Business Process Management in Healthcare versus Quality Processes and Results in a Dynamic Globe

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Abstract

The Health Sector is a crucial sector in the economy, several policy makers and other stakeholders in the globe keep restructuring and re-enacting policies to adapt to the dynamic process of the globe and new diseases or ailments that demand sophisticated form of treatment.

The paper therefore seeks to examine literatures that deal with the impact of business process management and Quality Processes Result with relevant statistics and studies showing the importance of the variables mentioned earlier. The paper examines Quality Processes, data and results as they affect healthcare and management to arrive at a conclusion useful for policy makers.

Keywords: *Business Process Management, Quality Processes Results, healthcare policy, quality improvement.*

Introduction

The search for value, quality, and unique processes in healthcare is not a new phenomenon. The concepts of quality in healthcare are firmly enshrined in the spirit of Hippocratic oath and in the regulation of medical practices. (Whittaker 1999).

The healthcare industry faces many challenges; dynamism of the global process in management, technology, business, and workplace has paved way for a diverse outlook of the health sector.

Different approaches have been submitted as a way of addressing challenges facing the health sector; prevalent among most of the submissions are the business process development management and quality process result model which are expected to generate a more conducive healthcare sector.

The entire sets of models, thus, revolve around organizational change in healthcare and strategic decision making systems in healthcare system. Hospitals were originally charitable organizations established and maintained through acts of private philanthropy, generosity and lately public works. As in the United States of America, the prevalence of non-profit hospitals started with the foundation of Blue Cross in the 1930s and the enactment of Medicare and Medicaid in the 1960s. (Swinehart & Zimmerer 1995). Reorganization of the health sector started in the 1980s and 1990s; with the development of health maintenance organizations, independent practice, associations, and joint ventures. The 1980s and 1990s can be depicted by the rapid growth in horizontal healthcare relationship; between 1989 and 1996, 190 full asset mergers were recorded in which ownership was reduced to one person with one license. (Bazzoli et al. 2004). Organizational change depicts diversities in how an organization functions, who its members and leaders are and how it allocates its resources. (Bazzoli et al. 2004).

Whittaker (1999: p215-216) stated that interest in quality in healthcare, however, has increased due to the following reasons; increased attention to allocation of resources, cost effectiveness and efficiency, increase in community participation and consumer activism in health, significant changes in management perception and culture in private sector which has influenced management in health practices, reforms in health services,

increased professionalism in healthcare, a standard setting, expansion of private sector in healthcare and its influence in the entire globe, and the realization of the need for systematic analysis and improvement of problems.

The argument continues over the importance of business process management and quality process and results in the healthcare sector. The paper, therefore, seeks to examine literatures, clarify concepts related to the paper, clarify the major differences in opinions over the two models, identify quality issues and how to address them in a bid to improve processes for quality, analyze process modelling and healthcare, and ways of improving individual processes.

Conceptual Clarification

The paper's scope deals with an analysis of healthcare related and management issues in achieving the best way of quality results.

Quality improvement (QI) remains the central pillar of this paper; QI is a planned way to transform organizations by evaluating and improving systems to achieve a better outcome. QI consists of the following components:

- Quality as perceived and felt by customer from an internal or external perspective
- Systematic evaluation of processes and identification of variation with processes
- Improvement of processes throughout the life cycle of the service or product rather than the end of production or service delivery
- Continual monitoring of services and changes effected in terms of staff who deliver those services
- Use of indicators to make a comparison of services and production to norms
- Leadership and commitment to the aforementioned process from top management (Colton 2000)

Quality, Process and Results (QPR) from the perspective of healthcare connotes a solution anchored on performance and process management which is made of four components. Such as;

- Understanding the big picture (clients, stakeholders, processes and expectations)
- Creating strategy map
- Defining the metrics
- Improving individual processes (QPR 2007)

Business Process Management (BPM) is a term susceptible to varying definitions but here it connotes automation of employee activities that would have cost the firm or company valuable time and money. (Orbis-software.com).

Business Process Management is defined as the new management discipline that allows for measuring performance, quality and operations of employees, measuring competitiveness, and Corporate Performance Management.

