

# Total quality management and organisational performance in the nigerian beverage firm

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## **Abstract**

*The study examines the effect of Total Quality Management (TQM) practices on organisational performance in the Nigerian beverage industry. The study's target population was 343 employees of Nigeria Bottling company in Lagos, Nigeria, from where 185 employees were selected and used as sample through purposive sampling technique. Data were collected through the administration of copies of questionnaire on the respondents. A pool Confirmatory Factor Analysis (CFA) in structural equation modeling was conducted to assess the validity and reliability of the study's instrument. The data collected were further subjected to descriptive and inferential statistical test through Amos graphics and SPSS packages. The result reveals that TQM practices (Customer focus, employee empowerment, continuous improvement, quality focus and top management) have significant and positive effect on organisational performance measures (Customer satisfaction, productivity, quality conformance brand preference and competitive advantage). The study therefore recommends that management should strengthen its efforts on the TQM practices to engendered sustainable non-financial performance that will ultimately have positive effect on the financial performance of beverages' firms in Nigeria.*

## **Key words**

*Beverage Industry; Management; Organizational; Performance; Total Quality*

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## **Introduction**

Food and beverage industry is one of the most internationally competitive industries, with global dominance and importance to every economy, including Nigeria. The value and importance of the participants in this industry to the Nigerian economy has increased in recent years (Adewumi, Ayinde, Ajewole & Oladejo, 2014). The industry accounts for 22.5 percent of the manufacturing industry's value and 4.6 percent of the Nigeria's GDP. Nigerians spend an average of 73 percent of their income on food and beverages (Flander Investment and Trade Market Survey, 2020). The survey's results showed that if given opportunity, the great majority of Nigerians' customers will prefer

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beverages manufactured outside of Nigeria. Nonetheless, more indigenous businesses have emerged in the last five years to satisfy the quality requirements of consumers in Nigeria who prefer local flavour.

In today's global competitive business environment, quality is viewed as one of the fundamental components to increasing market share and enhancing competitive advantage. For a firm to increase its customer base and retain existing ones, offering high quality products or services is quite essential, as low-quality products and services increase the cost of wastage and often lead to customers' dissatisfaction, which by implication can lead to loss of future sales and exit of a firm from an industry. In addition, there has been diffusion of technological innovations across geographical boundaries, which makes it possible for customers to have more information regarding product quality (Hardeep and Bikrampal, 2014). The major aim of a unified and well-designed programme of Total Quality Management (TQM) consists of zero defect, process improvements, causal relationships development, system capacity measurement, and observation of variations in behavior over a given time horizon. Therefore, the basic subject matter within which the TQM concept revolves remains to attain a substantial decrease in the cost of quality, greater employees' satisfaction, enhanced customer-supplier association, improved lead time, as well as improvements in production/operation process (Motwani, 2001).

The basic axiom that underpins TQM concept remains the assumption of maintaining and continuously stimulating products and processes quality. Aized (2012) posits that TQM entails the management of suppliers, workforce as well as consumers/customers, with the aim of meeting or surpassing the expectations and requirements of customer. Therefore, the practices of total quality management consist of top management commitment, strategic planning, employee participation, cross-functional product design, quality assurance, customer relationship management, customer focus, continuous improvement, process management and supplier quality management. The major purpose of the approaches of modern operations management is to forestall performance in service and manufacturing sectors. Providing high-quality goods and services will reduce cost of production and serves as a strategic mechanism for business entities to create and maintain their competitiveness in their industry. Therefore, quality has become a strategic approach for firms' performance management in this present dynamic business environment (Hassan, Malik, and Faizt et al., 2012).

It was observed in the studies of Shafiq et al. (2019); Salome and Shadrack (2019); Ezenyilimba, Ezejiofor, and Afodigbueokwu (2019); Rateb, Nida, and Nadia (2019); Garcia-Bernal and Ramirez-Aleson (2015); O'Neill, Sohal, and Teng (2016); Vedant, Akshay, and Tej (2018) that TQM is a significant instrument that every firm both in the manufacturing and service sectors can employ to strengthen their competitiveness with a view to achieving set goals and objectives. There was a consensus by the aforementioned studies that the application of TQM practices can be used to optimise both the financial and non-financial performance of firms, and that total quality management should be given adequate consideration in decision making process to ensuring the survival of firms in a complex business environment. On the other hand, the studies of Benner and Veloso (2008); Corredor and Goni (2010); Psomas and Jaca (2016) concluded that TQM practices involved a lot of cost, which impact on the profitability of firms adversely. Also, the findings of Prajogo and Brown (2004) concluded that TQM programmes has no significant effect on quality performance. Hence, this study seeks to provide answer to the

fundamental questions of whether total quality management practices affect organisational performance in the Nigerian beverage industry or not. In an attempt to fill the gap of previous studies and contribute to existing knowledge in total quality management and organisational performance, this study adopted Structural Equation Modelling (SEM) technique, using the Nigeria Bottling Company Plc as case study.

