The Effect of Business Processes Re-engineering on Improving Customer Satisfaction & Retention in the Manufacturing Industry

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Abstract

The focus of this paper is about business processes re-engineering in the manufacturing industry, with the aim of achieving customer satisfaction and retaining more customers. The benefits of BPR were discussed in the indenture of the benefits of total quality management (TQM). Three sets of questionnaires were designed to extract data from customers, service agents and suppliers of the organization. This was to scrutinize the proficiency of business processes as a vindication assistance to correct customer loss. It was then established that customers are inclined to the organization's processes than service agents and suppliers, therefore we recommend that through the practice of business process re-engineering, organizational goals must be aligned with the needs of customers

Keywords
Business process reengineering, Customer satisfaction, Total Quality Management

1. Introduction

The study was based on a case scenario of a company that manufactures chemicals and supply equipment, consumables, water technology and many specialized products within all major market segments throughout the southern African region. Most organizations are currently operating in competitive environment due numerous factors, namely advancement in technology, globalization, just to name a few. It is vital of every business to focus on their processes to differentiate themselves and improve their processes to positively impact the customer retention and/or customer satisfaction.

The organization painstaking implementation of Total Quality Management (TQM) involving two principles, ''involvement of people'' and ''engagement of people'' by means of having monthly forums to address business process issues and top management part-take in these meetings which the focus is solely on business process improvement of the organization so that customer retention target can be fulfilled and high rate of customer satisfaction. According to Sungau & Msanjila (2012), business process re-engineering (BPR) is not only vital for delivering high quality products but also important for the overall view of organizational efficiency and effectiveness and ultimately result in improved business process performance in which customer expectation are fulfilled whilst retaining them.

Customers are the heart of every organization, there's no organization which can succeed without customers. It is important to attract and retain them. Most service organization are struggling to retain customers and it is not a problem affecting only service organization, but most organizations in retaining customers. The business where the research was conducted aimed at achieving several aspects which include customer focus, flexibility, quality outputs, innovation and productivity. Therefore, the focus of this research is to explore how business processes can be redesigned and managed to ensure customer satisfaction and retention.

1.1 Background, Rationale and Scope of the Study

The goal of BPR is aimed at business processes and activities that create value to the customers by providing flexibility and transformation, through radically redesigning the organization. BPR enables organizations to adapt and achieve different results and survive in a competitive environment (Shin and Jemella, 2002). Furthermore, it enhances reforming of traditional business processes to reduce operational cost and improves quality in adapting to market changes and strengthen risk control (Chenghu, 2007). The drive to close competition gap has propelled organizations to adopt BPR technique (Al- Mashara, 2001). BPR is seen as one of the key techniques that can assist an organization whether manufacturing or services to survive and remain competitive in ever-changing global environment. Therefore, this study's particular interest is based on a manufacturing company in South Africa. Manufacturing is one of the crucial sectors with regards to its contribution to the South African turnover (revenue) as depicted below.

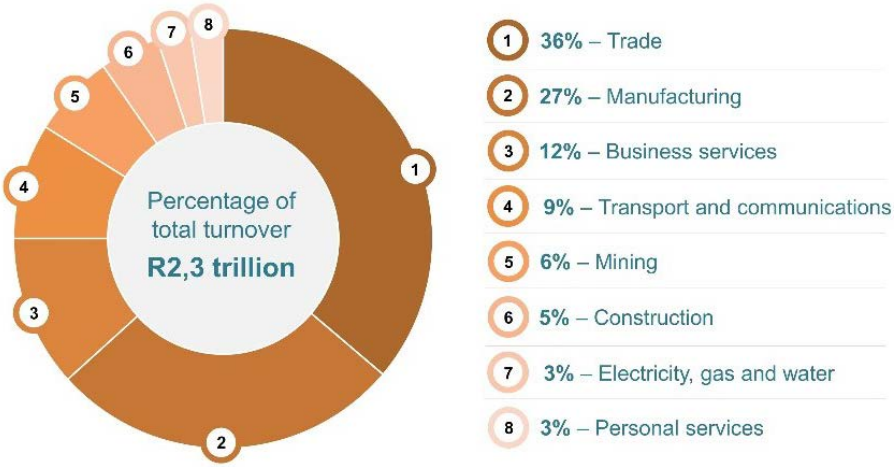

Figure 1. Percentage of Total Turnover by South African Industry Sectors (Statistics SA, 2017)

1.2 Value, Aims and Objectives of the Study.

The aim of the study is to analyze the challenges between the organization and its suppliers, and how best can the relationship serve and retain customers through BPR. The study was conducted to determine the impact of business process redesign on products and services quality, to discover consumer reaction on its relation to business process redesign regarding service rendered and to identify challenges and benefits in business processes redesign of service rendered. Furthermore, to aid the purpose of this study, the following questions were asked, (1) how does the effects of business process re-engineering on products improve quality service? (2) What are customers' reactions on business process re-engineering in with regards to the services rendered?

