

THE NEXUS BETWEEN TOTAL QUALITY MANAGEMENT, JOB SATISFACTION AND EMPLOYEE WORK ENGAGEMENT IN THE FOOD AND BEVERAGE MULTINATIONAL COMPANY IN NIGERIA

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Abstract. *Adopting total quality management (TQM) program in an organisation may have consequences not only for organisational outcomes but also for employee work behaviour. Therefore, this study investigates the conceptual and empirical link between TQM practices, job satisfaction, and employee work engagement. Cross-sectional survey design, quota, proportionate and simple random sampling were used to draw 300 participants from the study population, out of which 190 responded and n = 183(61%) usable responses to the questionnaire designed for the purpose from employees of a food and beverage multinational company in Lagos metropolis were obtained. Regression and correlation analyses were used to analyse the study data. Significant positive relationship was found between dimensions of TQM practices (leadership and management support, employee participation, training, reward and recognition, and customer focus), job satisfaction and employee work engagement. After controlling for sex, age and experience, job satisfaction and TQM practices construct jointly and independently predicted employee work engagement. Also, job satisfaction partially mediated the relationship between TQM practices and work engagement. The implications of soft TQM implementation on employee job satisfaction for achieving highly engaged workforce are discussed.*

Key words: *work engagement, total quality management, job satisfaction, food and beverage manufacturing firm in Nigeria*

1. Introduction

In the last two decades employee engagement has attracted spirited research interest ranging from its conceptualisations, construct clarifications, understanding its antecede-

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ents and consequences, as well as its applications across a range of disciplines (Kahn, 1990; Halberg & Schaufeli, 2006; Halbesleben, 2010; Bakker & Leiter, 2010; Demmerouti & Cropanzano, 2010; Albrecht, Bakker, Gruman, Macey, & Saks, 2015). Due to its relevance to individual and organisational performance, Macey, Schneider, Barbera and Young (2009) remarked that rarely has any other term resonated in research literature and among business executives as employee engagement in the last two decades.

Kahn (1990, p. 700) in his ground-breaking study defined engagement as “the simultaneous employment and expression of a person’s ‘preferred self’ in task behaviors that promote connections to work and to others, personal presence (physical, cognitive, and emotional), and active, full role performance on the job”. Other researchers view engagement as a positive state of pleasure and high activation (Bakker & Albrecht, 2018; Albrecht et al., 2015; Schaufeli, Bakker & Salanova, 2006), furthermore, engaged workers have high levels of energy, are fully immersed in their work, are enthusiastic and enjoy their work (Bailey, Madden, Alfes & Fletcher, 2017).

It is imperative to note that regardless of how sophisticated the technology and management style of an organisation is, without engaged employees the organisation cannot achieve its objectives. Undoubtedly, an engaged productive workforce brings about improved organisational performance and competitive advantage. Organisations today need to recognize the fact that fundamental to the concept of employee engagement is the idea that all employees can make significant contributions to the successful functioning and continuous improvement of the organisation.

Employee job satisfaction is an important concept in organisational studies, yet, there have been arguments on whether employee work engagement and job satisfaction are essentially the same or distinct constructs (Macey & Schneider, 2008; Byrne, Peters & Weston, 2016). Job satisfaction remains a central factor for the success of any organisation (Chin & Saudah, 2011) and a major determinant of other individual and organizational outcomes (Amin & Ahmed, 2015). However, studies have also argued that they are indeed distinct constructs (Rich, LePine & Crawford, 2010). Job satisfaction is “the feelings a worker has towards certain aspect of his job” (Smith, Kendall & Hulin, 1969, p. 100) or “a pleasurable or positive emotional state, resulting from the appraisal of one’s job or job experiences” (Locke, 1976, p. 1304). A more recent conceptualisation asserts that job satisfaction refers to the emotional and intellectual fulfilment one receives from various aspects of one’s job (Cantarelli, Belardinell & Belle, 2016). Having established this distinction, researchers have made further efforts to examine the possible link between job satisfaction and some employee work outcomes (Kumar, Maiti & Gunasekaran, 2018; Amin & Ahmad, 2015; Snape, Wilkinson & Marchington, 1995), but what with employee work engagement? This study presupposes that higher level of employee job satisfaction would be expected to enhance favourable organisational outcomes such as employee work engagement. Thus, an understanding of how employees feel about their job is essential for the type of labor services they are expected to render for their organisation (Cantarelli et al., 2016).

In line with the matching model which argued that all human resource activities should fit together as a system and be aligned with organisational strategies and programs, the challenge is the inability of a firm to ensure that all these activities are harnessed in a manner that will help achieve the business needs (Snape, Wilkinson & Marchington, 1995; Walker, 1992). It is expected that TQM program, for instance, would engender job satisfaction, and job satisfaction would have direct and mediatory influence on employee work engagement.