The major objective of the study is to investigate the effect of TQM practices on organisation performance. However, the Specific objectives are to: assess the effect of customer focus on customer satisfaction; examine the impact of employee empowerment on productivity; determine the effect of continuous improvement on quality conformance; ascertain the effect of quality focus on brand preference; and evaluate the effect of top management commitment on competitive advantage.

### **Quality Management of Nigeria Bottling Company Plc**

Nigerian Bottling Company (NBC) Plc was established in Nigeria in November 1951 as a subsidiary of A.G. Leventis. It was awarded a license to bottle and distribute Coca-Cola and other allied beverage goods. NBC began as a small family firm and has since grown to become a market leader and significant bottler in the Nigerian non-alcoholic beverage sector. The bottling factory was established in 1953, and the production process began at the company's headquarter. Its production/operation capacity has grown substantially over the years, and it now controls more than thirteen bottling plants spread across Nigeria's major cities. To service its many consumers/customers, the company has over eighty distribution facilities around the country. Coca-Cola, Fanta, Schweppes, Sprite, Eva water, and the newly launched Burn energy drink are among the brands manufactured by the Nigerian Bottling Company.

Total quality management practice is adopted by the Nigerian bottling company. This includes the process of controlling quality in all elements of the company, including its supply base, production, and clients' communities, among others. As a result, the NBC is able to create and maintain competitive advantages over its competitors in order to achieve and maintain higher levels of customer satisfaction. This management concept was established in order to ensure that the quality of the company's products is continually improved upon. The importance of collaboration was never overstated, as the firm actively engaged all its employees in the manufacturing process, indicating that each employee has a thorough grasp of his or her task. A strategy for boosting employees' morale and productivity. The TQM practices adopted includes customer participation in the operation process. This is because most companies, including Coca-Cola, value opportunity for feedback and information on quality of their goods and services from their numerous consumers/customers. Through this, the company created and maintained competitive edge by eliminating waste and decrease expenses, which has made it the market leader in the industry (Muirhead, 2011).

## 1 Literature review

Since the work of Deming and the early quality gurus, total quality management has been the most prominent and visible approach of quality growth. It first appeared in the 1980s as a Japanese management technique to improve quality, and it gained popularity in the 1990s (Zakuan, 2010). TQM is a management concept that strives to enhance a firm product's quality performance in order to fulfill consumers' demands and expectations, while also achieving long-term success. TQM needs active engagement, collaboration and cooperation of employees in an organisation, or it will fall short of its goal of exceeding consumer's expectations (Hung, Lien, Yang, Wu & Kuo, 2011). A variety of prior research are evaluated and reviewed below to have a 'bird view' of the concepts and theories in this important area of study.

In a study of the TQM of 90 textile businesses in Pakistan, Mahmood, Qadeer, and Ahmed (2014) found that employee participation and continuous improvement are the most essential TQM elements that enhances organizational performance. However, in the same study, there was no statistical significance for top management support and customer focus on organisational success. Abusa and Gibson (2013) conducted same study across 56 Libyan industrial businesses. The findings revealed that all TQM variables, with the exception of supplier quality management, were highly associated with organisational success. They listed top management commitment and process management as the most successful elements, followed by people management and customers' focus. They concluded that continuous improvement had significant impact on organisational performance, but opine that it affected only one component of organisational performance, customer satisfaction, without substantial link with financial performance.

In Nigeria, Osotimehin, Ekpudu, and Agorzie (2016) on a study of the effect of quality management practices on the performance of selected downstream oil firms in Nigeria, found that quality management practices had positive and significant effect on the performance of firms in the sector. In addition, Ghazi, Bandar, Fathi, Metri, and Manar (2018) investigated the extent to which private service businesses use TQM methods and their influence on organisational excellence. Their Finding showed that TQM is highly applied and had a significant and favorable influence on organisational excellence.

In Jordanian private airlines, Adnan (2018) examined the association between overall quality management and firm performance. The findings demonstrate that overall quality management methods had a favorable and significant influence on Jordanian private airlines' quality, business, and firm performance. Specifically, the study's result revealed that successful adoption of comprehensive quality management methods improved the Jordanian private airlines performance. Ehsan and Najla (2019) in their study of Malaysian hotels and performance, found that Malaysian hotels had an adequate degree of TQM adoption. Furthermore, the regression analysis revealed that all of the selected TQM practices (customer focus, continuous improvement, and staff participation) had substantially linked with firm performance in Malaysian hotels. It was however observed from the result that the most significant TQM components in terms of its effect on business performance was continuous improvement.

Mudassar, Paul, Umair, Junaid, Rizwan, and Nosheen (2020) in their study examined the influence of TQM application on financial growth of small hotels. They developed

an effective and practicable quality system for managers to incorporate the best TQM strategies to maximize profitability via quality improvement and attainment of desired outcomes. By recruiting 141 people, the researcher was able to achieve the study's general aim and goals using a quantitative approach. The findings revealed that several TQM practices, such as quality improvement, continuous improvement, the involvement of top management, training and education, technological innovation, and employee empowerment had a beneficial influence on the profitability of small hotels. Empirical data from a developing South Asian country was provided and used for a study by Shafiq, Lasrado, and Hafeez (2019). The study was carried out in Pakistani textile firms. Questionnaire was used to gather data from members of the All-Pakistan Textile Mills Association, which was administered on 210 textile firms, with quality and production managers serving as respondents. Data gathered were used to examine the connection between TQM procedures and organisational performance using structural equation modelling (SEM). The findings showed that TQM had a strong beneficial impact on organisational performance.