Literature Review

Quality management is a multidimensional contextual construct; it is linked to customer satisfaction and organizational commitment in the field of business management process.

Total Quality Management (TQM) is depicted as an aspect of the overall management function that determines and implements the quality policy and the responsibility is vested in top management. (Whittaker 1999). Total Quality Management is, therefore, an organization-wide culture alongside commitment to foster quality improvement in which other variables such as quality control, quality assurance and continual quality improvement activities are undertaken.

Organizational processes include the content:

- Configuration
- End points of the services
- The inclusion prevention
- Diagnosis
- Information

The entire process functions well if organizational commitment and professional commitment is in view.

Organizational commitment succinctly depicts a person's loyalty to the organization and willingness to adhere to the organizational goal. (Porter et al. 1974; Porter et al. 1976)

The interaction of business processes with healthcare organizations changing to the use of IT support to meet the needs of their clients and ensure quality service delivery is prevalent in the health sector. There is a need for process orientation and transparent communication or dissemination of information between various actors and the IT systems. The most crucial part of the communication is the patient process which connotes the interaction between healthcare providers and patients, in order to improve the patients' quality of life. Healthcare is organized functionally in primary care units, hospitals, home healthcare units; each unit having independent or isolated information systems. The systems can be characterized as such: they support single organizational functions adequately but with little adaptation to a process oriented perspective of viewing things, i.e. where there is coordination for intra-and inter-organizational process, different paradigms, software and hardware platforms are created to address the patient process in different units. (Wangler et al. 2003).

In spite of the difficulties inherent in the unit system as demonstrated in the picture below, it is not totally a waste of effort to adopt IT systems. More developments in the field of business management process and healthcare have led to several software developments. (Wangler et al 2003).

