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RESEARCH ARTICLE

JOB DESIGN AND EMPLOYEE ENGAGEMENT IN SELECTED MANUFACTURING COMPANIES IN NIGERIA

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ABSTRACT

Highly engaged workforce can increase innovation, productivity, and bottom-line performance when their jobs are well designed. Job design represents the delineation of task responsibility as dictated by organizational strategy, technology and structure. This study explores the effect of job design on employee engagement using the social exchange theory. The study considers the relationship between the variables of job design which include skill variety, task identity, task significance, autonomy and feedback on employee engagement. The study employed cross-sectional survey design. Stratified sampling technique was used to get the sample size. Questionnaire was used to elicit information from respondents. Pearson product moment correlation was adopted as a statistical tool for data analysis. Based on the data from the survey investigation of employees across three manufacturing companies in Nigeria, the results revealed that there is a significant positive relationship between job design and employee engagement. The study therefore recommends that management need to pay more attention to job design, by creating more opportunity for workers to contribute.

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INTRODUCTION

Employee engagement has become a top business priority for senior executives. In a highly turbulent environment, business managers believe that having a high performing workforce is essential for growth. Highly engaged workforce can increase innovation, productivity, and bottom-line performance while reducing costs related to hiring and retention in highly competitive talent markets. However, while most managers see a clear need to improve employee engagement, many have yet to develop tangible ways to measure and tackle this goal. Manufacturing organizations today face new challenges as they strive to remain competitive in the business arena. These include increased financial turbulence, heightened performance pressures, new technology, an increasingly diverse workforce, and the globalization of business (Adekola, 2011). Organizational managers are increasingly concluding that a unique competitive advantage resides in their human resources; all other potential competitive advantages (e.g. technology, capital, and products) can be either bought or copied (Gratton, 2000). Many manufacturing companies in Nigeria seem to have limited their productivity enhancement of employees to the acquisition of skills. The type of work environment and how job are design in which employees operate determines the way in which such manufacturing companies prosper.

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According to Akinyele (2010), about 80% of productivity problems reside on how jobs are designed based on the environment of the organization. Hence, business is full of risks and uncertainties and the ability of any organization to respond successfully to the challenges posed by the present dynamic nature of economic situations will largely depend on how well the organization can effectively and efficiently utilize the human resources at its disposal. It is a generally accepted fact that the success of any business organization will largely depend upon the effective and meaningful utilization of its financial and physical resources. The performance of manufacturing companies, which determines its survival and growth, depends to a large extent on the productivity of its workforce. Yesufu (2000) asserted that the wealth of the nation as well as socio-economic well being of its people depends on the effectiveness and efficiency of its various sub-components. However, labour is generally regarded as the most dynamic of all the factors that are employed for the creation of wealth, having the potential to energize and serve as catalyst to all the other resources. Thus, aligning a well designed job ensures the well-being of employees which invariably will enable them exert themselves to their roles with all vigour that may translate to higher productivity (Akinyele, 2007).

Job design represents the delineation of tasks responsibility as dictated by organizational strategy, technology and structure Flippo (1984). Job design to Stoner, Gilbert and Freeman (1989) is the division of organization's work among its

employees. According to job design consists of three activities: specifying individual work tasks; specifying the method of performing the work tasks and combining work tasks into jobs for assignment to individuals (job content). Job design has three aims: first, to satisfy the requirements of the organization for productivity, operation efficiency and quality of product or service, and to satisfy the needs of the individual for interest challenge and accomplishment. Clearly, these aims are interrelated and the overall objective of job design is to integrate the needs of the individual with those in the organization. [Hackman and Oldham \(1980\)](#), develop the Job Characteristics Model which serves as a measure for the construct 'Job Design'. The variables that measure the job design construct include; skill variety, identity, significance, autonomy and feedback. [Schaufeli, Salanova, Gonzalez-Roma, Bakker \(2002\)](#) view engagement as a positive, fulfilling work-related state of mind that is characterized by vigour, dedication, and absorption. Vigour is characterized by high levels of energy, the willingness to invest energy in one's work and persistence in difficult times; dedication is characterized by high levels of work involvement and feelings of pride and challenge from one's work; and absorption is characterized by deep concentration in one's work the sense that time passes quickly and one is reluctant to leave their work.

