	35.2
Female	59	64.8
Total	91	100

Table 2: Gender of Respondents

Source: Primary data

The number of years of working experience in the health facility is shown in the Table 3.

Number of Years of Experience	Frequency	Percentage (%)	Cumulative %
Below 5 years	58	63.73	63.73
Between 6 years and 10 years	23	25.27	89
Above 10 years	10	11.00	100
		100	
		100	

Table 3: Number of Years of Work Experience  
Source: Primary Data

63.73% of the respondents had worked for less than 5 years and 25.27% between 5 to 10 years, with only 11% with over 10 years.

As shown on the table 4 below, 18.7% of respondents were Medical officers, 26.6% are Clinical officers and 54.9% are nurses.

	Frequency	Percentage (%)
Medical officers ( Doctors)	17	18.7
Clinical Officers	24	26.6
Nurses	50	54.9
Total	91	100

Table 4: Respondents in This Study  
Source: Primary Data

Majority of the respondents were Nurses representing 54.9%

#### 4.2. Public Healthcare Facilities and Strategic Intent of PRM Responses Analysis

The study sought to establish the extent to which the public health facilities practices strategic Planning hence strategic intent of PRM in their operations. The respondents were asked of their strategic plans and their formality in the public healthcare facilities and the responses were as shown in figure 4.1 below

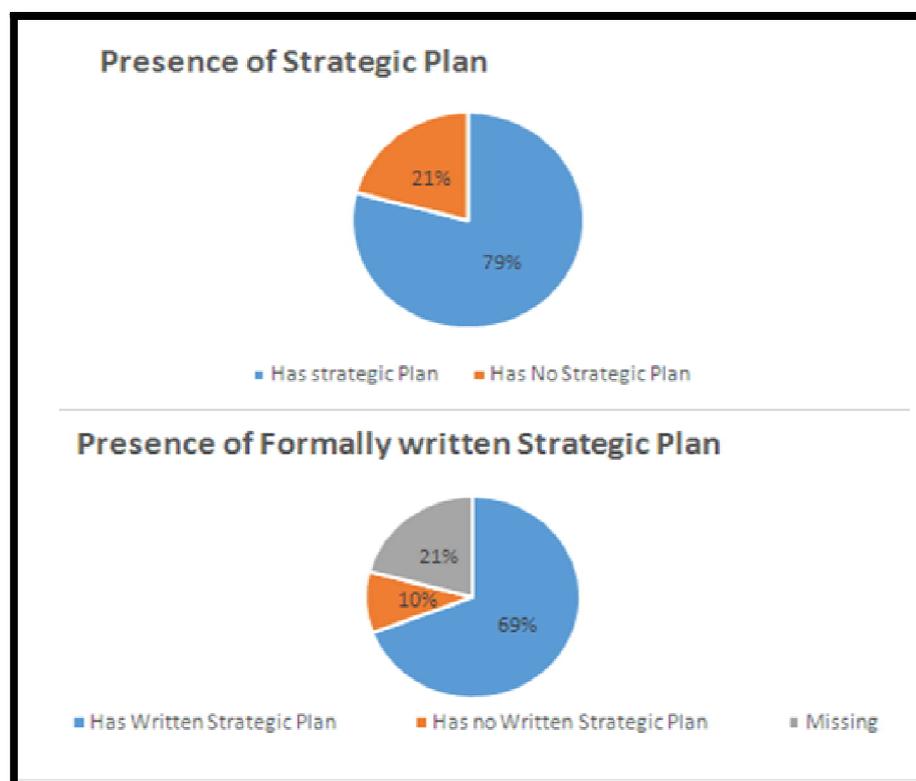


Figure 1: Chart to Show Presence and Formality of Strategic Plans  
Source: Primary Data

It is noted that 79% of public healthcare facilities had strategic plan with 69% of them written and 10% not sure whether strategic plan is written or not hence did not respond. 21% of the health facilities had no strategic plan. Respondents were asked to indicate whether the facility followed one of the objectives of PRM. Their responses are indicated as shown on Table 5 below

	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	83	91.2
No	8	8.8
Not Applicable	0	0
Total	91	100

*Table 5: Response Score on Objective of PRM  
Source: Primary Data*

Out of the total 91 respondents, 83 (91.2%) answered YES, meaning their facility actually follow one of the objectives of PRM. 8 (8.8%) answered NO, which implied that their facilities do not follow any objectives of PRM, NON answered "NOT Applicable" simply meaning all had an idea about PRM objectives.