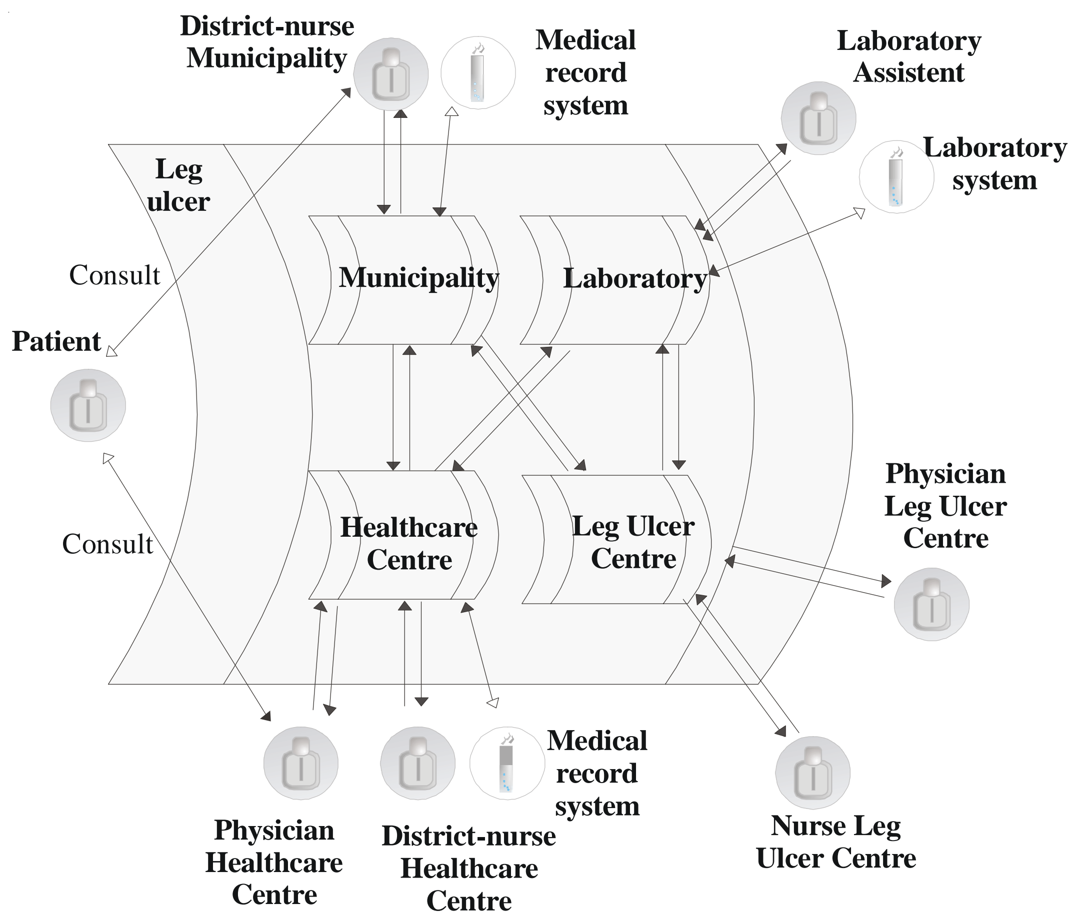

Figure 1: BPI diagram

Methodology

The paper makes use of qualitative methodology to study the importance of Business Process Management (BPM) and Quality Process and Results (QPR) in healthcare. As the dual concepts are new in the field of healthcare, there are not many literatures to use in analyzing or studies that might be of help. However, with the limited availability of literatures, online databases of BPM and QPR would be consulted.

A prominent part of the qualitative analysis would be the examination of a technical report by RAND Europe which takes a look at the interplay of consumer choices in healthcare and the response of organizations to several influences, either external or internal, that shape the interaction with customers, the organization and governmental policies. The research of RAND focuses mainly on the German health sector with the adoption of Quality Assurance Process. The paper would, therefore, use the data and facts from the research literatures to analyze the debate

about the importance of QPR and BPM in the healthcare sector.

Quality Process Result Perspective in Healthcare

Hospitals have been faced with a competitive milieu which requires high levels of capital investment, support facilities and high tech equipments with professional healthcare workers. The professionals or physicians supply the patients the much needed treatment and hospitals invest in state of the art facilities to improve quality and efficient service delivery (Swinehart & Zimmerer 1995).

Quality Process and Result as depicted by the QPR white paper, submits four phases that aid performance and Process Management in the healthcare sector:

(a) Comprehending the big picture which entails who the clients, stakeholders are, processes, expectations and needs (customer satisfaction can be represented here).

(b) Creating Strategy Map which identifies the critical drivers for success.

(c) Defining the metric; measuring performance of the organization.

(d) Improving individual processes which consider if individual activities or responsibilities align with objectives or goals of the organization (qpr.org).

Whittaker (1999) identified the rise of the importance of quality process results as due to the:

- Increased attention to resource allocation
- Cost-effectiveness and efficiency
- The increase in community participation and consumer activism in healthcare service delivery
- Changes in management attitudes and culture in the private sector, especially in the manufacturing sector which greatly influenced management practices in health, reforms in public sector which includes user payment schemes, an increased level of professionalism in healthcare, standard setting, a recognition that deficiencies in quality in many primary and acute care settings existed, an expansion of the private sector and its role in the globe, a realization of the need fro systematic analysis and improvements of problems.

Whittaker (1999) opined that the process of quality improvement in healthcare and in management sectors has changed towards a more proactive, systematic and continual process. Client satisfaction and management efficiency are probably noticed in an organization that targets attaining quality. Improvements in the process and systems are the transformation of management which is a long-term process that makes use of organizational and professional commitment, resources and staff.

Deming's framework for quality which is built on management identifies 14 main requirements to attain quality in the services of an organization. Quality from the healthcare perspective depicts the measuring of performance according to standards, use of safe, affordable healthcare technologies and interventions, and the ability of such interventions to

produce impacts on mortality, morbidity and disability. (Whittaker 1999).

Quality improvement as a process in organizations, however, opines that problem solving is eclectic and carried out by several teams; activities related to quality improvement addresses processes that may be hospital-wide, staff at all levels of the organization cross boundaries to be involved in quality improvement efforts (Colton 2000). The organizational theorist provides a background for explaining factors that influence the implementation of QPR.

