PROCESS MANAGEMENT AND ITS EFFECT ON QUALITY OF PRODUCT IN ADAMA BEVERAGES, YOLA, ADAMAWA STATE

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ABSTRACT

The study was conducted to assess process management and its effect on the quality of products at Adama Beverages in Yola, Adamawa State. The specific objectives of the study were to ascertain the effects of design and documentation, continuous improvement, and management commitment on product quality at Adama Beverages in Yola. Hypotheses were formulated to test whether process management has a significant impact on product quality. A survey research design was adopted for this study, and data collection relied on both primary and secondary methods. Questionnaires were used as the data collection instrument, and the Statistical Package for Social Sciences (SPSS) was employed to analyze the data collected from the field survey. The null hypothesis was rejected, with X2 = 94.4000, P ≤ 0.000, which is less than a 5% level of significance. The findings revealed that design and documentation play a significant role in managing and measuring product quality. Once business processes are designed, documented, and verified, product quality is assured at Adama Beverages in Yola, Adamawa State, among other factors. Based on these findings, the study recommends that the management of Adama Beverages in Yola prioritize the design and documentation of process management, as it is a vital tool that provides the ability to document guidelines, plans, strategies, helps in managing, measuring, and verifying product quality.

INTRODUCTION

Over the last three decades a lot of transition has occurred in improving processes from process routines, designs and quality. The advent of many improvement tools such as lean and Six Sigma methodologies has formed a core in many giant concerns in dealing with improvements. This research looks at the reasons behind failure to implement and sustain improvement programs. Process management (PM) is considered relatively one of the new topics in management field, and it connects with the knowledge about running current processes or operations, redesign it in a way that reduce the wasted effort and increase the efficiency, and implement changes in the processes to improve the quality of product, where it incorporates and merge between the information technology and the processes management structure for the sake of improvement, where the effective management of processes are essential to maximize the value of organizations (Trkman, 2010).

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The role of quality such as producing prototypes of a product was impossible even if these products were of the same blueprint. Producers of automobiles were more focused on customized product rather than focused on identical cars. The parts for an automobile were produced by different contractors using slightly different gauges, this causes slight difference in the sizes of the parts resulting to "dimensional creep" hence a larger different at the time the final car is produced. With the advent of mass production by Henry Ford, there was the need to mass produce and at lower cost. Ford insisted a standard gauge be use by all contractors producing similar parts. This eliminates filing that was done to let parts from different contractors fit to each other (Kinicki & Williams, 2018).

According to Womack et al (2018), the interchangeability of parts must be flexible to allow the assembler to randomly select apart from a group and assemble it with a second randomly selected part, and to do this the machine must be capable of producing with minimal variation and within specification. This need of controlling the adherence to design specifications is given credit for igniting the evolution of quality principles hence the need for quality management.

Statement of the Problem

Quality of product is expected to yield increased benefits; studies have revealed that majority of companies drop the phenomenon after the second or third year of their establishment, especially when they must have captured the minds of considerable number of customers. What is sure is that minority of these companies benefited from the quality maintenance for quite some time to the extent quality experts will recommend. The American monthly, Quality Digest, in its October 2006 issue for example published a survey of six sigma companies indicating most of the companies abandon the quality improvement mechanisms after two to three years. Adama Beverages, Yola is not an exception in reduction of production quality of its product and consequential reduction in the volume of sales; this study is therefore conducted to assess process management and its effect on the quality of its product.

Faranak (2019) in his study on process management in service-based companies; at the Universitat Magdeburg, in his findings, he found out that business process management is an effective approach to govern, improve, and optimize organization's operations and processes. Salina (2008) studied an empirical study of knowledge management processes in small and medium enterprises. The analysis shows that knowledge management processes have a significant relationship with organization performance where knowledge acquisition is the main process that contributes to the organization performance.

Despite the development of various process management and appearance of many theories, there is no consensus on an ideal process management and its effect on quality of products. The studies conducted

have not touched on design and documentation, continuous improvement and management commitment on quality of product in an organization, hence this study is embarked upon with emphasis on Adama Beverages, Yola, and Adamawa State to fill this gap.

The following questions were formulated and sought to be answered as a guide for the study:

i. What is the effect of design and documentation on the quality of product of Adama Beverages, Yola?
ii. What is the effect of continuous improvement on the quality of product of Adama Beverages, Yola?
iii. What is the impact of management commitment on the quality of product of Adama Beverages, Yola?