Research has established links between these elements of job design and levels of engagement ([Bakker and Bal, 2010](#); [Christian, Garza, and Slaughter, 2011](#); [Kahn, 1990](#); [May, Gilson and Harter 2004](#), [Saks, 2006](#); [Schaufeli and Bakker, 2004](#)). Other studies have shown that the five characteristics are also linked with job satisfaction and internal work motivation ([Fried and Ferris, 1987](#); [Humphrey, Nahrgang, and Morgeson, 2007](#)). The reason why Hackman and Oldham's job design features are important for engagement can be understood within the context of psychological theory. For example, people whose jobs are varied are more likely to experience a sense of energy in relation to their work. Some studies have shown that monotonous work can lead to psychological distress and disengagement ([Melamed, Ben-Avi, Luz and Green, 1995](#)). People whose work is autonomous experience a feeling of responsibility, and are then more likely to invest effort into their work, even in the face of [obstacles](#) ([Shantz, Alfes, Soane, and Truss \(2013\)](#)). Thus this study seeks to question the nature of relationship between job design and employees engagement among workers of selected manufacturing companies in Nigeria.

2. Statement of the problem

Job design and employees engagement remains an area that receives much less attention from policymakers and employers compared with other aspects of management such as leadership or management style ([Truss, 2012](#)). There is little information available on the key principles of job design and the major factors that need to be taken into consideration when designing engaging jobs in the Nigerian environment. This is a cause for concern, particularly in light of findings such as those from [Cerus Consulting \(2013\)](#) who, in a recent survey of their client group, found that 68% said that the single most important factor for high levels of engagement was 'doing a job that is challenging and varied and which makes a meaningful

contribution' ([Truss, Delbridge, Soane, Alfes, and Shantz, 2013](#)).

Both academics and practitioners have shown that the design of work affects how engaged people are ([Humphrey, Nahrgang, and Morgeson, 2007](#)). Scholars and academics have established links between the five characteristics of job design and levels of engagement of employees. These are evident in the research studies of [Bakker and Bal, \(2010\)](#); [Christian et al. \(2011\)](#); [Kahn, \(1990\)](#); [May et al. \(2004\)](#); [Saks, \(2006\)](#); [Schaufeli and Bakker, \(2004\)](#); [Crawford, Rich, Buckman and Bergeron \(2013\)](#). Their findings have been inconsistent, as job design and level of employees' engagement are either positively or negatively related. Thus, to add value to the current state of knowledge this study examines the variables of job design (skill variety, identity, significance, autonomy and feedback) and employees' engagement among workers of manufacturing companies in Nigeria.

3. Objectives of the study

The broad objective of this study is to examine the relationship between job design and employees engagement among workers in selected manufacturing companies in Nigeria. The specific objectives are:

- To examine the relationship between skill variety and employee engagement.
- To examine the relationship between task identity and employee engagement.
- To examine the relationship between task significance and employee engagement.
- To examine the relationship between autonomy and employee engagement.
- To examine the relationship between feedback and employee engagement.

4. Research questions

The research questions for this study are:

- What is the relationship between skill variety and employee engagement in manufacturing companies in Nigeria?.
- What is the relationship between task identity and employee engagement in manufacturing companies in Nigeria?.
- What is the relationship between task significance and employee engagement in manufacturing companies in Nigeria?.
- What is the relationship between autonomy and employee engagement in manufacturing companies in Nigeria?.
- What is the relationship between feedback and employee engagement in manufacturing companies in Nigeria?.

5. Hypotheses

For studying the relationship between job design and employee engagement, the following hypotheses are tested:

H_0 : There is no significant relationship between skill variety and employee engagement.

- Ho₂: There is no significant relationship between task identity and employee engagement.
- Ho₃: There will be no significant relationship between task significance and employee engagement.
- Ho₄: There is no significant relationship between autonomy and employee engagement.
- Ho₅: There is no significant relationship between feedback and employee engagement.

6. Significance of the study

This study is of immense benefit to business consultants, privately owned business organisations and government establishments. The findings of this study will aid business organisations in identifying the relationship between job design and employees level of engagement at work.

7. Scope of the study

The scope of this study is limited to the relationship between job design and employees engagement among workers in selected manufacturing companies in Nigeria. The selected manufacturing companies are; Nestle Nigeria Plc, Unilever Nigeria Plc and PZ Cusson Nigeria Plc.

REVIEW OF RELATED LITERATURE

2.1. Conceptual review

2.1.1 Nature of Job Design

Job design is the process of putting together a range of tasks, duties and responsibilities to create a composite for individuals to undertake in their work and to regard as their own. It is crucial: not only is it the basis of individual satisfaction and achievement at work, it is necessary to get the job done efficiently, economically, reliably and safely (Torrington, Hall, Taylor, and Atkinson (2011)). According to Armstrong (1991) defines job design as deciding on the relationships that exist between the duties and responsibilities and the relationships that exist between the jobholder and his or her superiors, subordinates and colleagues. Job design specifies the content and methods of work by individuals and groups in the operational system. Because job design is reflected in labour expense, it affects the ultimate cost of the product or service.