The Hawthorne studies which cover the dimension to management philosophy by incorporating the needs of workers to their milieu and other variables that influence their work-process, explain the change in quality process and results witnessed in the last decades. The Hawthorne studies has, however, been enshrined in the QPR paradigm as reflected by the four phases mentioned earlier, which takes into significance the presence of human beings in a work place. The bottom-up approach adopted in implementing the QPR initiatives which place units to cooperate to attain the organizational goal, strategy map, for instance, sets key objectives that drive success in organizations.

Quality service delivery, attaining results and processes can be viewed from the aspects of functions as submitted by the 1995 AHMC which lists the following as important elements towards quality service delivery; measurement and assessment of these functions will give the organization patient focus, outcome evaluation information through the utilization of the Quality Process and Results (Templeton 1996). A link between functions and processes in healthcare are interrelated with the interaction of organizational norms in the healthcare system and client feedback of the processes.

Cascading occurs after strategic objectives are agreed on; cascading, however, is a top to bottom process in organizations. Implementing a balanced scorecard or performance management framework provides a methodology; it also ensures that the balance of measures plays a vital role when identification of strategic measures is considered by the management (qpr.com).

Alignment of priorities with the consistency of reporting often sees clinics have their different rules on calculating health related ailments like infections or setting up plans to stem the tide; the variety of units makes it difficult to arrive at one best way of solving the problem.

The automated QPR, therefore, uses a combination of information flow and information system technique. The information flow comes to view when interrelated services are delivered, when patients interact from one service point to another. Information flow is achieved when the patients move through the service provider network and service chain turns to updated process knowledge in organizational management or business management (Klischewski & Wetzel 2003).

Hospitals have ample opportunity of revisiting the service flow information to keep abreast of the patients' situation .A central service flow management managed centrally might be a more worthwhile endeavor than a break into other units to ensure quality, process and results.

The Business Process Management Perspective in Healthcare

The Business Process Management (BPM) is a dynamic field in all sectors; change remains a constant variable here, it is a process of interaction of employees, employers, clients and policy makers. BPM connotes a set of activities an organization executes to optimize its processes alongside the use of IT tools to attain full optimization (bpmenterprise.com).

BPM, just like QPR, are tools used by organizations to reduce transaction cost, increase efficiency and enhance customer service, this innovation, however, does not leave the health sector out of the prevalent system of management. Business Process Management emanated from technological systems designed to improve organizational workflow and re-engineering processes. BMP has been tagged as the future of business technology, with the software designed to improve efficiency and dynamic organizational behavior. BPM best practices leverage business process management; objectives are developed for BPM, support for BPM implementation, promotion of transparency and accountability, planning of business events. The best practices in organizations control the lifespan of processes to achieve business objectives, the introduction of softwares that automate and streamline tasks, deploy an effective management system that allow for quick response, maintain audit trail, employ a framework of consistent policies, steps and rules. It involves the consortium of software vendors; the system includes Business Process Modelling Language (BPML). The table below further shows the relevance of BPM to customer satisfaction and other processes involved in successful business processes.