LITERATURE REVIEW

Process

Before discussing process management in general it will be good to talk a little beat about what exactly a process means. Different scholars give various definitions at several times, but we prefer to use the following definition in our research. "A process is a specific group of activities and subordinate tasks which result in the performance of a service that is of value" (McCormack & Johnson, 2001). A process might consist of more than one activity which can be handled with and depends on each other. They further explain "processes must be able to be tracked as well, using cost, time, output quality, and satisfaction measurement." (McCormack & Johnson, 2001). On the other hand, business is an activity which has value for the society that can figure out economic associations of the people (Williamson, 2016). This will let the business organizations to become competent and in general help them to achieve their organizational goal.

All business organizations have business processes regardless of the type, scope, and area of business as a result processes are taking place over the inputs in order to give the desired output at the end. But the properties of the business processes might differ from organization to organization.

Management

Like any concept, management can be defined in different ways. It should be noted that books and articles on practical management and empirical research rarely define management at all. Griffin (2013) in his view defined management as a set of activities (including planning and decision making, organizing, leading, and controlling) directed at an organization's resources (human, financial, physical, and information), with the aim of achieving organizational goals in an efficient and effective manner. Management is the process of working with people and resources to accomplish organizational goals. Good managers do those things both effectively and efficiently (Bateman, 2018).

Process Management (PM)

Jiraporn, et al., (2017) defined process management (PM) as a management approach that focuses on the processes, which include four elements: strategic alignment, IT, employees' involvement, and processes improvement. Trkman (2010) defined PM as the efforts that made continuously by the organization to improve the basic activities in it, such as manufacturing, marketing, communications, and the basic elements of organization's processes. According to Chang (2006) PM is an organizational approach that focuses on the processes, and used in the analysis, design, and development of business processes, to improve the organizational performance and increase the organizational efficiency. Nadarajah & Kadir (2013) stated that PM is one of the important links that integrate between the organizational systems and its human resources, where organizations aim to maximize the efficient use of its resources and achieve its strategic objectives and customers' needs.

Business Process Management is a way business organizations use to improve their business activities which could be production or service provision (Chang, 2006). To improve the business processes each and every process needs to be tracked and the changes that occur in the business environment need to be managed. This approach of BPM is further emphasized by Weske (2007) where the different techniques can be applied to suit these needs of management over business processes. As companies vary in the way they do business and in their operations; the usage of technological tools can be highly helpful to manage processes.

Benefits of Process Management

Organizations implement BPM for a variety of reasons; however, the most important stimulus for today's businesses is to be more competitive in the market. By utilizing BPM and explicit representation of business processes, organizations can expect not only lower costs and higher revenues, but also motivated employees and satisfied customers (Weske, 2007). The benefits of BPM can be based on three main categories:

Efficiency: By eliminating manual entry of data, reducing process cycle time and reducing manual analysis, BPM helps organization to perform more efficiently.

Effectivity: BPM helps organizations to be more effective by providing better and faster exception handling. It also supports businesses in the decision-making processes and ensures a consistent process execution.

Agility: BPM leverages the adaption to the changes in a controlled fashion and provides support when new processes are required for business models.

In addition to these three main categories and amidst all other benefits of implementing BPM, some of the most important ones are also summarized:

- Better understanding: Explicit representation of processes helps organizations to get a clear understanding of the operations and their dependencies.
- Standardization of execution: IT-supported process execution and explicit representation of processes help the organizations to narrow the gap between to-be models and as-is ones. This helps organizations to reach a more standardized process execution.
- Improved communication: Using BPM terminology helps organizations to improve the communication among the stakeholders, and accordingly the analysis will be more collaborative, and the identification of potential improvements will become easier.
- More flexibility: BPM improves the flexibility of business processes and leverages faster adaptation to market changes and customer requirements
- Continuous process improvement: Explicit modelling of processes and IT-supported process execution enable efficient analysis as well as the identification of potential improvements.
- Furthermore, BPM enables organizations to collect and identify performance measures during processes, which makes internal and external benchmarking possible.