Quality is at the top of most agenda for corporate organisations today because quality makes the difference between things being excellent or just being run of the mill (Sallis, 1996). Total Quality Management (TQM) is essentially a companywide procedure through which workers are motivated and empowered to do things right first time and every time, by reflecting and progressing on what they do on a continuous basis (Faisal, Zillur & Qureshi, 2010). Though different approaches have been used to define TQM, all these approaches embrace similar principles and practices which have been the major foundation for understanding the concept (Mukhles & Andrew, 2009). Additionally, it is an approach that enhances organisational performance as a whole, implying more than just quality, but a philosophy. Also, it is a process and a set of techniques the implementation of which will not only achieve continuous improvement and customer satisfaction (Oakland, 1993), but could also have implication for employee job satisfaction and engagement levels.

Viewed from the top management perspective, TQM practices are techniques aimed at improving effectiveness, flexibility, and competitiveness of a business as a whole (Hackmann & Wageman, 1995). It is noteworthy that there are the soft and hard aspects of TQM practices. In particular, soft TQM is about the social and people based issues relating to total quality management (Amin & Ahmed, 2015; Rahman & Bullock, 2005). In these domains the assumption is that the overall ability to fully answer customer needs and desires is clearly crucial to a firm's success. Over the years the concept of quality has changed greatly: today it encompasses both objective quality (i.e., features and attributes of goods and/or services that respond to implicit and explicit customer requirements) and subjective quality (i.e., the ability of an organization, an activity, a person, or a system to deliver products and/or services) that optimally, effectively and efficiently matches some fixed requirements (Aquilani, Silvestri, Ruggieri & Gatti, 2017).

The present study employs the soft dimensions of TQM practices which focus on the improvement of the work environment in which the employee operates, in order to improve the firm's competitiveness. Zhang, Waszink & Wijngaard (2000) developed and validated a measure of TQM implementation within a Chinese context. This comprises eleven dimensions, namely leadership, supplier quality management, vision statement and plans, evaluation, process control, product design, system improvement, recognition and reward, employee participation, and customer focus.

Most of the literature shows that soft TQM practices consist of people oriented factors specifically aimed at enhancing employees' well being (Amin & Ahmad, 2015;

Karia & Ahmad, 2000; Guinmaraes, 1997). However, studies ascertaining critical outcomes when these soft TQM factors are neglected are relatively terse. Based on preliminary investigations and anecdotal evidence from the study setting, five dimensions of TQM implementation (leadership, recognition and reward, employee participation, customer focus, education and training) were isolated as possible predictors of job satisfaction and employee work engagement.

2. Statement of the problem

In practical terms, there would be a certain minimum condition under which implementation of TQM will be expected to yield desirable results. TQM implementation will be expected to improve employee work engagement, however, the extent to which this will be obtainable among satisfied and dissatisfied employees calls for concern as this may have implication for differences in employees' level of work engagement. Scholars have argued that the proponents of TQM quite often understate the difficulties of winning employee commitment to TQM programs and focus on an overly limited range of change levers ((Jenkins & Delbridge, 2013; Snape et al., 1995). In order to clarify the contextual background to the study problem the excerpts of the firm's manufacturing profile, particularly the total quality management mission and initiatives are stated as follows.

"Ours is a multinational firm whose success is built on its Nutrition, Health and Wellness strategy. The firm's mission primarily highlights the following among others: to comply with all internal and external food safety, regulatory and quality requirements. To gain a zero-defect, no-waste attitude by everyone in our company, and make quality a group-wide objective. Our founder believed that good nutrition was the key to a healthy life. Today, food and beverages remains core to our strategy. The firm applies internationally recognized Good Manufacturing Practices (GMP) to ensure quality and food safety. GMP covers all aspects of manufacturing, including standard operating procedures, people management and training, equipment maintenance, and handling of materials.

Quality is built in during product development according to the requirements of the consumers and following all food safety and regulatory requirements. The firm's R & D network applies in this "Quality by design" to all of our products. The firm is committed to margin expansion. We have set an underlying trading operating profit margin target of 17.5% to 18.5% by 2020, up from 16% in 2016. The target, set in 2017, is mid-single-digit organic growth by 2020. We aim to achieve this by refocusing our base businesses, active portfolio management and prudent investment behind our highgrowth categories.

Our primary driver is to reduce structural costs in non-consumer facing areas. Well identified projects in manufacturing, procurement and general administration are expected to deliver total savings of CHF 2.0 to 2.5 billion by 2020. Our Quality Management System is the platform that we use globally to guarantee food safety, compliance with quality standards and to create value

for consumers. Our internal Quality Management System is audited and verified by independent certification bodies to prove conformity to internal standards, ISO norms, laws and regulatory requirements”.

