

## **EFFECTS OF TOTAL QUALITY MANAGEMENT COMPONENTS ON COGNITIVE DISSONANCE OF HERBAL DRUGS CONSUMERS IN EKITI STATE.**

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### **Abstract**

*The study investigated the effect of total quality management (TQM) on cognitive dissonance among consumers of herbal drugs in Ekiti State. The study adopted a descriptive survey design to cover all the consumers of herbal drugs in Ado Ekiti Metropolis. Descriptively, frequency and percentage were used to analysis the bio-data of the respondents while simple regression was used to test the hypotheses at 0.05 level of significance. The estimation techniques are R-square, F-statistics and P-value. The findings revealed that top management commitment, employee commitment and customer focus have significant influence on cognitive dissonance among consumers of herbal drugs in Ekiti State as their P-values are 0.000, 0.001 and 0.000 respectively, which are less than 0.05 level of confidence. In relations to the findings of this study, it was concluded that top management commitment, employee commitment and customer focus significantly influenced the cognitive dissonance among consumers of herbal drugs in Ekiti State.*

**Key Words:** Total Quality Management, Cognitive Dissonance, Commitment, Herbal Drugs

### **Introduction**

Total quality management is a management approach that is anchored on continuous improvement on the part of the organization and its structure which provides the quality management principles and practices that lead to a maximization of the organization's results (Rula 2017). Total quality management can be improved to its best capabilities by ensuring that it is well applied in order to satisfy customer to the maximum. This study segregates Total Quality Management into customer focus, top management commitment, employee commitment and staff training. Top management facilitates employee empowerment and improves levels of job satisfaction through its leadership. Its major commitment is taking responsibilities for the effectiveness of quality management system. It is made up of senior level executives of an organization, or position that holds most responsibility. These top managers are responsible for setting the overall direction of a company and making sure that major organization objectives are achieved.

Herbal drugs are increasingly used worldwide during the last few decades as seen in the rapidly growing global and national markets of herbal drugs. According to World Health Organization (WHO) (2016), herbal drugs are herbs, herbal materials, herbal preparations and finished herbal products that contain as active ingredients parts of plants, or other plant materials, or combinations. Many of the orthodox medications in use today, such as the opium, aspirin, digitalis, and quinine,

have a long history of use as herbal remedies or were derived from knowledge obtained from their use in traditional medicine.

However, there are also reports of side effects and adverse reactions that have been related to herbal medicines (Alexandre & Jaoa, 2018). While some of these side effects and adverse drug reactions are due to the intrinsic bioactive secondary metabolites present in the herbal materials, many are due to the poor qualities of the products which may be attributed to such factors as contamination (with chemicals, pesticides, micro-organisms and heavy metals), adulteration with pure drug compounds and poor-quality control measures which has highly influenced the cognitive dissonance of the consumers. As a result, such products have suffered from consumers cognitive dissonance over time.

Cognitive dissonance is one of the most heavily studied phenomena in the history of psychology. The term cognitive dissonance describes a psychological state in which an individual's cognitions, beliefs, attitudes, and behaviors are at odds (Argote, 2017)). Cognitive dissonance is very much related with attitude change. It is a situation in which two cognitions are inconsistent with one another. According to cognitive dissonance theory dissonance or want of harmony or inconsistency occurs when an individual holds conflicting thought about a belief or an attitude object.

Most herbal drugs producing firms that practice TQM seem to have been faced with the danger of going out of business at one point in time or the other, while some were able to survive the crises situation. Probably, this may be due to pressure faced by management to set priorities that will assist to maintain or improve consumers behaviour positively.

The study seeks to add to literature on cognitive dissonance among consumers of herbal drugs in Ekiti State. Generally, the study helps to indicate the activities of herbal firms, its modes of operation and the TQM and cognitive dissonance of their consumers. The significance of study to the society is to create enlightenment about the effects of customer focus, top management, employee commitment and staff training on cognitive dissonance among consumers of herbal drugs around them. The study will help future researchers and academics in course of their study and also help provide adequate information needed.

Many employees lack the pre-requisite skills to execute TQM successfully. It was observed that most herbal firms fail to develop plans that indicate how to make TQM part of the organization, implement the plan, and take all the necessary steps to improve processes of manufacturing and distribution.