Job design has been defined by Davis (1966) as the specification of the contents, methods, and relationships of jobs in order to satisfy technological and organizational requirements as well as the social and personal requirements of the jobholder. Job design is concerned with a number of facets of a job. What it consists of, the amount of variety in it, the pattern of tasks that make it up, the length of the work cycle, and so forth. Job design has two aims: first, to satisfy the requirements of the organization for productivity, operation efficiency and quality of product or service. Secondly, to satisfy the needs of the individual for interesting challenges and accomplishment. Clearly, these aims are interrelated and the overall objective of job design is to integrate the needs of the individual with those in the organization. The process of job design must start from an analysis of what needs to be done.

The tasks that have to be carried out if the purpose of the organization or an organizational unit is to be achieved thus improving the organization performance. Here, efforts are concentrated on the work to be done, not the worker and this in turn lead to the maximization of individual responsibility and the opportunity to use personal skills. Similarly, in job design, the pursuit of short-term efficiency by imposing the maximum degree of task specialization may reduce long-term effectiveness by demotivating jobholders and increase labour turnover and absenteeism. Job design therefore starts from work requirements because that is why the job exists. When the tasks to be done have been determined it should then be the function of the job designer to consider how the job can be set up to provide the maximum degree of intrinsic motivation for those who have to carry them out.

Before designing a job for workers for improving their quality of work life and increase in level of engagement, there is need to analyse the job itself. Carrel and Kazmits (1982) described job analysis as a systematic investigation of the tasks; duties and responsibilities of an organization's jobs. Flippo (1984) defines job analysis as "the process of studying and collecting information relating to the operations and responsibilities of a specific job" That is, it defines the jobs within the organization and the behaviours necessary to perform the jobs. The immediate products of this analysis are job description, which is a standard of function in that it defines, the appropriate and authorized content of a job. Job description is a document that provides information regarding the task, duties and responsibilities of the job. Job specification is the summary of the human qualification requirements of a job, which includes educational requirements, experience, personality, mental; ability, specific knowledge, responsibility, physical exertion, manual skill and physical demands. This is the statement of minimal human qualities necessary to perform a job satisfactorily. Job evaluation is the process of measuring the relative worth of a job.

2.1.2 Approaches to Job Design

These are four basic ways of viewing job design: the mechanistic; motivational, Biological; and perceptual/motor approaches (Morgeson and Campion 2003):

Mechanistic Job Design: The jobs of a worker require him/her to be alert and to perform more than one function. The positive outcomes of mechanistic job design includes: decreased training time, higher utilization levels, lower likelihood of error, and less chance of mental overload and stress while the negative outcomes include lower job satisfaction, lower motivation, higher absenteeism, and boring job design. **Motivational Job Design:** Because of the limitations of the mechanistic approach became clear, Hackman (1971) who wished to motivate workers on their jobs have come up with five core job dimensions: Skill variety, task identity, task significance, autonomy, and feedback. Based on the five significant task areas identified in Hackman-Oldham's model, the job of the worker could be redesigned with a modification. Skill Variety is the extent to which a variety of skills and talents are required to accomplish the assigned tasks. It enables workers to perform different tasks that challenge the intellectual and develop skills

in coordination. The present job of workers is fragmented, specialized and routine.

Task identity: Task identity reflects the degree to which a job involves a whole piece of work, the results of which can be easily identified. Jobs that involve an intact task, such as providing a complete unit of service or putting together an entire product, are invariably more interesting to perform than jobs that involve only small parts of the task (Hackman & Oldham, 1980).

Task significance is the extent to which the task affects the work or lives of others, insideor outside the organization. People in jobs that have a significant effect on the physical or psychological well-being of others are likely to experience greater meaningfulness in the work (Hackman & Oldham, 1980).

Autonomy is the extent of the individual's freedom on the job and discretion to schedule tasks and determine procedures for carrying them out. Thus, autonomy includes three interrelated aspects centred on freedom in (a) work scheduling, (b) decision making, and (c) work methods.

Feedback is the extent to which the individuals receive specific information (praise, blame, or other comment) about the worker and the effectiveness with which his or her tasks are performed. The focus is on feedback directly from the job itself or knowledge of one's own work activities, as opposed to feedback from others. This is thought to enhance knowledge of the results of the job (Hackman and Oldham, 1980).

Turner and Lawrence (1965) identified six important characteristics, which they called "requisite task characteristics", namely variety, autonomy, required interaction, optional interactions, knowledge and skill and responsibility. And Cooper (1973) outlined four conceptually distinct job dimensions: variety, discretion, contribution and goal characteristics. An integrated view suggests that the following motivating characteristics are of prime importance in job design: autonomy, discretion, self-control and responsibility, variety, use of abilities, feedback; and belief that the task is significant.