Source: Retrieved from Company's website on 04/05/2018

It is pertinent to note that the fallout of the harsh economic and operating environment in Nigeria under which this multinational food and beverage firm operated has brought about dramatic decline in the quality of soft human resource management practices. We note that this development is not in tandem with the hard TQM implementation culture of the firm. Observation by the researchers suggests that some employees of the food and beverage firm are satisfied with their job, whereas some are not satisfied. Hence, it is unknown whether or not the differences in their level of job satisfaction and work engagement are the result of perceived anomalies in their soft total quality management programs. Over the years TQM practices have remained a veritable tool for organisations trying to carve competitive advantage through the human factor and internal process improvements (Prajogo & Cooper, 2017; Amin & Ahmed, 2015; Chin & Saudah, 2011; Faisal, Zillur & Qureshi, 2010; Macey, Schneider, Barbera & Young, 2009).

Casual observation also reveals that oftentimes TQM implementation places undue emphasis on continuous improvement in internal processes, product development, products innovation and process improvement, and customer satisfaction without adequately creating commensurate enabling environment for employees to achieve the hard TQM issues. Anecdotal evidence suggests that employees' level of dedication, absorption and vigour for work has generally been less than desirable. Some employees put off time from work, some at work are withdrawn, investing neither enough energy nor passion in their work. Further preliminary investigation reveals reduction in the intensity of training programs for employees in a bid for management to save cost; selective approach to training and education places more priority to core and technical staff over support staff. Employees also complained that crucial decisions are taken without due consultation with workers. Employees are often not involved in critical decision making processes, and some also complained of inadequate remuneration because of protracted wages and salary review. Employees perceive leadership quality and management support as discouraging. To this end employees' orientation towards customer needs and satisfaction can be adjudged as diminishing due to diminishing level of employee work engagement.

The long run consequence of these on employees' attitude could reduce the firm's competitiveness and profitability as a result of poor dedication, absenteeism, job turnover, poor customer interface and inability to meet the target. Soft TQM practices of the firm will be expected to be strengthened in order to enhance employee job satisfaction and work engagement, because it is critical to the success of any organisation. There-

fore this study investigates the relationship between the TQM practices in the food and beverage firm and employee work engagement in order to identify possible factors for intervention. Further, it examines the mediating role of employees' job satisfaction in the relationship between TQM practices and employee work engagement.

TQM is an integrated approach to achieving and sustaining high quality output by focusing on the maintenance and continuous improvement of processes and defect prevention at all levels and in all functional areas of the firm with a view to meeting and exceeding customer expectations and remaining competitive and profitable (Flynn, Schroeder & Sakakibara, 1994). It will, therefore, seem plausible that TQM, job satisfaction, and employee work engagement construct are aimed at closely related goals which lead to improved organisational performance. We argue that institutionalizing TQM and emphasizing its soft aspect could help refocus and intensify employee work engagement subject to creating employee job satisfaction. What remains unclear is the causal order between employee work engagement, TQM, and job satisfaction. The objective of this study is to see how management can create synergy between institutionalizing TQM and improving employee work engagement in order to achieve better result.

3. Literature Review

Three theoretical frameworks for explaining possible linkage between TQM, job satisfaction and employee work engagement are proposed, namely the component theory of creativity, affective events theory (AET), and the exchange theory. The component theory of creativity was introduced by Amabile, (1983), however, the theory has undergone several refinements at different periods. It was expanded to include both creativity and innovation in 1988, while other studies (Dimaunahan & Amora, 2016; Amabile & Mueller, 2008) based on empirical findings opined that the emotional state of the individual could be affected by the work environment, which will further influence the creativity process. In effect, the theory of creativity postulates that there are four components altogether, three of the components lie within the individual and one component outside the individual. According to Amabile (1997), these three within-person components are dominant expert skills, creativity-relevant skills and task motivation, which are referred to as the building block of the theory. These components are all essential for total quality management initiatives.

The organisational setting which Amabile referred to as the work environment is the fourth component of the theory and it has significant impact on the intrinsic drive for creative activities and initiatives (Dimaunahan & Amora, 2016), This study argues that the theory has significant impact on quality management programs and a host of other organisational outcomes such as job satisfaction and employee work engagement. The impact of intrinsic motivation can be of enormous concern for the organisation, the work environment cannot be equally taken for granted. Therefore, the balance of both factors is fundamental for employee job satisfaction and engagement level.

The affective events theory argues that organizational experiences elicit emotional feelings and moods which are likely to influence employee work outcomes (Weiss & Cropanzano, 1996). Affective events theory postulates that organisational experiences quite often act as external stimuli which evoke and elicit emotional reactions amongst employees. To this end, pleasant experiences would be expected to elicit positive affect, while unpleasant experiences elicit negative affect. The theory explains the linkage between employees' internal influences such as cognition, emotion, mental state and their reactions to their work environment. The exchange theory postulates that there is a mutually reciprocal exchange between employer-employee relationships. Strong and balanced power structure will be expected to produce mutually beneficial exchange relationship, while weak and unbalanced dependencies would result in a party becoming more dependent on the other, such that the least benefiting party (e.g., employee) is likely to emerge as a target trying to resist the source (employer's) influence (Raven, 1974). This could manifest in their work attitudes such as participation and creative involvement in TQM initiatives, job satisfaction, and their overall level of engagement (Judge & Ilies, 2002).