Respondents were then asked to indicate which objective of PRM is more important to the facility. Out of 91 respondents, 56 (61.5%) considered increased access to healthcare as the most important objective in the healthcare facility, followed by improving patient services at 30 (33%). Other objectives were considered as most important as shown in table 6 below.

<b>Objective</b>	<b>Frequency</b>	<b>Percentage (%)</b>
Increased access to healthcare	56	61.5
Sustainable Competitive advantage	1	1.1
Decreasing Cost	2	2.2
Improving Patient Service	30	33
Acquiring new customers	0	0
Patient Retention	2	2.2
	91	100

*Table 6: Responses Score to More Important Objective of PRM  
Source: Primary Data*

It is interesting to note that no one considered acquiring new customers as an important objective with sustainable competitive advantage as the least important. Respondents were asked to indicate who is involved in PRM implementations. Their responses indicated in Table 7 below shows that 52 (57.1%) of the respondents considered all the three as involved.

	<b>Frequency</b>	<b>Percentage (%)</b>
The public Servants	2	2.2
The healthcare facility administrator	13	14.3
The healthcare provider	24	26.4
All the three mentioned	52	57.1
Total	91	100

*Table 7: Responses Score to Who Is Involved in the Implementation of PRM  
Source: Primary Data*

The respondents were asked to indicate whether their institutions have any health information technology system. Their responses are indicated as shown on Table 8.

	<b>Frequency</b>	<b>Percentage (%)</b>
Yes	70	76.9
No	21	23.1
Not Applicable	0	0
Total	91	100

*Table 8: Response Score to Whether the Institution Have Any Health Information Technology System  
Source: Primary Data*

Out of the total 91 respondents, 70( 76.9%) answered YES, meaning their facility actually has some aspect of health information technology system. 21 ( 23.1%) answered NO, which implied that their facilities do not have any form

of HIS , none answered "NOT Applicable" simply meaning all institutions have the potential or need for a health information system.

Further, the respondents were asked to indicate what they use the Health Information System for. Their responses are indicated as shown on Table 9.

Objective	Frequency	Percentage (%)
To provide timely information for decision-making	52	74.3
To reduce operations cost	6	8.6
To better communication with your Patients and hospital's partners	11	15.7
None of the above	1	1.4
	70	100

Table 9: Response Score to What Is the Use of Health Information Technology System  
Source: Primary Data

It is interesting to note that majority of respondents (74.3%) considered providing timely information/ data for decision making as the most important use of health information system followed by "to better communication with Patients and hospital partners" with 15.7% of respondents. Barriers towards implementation of patient relationship management in public health institutions in Kilifi County, Kenya

Ten assumed statements were presented to a target 91 respondents ( 17 medical officers, 24 Clinical officers and 50 nurses). The respondents were asked to indicate possible answers from the options of ; Strongly Agree, Agree, I do not know, Disagree and Strongly Disagree ; which are meant to show agreement or not with the fact that the proposed item constitutes a barrier to PRM implementations.

The table below highlights the output of descriptive analysis of variables categorized as barriers to PRM implementation.

Descriptive Statistics					
	N	Mean		Std. Deviation	Variance
		Statistic	Std. Error	Statistic	Statistic
Skill required to use the technologies is too complex for our employees	91	2.88	.088	.841	.707
Interdepartmental conflict	91	2.74	.097	.929	.863
Inefficiency in business processes	91	2.71	.122	1.167	1.362
Lack of senior management commitment to PRM	91	2.67	.103	.978	.957
A lack of standardization	91	2.65	.098	.935	.875
An absence of complementary patient management skills	91	2.62	.088	.840	.706
Resistance to change among the hospital's staff	91	2.56	.105	1.002	1.005
Poor communication	91	2.52	.082	.780	.608
Lack of end-user input at service stage	91	2.51	.115	1.099	1.208
Inadequate supporting budgets	91	1.89	.107	1.016	1.032
Valid N (listwise)	91				

Table 10: Respondent Score on Barriers to PRM Implementations  
Source: Primary Data

All values were used in the descriptive analysis. On average, healthcare facility professionals disagree that the skills required to use technologies at the hospital hinders them from implementing the PRM strategies. On the other hand, healthcare facility professionals agree that inadequate supporting budgets hinder them from implementing PRM.