The positive outcomes of motivational job design will include higher job satisfaction, higher motivation, greater job involvement, higher job performance and lower absenteeism while the negative outcomes includes increased training time, lower utilization levels, greater likelihood of error, and greater chance of mental overload and stress (Hackman 1971). Biological Job Design (Ergonomics): Is a systematic attempt to make work as safe as possible. The Biological approach attempts to ensure that the physical demands of work do not exceed the physical capabilities. The positive outcomes of Biological job design approach includes less physical effort, less physical fatigue, fewer health complaints, fewer medical incidents, lower absenteeism and higher job satisfaction while the negative outcome is higher financial costs because of changes in equipment or job environment. The Perceptual/Motor Job Design: The approach seeks to ensure that the mental demands of their work do not exceed their

mental capabilities. The problem with the perceptual/motor approach; as with the mechanistic approach; is that jobs can be made so simple that they become boring. The positive outcomes of motor job design includes:lower likelihood of error, accidents, chance of mental overload and stress, lower training time and higher utilization levels while negative outcomes includes lower job satisfaction and lower motivation. In fact, these four approaches differ in degree rather than kind. They can be described as a continuum and is found useful in redesigning any kind of job and in particular that of the Manufacturing sector.

Factors beyond the individual job that need to be considered in relation to job design can include:

- Climate: i.e. the shared perceptions held within the organisation
- Technical systems: including design and usage
- Organisational structure: including work flow, degree of centralisation and degree of formalisation
- Organisation and individual development: i.e. how jobs allow people to use and develop their own skills and careers, as well as the overall design and development of the organisation
- Physical work environment, including ergonomic factors
- Team and group working including team cohesion, team composition and interdependency
- Flexible working practices and the boundary between 'work' and 'non-work'
- Work processes and work flow.

(CIPD, 2008; Garg and Rastogi, 2005; Morgeson *et al.*, 2010; Parker *et al.*, 2001).

2.1.3 Techniques of Job Design

The five job design techniques available are as follows (Stoner *et al.*, 1989):

1. Job rotation, which comprises the movement of the worker from one functional department to another to reduce monotony by increasing variety.
2. Job enlargement, which means combining previously, fragmented tasks into one job, by increasing variety and meaning of repetitive work.
3. Job enrichment, which goes beyond job enlargement to add greater autonomy and responsibility to a job and is based on the job characteristics approach. Theoretically, job enrichment makes the job more rewarding, intrinsically satisfying which in turn motivate the worker to be more productive. Job enrichment provides direct feedback through the work itself on how well the worker is doing his job. It affords the worker as much variety, decision making responsibility and control as possible in carrying out the work.
4. Autonomous work groups, which means creating self-regulating groups who work largely without direct supervision. It emphasizes the social aspect of the work, that is, the interpersonal relationship and the technological aspect comprising of the task, tools and work activities.

2.1.4 Employees engagement

Kahn (1990) defines employee engagement as “the harnessing of organization members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances”. The cognitive aspect of employee engagement concerns employees’ beliefs about the organisation, its leaders and working conditions. The emotional aspect concerns how employees feel about each of those three factors and whether they have positive or negative attitudes toward the organisation and its leaders. The physical aspect of employee engagement concerns the physical energies exerted by individuals to accomplish their roles. Thus, according to Kahn (1990), engagement means to be psychologically as well as physically present when occupying and performing an organisational role. Truss, Soane, Edwards, Wisdom, Croll, and Burnett, (2006) define employee engagement simply as ‘passion for work’.

Burnout researchers suggest that engagement is the opposite, a positive antithesis of burnout (Maslach, Schaufeli, and Leiter, 2001). Maslach *et al.* (2001) state that “engagement is characterized by energy, involvement, and efficacy”, the direct opposite of the three burnout dimensions of exhaustion, cynicism, and ineffectiveness. Schaufeli, Martínez, Marqués-Pinto, Salanova and Bakker, (2002), present work engagement as contrastive concept to burnout, they define work engagement “as a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption”. They also state that engagement is not a momentary and specific state, but it is “a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behaviour (Schaufeli, 2002)”. In his research Harter, Schmidt, and Hayes, (2002) referred to employee engagement as the individuals’ involvement and satisfaction with as well as enthusiasm for work.