Initially, the concept of engagement emanated from the work of Kahn (1990), where he opined that engagement refers to employees being physically, cognitively and emotionally involved in their work. Later on, Maslach and Leiter (1997) used the burnout dimensions of exhaustion, inefficacy, and cynicism to explain employee engagement and used the Maslach Burnout Inventory (MBI). Schaufeli, Salanova, Gonzalez-Roma and Bakker (2002) rejected this approach. They argue that work engagement should be considered as one of these positive states and the antipode of burnout. Contrary to those who suffer from burnout, engaged employees have a sense of energetic and effective connection with their work activities, as they are able to attend to the demands of their jobs. The authors opined that work engagement being the positive antipode of burnout therefore should not be measured using burnout inventory. The Utrecht work engagement scale was developed to measure work engagement. Work engagement is defined as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Romá & Bakker, 2002).

Cole, Walter, Bedeian and O'Boyle (2012) in a meta-analysis argued that strong correlation exists between burnout and engagement. To them, separating burnout and engagement still remains questionable (Moeller, Ivcevic, White, Menges & Brackett, 2018). According to Knight, Patterson and Dawson (2017), there have been various arguments by practitioners and academics with regard to the definition and measurement of the engagement construct. Some scholars viewed engagement as a redundant concept, while some have linked it to be similar to other employee attitudes such as job satisfaction, organisational commitment and job involvement (Macey & Schneider, 2008; Byrne, Peters & Weston, 2016). Others, however, argued that none of the old constructs talk about how an employee invests his or her affective, cognitive and physical energy simultaneously in his or her work (Rich et al., 2010). Other arguments were

based on the factorial validity of the Utrecht Work Engagement Scale (UWES). Despite all these, the conceptualisation, definition and measurement by Schaufeli et al. (2002) remains a popular and most researched work engagement construct to date (Bailey et al., 2017).

The origin of TQM can be traced to Shewhart in 1924 in Japan, although it started as a substitute for the term total quality control (Mukhles & Andrew, 2009). Furthermore, in the 60s and 70s, the concept was practiced in Japan and only became popular in 1985, when it was named Japanese style of management approach and later became popular in the business circle. A number of experts in quality management have been credited for the works on TQM (Aquilani, Silvestri, Ruggieri, & Gatti, 2017).

TQM is an integrative management philosophy aimed at continuously improving the performance of products, processes, and services to achieve and exceed customer expectations (Antony, Leung, Knowles & Gosh, 2002). A review of the works of three quality gurus (Demming, Juran and Ishikawa) by Hackman and Wageman (1995) articulated five core TQM interventions to include: explicit identification and measurement of customer wants and needs, creation of supplier partnership, the use of functional teams to identify and solve quality problems, the use of scientific methods to monitor performance and identify points of high leverage for performance improvement, and lastly, the use of process management heuristics to enhance team effectiveness.

Waldman (1994) identified eight key elements of TQM as follows: top management commitment to place quality as a top priority, a broad definition of quality as meeting and exceeding customers' expectations, crafting TQM values and vision, entrenching a culture of quality, empowering and involving all organisational members in cooperative effort to achieve quality improvement, orientation towards managing by fact, continuous improvement in employees' capability and work processes through training and benchmarking, getting external suppliers and customers involved in TQM efforts. Faisal et al. (2010) in a bid to improve on Waldman's (1994) eight elements of TQM identified ten key elements of total quality management which include: leadership commitment to the process, concern for total customers satisfaction, continuous improvement through creativity and innovative ideas, employee involvement, training and education, ownership, reward and recognition, error prevention, cooperation and teamwork.

4. Empirical Evidence

Management commitment and employee empowerment were amongst some of the TQM practices in literature that have shown to encourage organisational outcomes (Amin & Ahmed, 2015). The commitment of the leader might be essential in the engagement process for an employee, as their contribution can bring about significant change in the work place. Similarly, employee participation is also fundamental for the day-to-day operations of the organisation, as employee participation brings about

self-confidence and makes the employees feel dedicated to the organisation. According to Amin and Ahmed (2015), recognition and reward are what employees receive for putting in their best in the organisation, and this is important for a positive organisational outcome. Furthermore, training is considered to be one aspect of human resource management function that is crucial to total quality management. Training is critical to the successful implementation of TQM. It impacts positively on cost reduction and increase in profit (Kassicieh & Yourstone, 1998, p. 36). One of Deming's philosophies on the 14 principles of quality is that employees should be well trained, as it is pivotal to organisational success. Organisations that truly implement TQM spend time and resources on the training of their employees at different levels of the organisation in order to be highly productive, thus leading to improved organisational service delivery (Prajogo & Cooper, 2017).