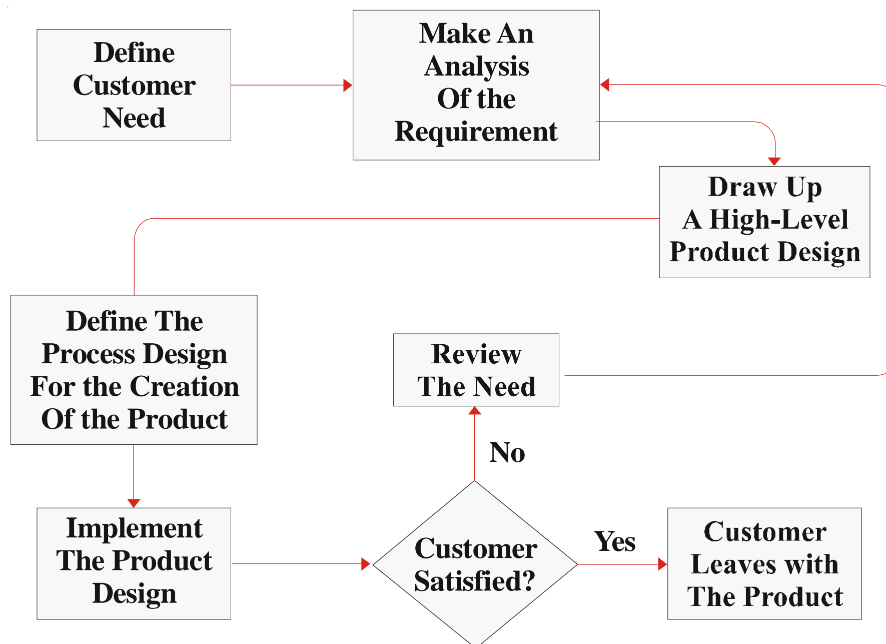

Figure 2: Relevance of BPM to customer satisfaction

BPM, therefore, acts as a tool of process improvement that brings clinicians and managers together, all the work is accomplished through a process in every organization (Hindle 1997). The BPM, therefore, takes a logical sequence of interrelated activities, characterized by a group of specific inputs and value added tasks that provide a set of outputs to meet corporate and customer needs.

A full comprehension of BPM needs a revelation of what business process in healthcare entails. These are:

- Defining service procedures
- Negotiating service level agreements
- Developing service delivery capability
- Measuring customer satisfaction
- Researching health needs
- Evaluating services
- Admitting patients
- Treating patients (Hindle 1997)

The argument over management strategies in healthcare comes to fore here; the uniqueness of the hospital paves way for the development of models that will explain the business outlook of the hospital or healthcare sector.

Porter's Value Chain and Fine and Hax Methodology

Porter's Value Chain and Fine and Hax Methodology would clarify the import of Business management processes in healthcare.

Porter opines that an analysis of a firm's strength, weakness and potentials in our competitive era demands disaggregation of the firm's structure. Porter's argument discloses the importance of a value chain of interconnected activities by linkages which affect the cost effectiveness of other activities. At the business unit level, these activities determine the competitive advantage of a company. The nine strategies submitted by Porter include five primary and four support activities which show relative strengths and weaknesses.

Primary activities include:

1. Logistics
2. Operations
3. Outbound logistics
4. Marketing and sales and
5. Service

Support activities include:

1. Firm's infrastructure
2. Human resource management
3. Technology development
4. Procurement (Swinehart & Zimmerer 1995)

Activities in hospital or healthcare are not performed across functional lines, therefore, a diagnostic method like that of Porter seems to be the perfect blend.

Fine and Hax further opined that interrelationship between operational decisions, support services and external markets are crucial in Business Management Process. They also came up with nine strategic categories, which are:

1. Facilities
2. Capacity
3. Vertical integration

4. Processes and technologies
5. Scope and new products/services
6. Human resources
7. Quality management
8. Infrastructure
9. Vendor relations

The model further intensified on the four performance measures peculiar to healthcare industry, which are:

- Cost
- Delivery
- Quality
- Flexibility

The uniqueness of health sector cannot be fully explained by models as compared to the manufacturing sector, because the main variables here are human beings; physicians, patients, administrators, policy makers, managers. The top–down approach of the BPM has been criticized in the health sector because of the break into units of several departments. Zairi (1997) states that BPM emphasizes quality structures fostered by elements of modern day management and in which create a BPM culture, structure on its own which influences a change in the way of doing things in organizations. The process of change in organizations to the use of IT and Business Process Management is often referred to as Business Process Reengineering (BPR). In the health sector, all these changes depend on the alignment of corporate goals and having health professionals focus in adding value to patient (patient satisfaction is based on quality service delivery). The QPR and BPM automated software models, as indicated in the explanations, reveal two basic points, to attain quality services the two automated systems are crucial and the human variable acts as a link to quality service delivery which is crucial in the health sector. But then how do we motivate, inspire professionals to fulfil their mission of quality service delivery? The answer is not far away than a mixture of Business Processes and Quality Processes which the duo softwares have tried to achieve (Joseph 2004). The next part deals with customer or patient satisfaction which emphasizes quality process and business process management.

Client Satisfaction as a Function of BPR, QPR in Healthcare

Jimmieson and Griffin (1998) in a review of the connection between client satisfaction and healthcare services, submit that organizational characteristics act as a predictor or determinant of client satisfaction in healthcare services. Client satisfaction in healthcare services, therefore, represents the consumer's positive or negative reactions to the process, results and management.