Three well-known organizations in the human resource area also offer definitions on engagement. Perrin’s Global Workforce Study (Towers Perrin, 2003) defines engagement “as employees’ willingness and ability to contribute to company success”, by putting “discretionary effort into their work, in the form of extra time, brainpower and energy”. Gallup organization defines employee engagement as the involvement with and enthusiasm for work. Gallup as cited by Dernovsek (2008) likens employee engagement to a positive employees’ emotional attachment and employees’ commitment. Institute of Employment Studies (Robinson, Perryman, and Hayday, 2004) defines employee engagement as “a positive attitude held by the employee towards the organization and its value. An engaged employee is aware of business context, and works with colleagues to improve performance within the job for the benefit of the organization. The organization must work to develop and nurture engagement, thus symbiotic relationship exists between employer and employee. Shuck and Wolland (2010) defined employee engagement as “an individual employee’s cognitive, emotional, and behavioural state directed toward desired organizational outcomes”.

Accordingly, employee engagement was defined as “a persistent positive affective state of fulfilment in employees,

characterized by vigour, dedication and absorption” (Schaufeli, *et al.*, 2002).

Vigour refers to the employees’ willingness to invest their efforts into their job, the high levels of energy and their endurance and persistence in the face of difficulties. Dedication refers to the employees’ strong involvement in their work, their feelings of enthusiasm and significance.

Absorption happens when the employee is pleasantly occupied with work, this can be seen by the employee not keeping the track of time and their inability to separate themselves from the job at hand (Maslach *et al.*, 2001). Burnout or disengagement arises when there is an imbalance between the workers and the six work settings: workload, control, reward, community, fairness, and values (Maslach *et al.*, 2001). Engagement is associated with the match between an employees’ profile and the job. This match can be characterized by a “sustainable workload, feelings of choice and control, appropriate recognition and reward, a supportive work community, fairness and justice, and meaningful and valued work” (Maslach *et al.*, 2001).

2.1.5 Why Do Engaged Employees Perform Better

Bakker and Demerouti (2008) present four reasons why engaged employees perform better than their non-engaged counterparts:

Positive emotions:

Some researchers describe engagement as “a positive, fulfilling, work-related state of mind” (Schaufeli *et al.*, 2002; Schaufeli and Bakker, 2004). With this state of mind, employees more often experience positive emotions, such as happiness, joy and enthusiasm. Happy people may be more open to opportunities at work, more helpful to others, exert more confidence and be generally more optimistic (Cropanzano and Wright, 2001, cited in Bakker and Demerouti, 2008). According to the broaden-and-build theory, positive emotions, such as joy, interest and contentment, can help people “build their personal resources (ranging from physical and intellectual resources to social and psychological resources)” (Bakker and Demerouti, 2008).

For example, joy broadens resources “by creating the urge to play ... and be creative” and interest, broadens resources by creating the desire to explore, to learn new information and experiences (Fredrickson, 2001).

Good health:

Some researchers present an idea that engagement positively influences an employees’ health, which means that the health condition of engaged employees allows them to perform better than non-engaged employees. In a study conducted by Hakanen, Bakker, and Schaufeli, (2006), they found evidence that work engagement is positively related to self-rated health and work ability. Schaufeli and Bakker (2004) also found a positive connection between engagement and health. In their study among four different service organizations, they found that engaged workers suffer less from self-reported headaches,

cardiovascular problems, and stomach aches. However, another research did not find the evidence of the connection between engagement and physiological indicators, one example of this can be seen through [Langelaan, Bakker, Schaufeli, Van Rhenen, and Van Doornen \(2006\)](#) in regards to the stress hormone

5) Ability to mobilize resources:

Another reason why engaged employees are more productive, could be that engaged employees are also more successful in mobilizing their job resources, as they have a better working environment, and more pleasant colleagues to work with ([Bakker and Demerouti, 2006](#)), and they are better at creating their own resources ([Bakker and Demerouti, 2008](#)). The broaden-and-build theory presented by [Fredrickson \(2001\)](#), claims that the momentary experience of positive emotions can build enduring psychological resources and, in addition, can trigger upward spirals toward enhanced emotional well-being ([Fredrickson, 2001](#)). This means that positive emotions make people feel good in the present, but also through their influence on broadened thinking, positive emotions increase the possibility that people will feel good in the future ([Fredrickson, 2001](#)).

There is also evidence for an upward spiral of work engagement and resources presented by [Xanthopoulou et al. 2007, as cited in Bakker and Demerouti, 2008](#)). Researchers showed that job and personal resources resulted in a higher level of engagement one year later. At the same time, engagement results in an increase of personal resources (optimism, self-efficacy and organization-based self-esteem) and job resources (social support from colleagues, autonomy, coaching, and feedback) over time. The study by [Schaufeli et al.'s \(2009\)](#) also supports this idea. The results of this study showed that an initial high level of engagement predicted the increase of job resources the next year, this included: social support, autonomy, learning opportunities, and performance feedback.

So all these findings show that, compared with non-engaged employees, engaged employees are better able to mobilize both job and personal resources, which supports their future engagement.