Knight, Patterson and Dawson (2016) found work engagement interventions, namely: personal resource building, job resource building, leadership training and health promotion to have a small but positive significant impact on employee work engagement. Harter, Schmidt and Hayes (2002) found employee work engagement to be positively related to employee job satisfaction. Similarly, Simpson (2009) found a positive significant relationship between employee engagement and job satisfaction. Amin and Ahmad (2015) investigated the relationship between soft TQM practices and job satisfaction, with the result showing a significant relationship between soft TQM practices and employee job satisfaction. However, studies have continued to demonstrate that employee job satisfaction has a significant influence on organisational outcome such as employee engagement, and therefore should not be taken for granted (Prajogo & Cooper, 2017).

In a recent study, Aquilani et al. (2017) identified three different clusters of studies on TQM: "identification" studies, emphasizing customer focus; "implementation" studies, which identified models of successful implementation of total quality management (TQM); and "impact-on-performance" studies investigating relationship between TQM and performance, highlighting the most significant gap in the TQM literature. Prajogo and Copper (2017) proposed that studies on TQM practices be investigated in other industries such as manufacturing, and pointed out other employee attitudes that can be incorporated in the investigation of TQM practices. This study, therefore, intends to fill this gap by investigating TQM practices, job satisfaction and its relationship with work engagement in the food and beverage company in Lagos. To the best of our knowledge, there is no known study that employs job satisfaction as a mediator between TQM practices and employee work engagement.

Leadership is an influence process through which top management induces subordinates' voluntary compliance with clearly defined organisational TQM goals and objectives. Prajogo and Cooper (2010) affirmed that top management leadership commitment and support to total quality management is significantly related to employee job satisfaction but there is no known study linking such finding to employee work

engagement. It is not sufficient for the leadership of an organisation to be committed to TQM programs; they also have to adopt effective leadership styles that would foster subordinates' compliance to TQM initiatives by providing support for quality through communication, motivating favourable employee behaviour as well as getting personally involved in quality improvement process (Caniëls, Semeijn & Renders, 2018). Inappropriate leadership style often tends to bring about dissatisfaction thereby lowering employee work engagement. *Thus it is hypothesised that there will be a significant relationship between TQM leadership and employee work engagement.*

Employee participation entails periodic and structured consultation between management and staff concerning work and working conditions, particularly those relating to TQM implementation (Marescaux, De Winne & Sels, 2013). The philosophy underlying employees' participation is that subordinates are more committed to decisions that they jointly make with management than those imposed on them by management. TQM program is expected to be driven by employees' involvement and participation in total quality management decisions. The logic of this argument is that employees are closer to the scene and centre of quality issues, their knowledge and experiences about quality problems and prospects should not be undermined. Employees are encouraged to make input into quality improvement. However, employees have little or no say in how they are rewarded, recognised and trained. It is therefore *hypothesised that there will be a significant relationship between employee participation and employee work engagement.*

Education and training should be a company-wide learning process that is expected to bring about changes in employees' attitude and behaviour. The value of education and training is underscored by its ability to improve employees' problem solving skills (Saks & Gruman, 2017). The knowledge acquired through education and training should be brought to bear on all the basic aspects of the firm's business as well as improve problem solving and teamwork. It is expected that adequate knowledge about the basic aspects of the firm's business will enhance total quality improvement initiatives. Inadequate training will, however, limit employees' contribution to total quality problem solving. It is therefore *hypothesized that there will be a significant relationship between education and training and employee engagement.*

Reward refers to the extent to which an employee's contribution towards an organisation's goals and objectives are evaluated and adequately compensated (Saks & Gruman, 2017; Dema, Neiva, Nunes & Rozzett, 2013). Whereas recognition is the level of awareness by management with respect to "who is contributing what towards TQM program", Gerhart (2010) argued that reward and recognition is one of the most impactful issues in an organisation. It provides a sort of organisational support for enhancing subordinates' performance. Key consideration includes how to pay, what to pay, and when to pay. To an average employee TQM means taking on greater or additional responsibility usually for the same pay in an environment whereby cost of living keeps rising unabatedly. It is therefore *hypothesized that there will be a significant relationship between reward and recognition and employee work engagement.*

Perhaps one can safely argue that customers represent the pivot upon which all TQM initiatives stand. Hard TQM issues emphasise continuous process of incremental improvements of the product and equipment, which ultimately has trickle-down effect on the customers. Customer focus practices involve the establishment of links between customer needs and satisfaction and internal processes (Sousa, 2003). Customer focus is employee driven since it orientates employees toward serving the needs of their clients. Having a customer focus is usually a strong contributor to the overall success of a business, which involves ensuring that all aspects of the company put customers' satisfaction first. From the viewpoint of the employee, the assumption is that an employee seeks to achieve his or her own goals by helping the organization to achieve its goals. Therefore, the extent to which management attends to the intrinsic and extrinsic needs of the employee has direct influence on the degree engagement in focusing on the needs of the clients. Thus, it is *hypothesized that there will be a significant relationship between customer focus and employee work engagement.*