Research on client satisfaction has mainly focused on characteristics of clients or consumers with a variety on socio-demographic and pre-dispositional factors.

Factors such as gender, age, socio-economic status have been the contending variables depicting client satisfaction in the healthcare sector (Jimmieson and Griffin 1998). In the health insurance market, needs are represented by the demands that a patient or doctor perceives, supply, however, refers to the healthcare offered by providers.

Consumerism in healthcare has, therefore, become an active part of the sector rather than a passive one, with the introduction of automated management and healthcare system. Consumers or clients have, therefore, created a new paradigm in healthcare as they are the key to influencing policies, strategy and operations, investment decisions in the industry, and determining the level of market place competition (in your interest).

Another determinant in consumerism in relation to the healthcare system is the issue of pricing information, insurance coverage, and discount eligibility. These are basic pillars of making the QPR and BPM automated systems work perfectly. The foregoing was the central message in the Employee Benefit Research Institute and the Commonwealth Fund, on-partisan organizations stating that health insurance and insurance coverage are still cogs in the wheel of progress for consumers.

The survey further disclosed that people in consumer driven plans have large shares of their income on out of pocket costs and premiums; adults are the worst hit as they search for information on costs and quality of health providers.

The 2008 Health Confidence Survey further confirms the position of uncertainty and trust by consumers of the health sector in the United States of America which is not far from the case in most countries. The competitive scope of the health sector is further alarmed by the high cost of healthcare services. The survey reveals that 51 percent are extremely or very confident of the treatments they need and 42 percent are not too or not at all confident about the affordability of healthcare, which is an increase from 36 percent in 2007 (EBRI News).

The importance of a blend between QPR and BPM is further emphasized in the key findings of the Commonwealth Fund Survey as follows; "only one-quarter (26%) of U.S. and Canadian patients reported same-day access to doctors when sick, and one-fourth or more reported long waits. About half or more of Dutch (60%), New Zealand, (54%), and U.K. (48%) patients were able to get same-day appointments" (The Commonwealth Fund 2008).

The summary of the findings depicts a need for change in:

- Patterns of insurance designs
- Healthcare units and their response to patients
- Policies that would improve the healthcare system
- Coordination
- The use of codified knowledge for innovation practices which connotes a shared quest for system innovation through openness of information and ideas

Using the statistical analysis of Jimmieson and Griffin 1998 which is divided into two, mainly the effects of employee perceptions on client perceptions; hierarchical linear models were also used to account for hierarchical structure of data which links client perceptions to characteristics that emanates from departments in organization describing clients experience with a particular unit or department, the most crucial finding of the research been the importance of role conflict in organizations. The existence of role conflicts between

client and employee or healthcare professional reduced the chance of customer satisfaction (ibid). The RAND report, however, best depicts the real picture of client satisfaction as it relates to the management automation systems in focus. Evaluation of healthcare services, therefore, is dependent on the organizational process in different units in a healthcare environment. Succinctly, the report vividly states the impact role conflict has on clients, the effect of unit or departmental divisions in administration and customer satisfaction. Consumer preference as disclosed by the RAND report is crucial in attracting consumer interest when using the automated management softwares such as BPM and QPR, with a user-friendly interface.

However, the aforementioned submission is influenced by other factors such as employee's value choice, quality, and benefits covered when choosing health plan, personal relationship with a physician, age, and socio-economic status, distance and travel time, convenience, waiting time (Buesekom 2004).

The aforementioned arguments, however, strike a plain fact between business management process as workflow and coordination of work. BPM, therefore, emphasizes the customers as the main receivers of the output and that the customers are responsible for appropriating a high value to the output (Goldkuhl &Lind 2008). Business processes, therefore, stem from communicative acts and commitments; the coordination perspective of business process and quality process results emphasize the business interaction between the supplier and customer (Goldkuhl &Lind 2008). The business interaction model, however, depicts the importance of this management automation system which makes the customer and supplier exchange in different phases. This business logic describes the process of reaching how agreements are developed, settled, assessed and fulfilled. The conglomeration of business process, quality process results are, therefore, tools that are inevitable in a modern day healthcare system.