Process Design and Documentation

Process design involves creating specifications for processes according to business objectives. It provides strategies, guidelines and plans for applying business processes and their components. In this phase, different aspects of business processes are explored in detail and different involved elements are investigated. The design phase also visualizes how business applications, data resources, technology platforms, financial and operational measures interact with internal and external processes (Erin, 2019). Process design is actually an intentional and thoughtful plan for implementing, managing and measuring business processes. This phase investigates designing process roles, techniques, process patterns and also considerations such as executive leadership, compliance and strategic alignment (Weske, 2007).

Documentation of process management is one of the most important phases during implementation of BPM. This phase includes a critical set of business processes that enable organizations to document the understood, managed, communicated and measure the primary components of processes. In this phase, business processes are identified, prioritized, validated, and represented with the help of documentation.

Documenting the business process facilitates the communication about these processes and visualize the relations among process elements. In the design and documentation phase, the process techniques, validation, simulation, and verification techniques will be used. Business process design and documentation is the core element and the sub phase of design phase (Weske, 2007). With the help of a particular business process design, the informal business processes are formalized. A business process design illustrates which steps are required, in what order, and by whom these steps need to be taken (Davenport & Short, 2018). After an initial design of business processes, they must be validated. The validation of business processes can be done in workshops, in that the persons discuss the designed business processes. Once the business processes are validated, simulation techniques support this validation, through which the possible deficits in the process model are shown up. Finally, the business processes will be verified. Business process design are investigated for verification before execution. The verification of business processes is concerned to check, whether the process model is free of logical errors (Hammer, 2010).

Process Continuous Improvement

The term "continuous improvement" refers to ongoing improvement efforts. Efforts are directed toward making continual changes-sometimes very small changes-in the conversion process in order to raise the level of customer satisfaction. Continuous improvement is "a philosophy that seeks to improve any and all factors that are related to the process of converting input into output" (Stevenson, 1993). Organizations usually strive for high performance in production in order to achieve high profits and customer requirements (Summers, 2015). High performance in production requires continual improvement of production process.

The process means taking input and executing value-added activities on those inputs to create an output. In order to improve quality and productivity, the continuous process improvement considers all variability which includes facilities, procedures, material, and people. "Quality improvement is the reduction of variability in processes and products" (Montgomery, 2015).

Continuous improvement makes an organization more competitive by satisfying and meeting customer requisition (Summers, 2015). Improved efforts should concentrate on the customer's value. The customer could be an internal customer such as a worker, the next workstation, or an external customer. The narrow definition of the improvement usually occurs when an organization does not look at values from the customer's viewpoint. The improvement will fail if the customer's needs are not considered.

Terms like continuous improvement and business process improvement are found in almost any large organization, this is shown in an example from South-Korea where a credit card company is optimizing their services by combining customer complaints with business process management (Pyon, Woo, & Park,

2011). Often one can even find departments in organizations with the sole purpose of business process optimization. With processes being the main assets of a company (Accorsi et al., 2018). Gartner (2015) already identified business process management as the number one business priority during the first decade of this century. Because of this relevance of process performance and process management, this research will focus on business process management in organizations. According to the BPM Institute, a peer-to-peer exchange for BPM professionals, there are literally hundreds of books, articles, white papers and entire conferences on the subject of BPM.

Continuous Process Improvement (CPI) means accepting incremental gains as a step in the right decision to-ward Total Quality. It recognizes that substantial gains can be achieved by the accumulation of many seemingly minor improvements whose synergies yield tremendous gains over the long run. Continuous process improvement reinforces a basic tenant of TQM- long-term focus (Kolache & Harjo, 2010).

Management Commitment on Quality of Product

Role of top management commitment in quality management implementation in any organization main focus is on employee empowerment. The objective of quality can be better achieved by the top management commitment. Top management commitment empowers their employees to achieve quality. Empowerment of the employee by the leadership is an important aspect in quality management implementation. Because employees need to have authority on their role in order to perform better and quality management cannot be fully put into practice without the top management commitment (Njie et al., 2008). Quality management in any organization is a management approach that integrates organization functions in better way to focus on customers need and achieving the organizational objectives. If any organization wants to achieve business excellence, it must have to adopt the quality management principles. This study is about the critical success factors that are associated with the quality management principles.

Theoretical Framework

A deeper theoretical understanding of the factors contributing to organizational change is required to better understand which actions are required assure long-term success of Process Management. The study adopted the use of cognitive dissonance and adoptive capacity theories which are deemed relevant to the study.