Using structural equation modeling, Farish, Anu, and Satish (2017) investigated the direct and indirect impacts of TQM procedures on financial and innovation performance. The data were analysed and hypotheses tested using. The result of the survey showed that TQM practices had a direct and considerable impact on both financial and innovative performance. The findings also demonstrated that TQM techniques had an indirect and significant impact on financial performance via innovation performance. Continuous improvement, supplier quality management, quality information analysis, knowledge management, and quality assurance were also identified as the most prevalent TQM techniques linked to both financial and innovative success in the study. Deka and Muslim (2018) using employee and management perception, empirically explore the nexus between TQM's Critical Success factors (CSF) and performance results in Indonesian public service sector. A literature study yielded twenty-four hypotheses on the relationship between TQM's CSF and performance results, which were then examined using the Structural Equation Modeling (SEM) approach. A total of 310 people (employees and managers) took part in the survey. The findings showed that leadership is an important component of improved performance. The study also showed that continuous improvement, customer attention, and operational performance were the other important success elements that could be used to promote service quality.

Faris (2018) investigated the nexus between TQM and organisational performance. In the study, organisational culture was used as a moderating factor. A total of 163 managers from all levels of government participated in the survey. The result showed that TQM and organisational performance had a favorable and statistically significant link. The hierarchical regression analysis and structural equation modeling revealed that TQM and organisational culture interaction was statistically significant and favorably connected to firm performance. In a similar vein, Alfred, Reuben, and James (2018) in their study of Kenya Revenue Authority, found a link among staff training, continuous improvement, and system automation and operational performance in Kenya Revenue Authority. The study indicated that attaining operational excellence was challenging until Kenya Revenue Authority embraced TQM techniques through staff training, system automation, and continuous improvement in the changing and challenging business environment.

## Research hypotheses and conceptual model

Based on the objectives of the study, the following hypotheses were developed and tested in the course of the study:

H<sub>1</sub>: Customer focus has a significant and positive effect on customer satisfaction.

H<sub>2</sub>: Employee empowerment has a significant and positive effect on productivity.

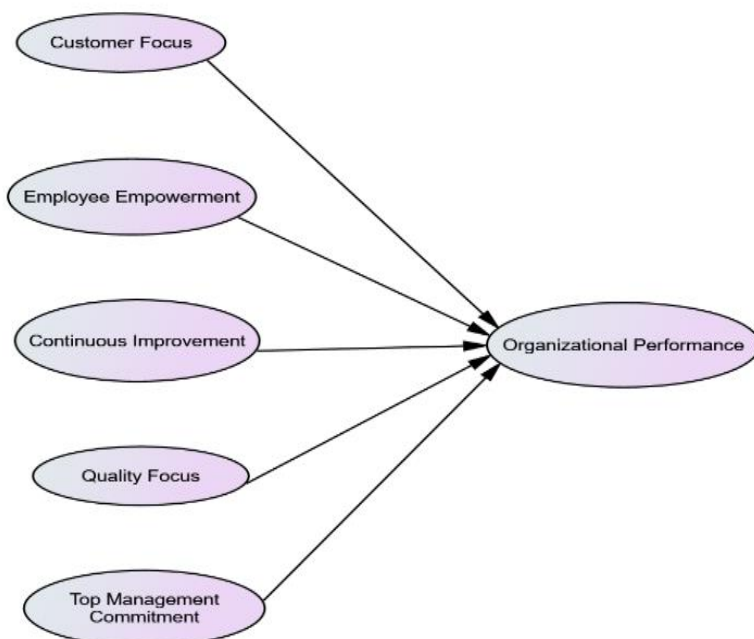
H<sub>3</sub>: Continuous improvement has a significant and positive effect on quality conformance.

H<sub>4</sub>: Quality focus has a significant and positive effect on brand preference.

H<sub>5</sub>: Top management commitment has a significant and positive effect on competitive advantage.

Based on the hypotheses of the study, a research conceptual model was developed as shown in figure 1. The independent sub-variables include: customer focus, employee empowerment, continuous improvement, quality focus, and top management commitment; while the dependent sub-variables include: customer satisfaction, productivity, quality conformance, brand preference, and competitive advantage.

**Figure 1** A conceptual Framework for the study on the effect of total quality management on organisational performance



## 2 Methodology

The study adopted a descriptive survey design to examine the effect of total quality management on organisational performance. The choice of the research design was necessary because primary data required for the study were collected from the respondent directly. It helps in utilising the method of data collection that yield reports concerning the measures of central tendency, variance analysis, correlation as well as structuring investigations aimed at identifying variables effect on the others and their relationship to one another. The target population of the study were employees of Nigerian Bottling Company Ikeja, Lagos State which was three hundred and thirty-four (334). To determine the sample size for the study, the formula of Yamane (1967) was adopted thus:

$$n = \frac{N}{1 + N(e)^2} = \frac{343}{1 + 343(0.05)^2} = 185$$

Hence, the sample size based on the above formula was one hundred and eighty-five (185).