2. Literature Review

BPR has evolved to a well-established area for continuous improvement and innovation for business processes, and has consequently posed a big concern to many researchers around the world (Schmiedel *et al*, 2013). BPR is a strategy for business management for both manufacturing and service organizations which analyses, evaluates and designs workflows and business process of an organization to achieve customer satisfaction while being competitive (Shin and Jemella, 2002). BPR aims to bridge the gaps of the traditional theoretic system of labor divisions by utilizing the rapidly changing and growing Information Technology (IT) and the integration of several different activities (Hammer and Champy, 1993) Furthermore, BPR improves the traditional business operations to minimize operational costs and enhances service quality by enabling the business to adapt to market change, to make risk control effective and efficient (Chenghu, 2007). BPR involves three business reengineering processes:
(1) ***Business process renovation***, which comprises the improvement of the business operations through business process redesigning. This particular process involves streamlining key business processes on a flow observing secession of the work progress and integration (Dedela, 2009).
(2) ***Computerizing business process***, which is the utilization of machines in business processes to improve efficiency of the process by using Information and Communication Technology (ICT) (Shin and Jemella, 2002)

(3) ***Network of business process***, which is the utilization of ICT to coordinate business processes and all activities interconnected end-to-end by ICT networks and internet of things (IoT) (He, 2005). This can be applied successfully in manufacturing and service organizations in the ever-changing environment by changing their techniques and methods to ensure customers' needs are met and exceeded (Serban, 2015).

Organizations adapt to systems to improve product quality administration and consistency. Several organizations use BPR indirectly without being aware until they seek accreditation for market differentiation however the demand to survive in the market requires the need to avoid complacency. The drive to achieve competitive advantage and to achieve highest performance standards has pushed many organizations to apply BPR techniques (Debela, 2009).

Service quality involves understanding customer's needs and being able to interpret the voice of the customer into technical information which can be used to produce and deliver products and services as per customer requirements and exceed customer expectations of service quality (Lu *et al.*, 2015). As indicated by Lu *et al.* (2015), customer satisfaction and dissatisfactions is derived from the comparison of their perception of the product and service quality versus their expectations of the service, where quality is judged from the quality of an organizations service delivery.

When an organization gets to know its customers, its current business state, and what it wants from future service agents, it has to consider the five dimensions of service excellence that most customers look for, they include reliability, tangibility, responsiveness, assurance and empathy regardless of the type of organization or interaction. Reliability is one of the primary dimensions in the satisfaction of customer's needs, whereas assurance, responsiveness and empathy are process dimensions which are crucial in exceeding customer expectations. The opportunity to surprise customers with grace, competence, and commitment, swiftness, uncommon or to go beyond customer expectations is involved in the process dimensions.

BPR provides well defined methods that are fundamentals for current and future challenges in an organization (vom Brocke *et al*., 2014). On the same thought, Serban (2015) states that the improvement of the processes of the organization bring about TQM through identifying strategic solutions in the processes. Therefore, organizations whether manufacturing or services should constantly seek to be innovative in their processes and how they produce and deliver the products or services to the customers (Serban, 2015), by focusing on key success factors (vom Brocke *et al*, 2014). BPR concerns are built on four words: radical, fundamental, spectacular and processes, which includes aiming to achieve goods, products, services and process management in the most economical way, that necessitate process redesign (Serban, 2015).