Cognitive Dissonance

PM is usually started due to the unsatisfactory level of belief structures and routines regarding the current organizational process. However, the given fact that employees had to work in those processes, perhaps for years, the likely assumption is that at a certain point they have found themselves in a cognitive dissonance (Festinger, 1957). Cognitive dissonance (CD) is a state of psychological discomfort that is caused by an inconsistency among a person's cognitions, i.e. beliefs, attitudes, or actions. This discomfort of having

inefficient processes and the lack of either power or ability to change them can be settled by the following CD reduction strategies; by changing one`s cognition, reducing the importance of the dissonant cognition, or introducing a new cognition to counteract the dissonant cognition (Festinger, 1957). Hence, any attempts to change the existing state of the processes through BPM initiatives will again cause cognitive dissonance in employees, by confronting their current belief with the notion of proposed improvements.

In line with Harmon-Jones, we suggest that dissonance processes may serve the necessary and vital function of assisting in the execution of effective and un-conflicted behaviour (Harmon-Jones & Harmon-Jones 2002). Even further, the activation of the dissonance process affects the brain behaviour and can tightly predict subsequent attitude change (Van Veen et al. 2009). Therefore, the resolution of CD may result in negative reactions – often interpreted as resistance to change. This should not be necessarily perceived as an unintended consequence. To the contrary, the simultaneous occurrence of strong positive and strong negative evaluations not only promotes organizational action taking per se but also increases the scope of action. Organizations can act upon guiding the gradual resolution of CD throughout the BPM initiative.

Absorptive Capacity

Absorptive capacity (AC) is defined as the ability to value, assimilate and apply new knowledge (Cohen & Levinthal 2018). The success of the organizational change depends on the alignment of the proposed changes with the AC of an organization as a whole and each of its parts. If the organization obtains a higher AC during initial project this means that it will in the future be able to better use new knowledge within their processes and implement changes to further improve their operations or adapt to changes in the environment (Francalanci & Morabito 2008). An important prerequisite for increasing AC for BPM-related organizational change is therefore establishing communication channels including cross-functional teams, formal and informal meetings, as is communicating the potential of the process redesign to all stakeholders (Harrington & Guimaraes 2015). Thus, a BPM initiative has to be run in such a way to provide this experience to the employees and the organization as a whole. Accordingly, the employees can drive the BPM efforts even after the end of the BPM initiative and after the departure of consultants. The increased absorptive capacity can thus be considered the precondition for business process improvement (Manfreda, et al. 2018).

Empirical Review

Haitham and Neama (2019), conducted a study on the impact of business process management on business performance superiority. The aim of the study was to measure the impact of business process management on organization's business performance superiority. The study adopted the approach of business processes

management life cycle as a basis for detecting the idea of superiority. The sample included (89) managers, and their opinions and responses were used to describe (process identification and design, process modeling and documentation, process monitoring and controlling, and process optimization, in addition to describe the dimensions of business performance superiority, operational and competitive. Multiple regression analysis method was used to test the idea of the study model, to highlight the contribution of business process management to interpretation of organization's business performance superiority.

Frank (2018) also conducted a survey on the impact of business process management on business performance superiority in the service-based companies at the Universitat Magdeburg. The research describes how the quality of business processes can be improved and optimized using Business Process Management. Aim of the empirical part of this study is to analyze the processes of Organization X as a Certification Body and to propose solutions which should help the organization improve the quality and effectivity of its processes. In order to achieve the goals of this study, both inductive and deductive research approach is applied. In the modeling phase of this study, namely the inductive phase, the research starts with data collection and process model will be developed based on the gathered data. The deductive approach is applied to develop a Performance Measurement Framework on the base of previous and existing theories. Furthermore, the research strategy of this study is qualitative, since the detailed data for the purpose of this thesis are gathered through literature review, interviews and documents. The result of the study showed that a performance measurement framework that meets the requirements of Service-Based Companies is stemmed from organizational strategy and measures both performance Enablers and Results as well as the organizational processes, which should be aligned with the strategy.

Sahno and Shevtshenko (2018) carried out a study on quality improvement methodologies for continuous improvement of production processes and product quality and their evolution. The study emphasised that, in order to be competitive companies, try continuously improving their production processes, product quality and increase the level of customer satisfaction by implementing different quality improvement programs, methodologies and approaches. The paper observed different continuous improvement methodologies, their capabilities, similarity and application to different situations. Every company can select and use a proper methodology and even combine some of them in continuous improvement of their processes. It is particularly important that the right method is correctly selected according to the needs and demands of the company and further applied to the right process.