Based on the nature of the observed variables in the study, primary data were collected using self-administered structured copies of the questionnaire that were administered on respondents. The study used questionnaire as the research instrument due to the fact that it provides avenue for systematic collection of data and aid analysis for managerial decision-making. The questionnaire was segmented into sections; sections A, B, C, D, E, F, and G. Section A addressed social demographic characteristics of the respondents, such as gender, age, marital status, qualification, years of services and rank/position. Section B addressed questions on customer focus as adapted from the study of Ehsan and Najla (2019); Section C addressed questions on employee empowerment in line with Nyaga and Gakobo (2017); section D addressed questions on continuous improvement as adapted in the study of Alfred *et al.* (2018); Section E covers questions on quality focus; Section F addressed questions on top management commitment as adapted from the study of Hilmy (2016); while section G includes questions on organisational performance measures, which was adapted from the study of Arawati, Muhammad, and Jaafar (2009). The questions from sections B to G were based on a five-point-Likert scale: Strongly Agree (SA), Agree (A), Undecided (U), Disagree (D) and Strongly Disagree (SD).

**Tab. 1** Questions Adapted from Various Authors

VARIABLES	ITEMS
Customer Focus	My company has increased its customer patronage through effective customer relationship.
	My company has increased its customer satisfaction rate through a sound quality function deployment.
	My company has expanded its customer base through effective customer management.

	My company has increased the sales of its products through effective marketing relationship.
	My company is highly committed to satisfy the needs of its customers through a robust market research.
Employee Empowerment	There is high employee participation in quality management program in my company.
	Employee training enhances effective and efficient production process in my company.
	My company has enhanced its employees' productivity through effective development programs.
	Employees are highly committed to production and quality improvement in my company.
	Employees are highly involved in continuous improvement efforts in my company.
Continuous improvement	My company encourages products innovation through effective process management.
	My company has facilitated the quality of its products through process improvement
	My company has taken advantage of market opportunities through quality improvement to boost sales.
	My company has high continuous flow of production through effective process innovation.
	My company is able to adapt to the changing taste of the customers through production flexibility.
Quality Focus	The quality of my company products conformed to customers' specification.
	My company has improved its market share through high performance quality.
	We emphasis on quality delivery rather than price in selecting suppliers.
	Customer complaints are used as input to improve production processes and quality.
Top Management Commitment	Leadership proactively pursues continuous improvement
	The unit managers accept responsibility for quality of goods.
	Top management clearly understands the fundamental spirits and principles of quality management
	The company's plan always incorporates external customers, suppliers and other stakeholders
Customer Satisfaction	The customer loyalty rate in my firm is high.
	There is high rate of customer patronage of my company's products.
	Customer grievances against my firm have decreased
Productivity	Production improvement is excellent in my firm.
	There is high rate of efficient production in my company
	Employee productivity rate is high in my firm.
Quality Conformance	The rate of quality conformity of our products is high.
	Quality innovation is high in my firm.
Brand Preference	Customer retention rate has improved in my firm
	Repeat purchase rate is high in my firm
Competitive Advantage	The technological competitiveness of my firm is high
	We are able to compete based on quality products.



Data collected were analysed and tested using descriptive and inferential statistics. the descriptive statistic (frequency distribution, mean and percentage) was used to present and analysed respondents' profiles. On the other hand, the inferential statistical tool used was multiple regression test through structural equation modelling technique with the aid of Amos Graphics to ascertain the causal effect of the latent independent variables "TQM practices" represented by customer focus, employee empowerment, continuous improvement, quality focus, and top management commitment; on the latent dependent variables "organisational performance" represented by customer satisfaction, productivity, quality compliance, brand preference, and competitive advantage. Therefore, the five hypotheses developed by the study were tested using SEM (path analysis) in a bid to achieve the objectives of the study. For reliability and validity of the measurement model, the study adopted a composite reliability test using Confirmatory Factor Analysis (CFA) to show the shared variance amongst the predictor variables of the latent constructs adapted and assess the internal accuracy and consistency of the research instrument. For validity of the research instrument, construct validity was evaluated, where convergent and discriminant validity of the measurement model were assessed to ascertain whether the research instrument accurately measure what it intends to measure and to ensure that there is complete absent of measurement error. The results of the reliability and validity is as shown in Table 3.2 and Table 3.3.

A statistical model was developed to measure the impact of selected independent variables on the dependent variables. Thus, in order to account for the effect of total quality management on organisational performance, a multiple regression model relating each of the indicators of TQM and organisational performance investigated in the study is specified and analysed using structural equation modelling technique with the aim of estimating the coefficients of the predictor variables in the model. The regression model is as specified:

$$DY = f (CF, EE, CI, QF, TMC) \dots\dots\dots (i)$$

The above function is hereby written in linear mathematical form as:

$$DY = \beta_0 + \beta_1 CF + \beta_2 EE + \beta_3 CI + \beta_4 QF + \beta_5 TMC + E \dots\dots\dots (ii)$$

Where:

DY: Dependent variable measured by (customer satisfaction, productivity, innovation performance, brand preference, and competitive advantage)

CF: Customer Focus, EE: Employee Empowerment, CI: Continuous Improvement, QF: Quality Focus, TMC: Top Management Commitment, E: Error terms,  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$  = Parameters.