6) Transfer of engagement:

Organizational performance is the result of the combined efforts of the individual employees ([Bakker and Demerouti, 2008](#)). Therefore, it is possible to assume that the transfer of engagement from one employee to another will increase company performance. Crossover can be defined as the transfer of positive or negative emotions and experiences from one person to another ([Westman, 2001](#)).

Some researchers found evidence of emotional transferability; the results of these researches show that:

- A positive mood of the leader is transferred to the employees, resulting in less effort needed to complete the task and more coordination.

- A team members' positive mood spreads among other team members and results in more cooperation and better task performance.

A similar theory was put forward by ([Bakker et al., 2006, as cited in Bakker and Demerouti, 2008](#)), who found that team work engagement was related to individual team members' engagement. Individual engaged workers spread their optimism, positive attitudes and pro-active behaviours between their co-workers, creating a positive team climate.

2.2 Theoretical framework

The theoretical framework for this study comes from the social exchange theory. Social exchange theory suggests that employees and employers are in a symbiotic relationship, so that when an employee perceives themselves to have been treated well by their employer, such as through being given interesting, varied and autonomous work, then they are likely to reciprocate by investing their own energies into their work in the form of engagement.

In the context of social exchange theory, the management (employer) is devoted to building a relationship of long-term employment with his employees by fulfilling their needs through offering the employees favourable workplace climate, good working conditions, growth opportunities, organisational support etc; in return, employees will be committed in improving performance. Such a willingness to build a long term relationship between the employer and employees is one of the key characteristics of a social exchange theory. The willingness of the employer is demonstrated by the employers' effort to satisfy the needs of his employees by providing them with a good workplace climate and better management practices. These satisfied employees envision a long tenure of employment, are willing to make discretionary effort to contribute and are eager to take extra care of their productive activities for their employing organisation. On the basis of the social exchange theory, employees who perceive that when job design is conducive will feel more satisfied with their job and so be more loyal to their employing organisation. Social exchange theory also lends support to the prediction that positive, beneficial actions directed at employees by the management of an organisation and create feelings of obligation for employees to reciprocate in positive, beneficial ways, including feelings of loyalty, commitment and performance ([Eisenberger et al., 1986; Hutchinson, 1997; Wayne, Shore and Linden, 1997](#)).

2.3 Empirical relationship between job design and employees engagement

[Shantz et al. \(2013\)](#) examined a potential mediator of the job design–performance relationship, namely employee engagement. They employed data obtained via a survey of 283 employees in a consultancy and construction firm based in the UK and from supervisors' independent performance evaluations. The results reveal that employees, who hold jobs that offer high levels of autonomy, task variety, task significance and feedback are more highly engaged and, in consequence, receive higher performance ratings from their

supervisors, enact more organizational citizenship behaviours and engage in less deviant behaviour. [Saks, \(2006\)](#) examined a test model of the antecedents and consequences of job and organization engagement based on social exchange theory. A survey was completed by 102 employees working in a variety of jobs and organizations. The average age was 34 and 60 percent were female. Participants had been in their current job for an average of four years, in their organization an average of five years, and had on average 12 years of work experience. The survey included measures of job and organization engagement as well as the antecedents and consequences of engagement. Results indicate that there is a meaningful difference between job and organization engagements and that perceived organizational support predicts both job and organization engagement; job characteristics predicts job engagement; and procedural justice predicts organization engagement. In addition, job and organization engagement mediated the relationships between the antecedents and job satisfaction, organizational commitment, intentions to quit, and organizational citizenship behaviour.

[Adekola, \(2011\)](#) examine the potential antecedents and consequences of work engagement in a sample of male and female managers and professionals employed in various Universities in Nigeria. The study adopted the ipso facto research design. Five Nigerian Universities (University of Lagos, Obafemi Awolowo University, Ile-Ife, Ladoke Akintola University, Ogbomoso, Enugu State University, Enugu and University of Abuja) between January and April 2010. Data were collected from 242 respondents, (60.5 percent response rate) using anonymously completed questionnaires. Engagement was assessed by three scales developed by [Schaufeli et al. \(2003\)](#); vigour, dedication, and absorption. Antecedents included personal demographic and work situation characteristics as well as measures of need for achievement and workaholic behaviours; consequences included measures of work satisfaction and psychological well-being. The following results were observed. First, both need for achievement and workaholic job behaviour was found to predict all three engagement measures. Second, engagement, particularly dedication, predicts various work outcomes (e.g., job satisfaction,intent to quit). Third, engagement, again, particularly dedication, predicted various psychological well-being outcomes but less strongly than these predicted work outcomes.