At the heart of reengineering concept is challenging the traditional management approach, and 'business as usual approach' by incorporating IT, aligning organizational goals with the members of the organization (Serban, 2015). Unlike TQM which the level of change is incremental, focuses on existing processes, change is continual, longer implementation time, participation is from bottom up, and with low rick. BPR on the other hand its level of changes is radical, focuses on starting new and unique processes, with shorter implementation period, participation is from top down and comes with high risks than TQM

3. Methodology

The methodology of this study was a set of three questionnaires that were designed and used as a primary tool to collect data from 90 participants who were purposefully selected from the customers (30), service agents (30) and suppliers (30). This was to analyze the proficiency of business processes as a vindication assistance to correct customer loss, through understanding the gap between the customer needs and the processes that the organization uses to satisfy those needs. Participants were particularly the organizations stakeholders, i.e the customers of the organisations

Table 1 shows the questions that participants were asked to respond to. These questions targeted the following categories of stakeholders:

- ***Customers*** - the level of satisfaction on the organization's processes in meeting their needs, how quickly can their access the organization's products or services, and how well do the organization handle the queries.
- ***Service agents*** – does the organization's process make it easy or difficult for service providers to provide services to customers, and are customers satisfied with the products and services they receive.
- ***Supplier*** – how well are organization's processes established to be able to do business with the organization and how efficient are the processes.

The collected data of each category was graphically represented to determine the problem areas for improvements in the organization's processes.

Table 1. Name of the table

Customers	Service agents	Supplier
1. I am happy with the product 2. The product meet my expectations 3. Easy access to the supplier 4. Organization is very quick to attending to my query 5. Services are always done on time 6. I would like to extend the scope of the service with the supplier 7. I would like to recommend the service to someone else. **8.** I am happy with the overall service	1. I have full support of the organization to services customers efficiently 2. The organization require feedback on my experiences 3. I rarely have complaints about my services 4. I am always working under pressure to give services to customers 5. I have manageable customers I am responsible for servicing 6. the customers know exactly what service they require 7. The customer prepares for my service and does their part 8. Most of my customers are difficult customers 9. I have all required resources to give the service quality 10. I believe that I am technical knowledgeable of the product to give the service	1. Organizations buy a local product 2. Organizations places orders on time 3. Organization is loyal clients of our products 4. Organization is in the closer radius for easy delivery 5. Organization communicates efficiently on-conformances 6. organizations gives feedback on the product performance 7. We deliver on time 8. We are available to help the company with any complaints

4. DISCUSSIONS

4.1 Customers

The results of the survey taken from customers, as depicted in Figure 2 below, indicate that 46.7% of customers are happy with the product and 46.7% are not happy, 43.3% of customers indicate that the product meet their expectations and 50% disagree. 63.3% of customers say that they have easy access to the supplier and 30% don't, 83.3 % say that the organization is very quick to attending to my query and 10% disagrees, 86.7% of customers indicate that the service is always delivered on time and 6.7% say that it's not always the case. 50% of customers would like to extend the scope of the service with the supplier while 40% would rather not, 70% of customers would like to recommend the service to someone else and 23.4% would not, and finally 90% of customers are happy with the overall service and the organization while 3.3% are not happy.