5. Method

Cross sectional survey research design was employed for the study. The study instrument was validated using a pilot sample of 60 respondents without replacement after the scale items had been rephrased and adapted to reflect issues relating to TQM implementation and other attributes of the study setting. Participants were required to complete the survey questionnaire anonymously after their consent had been obtained. Alpha coefficient of the pilot data was obtained for each of the study constructs. The result compares favourably with the reported Cronbach alpha of the previous studies. Coefficients alpha for the pilot study are (.82) for job satisfaction; (.78) work engagement; (.72) TQM leadership; (.86) participation; (.74) training; (.84) recognition and reward; and (.80) for customer focus.

The population consists of 1,930 employees from three factories of the multinational Food and Beverages Company located in Lagos. Three hundred (300) copies of the questionnaire designed for the study were randomly administered through multistage sampling. Quota sampling was used to allocate questionnaires to the factories, proportional sampling was used to allocate questionnaires across departments, and participants were randomly drawn from the allotted departments across the three factories of the food and beverages company. A total of 190 (63%) questionnaires were returned out of which only 183 (61%) responses were found usable. The questionnaire consists of four sections A, B, C and D. Section A consists of information of the respondents such as age, religious affiliation, sex, length of service etc. Section B consists of Work engagement measure assessed using the UWES (Schaufeli et al., 2002). All items are scored on a 7-point Likert scale ranging from 0 (*never*) to 6 (*always*). Section C consists of Job satisfaction scale measured using the Job Descriptive Index (JDI) by Smith, Kendall and Hullin (1969) with a total of 25 items using a 5-point Likert scale from

1 (strongly disagree) to 5 (strongly agree). Section D consists of TQM measured using a model by Malcolm Baldrige National Quality award (1997). Five dimensions of TQM practices, namely management support, employee participation, training, reward and recognition, and customer focus were selected on the basis of the prevailing situations in the study setting. These items were also measured on a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly disagree). Correlation and regression analyses were employed to test the degree and significance of the relationship among the study variables. The Cronbach alpha falls within an acceptable cut off and is comparable to the reported alphas for these measures from previous studies.

6. Results

First, Table 1 presents the result of the analysis of the biographical information for the study as follows: the study participants consist of 134 (73%) males and 49 (27%) females. 143 (78.1%) of the participants are between the age range of 20 – 39 years.

TABLE 1. Frequency and Percentage Distribution of the Biographic Data for the Study

Biographic Information	Frequency	Percentage (%)
Gender		
Male	134	73.2
Female	49	26.8
Total	183	100
Age		
20–29	59	32.2
30–39	84	45.9
40–49	38	20.8
50–59	2	1.1
Total	183	100
Educational Qualification		
Post graduate	27	14.8
B.Sc.	55	30.1
HND	45	24.6
Professional certificate	33	18.0
Secondary school	17	9.3
Artisans	6	3.3
Total	183	100
Tenure		
Below 5 years	108	59.0
6–10 years	60	32.8
11–15 years	10	5.5
16–20 years	2	1.1
21–25 years	2	1.1
26–30 years	1	.05
Total	183	100

Biographic Information	Frequency	Percentage (%)
Position in the Organisation		
Manager	2	1.1
Head of department	12	6.6
Team Leader	41	22.4
Supervisor	34	18.6
Quality assurance team	10	5.5
Technician	34	18.6
Junior staff	50	27.3
Total	183	100

Source: Field survey by the researchers

This implies that a high proportion of the participants falls within the active working age for which the level of engagement would be expected to be high. As for the educational background of the participants, 127 (69.5%) of the respondents have a minimum of Higher National Diploma (HND). Most of the respondents have a maximum of fifteen years of working experience, and 169 (82.5%) fall within a lower level employee and team leader designation.

Correlation analyses of all the study variables were conducted using the Statistical Package for Social Sciences (SPSS) version 21, and the resulting output generated is shown in Table 2, with the objective of determining specifically how the predictor variables change relative to the criterion variable of interest of the study.

TABLE 2. Correlation Matrix Showing the Relationship among Variables in the Study

Variables	Mean	SD	1	2	3	4	5	6	7
WENG	4.51	11.65	1						
JSAT	1.90	12.00	.34**	1					
LMS	1.80	2.39	.31**	.57**	1				
EPRT	1.91	2.62	.30**	.61**	.68**	1			
RREC	1.80	4.20	.32**	.69**	.58**	.41**	1		
TRAN	2.00	2.34	.05*	.54**	.48**	.36**	.46**	1	
CFOC	1.83	3.25	.06*	.27**	.37**	.43**	.31**	.25**	1

**Correlation is significant ($p < .01$), *Correlation is significant ($p < .05$); Source: Field survey by the researchers

WENG: Work engagement; JSAT: Job satisfaction; LMS: Management support; EPRT: Employee participation; RREC: Reward and Recognition; TRAN: Training; CFOC: Customer focus.