[Ram and Prabhakar \(2011\)](#) studied the roles of employees' engagement in work related outcomes and investigated the antecedents and consequences of employee engagement in Jordanian Industry. A snowball sample of 310 respondents from the Jordanian hotel industry was interviewed using the research instrument. The sample comprised of employees from different levels of management. The results confirm the relationship between Employee Engagement and Perceived Organizational Support. The effect of Job Characteristics, Intrinsic and Extrinsic Rewards, Perceived Supervisor Support, Perceptions of Procedural Justice, Perceptions of Distributive Justice on Employee Engagement is also confirmed. The hypotheses considered in this study are supported by the evidence from data collected from a sample of respondents drawn from the hotelindustry in Jordan.

[Sawang, \(2012\)](#) examines the possibility of an inverted U-shaped relationship between job demands and work engagement, and whether social support moderates this relationship. The study uses 307 technical and IT managers who responded to an online survey. Multiple regressions were employed to examine linear and curvilinear relationship among variables. Overall, the results support the applicability of the quadratic effect of job demands on employee engagement. However, only supervisor support, not colleague support, moderated the relationship between job demands and work engagement.

The studies reviewed in the empirical section except the study of [Adekola \(2011\)](#), were all carried out in a foreign environment. [Adekola \(2011\)](#), carried out the study using Universities as a study platform. This study however , is aimed at bridging the gap in knowledge by focusing on manufacturing companies in Nigeria, namely; Nestle Nigeria Plc, Unilever Nigeria Plc and PZ Cusson Nigeria Plc.

Since most of the reviewed empirical studies had taken care of the problems regarding job design and employee engagement, quite a number of these problems raised are yet to be answered and these will constitute the gap in the literature of the study. However, these problems raised will come in question form to include:

- What nature of relationship exists between job design and employee engagement among employees in the manufacturing industries?
- Will dimensions like task variety, autonomy, task significance; skill variety and feedback affect employee engagement?

METHODOLOGY

3.1 Research Design

In this study, a cross-sectional survey design was used. Cross-sectional design is used when information is to be collected only once ([Malhotra et al., 1996](#)). Cross-sectional survey design is justified on the ground that one should adopt one time observation, involving proximate and ultimate variables necessary for the study.

3.2 Population:

The population of the study involve all employees of three selected manufacturing companies in Nigeria. The manufacturing companies include;

Table 3.1. Population of Senior and Junior Selected Manufacturing Companies in Nigeria

Name of companies	Senior Staff	Junior Staff	Total Population
Nestle nigeria PLC	254	1496	2288
Unilever nigeria PLC	278	792	1070
Pz cusson nigeria PLC	551	4410	4961
Total			8319

Source: Nigeria Stock Exchange Factbook (2013)

To determine the sample size for the study, the sample size formula for finite population according to [Cochran \(1963\)](#) will be employed thus;

$$SS = \frac{Z^2 P(1 - P)}{e^2}$$

Where; SS= Sample Size

Z = Given Z value (1.96 for a 95 percent confidence level)

p = Percentage of population (i.e. estimated proportion of an attribute)

e = Confidence level (desired level of precision)

P = Population Size

$$\begin{aligned} SS &= \frac{3.8416 \times 0.5 \times 0.5}{0.0025} \\ SS &= 385 \\ NEW\ SS &= \frac{SS}{\left(1 + \frac{(SS - 1)}{P}\right)} \\ New\ SS &= \frac{385}{\left(1 + \frac{(385 - 1)}{8319}\right)} = 368\ approx. \\ \text{New Sample Size} &= 368 \end{aligned}$$

3.3 Instruments

The instruments were designed for individual level unit of analysis. Each respondent in the study was required to complete two measures: Job Design Characteristics and Employees Engagement. Job Design Characteristics was measured using a 23-items scale based on the five dimensions by [Hackman and Oldham \(1980\)](#) while Employees Engagement was measured with 9-items scale based by [Schaufeli, Bakker, and Salanova \(2006\)](#). The response options of the two instruments were based on five point Likert scale; (5) strongly agree, (4) agree, (3) neutral, (2) strongly disagree, (1) disagree.

3.4 Reliability and Validity of Instrument

To assess the reliability of the measurement items of all the variables, an internal consistency check was carried out. The Cronbach alpha from the test yielded a record of 0.807 for skill variety , 0.761 for task identity, 0.834 for task significance, 0.805 for autonomy, 0.764, 0.812 for feedback and engagement for 0.7330 which is far above the cut-off line of reliability as recommended by [Cooper and Schinder, \(2006\); Malhotra and Birks \(2006\)](#). Content validity that is used to assess for the measurement instruments was done in the pre-tested stage by soliciting the expert opinions of two scholars who are research specialists in quantitative methodology and management disciplines. The scale was then pre-tested on 50 respondents who were the employees that have similar characteristics to the target population. None of the investigative questions were dropped since the questions passed the cut off of 0.35 according to [Meredith \(1969\)](#) benchmark.