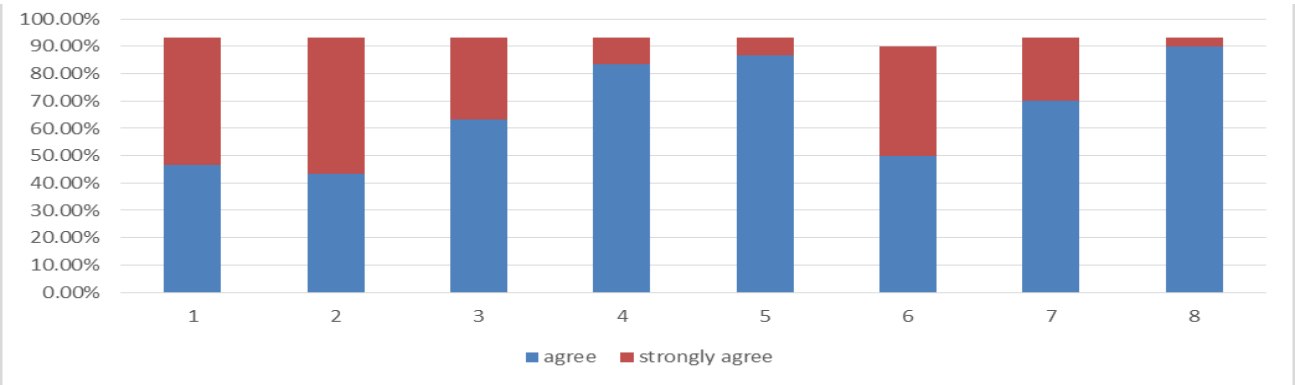

Figure 2. Customers' Response

4.2 Service Agents

The results of the survey taken from service agents, as depicted in Figure 3 below, indicate that 64.70% have full support of the organization to service customers efficiently and 35.30% feel that they don't have full support of the organization, 100 % of service agents say the organization doesn't require feedback on my experiences, 70.60% rarely have complaints about my services and 29.40% do have complaints, 52.90 always work under pressure to give services to customers while 47.10% don't work under pressure, 88.20% have manageable customers I am responsible for servicing and 11.80% disagree, 94.10% services agents say that the customers know exactly what service they require, 5.90% say customers know what they want, 100% of services agents say that the customer prepares for my service and does their part, 23.50% say most of my customers are difficult customers while 70.60% disagrees, 70.60% have all required resources to give the service quality while 29.40% don't have all necessary resources, and 76.50% believe that I am technical knowledgeable of the product to give the service and 23.50% believe that they don't have the technical knowledge.

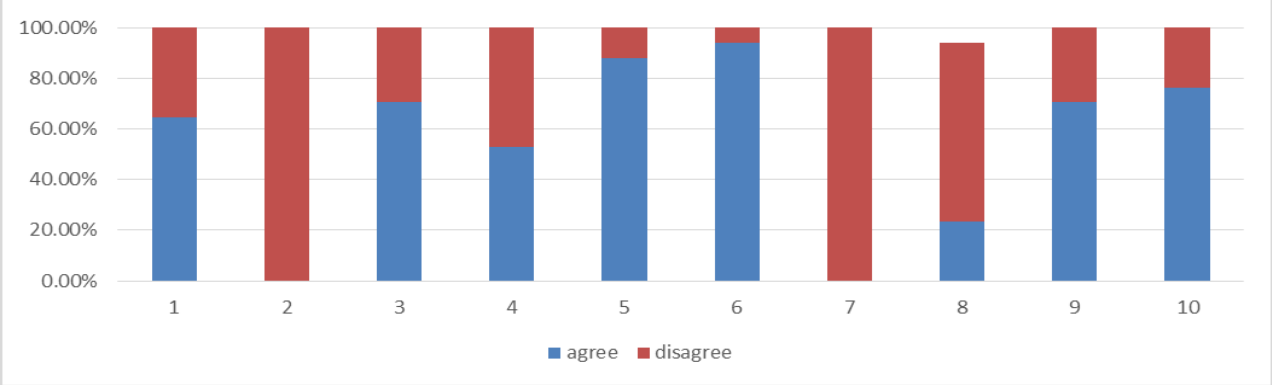

Figure 3. Service Agent's Response

4.2 Suppliers

69.20% Organizations buy a local products and 30.80% buys international, 92.30% Organizations places orders on time while 7.70% of organizations don't place orders in time, 100% of the time the organization is loyal clients to the suppliers products, 69.20% of the organizations are closer radius for easy delivery while 30.80% are far, 100% of the time the organization communicates efficiently on-conformances, 23.10% of the time Organizations gives feedback on the product performance while 76.90% don't, 100% of the time the supplier say they deliver on time, and are available to help the company with any complaints.