METHODOLOGY

The research design adopted for the study was the used of survey method, where large and small population were selected from the studying samples. The study was conducted in Adama Beverages Limited Yola,

Adamawa State. The population of the study made up of the entire staff of Adama Beverages Nigeria Ltd which is made up of 710 staff. The study made use of systematic sampling technique in selecting the sample from the population. Therefore, a starting number from (710) staff of Adama beverages Yola is randomly selected from each at regular interval of every 12^{th} number from entire population and arrived at the sampled unit of 59. Closed-ended type of questions was adopted where the researchers had to only choose from the options provided, the best possibility that suits his opinion, because it has the capacity of collecting more relevant data from respondents. The questionnaire was design on 5-points Likert scale ranging from strongly agree=5, Agree=4, Undecided=3, Disagree=2, and strongly disagree=1. While hypothesis was tested using Chi-square at 0.05 level of significance.

ANALYSIS AND RESULTS

Fifty-nine questionnaires were administered at the field survey to the sampled respondents, whereas fifty-one (51) were duly filled and successfully retrieved, hence, the analysis was based on the number of questionnaires retrieved.

H_0 : Process management does not have any significant effect on quality of product in Adama Beverages, Yola.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	94.400[a]	3	.000
Likelihood Ratio	97.865	3	.000
Linear-by-Linear Association	73.820	1	.000
N of Valid Cases	51		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.03.

Decision Rule

The researcher sampled 51 respondents and evaluated whether process management does not have any significant effects on the quality of product. The data was analyzed using chi-square, since $X^2 = 94.400$, $P \leq 0.000$ which is less than 5% level of significance and 3 degree of freedom, hence, the null hypothesis which states that process management does not have any significant effect on quality of product in Adama Beverages, Yola was rejected and alternate hypothesis is hereby accepted.

Research Findings

The major findings of this study have been derived from the analysis and presentation of data of this study.

i. From the above analysis, it was found that the design of business process management provides guidelines, plans, and strategies for producing a quality product. Documentation is a vital tool that allows for the measurement of product quality. Design and documentation help in managing and measuring the quality of the product, and once the business processes are designed, documented, and verified, the quality of the product is assured at Adama Beverages in Yola, Adamawa State.

ii. The findings also show a drive for continuous improvement with the aim of ensuring the consistent production of quality products at Adama Beverages in Yola. Continuous improvement, as a part of process management, ensures the constant production of quality products. Continuous improvement meets customers' needs, thereby maintaining the quality of the product. Continuous improvement also makes Adama Beverages in Yola highly competitive in maintaining product quality, ultimately satisfying and meeting its customers' requisitions.

iii. The quality of the product can be achieved through the commitment of top management. The primary focus of top management's commitment is to ensure the production quality of the organization's products. The objective of delivering a quality product can be better achieved through the commitment of top management, and leadership philosophy is closely connected with the quality of Adama Beverages' products in Yola.

Conclusion

This research assessed process management and its impact on product quality. Process management is the most suitable tool for design and documentation, continuous improvement, and management commitment to the requirements of process improvement and product quality. The more mature the process management, the better the requirements definition in quality production. Therefore, it is important to prioritize process management to ensure product quality. This involves understanding the organization's processes, having a systematic view of its business processes, and fostering a culture that supports a process-oriented approach. By combining process and project methods, organizations increase their chances of project success and avoid situations were improving one process has an adverse effect on others. In conclusion, elevating an organization's process management can help maintain product quality.

Recommendations

Based on the findings of the study, the following recommendations were made to understand more on the process management and its consequential effect on quality of product:

i. Management of Adama Beverages, Yola should give priority to design and documentation of process management as it is a vital tool that provides the ability to document guidelines, plans, strategies, help in managing, measure and verifies quality product.

ii. It is also recommended that the drive for continuous improvement for the purposes of having constant production of quality products in Adama Beverages, Yola be prioritised because it helps in maintaining product quality, ensures constant production quality of product and meets customers need.

iii. Top management of Adama Beverages, Yola should also focus more on her commitment in ensuring production quality of products. Because objective of quality products can better be achieved through top management commitment.

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