In an attempt to solve the research problem, several studies have been reviewed. Studies in relation to total quality management both locally and internationally have been conducted. Studies like Arash (2011), Salome (2015), Kondo (2009), Gilmore (2011), Mohammed (2015) and Enu (2010) were carried out in various developed and developing countries. However, based on the available materials reviewed, none of the such studies examined how TQM influence cognitive dissonance among herbal drugs in Ekiti State.

Variable-wise, few studies (James, 2015; Kelly, 2015) among the reviewed studies captured TQM with customer focus, top management commitment, employee commitment and staff training. This

has left some gaps in the literature. To bridge these gaps, the study seeks to examine the effect of total quality management (TQM) on cognitive dissonance among consumers of herbal drugs in Ekiti State.

### **Research Objectives**

The broad objective of this study is to ascertain the effect of total quality management (TQM) on cognitive dissonance among consumers of herbal drugs in Ekiti State. Specifically, this study seeks to:

- i. investigate the effect of customer focus on cognitive dissonance among consumers of herbal drugs in Ekiti State;
- ii. ascertain the effect of top management commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State;
- iii. examine the effect of employee commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State

### **Literature Review**

#### **Conceptual Clarifications**

#### **Total quality management**

Total quality management (TQM) is a management strategy of an organization focused on quality, in light of the cooperation of every one of its individuals and focusing on long haul accomplishment through consumer loyalty and advantages to all individuals from the organization and society (Omogbiya and Addah, 2016). Supporting this, Motalleghi and Moghaddam (2019) presented TQM as a way of thinking and a bunch of core values that portray the underpinning of a successful organization.

Soltani (2005) noted that TQM is planned to advance persistent, maintained, and long haul improvement in quality and efficiency and to wipe out representatives' apprehension about change. This mirrors that TQM approach coordinates the key procedures and standards of value capability organization, measurable control, and existing administration devices in an organized way.

As indicated by Choi and Karen (2014), absolute quality administration can be depicted as an integrative hierarchical wide way of thinking that plans to ceaselessly work on the nature of items, administrations and cycles to meet client assumptions. Essentially, Tufan (2011) portrayed complete quality administration as an all-out framework approach which works across all capabilities and divisions, includes all representatives, and intends to meet or surpass client prerequisites reliably.

## **Employees Commitment**

According to Benjamin (2016), employee commitment is the extent of participation and empathy that employees have with their university's standards, mission and goals. Riana and Wirasedana (2016) opined that employee commitment is the allegiance and attachment that employees have in an organization, and it is related to their feelings about the firm. In essence, organizational commitment is the desire that employees have to continue in an organization by having assurance in its values and goals.

## **Cognitive dissonance**

Cognitive dissonance can be another significant variable influencing consumer's disposition. It is what is happening when two perceptions (information or contemplations) are conflicting with each other. When the dissonance happens, the consumer will attempt to make a balance in his perception that is, he will attempt to diminish dissonance.

The reliance of humankind on nature for the arrangement of medication through spices has a long history (Deming, 2016). Plants have ended up being rich wellsprings of medication and profoundly useful to the administration and treatment of different illnesses (El-Moneim and Atef, 2015).

Onwuare (2012) characterized cognitive dissonance as a mental peculiarity which alludes to the uneasiness felt at a disparity between what you definitely know or accept, and new data or translation. It hence happens when there is a need to oblige groundbreaking thoughts, and it could be fundamental for it to grow with the goal that we become "open" to them makes the age of fitting dissonance into a significant component of instructional exercise (and other) educating: he shows the best way to drive this sort of scholarly wedge between students' ongoing convictions and "reality".

## **Review of Relevant Theories**

### **Deming's Theory of Total Quality Management**

This was propounded by Edward Deming in 1986. Deming's theory rest upon fourteen points of management he identified, the system of profound knowledge and the shewhart cycle (plan-Do-Check-Act). Deming opined that quality is equal to the result of work efforts over the total costs. If a company is focused on costs, the problem is that costs will rise while quality deteriorates. Deming's system of profound knowledge consists of four points which are system appreciation which is an understanding of the way that the company's processes and systems work, variation knowledge which is an understanding of the variation occurring and the causes of the variation, knowledge theory which is the understanding of what can be known and psychology knowledge which is the understanding of human nature.