Hence we formulate Hypothesis 1 which states that there will be a significant relationship between TQM practices (leadership and management support, employee participation, reward and recognition, training, customer focus and job satisfaction) and work engagement. Hypothesis 1 was tested using the Pearson correlation coefficient. The result showed a positive significant relationship between job satisfaction and

employee work engagement ($r = .53$; $p < 0.01$), between management support and employee work engagement ($r = .31$; $p < 0.01$), between employee participation and employee work engagement ($r = .30$; $p < 0.01$), between reward and recognition and work engagement ($r = .32$; $p < 0.01$), between training and employee work engagement ($r = .05$; $p < 0.05$), and between customer focus and work engagement ($r = .05$; $p < 0.05$). Hypothesis 1 is supported.

Given that correlation does not necessarily imply causality, regression analysis was further carried out to ascertain the amount of variance in the criterion variable (work engagement) accounted for by each of the TQM sub-constructs as shown in Table 3, which illustrates the joint and independent contributions of the predictors to the criterion variable of interest.

TABLE 3: Summary of Hierarchical Multiple Regression Analysis Showing Relative Contributions of the Total Quality Management Practices and Job Satisfaction on Employee Work Engagement

Model	Variables	B	B	T	Sig	R	R ²	R ² Change	F	P
1.	Sex	1.982	.076	1.018	n.s	.212	.045	.029	2.799	< .05
	Age	2.053	.133	1.664	<.05					
	Experience	1.277	.090	1.107	<.05					
2.	Sex	-.153	-.006	-.082	.935	.460	.212	.171	5.163	<.05
	Age	1.228	.079	1.048	<.05					
	Experience	1.025	.072	.903	<.05					
	JSAT	-.251	-.258	-2.173	<.05					
	LMS	-.667	-.186	-1.736	<.05					
	EPRT	-.403	-.081	-.720	<.05					
	RREC	-.303	-.109	-1.013	n.s					
	TRAN	1.049	.236	2.799	<.05					
CFOC	.486	.100	1.293	<.05						

Dependent variable: WENG: Work engagement; **Correlation is significant ($p < .01$), *Correlation is significant ($p < .05$)

WENG: Work engagement; JSAT: Job satisfaction; LMS: Leadership and Management support; EPRT: Employee participation; RREC: Reward and Recognition; TRAN: Training; CFOC: Customer focus.

Regression analysis was further carried out with a view to determining the extent to which each of the elements of the TQM practices (management support, employee participation, reward and recognition, training, customer focus) and job satisfaction accounted for the amount of variance in employee work engagement after controlling for sex, age, and experience. Table 3 shows how much variance in the dependent variable is explained by each of the dimensions of TQM practices (management support, employee participation, reward and recognition, training, customer focus) and job satisfaction in the regression model. From the result of the hierarchical regression in Model 1, R² of 5% is accounted for by the controlled variables of sex, age and experience. Model 2 explains the independent

and joint effect of TQM practices (management support, employee participation, reward and recognition, training, customer focus) and job satisfaction on employee work engagement. The regression analysis yielded an F-ratio of 5.163 and was significant at 0.05. The value of R square for Model 2 is 0.212, the Adjusted R square for TQM practices (management support, employee participation, reward and recognition, training, customer focus) and job satisfaction is 0.171. The independent variables jointly accounted for a variation of about 21% of the total variance in employee work engagement of the participants in Model 2, thus implying there are other variables which accounted for the 79% that were not included and treated in this study. Furthermore, the analysis of variance performed on multiple regressions yielded an F – ratio of 2.439 and was found significant at 95 percent. Table 3 shows how each of the variables of study (management support, employee participation, reward and recognition, training, customer focus) contributes uniquely to employee work engagement. In terms of contribution, job satisfaction made the strongest unique contribution ($\beta = .258$; $t = 2.713$; $P < 0.05$) to the prediction of employee work engagement, closely followed by training ($\beta = .236$; $t = 2.799$; $P < 0.05$). The contribution of other variables is presented in descending order: management support ($\beta = .186$; $t = 1.736$, $P < 0.05$), recognition and reward ($\beta = .109$; $t = 1.0313$, $P < 0.05$), customer focus ($\beta = .100$; $t = 1.293$, $P < 0.05$), and then employee participation ($\beta = .081$; $t = .720$; $P < 0.05$). However, only job satisfaction and training made a unique statistical significant contribution to the equation.

Hypothesis 2 states that job satisfaction would mediate the relationship between TQM practices and employee work engagement. Baron and Kenny’s (1986) mediation technique was employed to test the mediating role of job satisfaction between the TQM practices and employee work engagement. According to Baron and Kenny (1986), mediation exists if the independent variable significantly relates to the dependent variable, the independent variable has a significant relationship with the mediating variable, the mediating variable relates to the dependent variable and finally, the relationship between the independent variable and the dependent variable is reduced significantly, yielding only a partial mediation.