#### 4.3. Regression Analysis

The study was based on the premise that there is a relationship between the implementation of PRM programs and competitiveness of public health facilities in Kilifi County.

A multiple linear Regression model was used to determine how collaborative aspects, operational aspects, and analytical aspects as a strategic intent of PRM affect the competitiveness of the healthcare institution in Kilifi County.

##### 4.3.1. Regression Model 1

The proposed regression model 1 is

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Where Y = Competitiveness of healthcare Facilities

X1 = Operational areas of PRM ( Front office touch points)

X2 = Analytics areas of PRM

X3 = Collaborative areas of PRM

$\beta_0$  = Constant

$\epsilon$  = Error term

The fundamental assumptions in linear regression are that the error terms have a mean of zero and uncorrelated. It is also assumed that the error term is of the normal distribution with zero mean and a constant variance. The table below indicates the mean and standard deviation of the respective variables.

Descriptive Statistics			
	Mean	Std. Deviation	N
Competitiveness	2.2225	.57185	91
Operational aspect	2.410256	.5020376	91
Analytical aspect	2.4579	.72631	91
Collaborative aspect	2.4462	.51560	91

Table 11: Variables Descriptive Statistics  
Source: Primary Data

This means that operational aspects have a least mean (2.410) and least standard deviation (0.502) than the other two dependent variables and hence has the highest effect on the health facility's competitiveness. Analytical aspects have the least effect on the competitiveness

Coefficients <sup>a</sup>									
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
(Constant)	.540	.302		1.790	.077	-.060	1.139		
Operational	.339	.117	.298	2.891	.005	.106	.572	.792	1.263
Analytical	.048	.084	.061	.571	.569	-.119	.216	.731	1.368
Collaborative	.305	.126	.275	2.417	.018	.054	.556	.647	1.546

Table 12: Regression Coefficients for Model 1  
a. Dependent Variable: Competitiveness  
Source: Primary Data

From the coefficients table above, the regression model to predict how operational aspects, analytical aspects, and collaborative aspects is given by:

$$Y = 0.54 + 0.339 X_1 + 0.048 X_2 + 0.305 X_3 + \epsilon$$

The variables used (competitiveness, collaborative, analytical, and operational) were calculated by obtaining the average score of variables in the respective category as indicated in the questionnaire. The coefficients of collaborative aspects, operational aspects, and analytical aspects are 0.305, 0.339, and 0.048 respectively. This means that operational aspects have a higher coefficient than the other two dependent variables and hence has the highest effect on the hospitals competitive. Analytical aspects have the least effect on the competitiveness of hospital institutions.

Analytical aspects have a confidence interval ranging between -0.119 to 0.216 hence a consideration to performing more analysis or remove it from the regression model. The VIF values for all dependent variables are less than 2 meaning that the X-variables are not correlated.

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.520 <sup>a</sup>	.270	.245	.49698	2.098

Table 13: Model 1 Summary  
a. Predictors: (Constant), Collaborative Aspect, Operational Aspect, Analytical Aspect  
b. Dependent Variable: Competitiveness  
Source: Primary data.

The model summary table shows that the R Square value is 0.27, which means that 27% the changes in the healthcare facility's competitiveness is explained by the changes in the collaborative aspects, operational aspects, and analytical aspects. The Durbin-Watson test has a value of 2.098, implying that the autocorrelation between variables is negligible because the value is within the range of 1.5 and 2.5. According to the rule of the thumb this value indicates no concern of autocorrelation between the independent variables.