## **Zero Defects Theory**

This was propounded by a management consultant named Philip Crosby in 1979. This theory became popularized in American industry from 1964 the early 1970s. Zero defects theory was a management led program to eliminate defects in industrial production. Although it is applicable to any type of enterprise, it has been primarily adopted within supply chains wherever large volumes of components are being purchased. This is also applicable to total quality management and cognitive dissonance on the part of consumers.

## **Empirical Review of Relevant Literature**

El-Moneim and Atef (2015) investigated the impact of applying TQM on the overall hospital effectiveness in the accredited governmental hospitals in Jordan that accredited from Health Care Accreditation Council (HCAC). The study population represented all health care professionals working in the five HCAC accredited governmental hospitals who were working for more than three years in the same hospitals. Study sample included 1290 employees. The response rate was 83.6 % of the total questionnaires distributed. TQM principles were: Leadership commitment to quality. Study findings showed a significant impact of all TQM principles on the overall hospital effectiveness.

Ameen, George, Belal and Muhammed (2015) using data gathered via secondary and primary sources (financial report and questionnaire) and using Pearson correlation analysis, examined the impact of total quality management on financial performance in Irbid province of Jordan Islamic bank. It was discovered that there was a statistically significant effect of total quality management on liquidity ratio of the Islamic Bank of Jordan and that there is a statistically significant effect of total quality management on the profitability ratio in the Jordan Islamic Bank.

Marcel and Ayankeng (2015) investigated the impact of Total Quality Management Organizational Performance. Data were collected from manufacturing firms in the republic of Cameroon. Variables used to capture Total Quality Management (TQM) were management commitment through leadership, Quality control, inspection, employee training, customer focus, benchmarking as the basis for enhancing product quality. Organizational performance was measured by Customer Satisfaction, Cost Reduction, and Employee Satisfaction. Multiple regressions were used. The results showed that only employment training and empowerment has a significant impact on financial performance and corporate social responsibility; leadership commitment, quality control and inspection have a significant impact on cost reduction.

However, none of the TQM practices appear to have a significant effect on customer satisfaction. Abdul-Azeez and Olateju (2017) also examined the effects of total quality management practices on customer satisfaction in Nigerian airline using financial and non-financial performance measures such as top management commitment, reward and recognition. Data were collected through secondary and primary data and analyzed using Cronbach's alpha. It was revealed that all the total quality financial management practices adopted in the study have positive relationship to customer satisfaction though at varied levels.

James (2019) aimed at providing comprehensive insights into the impact of TQM on performance of Nigerian organizations using the Nigerian Banking industry as a case study. To achieve this objective, the study relied on primary data which was collected through the administration of structured questionnaire to 210 purposively selected respondents from the 21 banking organizations. The data collected were analyzed using frequency, percentage, mean, correlation analysis, and multiple linear regression. The results showed that the relationship between TQM and organizational performance is significant in a cross-sectional sense, in that TQM practice intensity explains a significant proportion of variance in performance of banks in Nigeria.

Omogbiya and Addah (2019) studied the empirical effect of total quality management on the performance of selected breweries industry Lagos state using Krustal Wallis one-way analysis of variance by rank. The findings revealed that positive and significant relationship exists between the application of total quality management in increasing organizational return on investment, lowering the level of product wastage and increases in customer satisfaction.

Rula (2021) made use of customer focus, leadership, continuous improvement, employee's commitment, fact-based management, process management, strategic management and supplier commitment, operation efficiency and employees to examine the impact of total quality management on organizational performance of oil Petroleum company in Jordan. The study made use of questionnaire and was analyzes using multiple regression, step wise multiple regression and Pearson correlation coefficient. The results showed that total quality management has positive impact on organizational performance.

Sayyad (2021) examined the relationship between total quality management Practices and their effects on firms Performance in Palestine. Data were collected through questionnaire by simple random sampling. It was discovered that there exists an active and direct relationship between total quality management practices and business in Palestine. The study uses both financial and non-financial performance measures such as reward and recognition on quality improvement.