Health Informatics and the Management Dimension

The increasing demand for healthcare services and the competitiveness has made policy makers and healthcare administrators to incorporate the use of systematic application of Information Management and Technology (IM&T) for planning and delivery of high quality and cost effective healthcare; this brings the automated QPR and BPM into perspective (Norris 2002). A survey of the literature on health informatics suggests that four types of issues are relevant, they are:

- Healthcare complexity
- Policy and priority drivers
- Clinical support drivers
- Technology drivers (Norris 2002)

The complexity of the healthcare system has been emphasized throughout the analysis, BPM and QPR as processes or routines that are core to businesses, removing all other forms of non-value adding. Business Process Management is far from being pervasive and is no more than a structural change, the use of systems such as EN ISO 9000 and the management of individual projects. Major features identified with a process are predictability;

it has definable inputs, a linear, logical sequence, clearly definable set of activities and a predictable or desired outcome (Lee 2005).

Flowing from the foregoing is a need to disclose that tightening of specification to the extent that the process must follow a standardized business process language and computationally executed achieves the expected outcomes (Lee 2005).

The emergence of Business Process Re-engineering, however, has witnessed the birth of Quality Process Results and the automation of the health sector. The human resource aspect endemic or inherent in all organizations, therefore, cannot separate business process from attaining organizational goals or results. BPM system might still be in its infancy just like the QPR but we can notice some achievements on the part of QPR as disclosed in the website.

BPM is at its infancy just like other products, eight basic functions are tied to the management system such as process discovery, process design, process deployment, process execution, process maintenance, process interaction, process optimization and process analysis. An improvement by the QPR makes an advanced step towards managing work flow processes and making the system more human centric which is a key to reduce cost, improve speed, accuracy, increase and transparency (qpr.org).

QPR emphasizes much about management and execution of operational business processes which affect competitiveness, QPR workflow, therefore, acts as a tool to improve business process by automation. BPM and QPR are, therefore, inseparable as a tool of management and customer friendly instrument in healthcare.

Norris (2002) opines that automating existing processes will not release the full benefits of IM & T. However, it is necessary to identify stages involved in a process, be it clinical or non-clinical, remove stages or processes that add no value and reconstitute the modified process using automated software.

The automated systems have worked in the manufacturing sector as depicted by Zairi (2004) in his analysis, developing a culture based on QPR or BPM, however, can be assisted by using:

- Total quality principles
- Systematic methodology
- Problem solving technology which helps in developing local solutions within processes or across functions and used as a means of measuring performance for monitoring inputs, outputs and the control of each process
- Culture of continuous improvement based on learning from and within the healthcare

Summary and Conclusion

Competitiveness as a crucial part of business and survival in the globe has paved way for several innovations and systems. The innovation in management has spread down to the healthcare system which is complex; quality management has been top priority despite the continual complaints about deficiencies in the health system and the diverse forms of insurance in several countries.

Knowledge management and the idea of automation, however, come with reduction of staff strength as the database and other clerical duties are handled by competent professionals, the essence of innovation which is the creation of new jobs (Lee 2005).

In general, organizations are structured by function, based on divisions and departments which utilize professionals, such an organizational structure requires efficiency of work with the functions of several staffs supervised by managers with similar professional backgrounds and skills. The peculiarity and complexity of the healthcare systems is no exception, the picture painted earlier in the paper best depicts a need for processes, IM&T in the health sector.

Healthcare as a service providing sector with human component is, therefore, different from any other sector as such safety and efficiency issues rather than cost or profits which are synonymous to other sectors must be separated from the health sector in order to ensure quality service delivery. QPR and BPM, like other automated approaches, are aimed at improving service quality and likely to be unsuitable for healthcare as it is comprised of several sub processes, it has several stakeholders at different levels and there is a wide variation in its internal customer (e.g. fellow practitioners and professionals) and external customer needs (i.e. patients). Personally I accept that QPR and BPM can be used as tools of improving some sub process or sub unit activities, but it gets complex to approve the design for a whole healthcare system. Ideally, BPM and QPR automated methods for service improvement should be considered for the healthcare, but several tests need to be conducted in several sub processes. The crucial part of the argument stems from the need for coordination in sub-units; business interaction logic between professionals and customer to improve the process structure. In short, quality management tools designed for the other sectors can be used for health service sector with proper selection, caution and care. For business processes to be successful, they must be accompanied by a healthy dose of business practice, so the deployment of several managerial oriented professionals in the health sector is crucial. The in-depth business process analysis and the creation of a formal management system around the process requires the top management commitment and involvement alongside policies of harmonization of practice to challenge the existing norms hindering the efficacy of automated systems in the health sector.