Regression model 2:

On removing analytical aspects from the linear regression model, the new model is given by:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$$

Where Y = Competitiveness of healthcare Facilities

X1 = Operational areas of PRM (Front office touch points)

X2 = Collaborative areas of PRM

$\beta_0$  = Constant

$\epsilon$  = Error term

Coefficients Table for the Second Model						
Model	Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
2	(Constant)	.597	.251		2.381	.019
	Collaborative	.502	.095	.490	5.265	.000
	Operational	.236	.098	.224	2.410	.018

Table 14: Regression Coefficient for Model 2

a. Dependent Variable: Competitiveness

Source: Primary data

The table highlights the coefficients of the dependent variables (collaborative aspects and operational aspects). Analytical aspects were eliminated due to high multi-collinearity score. Thus, the new model with the coefficients is given by:

$$Y = 0.597 + 0.236 X_1 + 0.502 X_2 + \epsilon$$

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
2	.624 <sup>b</sup>	.389	.375	.41719

Table 15: Model 2 Summary

a. Predictors: (Constant), Collaborative, Operational

According to the model summary table, collaborative and operational aspects of strategic Intent of PRM contribute to 39% of the competitiveness of healthcare facilities in Kilifi County.

4.4. Distribution of the Error Term

As illustrated by the P-P plot and the histogram, the regression standardized residuals are approximately normally distributed. Since the residual satisfy the conditions of regression analysis, the regression model can omit the error (the mean of error is zero). Thus, the regression model is as follows:

$$Y = 0.597 + 0.236 X_1 + 0.502 X_2$$

Where: 0.597 is the constant, X1 is Operational aspects, and X2 is collaborative aspects.