## **Research Method**

### **Research Design**

The study adopts a descriptive survey design. Descriptive survey aims predominantly at observing, describing and documenting aspects of a situation as it naturally occurs rather than explaining them. The design has the advantage of producing a good amount of responses from a wide range of people. At the same time, it provides a more accurate picture of events at a point in time.

### **Population and Sample Size**

The population for the study covers all the consumers of herbal drugs in Ado Ekiti Metropolis. According to Herbal and Nutraceutical Manufacturers Association of Nigeria, Ekiti State, the total estimated population of herbal consumers in Ado-Ekiti based on patronage is 38,755. The Taro Yammane (1967), sampling techniques was used to determine the sample size.

It is denoted by the formula below:

$$n = \frac{N}{1+N(\epsilon)^2}$$

Where n = sample size  $a^2$

N = population size = 38,755

E = sampling error = 0.05

$$n = \frac{38,755}{1 + 38,755 \times 0.05 \times 0.05}$$

$$n = \frac{38,755}{1+96.8875}$$

$$n = \frac{38,755}{97.8875}$$

n = 395.91

Based on the above calculation, 396 questionnaires were distributed based on the homogeneous purposive sampling technique and 374 were returned back for analysis.

## Method of Data Analysis

Data analysis is the process of bringing order, structure and meaning to the mass of information gathered. After collecting all the necessary data, descriptive statistics, frequency and percentage were used to analyze the bio-data of the respondents while simple regression was used to analyze the formulated hypotheses.

## Model Specification

The study adapted the model used by Ajayi (2019) who examined the effect of total quality management on the performance of firms. The regression model is given thus:

PER =  $f$ (CUF ECO MCO)..... 1

Where:

CUF = Customer Focus

## ECO = Employee Commitment

MCO = Top Management Commitment

PER = Performance

However, the outcome variable was replaced with cognitive dissonance in order to achieve the objectives of the study. The modified functional and linear regression models of the study is stated below:

## Functional Model

COD =  $f$ (CUF ECO MCO)..... 2

## Linear Model

Where:

CUF = Customer Focus

## ECO = Employee Commitment

MCO = Top Management Commitment

COD = Cognitive Dissonance

$\alpha_0$  = Intercept

$\alpha_1 - \alpha_3$  = Coefficient of independent variables

**U = Error term**

## Test of Hypotheses

**Hypotheses 1:** There is no significant effect of top management commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State.

**Table 1: Simple Regression Analysis Showing the effect of top management commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State.**

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
(Constant)	0.807	0.178		4.522	0.000
Top Management Commitment	0.898	0.0128	0.637	7.005	0.000

**Dependent Variable: cognitive dissonance among consumers of herbal drugs in Ekiti State**

\*p <0.05 R = 0.637; R<sup>2</sup> = 0.405; Adjusted R<sup>2</sup> = 0.397; F = 49.073; Sig = 0.000

Source: *Output of data Analysis, 2023*

The outcome above in table 1 revealed that the reported r values was 0.637 and this implies there is a moderate relationship between top management commitment and cognitive dissonance among consumers of herbal drugs in Ekiti State. The R<sup>2</sup> (0.405), which shows the overall explanatory power of the model, reveals that top management commitment explains about 40.5% of the systematic variation in the cognitive dissonance among consumers of herbal drugs in Ekiti State. The remaining 59.5% might be due to other variables not included in this study. The overall fitness of the model as shown in the F statistics of 49.073 with a probability of 0.000 which is statistically significant as it is less than the standard critical p-value of 0.05. This indicates that there is enough evidence to reject the null hypothesis, reflecting that there is a significant effect of top management commitment on the cognitive dissonance among consumers of herbal drugs in Ekiti State. Thus, the null hypothesis that there is no significant effect of top management commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State is rejected.

**Hypotheses 2:** There is no significant effect of employee commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State.