The linear regression model produces a regression equation where the coefficients denote the effect of each predictor variable (customer focus, employee empowerment, continuous improvement, quality focus, top management commitment) on the dependent variable (customer satisfaction, productivity, innovation performance, brand preference, and competitive advantage).

### 3 Results

This section covers analysis of respondents' profiles, first order factor analysis for assessment of reliability and validity; and test of hypotheses using structural equation modelling.

**Tab. 2** Respondents' Profile

Characteristics of Respondents		Frequency	Percentage (%)
<b>Gender</b>	Male	131	72.4
	Female	50	27.6
	<b>Total</b>	<b>181</b>	<b>100.0</b>
<b>Age</b>	22-32yrs	49	27.1
	33-43yrs	82	45.3
	44-54yrs	36	19.9
	55yrs and above	14	7.7
	<b>Total</b>	<b>181</b>	<b>100.0</b>
<b>Marital status</b>	Single	74	40.9
	Married	107	59.1
	<b>Total</b>	<b>181</b>	<b>100.0</b>
<b>Qualification</b>	ND/Equivalent	45	24.9
	HND/B.Sc	85	47.0
	PGD/M.Sc	51	28.2
	<b>Total</b>	<b>181</b>	<b>100.0</b>
<b>Years of Service</b>	0-5yrs	72	39.8
	6-10yrs	76	42.0
	11yrs and above	33	18.2
	<b>Total</b>	<b>181</b>	<b>100.0</b>
<b>Rank Position</b>	Senior staff	110	60.8
	Junior staff	71	39.2
	<b>Total</b>	<b>181</b>	<b>100.0</b>

Source: Field Survey, 2021

#### First order Factor Analysis

A pooled Confirmatory Factor Analysis (CFA) was conducted to estimate the adequacy of the measurement model for Structural Equation Modelling (SEM), by assessing

the validity and reliability of the research instrument. The standardized factor loadings from the CFA were used to compute the Composite Reliability (CR) and Average Variance Extracted (AVE) to determine the reliability and internal validity of the measurement model. The convergent validity was substantiated by computing the average variance extracted for each of the latent construct adopted in the study and the threshold for convergent validity is that the value of AVE of the latent constructs should be  $\geq 0.5$  (Bagozzi & Yi, 1998). The threshold for composite reliability is that the value of the composite reliability of a latent construct should be 0.7 or higher (Nunnally & Bernstein, 1994).

**Tab. 3** Construct Reliability and Convergent Validity Coefficients

Latent Variables	No of Items	SFL (min-max)	CR	AVE
Customer Focus	5	0.658 – 0.787	0.840	0.5149
Employees Empowerment	5	0.726 – 0.881	0.883	0.6028
Continuous Improvement	5	0.753 – 0.830	0.898	0.6402
Quality Focus	4	0.761 – 0.849	0.875	0.6407
Top Management Commitment	4	0.738 – 0.826	0.857	0.60
Customer Satisfaction	3	0.676 – 0.831	0.802	0.5766
Productivity	3	0.741 – 0.842	0.849	0.6529
Quality Conformance	2	0.777 – 0.811	0.773	0.6307
Brand Preference	2	0.714 – 0.771	0.711	0.5521
Competitive Advantage	2	0.686 – 0.859	0.750	0.6042

Note: SFL, standardized factor loading; CR is composite reliability; AVE is average variance extracted.

As shown in the above table, the CR of all the constructs is acceptable, being  $> 0.7$ . The AVE of each construct is  $> 0.5$  of the variances. Hence, the internal consistency and validity of the measurement instrument is adequate.

**Tab. 4** Discriminant Validity

Latent Variables	CF	EE	CI	QF	TMC	CS	Pr	QC	BP	CA
CF	<b>0.7727</b>									
EE	0.475	<b>0.776</b>								
CI	0.475	0.336	<b>0.801</b>							
QF	0.565	0.392	0.341	<b>0.800</b>						
TMC	0.169	0.479	0.527	0.476	<b>0.775</b>					
CS	0.587	0.154	0.014	0.601	0.540	<b>0.7648</b>				
Pr	0.417	0.681	0.011	0.411	0.626	0.497	<b>0.7762</b>			
QC	0.405	0.553	0.390	0.702	0.541	0.600	0.326	<b>0.8353</b>		
BP	0.623	0.207	0.268	0.223	0.421	0.573	0.636	0.765	<b>0.743</b>	
CA	0.424	0.233	0.682	0.591	0.516	0.722	0.302	0.690	0.501	<b>0.778</b>