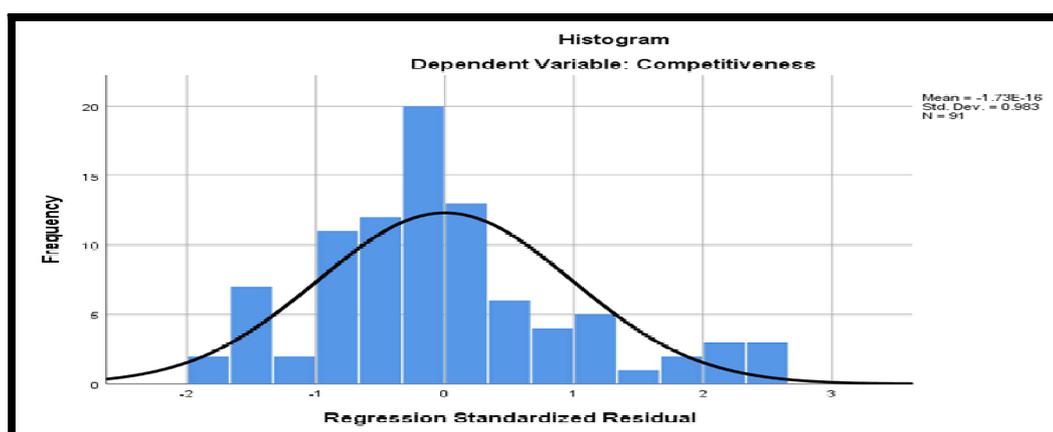


Figure 2: Histogram Regression Standardized Residual Indicating a Normal Curve

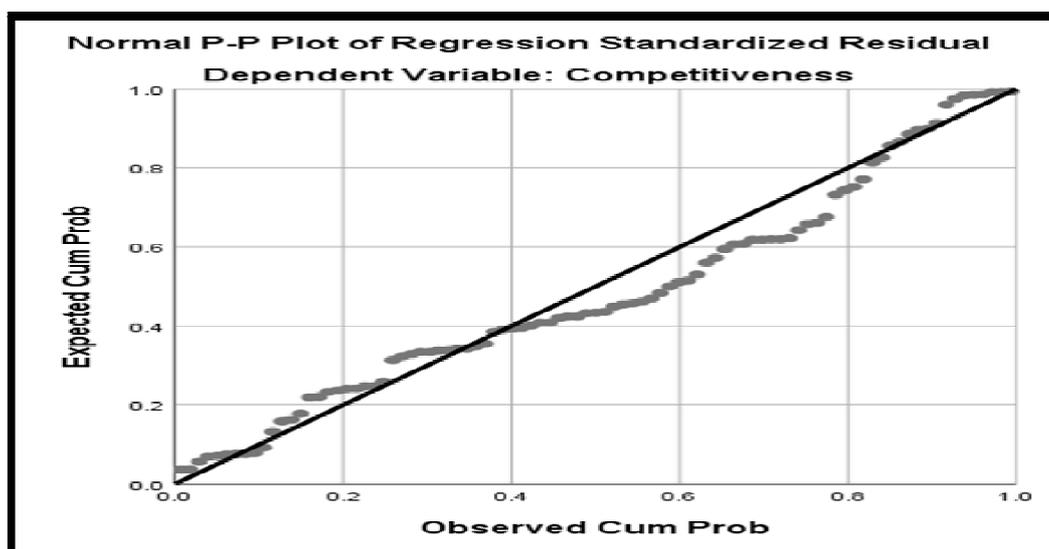


Figure 3: Normal P-P plot of Regression Standardized Residual

#### 4.5. Analysis of Variance (ANOVA)

To get an understanding of whether the variations in hospital competitiveness is explained by collaborative and operational aspects we run the regression ANOVA. The table 16 below highlights the results from the ANOVA test.

Model		Sum of Squares	df	Mean Square	F	Sig.
2	Regression	9.760	2	4.880	28.036	.000 <sup>c</sup>
	Residual	15.316	88	.174		
	Total	25.076	90			

Table 16: ANOVA

a. Dependent Variable: Competitiveness

b. Predictors: (Constant), Collaborative, Operational

The F-statistic is 28.036 and a P-value of 0.000. Since the P-value is less than 0.05, we conclude that the variations of hospital competitiveness is significantly affected by the collaborative and operational aspects.

#### 5. Discussions

The findings of the study indicate that the main barrier to implementation of PRM programs in Kilifi County is the inadequate budget. On the other hand, the study shows that the skill required to use technologies by employees was the least important barrier. Vivian & Mary (2011) in the case study in customer relationship management in the healthcare industry in Ghana's Ansanti and upper west region found out that poor communication was the greatest barrier and that the skill required to use technologies by employees is the least important barrier. From the above findings, it is evident that the barriers to PRM implementation are specific to the research population and cannot be generalized; budget and poor communication noted as key barriers based on the two studies. On the other hand, the two studies agreed on the technology use by employees as the least barrier to implementation of PRM.

The studies confirm that improving patient services is an important objective of PRM in public health care facilities. More globally, it appeared that most public healthcare facilities are implementing PRM with the main purpose of trying to remain in the market and satisfy their current customers and much less for expanding their market share and attracting new patients.

From the study, it was found out that the hospital competitiveness is significantly affected by the collaborative and operational aspects of PRM. The "operational" are the part that coats the front-end trade processes affecting patient satisfaction and the "collaborative" area, smoothens and progresses patient relations while harmonizing, and wiring the same all over the organization (Alexandrou, 2007). Similarly, Khadijeh and Mehrdad (2014) noted that PRM has a major purpose in putting to use the patient information successfully for forecast of trend of sickness and disease over time, categorization of the kind of disease and applying follow-up structure may enhance the value of care that is offered to the client. Consequently, this would directly amount to improved client contentment as well as most excellent maintenance (retention) plan for health fraternity. Alexandrou, (2007) noted that the key works of collaborative aspect of PRM is getting individuals, procedures, and information together to provide improved services and keep hold of their clients hence competitiveness of the facility. The PRM architecture results in a single version of the truth about customers created by a seamless internetworking of people, processes, and technology, (Operation and Collaboration) all working together to achieve a business objective.

## 6. Summary, Conclusion and Recommendations

The chapter presents a rundown of most important conclusions regarding the analysis of the information. Likewise, it gives suggestions for the executives and proposals that emanate from the examination.

### Summary and Findings

This study has been dedicated to assessing the strategic intent of patient relationship management in public health facilities in Kilifi County. For this reason, the questionnaire has been designed and presented to a couple of interviewees in public health facilities in Kilifi County.