TABLE 4: Multiple Regression of the Mediating Role of Job Satisfaction on the Relationship Between TQM Practices and Work Engagement.

Model	Beta	T	P	R	R ²	F	P
1	-.30	-4.21	<.00	.30	.09	17.713	<.05
2	.75	15.10	<.05	.75	.56	228.03	<.05
3	-.10 -.27	-.95 -2.53	>.05 <.05	.35	.12	12.344	<.05

Model 1 indicates that TQM significantly predicts employee work engagement ($R = .30$; $R^2 = .09$; $F = 17.71$; $p < .05$). This implies that TQM practices make a contribution of 30% to employee work engagement. Model 2 shows that job satisfaction also significantly predicts TQM practices ($R = .75$; $R^2 = .56$; $F = 228.03$; $p < .05$),

implying that job satisfaction makes a contribution of 75% to TQM practices. Furthermore, Model 3 indicates that the combination of both TQM practices and job satisfaction predicts employee work engagement ($R = .35$; $R^2 = 12$; $F = 12.344$; $p < 0.5$), i.e. TQM practices and job satisfaction contribute 10% and 27% respectively to employee work engagement. The result suggests that job satisfaction significantly partially mediated the relationship between TQM practices and employee work engagement. Therefore, Hypothesis 2 is partially supported.

7. Discussion

This study investigated the nexus between the TQM practices (management support, employee participation, reward and recognition, training, customer focus), job satisfaction and employee work engagement as well as the mediating role of job satisfaction in the relationship between TQM practices and employee work engagement. The result showed significant relationship between job satisfaction and employee work engagement. This finding is in line with the findings of Prajogo & Copper (2017) and Simpson (2009) who discovered a significant relationship between job satisfaction and employee work engagement.

Our study further contributed to the existing literature in the sense that job satisfaction partially mediated the relationship between “soft TQM” measures and employee work engagement. While the effect of “hard TQM” measures has been established as capable of improving customer satisfaction and firm’s bottom-line, the results of this study confirm that “soft TQM” measures are likely to attenuate the effect of “hard TQM” measures. This current study confirms that job satisfaction partially mediates the effect of “soft TQM” measures on employee work engagement, this shows that TQM implementation could affect job satisfaction to influence the level of employee work engagement.

Also, high significant positive relationship was found between leadership and management support and employee work engagement. This finding supports the findings of Rad (2006) who found leadership and management support to be critical factors for TQM development, since support and contribution of management and the organisation is critical to achievement of the result. It is noteworthy that some organisations have failed in the implementation of TQM because of lack of support from the top management (Minjoon, Shaohan & Hojing, 2006). Similarly, a significant positive relationship was found between employee participation and employee work engagement. The findings of this study support the theoretical framework for the study. In line with the literature, empirical findings posit that the emotional state of the individual could be affected by the work environment and the employees’ emotional state would further influence employees’ creativity, which is critical to TQM implementation, as well as work engagement. This is against the backdrop that employees’ participation, reward and recognition, training and leadership and management support, and customer focus

are essential factors for organisational goal attainment (Van Mierlo & Bakker, 2018; Prajogo & Cooper, 2017), which are equally relevant to the study setting. Our findings are in line with the findings of Rad (2006), although no significant relationship was found between training and employee work engagement. Amin and Ahmed (2015) viewed training as one of the fundamentals of TQM practices. Generally speaking, the result of this study confirms a substantial amount of 46 percent variance in work engagement accounted for by the predictor variables after controlling for participants age, sex, and work experience.

8. Conclusion

The study concludes that TQM practices and job satisfaction have significant positive relationship with employee work engagement. Also, job satisfaction partially mediates the relationship between TQM practices and employee work engagement. The development of TQM practices is fundamental to organisation success. It is therefore imperative for a manufacturing organisation to achieve the quality goal by treating TQM practices as an important aspect of organisational processes aimed at integrating employee job satisfaction with a higher level of work engagement. Furthermore, the study reveals the importance of job satisfaction, management support, employee participation, and reward and recognition as vital components of work engagement (Bakker, 2017). This is also in consonance with Prajogo and Cooper (2017), who posits that the type of policies and practices put in place by the organisation is fundamental to leveraging and achieving a host of organisational outcomes.

9. Recommendation

The study recommends that policies and practices that will encourage implementation of TQM practices should be enacted and sustained. Such policies and practices should also be subjected to periodic review in line with changing environmental factors. Organisations should endeavour to encourage employee participation in the development of TQM practices. Of particular interest is the emphasis that reward and recognition of employees' achievement in the TQM process should not be taken for granted since it has the potential to improve employees' dedication to work, creativity and vigour, as this study has shown to be fundamental for organisational success.

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