Reference

Bazzoli ,G.J , Dynan , L , Burns L.R &Yap, C (2004) Two decades of Organizational Change in Healthcare: What have we learned? *Medical care research and review*. 61;247, accessed 12th December, 2008. Sage Publications.

Colton, D (2000) Quality Improvement in Healthcare: Conceptual and Historical foundations; 23; 7, accessed 12th December, 2008. Sage Publications.

Commonwealth Fund 2008, In Chronic Condition: Experience of Patients with Complex Healthcare Needs , in Eight Countries ,2008 , accessed 12th December, 2008 , http://www.commonwealthfund.org/publications/publications_show.htm?doc_id=726492.

EBRI News, (2008) Americans are battered by rising healthcare costs, but their overall confidence is steady, Survey finds, accessed 12th December, 2008, http://www.ebri.org/pdf/PR_814_07Oct08.pdf.

Goldkuhl , G & Lind , M (2008) Coordination and Transformation in business Processes ; towards an integrated view, Vol.14 ,No 6, p 761-777, Emerald Group Publishing Limited , www.emeraldinsight.com/1463-7154.htm accessed 12th December 2008.

Hindle, J (1997) Understanding business processes, Health Manpower Management Vol 23, No 5, pp 181-183. Emerald Group Publishing Limited , www.emeraldinsight.com/1463-7154.htm accessed 12th December 2008.

In your interest, article cited from emerald insight journal database.

Jimmieson, N.L & Griffin M.A (1998) Linking client and employee perceptions of the organization; A study of client satisfaction with healthcare services. *Journal of Occupational and Organizational Psychology* 71, 81-96, Sage Journal.

Joseph, E (2004) Business Process Management Streamlines Healthcare Claims Process, *National Underwriter Life &Health*.

Klischeweski ,R & Wetzel I, (2003) Service flow management for health provider networks , Vol 16, No ¾ pp 259-269 , accessed 10th December 2008, from emerald insight journal database.

Lee, L.L (2005) Balancing Business Process with Business Practice for Organizational advantage, Vol.9 No 1 29-41, accessed 10th December 2008, from emerald insight journal database.

Norris, A.C(2002) Current trends and challenges in health informatics, *Health Informatics Journal 8*, p 205-213, accessed 10th December 2008, Sage Journal.

Orbis-software.com, Business process Management (BPM) Software Suite-TaskCentre v4.5, accessed 10th December, 2008, http://www.orbis-software.com/.

Porter, L.J. and Parker, A.J. (1993), "Total quality management – the critical success factors", *Total Quality Management*, Vol. 4 No 1, pp. 13-22.

Swinehart, K &Zimmerer T (1995) Adapting a strategic management model to hospital operating strategies A model development and justification, *Journal of*

Management in Medicine Vol. 9 No 2, p 34-47, accessed 10th December 2008, from emerald insight journal database.

Templeton, J (1996) Improvement of Organizational performance: A Holistic Approach to Quality Management in Home Health services. 8; 40, Sage Publication.

White paper (2007), QPR improves Healthcare Processes and Drives Management Transparency, www.qpr.org accessed 10th December 2008.

Zairi, M (1997) Business process management: a boundaryless approach to modern competitiveness. *Business Process Management, Vol 3.No 1*, accessed 10th December 2008, from emerald insight journal database.

Wangler, B, Ahlfeldt, R.M & Perjons, E (2003) Process Oriented information systems architectures in healthcare. Vol 9(4), p253-265, accessed 12th December, 2008. Sage Publications.

Whittaker, M (1999) Towards Strategic Quality Management of Healthcare, *Journal of Health Management*; 1; 215, accessed 12th December,2008. Sage Publications.