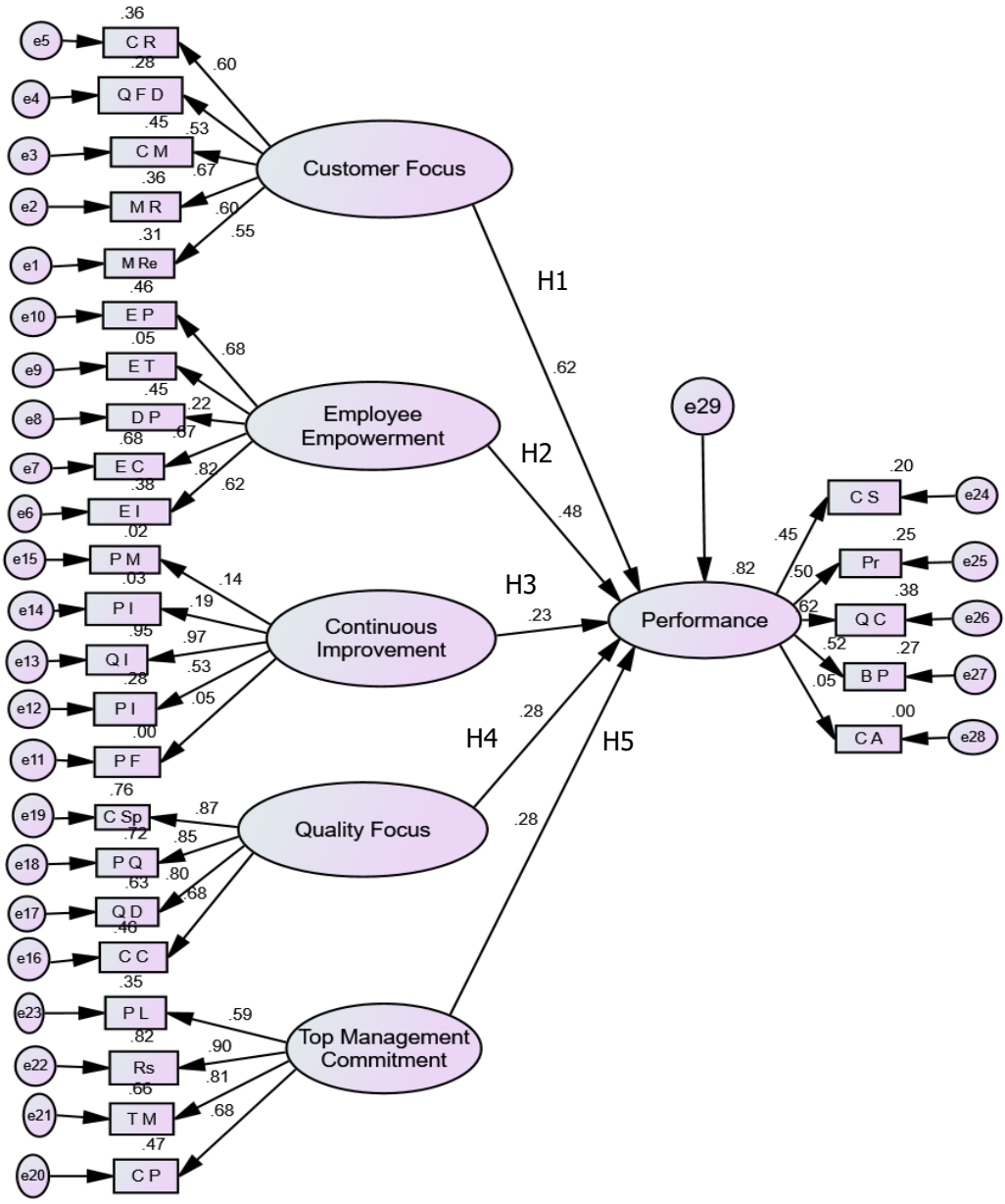
a Diagonal element (bold) are the square root of AVE between the latent constructs and their measures. Off-diagonal elements are correlations between constructs

The discriminant validity of the latent constructs was computed by obtaining the square root of AVE for each of the latent construct. The threshold for discriminant validity is that the value of the square root of AVE of the latent constructs should be higher than the correlation of the latent/exogenous constructs and the correlation between the latent constructs should be less than 0.85. In Table 4.3, It shows that the latent constructs satisfied the threshold of discriminant validity, as the values of the square root of AVE, that is, the diagonal values (in bold) for each of the construct is more than the inter-correlation values of the latent constructs and the correlation between the latent constructs is  $< 0.85$ . In view of the reliability and validity analysis' result, the scale for the constructs seems to have display satisfactory measurement qualities and it is adequate. Hence, the research instrument was considered valid for data collection.

### Testing the research hypotheses

The study adopted structural equation modelling technique for test of hypotheses of the proposed model, and path analysis was conducted to assess the causal relationship that exists among the constructs of the study. The condition for testing each hypothesis is that when critical value (CR) is  $> 1.96$  and P value is less than 0.05 ( $p < 0.05$ ) level of significance, the null hypothesis is rejected and when critical value (CR) is  $< 1.96$  and P value is greater than 0.05 ( $p > 0.05$ ) level of significance, the null hypothesis is accepted.