**Table 2: Simple Regression Analysis Showing the effect of employee commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State.**

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
(Constant)	1.338	0.205		6.509	0.000
Employee Commitment	0.375	0.110	0.373	3.408	0.001

Dependent Variable: cognitive dissonance among consumers of herbal drugs in Ekiti State

\*p <0.05 R = 0.373; R<sup>2</sup> = 0.139; Adjusted R<sup>2</sup> = 0.127; F = 11.615; Sig = 0.001

Source: *Output of data Analysis, 2023*

The outcome above in table 2 revealed that the reported r-value was 0.373 and this implies there is a low relationship between employee commitment and cognitive dissonance among consumers of herbal drugs in Ekiti State. The R<sup>2</sup> (0.139), which shows the overall explanatory power of the model, reveals that employee commitment explains about 14% of the systematic variation in the cognitive dissonance among consumers of herbal drugs in Ekiti State. The remaining 86% might be due to other variables not included in this study. The overall fitness of the model as shown in the F statistics of 11.615 with a probability of 0.001 which is statistically significant as it is less than the standard critical p-value of 0.05. This indicates that there is enough evidence to reject the

null hypothesis, reflecting that there is a significant effect of employee commitment on the cognitive dissonance among consumers of herbal drugs in Ekiti State. Thus, the null hypothesis that there is no significant effect of employee commitment on cognitive dissonance among consumers of herbal drugs in Ekiti State is rejected.

**Hypotheses 3:** There is no significant effect of customer focus on cognitive dissonance among consumers of herbal drugs in Ekiti State.

**Table 3: Simple Regression Analysis Showing the effect of customer focus on cognitive dissonance among consumers of herbal drugs in Ekiti State.**

Model	Unstandardized Coefficients		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
(Constant)	0.789	0.127		6.223	0.000
Customer Focus	0.665	0.066	0.767	10.147	0.000

Dependent Variable: cognitive dissonance among consumers of herbal drugs in Ekiti State

\*p <0.05 R = 0.767; R<sup>2</sup> = 0.588; Adjusted R<sup>2</sup> = 0.583; F = 102.958; Sig = 0.000

Source: Output of data Analysis, 2023

The outcome above in table 3 revealed that the reported r - value was 0.767 and this implies there is a high relationship between customer focus and cognitive dissonance among consumers of herbal drugs in Ekiti State. The R<sup>2</sup> (0.588), which shows the overall explanatory power of the model, reveals that customer focus explains about 58.8% of the systematic variation in the cognitive dissonance among consumers of herbal drugs in Ekiti State. The remaining 41.2% might be due to other variables not included in this study. The overall fitness of the model as shown in the F statistics of 102.958 with a probability of 0.000 which is statistically significant as it is less than the standard critical p-value of 0.05. This indicates that there is enough evidence to reject the null hypothesis, reflecting that there is a significant effect of customer focus on the cognitive dissonance among consumers of herbal drugs in Ekiti State. Thus, the null hypothesis that there is no significant effect of customer focus on cognitive dissonance among consumers of herbal drugs in Ekiti State is rejected.

### Conclusion and Recommendations

The spectacular progress in the application of management practices, such as total quality management, has sometimes not yielded improvements in business results. From a contingent approach, literature suggests that the use of management control systems adapted to business strategy can help companies achieve the desired results. With this in mind, this study examined the effect of TQM on the performance of manufacturing firms in Ekiti State. In relation to the findings of this study, it was concluded that top management commitment, employee commitment

and customer focus significantly influenced the cognitive dissonance among consumers of herbal drugs in Ekiti State.

The following recommendations were made in relation to the findings of the study:

- i. The support of top management is a must for TQM to achieve its objectives, especially when they pay much attention also to motivation.
- ii. Top management in the herbal producing firms should continue their effort in considering total quality management as a priority for their firms in the future and involving the firms to TQM implementation at all levels.

It is recommended that the herbal producing firms should continue its look into ways to increase its employee's empowerment and participation. Continuous improvement is an important factor in TQM. The firms should give this more attention in regards to the value of its implementation.

### **Suggestions for Further Research**

1. Researchers in the future can attempt to investigate the effects of total quality management on cognitive dissonance among consumers of other products different from herbal drugs.
2. Future researchers can equally replicate the study either in any other state in Nigeria or any province in any other country in the world
3. Finally, future researchers can focus on methodology gap by employing a method of data analysis different from simple regression

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