64.8% of the respondents were female and 35.2% were male with 63.73% with below 5 years of experience in the facility and 25.27% with between 6 years and 10 years' experience in the facility. Only 10.97% were above 10 years' experience in the same facility. Majority of the respondents were nurses at 54.9% and they represent 66% of the population of health care professionals in Kilifi county. Most of the public health facilities in Kilifi County have a strategic plan as confirmed by 79.1% of respondents and that most of the strategic plans are formally written as confirmed by 87.3% of respondents

PRM implementation was the job of all the three main players in health care; the hospital administrator, healthcare provider and the public servant. 57.1% of the respondents felt that the three players are key to PRM implementations with 26.4% of the respondents believing that healthcare providers are key. The public servants were the least involved as 2.2% of the respondents mentioned them. On the other hand, 61.5% of the respondents considered that "Increased access to healthcare" was the most important objective of PRM implementations. This is followed by Improving Patient Services at 33% of responses. No respondent considered acquiring new customers as an important objective. Therefore, it is found that the present PRM systems allow mainly increasing access to health care and improving patient services to create loyalty and better understanding and addressing of patient needs

The public health facilities in Kilifi County have some sort of health information system as confirmed by 76.9% of respondents and that it is used to provide timely information/ data for decision making. Very few respondents felt that the health information systems are used to reduce operation cost by improving efficiency of processes (8.6%) and to better communication with patients and hospital partners( 15.7%)

The study revealed evidently that inadequate supporting budget is the most significant challenge to PRM implementations whilst skills necessary in application of technology is the most minimal of challenges. From the regression analysis model, it is clear that operational aspects of the strategic intent of PRM have a higher coefficient than the other two dependent variables and hence has the highest effect on the hospital's competitiveness. Analytical aspects have the least effect on the competitiveness of healthcare institutions. The study also found out that 27% the changes in the healthcare facility's competitiveness in Kilifi County is explained by the changes in the collaborative aspects, operational aspects, and analytical aspects. Further analysis with a second model eliminating analytical aspects due to high multi-collinearity shows that collaborative and operational aspects of strategic Intent of PRM contribute to 39% of the competitiveness of healthcare facilities in Kilifi county. Finally, the analysis of Variance, conclude that the variations of hospital competitiveness is significantly affected by the collaborative and operational aspects.

## 7. Conclusions

The operational and collaborative functional areas of PRM paves way for the providers of services of health to comprehend and anticipate patient behavior. Primarily, it is importance for the givers of healthcare services to retain clients and together inform some value proposition and enrichment in the staff patient-integration of quality hence competitive edge.

The research study showed that all variables that touched on the patient interaction scored highly hence an overall positive contribution of operational and collaboratives aspects of PRM. To enhance the doctor and patient joint relations, medical practitioner sought to display this value proposition and enrichment as they offer services to patients. The public health service provider must care and sympathize with patients so as to suit and keep patient's function of co-producing the organizations worth. Therefore, the medical officers, nurses and the rest of experts can link up as well asaid in developing a medium by which the patient relations can be improved through collaborative function using health information systems.

## 8. Recommendations

By the results and deductions above, the work proposes that sectors in the public health ought to further take oncurrent know- how in order to enable collaborations in evaluation of service, improvement of processes as well as communication, to make sure that the result ant net work satisfies the clinicians as well as increases the ease of access to the related data professionally and competently.

Also, it is recommended that healthcare services providers in Kilifi County should be given additional training on operational and collaborative aspects of PRM to make them more productive in the implementation of PRM techniques and on how to make PRM implementation beneficial to stakeholders. Mindset change and training will help the public health facilities in Kilifi county in delivering customized collaborative services to disseminate information, acquire information and analyses the information for efficient and effective health care operational processes.

From the findings of this study, the government can comprehensively address the concern in the public health sector for adequate budget and staffing. The survey proposes that the administration in public health fraternity ought to offer sufficient quantity of qualified as well as skilled workers. Valuable staffing ought to be embraced to enhance supervision of medical practitioners and other employees, thus realizing success, good revenue as well as good levels of practice.

## 9. Limitation of Study

More research needs to be done on each function of the PRM in order to broaden the variables in each function and between the functions in operations, analytical and Collaborative functions of PRM.

More so, the research could be replicated on a wider population, for example, Sample counties in Kenya to establish a common framework for PRM implementation which will play a big role in policy development in public health sector reforms.

The study population of the health facilities are dispersed in very remote areas with poor road network hence the process of data collection is very expensive. This made it necessary to have stratum random sampling in inaccessible areas to reduce the cost burden. On the other hand, most of the healthcare facilities have one or two health professionals and getting time to meet them and fill the questionnaire was very difficult.

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