**Figure 2** Structural Model for TQM Practices and Organisational Performance



In the above figure, a single-headed arrow (path) is used to represent the causal effect in the structural model. The path is drawn from the latent independent variables pointing to the latent dependent variable and the position of the arrows show that customer focus, employee empowerment, continuous improvement, quality focus, and top management commitments are hypothesised to have significant effect on performance.

**Tab. 5** Test Result of the SEM Model

<i>Goodness of fit</i> <b>Statistic</b>	<i>Structural Model Val- ues</i>	<i>Recommended * values for good fit</i>
$\chi^2/df$	<b>2.908</b>	<b>&lt; 3.00</b>
<b>NFI</b>	<b>0.937</b>	<b>&gt; 0.9</b>
<b>TLI</b>	<b>0.921</b>	<b>&gt; 0.9</b>
<b>CFI</b>	<b>0.910</b>	<b>&gt; 0.90</b>
<b>RMSEA</b>	<b>0.075</b>	<b>&lt; 0.08</b>

By adopting SEM, it is expedient for the structural model developed to fit the data generated for analysis. Thus, the study assessed the fitness of the structural model via the goodness of fit indices adopted: Chi-square/degree of freedom ( $\chi^2/df$ ), normed fit index (NFI), Tucker-Lewis's coefficient (TLI), comparative fit index (CFI), and root mean square error of approximation (RMSEA). Table 3.5, shows that the SEM model for the latent constructs (customer focus, employee empowerment, continuous improvement, quality focus, top management commitment, and performance) satisfies the required level of model fitness. This is because the results are within the acceptable limit for measuring model fitness. On the strength of the above results, the study inferred that the model is fit for the study.

**Tab. 6** Construct Structural Model (TQM Practices and Performance)

<b>Link in the model</b>	<b>Hypothesis</b>	<b>Path Coefficient</b>	<b>Critical Ratio (CA)</b>	<b>p-value</b>	<b>Result</b>
P <-- CF	H <sub>1</sub>	0.62	4.062	0.000	Supported
P <-- EE	H <sub>2</sub>	0.48	3.959	0.000	Supported
P <-- CI	H <sub>3</sub>	0.23	2.602	0.009	Supported
P <-- QF	H <sub>4</sub>	0.28	3.048	0.002	Supported
P <-- TMC	H <sub>5</sub>	0.28	3.004	0.003	Supported

Based on the results of path coefficient, critical ratio and p-value, it is observed that all independent constructs (customer focus, employee empowerment, continuous improvement, quality focus, and top management commitment) had significant and positive effect on the dependent construct (organisational performance). Hence, all hypotheses are confirmed. For instance, in hypothesis one, a unit change in customer focus accounted for 0.62 (62%) change in performance, proxied by customer satisfaction.

## Discussion of Findings

The study examined the effect of total quality management on organisational performance in the Nigerian beverage industry. TQM was measured by five constructs,

which were customer focus, employee empowerment, continuous improvement, quality focus, and top management commitment, while organisation performance was measured by customer satisfaction, productivity, quality conformance, brand preference, and competitive advantage. Questionnaire was employed to elicit required data, while structural equation modelling (Path Analysis) was deployed for data analysis and test of hypotheses in a bid to achieve the objectives of the study. The findings were in line with some previous studies. All the null hypotheses tested were rejected with p-value less than the significant level of 5% ( $p < 0.05$ ).

The findings from the SEM (path analysis) revealed that customer focus had significant and positive effect on performance, proxied by customer satisfaction. This is confirmed by the path coefficient (0.62) of customer focus to performance with  $p < 0.05$ . This implies that customer focus has significant effect on customer satisfaction. This finding corroborates with the outcomes of previous studies such as Farish *et al.* (2017); Ezenyilimba *et al.* (2019); Salome and Shadrack (2019) and Ghazi *et al.* (2018) which revealed that customer focus has significant and positive effect on customer satisfaction. By this, top management should ensure effective customer orientation to achieve customers satisfaction. Quality should not be viewed from the predetermined internal specifications, but it should be viewed from external perspective of customer expectations. Building and sustaining competitive advantage required firms to constantly monitor and respond quickly to change in customer expectations. The studied firm have been able to assess the needs and wants of its customers via extensive market and marketing research and made a robust customer relationship that has enhanced customer patronage.

The analysis also shows that employee empowerment had significant and positive effect on performance, proxied by productivity. This is confirmed by the path coefficient (0.48) of employee empowerment to performance with  $p < 0.05$ . The move towards achieving quality performance in the firm has been extensively upheld through effective training and education of employees. Through this, employees are motivated to assume higher responsibility, use their initiative and creativity to communicate effectively. Employee involvement is simply a polite means of seeking their opinion on matter that affect them. This implies that if employees are to be affected by decisions to be made by management, they should be consulted so long as they have the capacity to make useful and intelligent contribution. This strategy of management-employees relationship will be strengthened and create conducive and favourable atmosphere for improved performance.