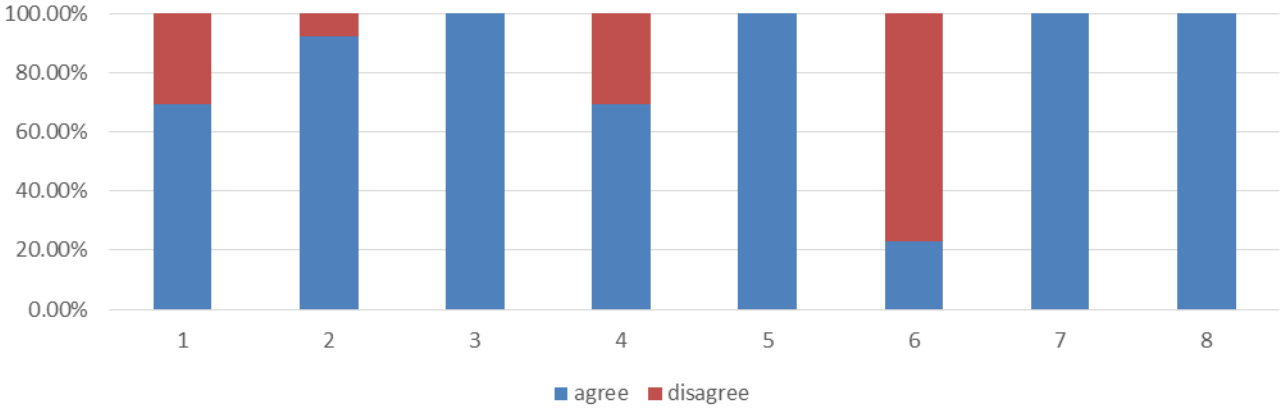

Figure 3. Supplier's Response

5. Conclusion, Recommendations and the Way Forward

The results indicate that the accessibility of customers is a challenge to the organization, however with the efforts to re-design their processes, they can minimize these challenges and not only be accessible to their customers but also be able to retain them. On the other hand, customers are satisfied with the quality of services provided therefore re-designing the organization's processes may not be necessary. Service agents are reliable to the organizations, and the organizations customers and they make an effort to build a strong relationship between the organization and its suppliers.

Another look at the survey results show that customers are more distressed than service agents and suppliers with the organization's processes. It is recommended of the organization to aid customers by ensuring accessibility of their products, improve their speed in response to customer queries, decrease their service time, meaning delivering service as convenient as possible, and ensure the scope of the service is understood. This can be achieved by means of implementing or practicing bureaucratic management, management by rules and procedures. The importance of business process has been outlined in the research and it is evident that customer expectations and transcends are achieved by putting emphasis and effectively managing the business processes result in cost efficiency, timeous and reliable service to customer.

More research in the future can still be conducted on various aspects such as contemporary management approaches, tools and techniques of managing processes, to name a few, to achieve significant customer satisfaction and retention levels in the manufacturing industry.

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Biographies

Sambil C. Mukwakungu is an award-winning academic who has been lecturing Operations Management to first year students, Food Production, and Quality Management at the University of Johannesburg since 2009. His passion for teaching and learning has allowed him to make a difference in at least one student's life every year. He is a young researcher who is still establishing himself in knowledge creation with keen interest in Service Operations Management, Lean Operations, Continuous Improvement, as well as business innovation and innovation in Higher Education. He was awarded Best Track Paper Awards at the 2016 IEOM Conference in Rabat, Morocco, also at the 2018 2nd European Conference in Paris, France, and he is together with his team from the IEOM UJ Student Chapter a recipient of the 2018 IEOM Outstanding Student Chapter Gold Award for exceptional chapter activities and contributions to the field of industrial engineering and operations management.

Matimba Davis Mabasa is a BTech student in Management Services at the University of Johannesburg, has completed short learning programme in Basics in Project Management, Basics in Total Quality Management, Strategic Management and programme in Sales and Marketing with the University of South Africa. Have a two accepted papers for publication at IEOM conference in Paris, France and GBATA 20th Anniversary Annual International Conference 2018, Bangkok, Thailand. Whose future prospects is to further do MBA, Master's in Project Management and Operations Management

Tebogo Lucky Mamela is an award winning young leader who is the Founder and Chairperson of the Quality, Operations & Management Services (QOMS) Forum. He is enrolled for a BTech in Quality Management at the University of Johannesburg, completed his National Diploma in Management Services and a short course Enterprise Resource Planning (SAP). In view of exceptional academic excellence, he is a recipient of the 2017 and 2018 UJenius Club Award among the Top 1% of academic achievers at the University of Johannesburg. In recognition of exceptional academic achievement, he was awarded the Dean's Honors Roll - 2017 for outstanding academic excellence in 2016 by the Faculty of Engineering and the Built Environment. He successfully participated in the 2018 GEPS research program which involved students from the University of Pittsburgh (USA) and University of Johannesburg (SA) which was to investigate how engineering development can create social change. He has been nominated to join the Golden Key International Society which recognize and reward students in the top 15% of their respective degree programs. His research interests lie in the 4th industrial Revolution in an African's perspective and looks forward to pursue a Masters in Engineering Management or Operations Management and Artificial Intelligence.

Semanga Mabuza, is an academically excelling student which became apparent at an early age when he was awarded a bursary as the best leaner in high school back in 2014 at Kensington Secondary School, he was later recognized as first year top achiever in 2015. His academic excellence continued to prevail as he was recognized with UJenius Club Award both in 2016 and 2018 becoming part of the top achieving 1% of the University of Johannesburg. He was also recognized as top achieving student in the Faculty of Engineering and Built Environment at University of Johannesburg both in 2016 and 2017. Later in 2017, he was also recognised as best student in the country (South Africa) in Management Services by the South African Management Services Institute.