It is no doubt that when employees are empowered and equipped with necessary skills to get the work done, the level of their productivity will be optimized. The findings further reveals that by empowering employees within the firm, a friendly environment would be created, where employees could have the confidence and capability to initiate necessary procedures to meet the expectations and requirements of customers, so as to attain the goals and improve the value of the firm. The finding supports the Kanter's Structural Empowerment theory which emphasises that employees must be provided with the necessary resources to support opportunities for continuous learning in order to develop their core competencies and skills. By implication, employees will be motivated and be willing to deliver quality customer service. This finding is also in line with the findings of Ahmed (2018); Alfred *et al.* (2018); Victor and Rosemarie (2017) and Yaser (2015) which concluded that employee empowerment has positive impact on the performance of firm's operations.

Findings further revealed that continuous improvement has significant and positive effect on performance, proxied by quality conformance. This was confirmed by the path coefficient (0.23) of continuous improvement on performance, with  $p < 0.05$ . The application of continual improvement in the studied firm focuses on the audit of existing process and management review of quality performance to ensure conformity with quality standard. The result further shows that the improvements in the studied firm was properly planned and well implemented. It is viewed that continuous improvement is a significant aspect of products/services and the means for developing and improving production/operations processes. This finding upholds the quality improvement theory, which claimed that quality performance of firms should be optimised on a daily basis in order to curb the discrepancy between customer expectations and organisational performance. This finding is consistent with the findings of Vedant *et al.* (2018); Wilson and Doreen (2017) which claimed that continuous improvement has positive effect on the quality performance of firms.

The structural equations modelling's results revealed the existence of causal effect of quality focus on performance, proxied by brand preference. This is confirmed by the path coefficient (0.28) of quality focus on performance with  $p < 0.05$ . This implies that quality focus has significant effect on brand preference. The studied firm emphasises more on quality delivery, rather than price in selecting suppliers which has impacted greatly on the quality of products delivered to the consumers/customers. By implication, the firm has been able to position its products in the mind of the customers to create strong preference for its products. This finding is in line with the study of Hilmy (2016), which divulged the positive association between quality focus and firm competitiveness.

Finally, the findings divulged that top management commitment had significant and positive effect on firm performance, proxied by competitive advantage. This was confirmed by the path coefficient (0.28) of top management commitment on performance, with  $p < 0.05$ . This shows that top management of the studied firm believe in TQM and had demonstrated high commitment to the successful application of TQM, with a view to achieving competitive advantage. The policies and strategies of the firm are well spelt out and communicated to the employees to better comprehend, as well as embrace process change within the firm. Top executive considers the firm as a system where a stream of communication is established, employee empowerment is supported, and information is used effectively and efficiently optimised towards quality performance. It further shows that top executives proactively assumed full responsibility for continuous improvement on quality, and incorporate external customers, suppliers and other stakeholders in its plans, which have given the firm a competitive advantage over rivals in the industry. This outcome corroborates the findings of Simranjeet and Syed (2020) and Mudassar *et al.* (2020). It also upholds Deming's theory of quality improvement, which claimed that top management is responsible for creating and communicating the vision and aspiration of the firm to employees to gain their commitment toward improving the firm's performance and enhancing competitiveness.

## **Conclusion**

Arising from the findings, the study concludes that TQM has positive and significant effect on the performance of organisations in the Nigerian beverage industry. The study



focuses on the effect of total quality management on organisational performance. The need to proffer solution to the problem of low quality and how production/operations efficiency can be fostered in the Nigerian beverage industry has necessitated the need to examine how firms can effectively implement sound practices of TQM in a bid to optimise quality performance and satisfy the expectation and needs of customers. It is inferred that TQM practices has harmonious relationship with organisation performance. The studied firm provides a holistic, as well as systematic approach to create a work environment that gives room for employee development, continuous process/quality improvement, proactive leadership and focuses on quality and satisfy the needs of customers, which ultimately enhances firm's performance. It is evident that TQM is an effective tool that can be employed by firms in the manufacturing and service sectors to offer quality products/services to customer and optimise productivity and profitability level. The study's findings lend credence to the findings of previous studies that TQM has positive and significant effect on organisation performance.

### **Implication and Contributions to Knowledge**

It behooves on firms' managers to view quality from both predetermined internal specifications and external perspective of customer expectations. The implication of the study's findings is that firm is viewed as a system, where a stream of communication is established, employee empowerment is supported, and information is used effectively and efficiently to optimise productivity and quality performance. Also, top management has implicit belief in TQM and display high level of commitment to the successful application of TQM with a view to enhance competitive advantage. This study has made a significant contribution to the theoretical foundation and understanding of the influence of overall quality management practices on firms' performance in the Nigerian beverage sector. The study's empirical findings contributed to the conception that the business environment is dynamically complex and that consumers' tastes are constantly changing, necessitating the need for food and beverage companies to constantly invest in continuous quality and process improvement in response to technological changes in order to improve the quality of their products and meet market demands. The study also contributes to knowledge for academics and would be researchers because it has added to existing literature in this area of study. Finally, the study delivers a unique contribution to the academic and practitioners by adding to their knowledge on the effect of TQM on performance of their firms.

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