4.1 Data analysis

However, out of the three hundred and sixty eight (368) respondents given questionnaire to fill, three hundred and

twenty four (324) copies of the questionnaire were returned. This study used self administered questionnaires distributed to elicit information from the respondents. The respondents were selected through stratified random sampling.

The descriptive statistics of the constructs are indicated showing the mean and standard deviation scores of the construct. The average scores from the 5-point Likert scale where 5 is strongly agree and 1 is strongly disagree for all the variables are computed to show the proportion of the respondents that either strongly agreed or tended to disagree with the items of the variables. The mean scores are obtained by compiling the mean scores of all the items in each variable (SPSS Computer Variables Version 20).

The study has job design as its predictor variable, while employees engagement is the criterion variable. Correlation design was adopted for the study while Pearson product moment correlation statistics was used in testing the hypotheses.

The results of the statistical analysis of the data obtained in the study are presented in the tables below.

Table 4.1. Summary of correlation between skill variety and employee engagement

	Skill Variety	Employee Engagement
Pearson Correlation	1	0.514
Sig.P (2-tailed)		0.000
N	324	324

Result from table one showed that skills variety had a significant positive relationship with employee engagement, $r(324) = 0.514$, $P<.05$. Therefore, hypothesis one which states that there will be a significant relationship between skill variety and employee engagement is accepted.

Table 4.2. Summary of correlation between task identity and employee engagement

	Task identity	Employee Engagement
Pearson Correlation	1	0.456
Sig. P (2-tailed)		0.000
N	324	324

Result from table two showed that task identity had a significant low positive relationship with employee engagement, $r(324) = 0.456$, $P<.05$. Therefore, hypothesis two which states that there will be a significant relationship between task identity and employee engagement is accepted, though the value is low.

Table 4.3. Summary of correlation between task significance and employee engagement

	Task significance	Employee Engagement
Pearson Correlation	1	0.666
Sig. P (2-tailed)		0.000
N	324	324

Result from table three showed that task significance had a significant positive relationship with employee engagement, r

(324) = 0.666, P<.05. Therefore, hypothesis three which states that there will be a significant relationship between task significance and employee engagement is accepted.

Table 4.4. Summary of correlation between autonomy and employee engagement

	Autonomy	Employee Engagement
Pearson Correlation	1	0.707
Sig. P (2-tailed)		0.000
N	324	324

Result from table four showed that autonomy had a significant positive relationship with employee engagement, r (324) = 0.707, P<.05.

Therefore, hypothesis four which states that there will be a significant relationship between autonomy and employee engagement is accepted.

Table 4.5. Summary of correlation between feedback and employee engagement

	Feedback	Employee Engagement
Pearson Correlation	1	0.755
Sig. P (2-tailed)		0.000
N	324	324

Result from table four showed that feedback had a significant positive relationship with employee engagement, r (324) = 0.755, P<.05. Therefore, hypothesis five which states that there will be a significant relationship between feedback and employee engagement is accepted.

5.1 DISCUSSION

The findings of the study showed that the hypotheses which stated that there is no significant relationship between job design (skill variety, task identity, task significance, autonomy and feedback) and employee engagement was rejected, hence the alternative hypotheses accepted. In skill variety, this shows that employees are more likely to be engaged as a result of different range of skill possessed. Thus, people whose jobs are varied are more likely to experience a sense of energy in relation to their work. Some studies have shown that monotonous work can lead to psychological distress and disengagement (Morgeson and Humphrey, 2006). When a worker is responsible for a whole piece of meaningful work (task identity) and perceive their work as significant, then they are more likely to invest their whole self into their work and experience a sense of pride. Adam Grant, (2008) conducted an interesting experiment involving lifeguards that illustrates this point. The lifeguards were divided into two groups, the first group were read stories featuring heroic life guards and the second group were not read any stories. One month later, those who had heard the stories reported stronger feelings of self-worth than those in the second group. Such feelings of self-worth can generate high levels of engagement. Again, people whose work is autonomous experience a feeling of responsibility, and are more likely to invest effort into their work, even in the face of obstacles (Shantz et al., 2013). This is also evident in the work of Bond (2010) which showed how a relatively small increase in the autonomy of call centre workers in a UK bank (e.g. by allowing them a greater say in the planning of their work) led to a significant increase in

motivation, a decrease in absenteeism and mental distress. A recent Work Foundation report (2012) demonstrated that levels of autonomy at work vary considerably between countries.

Shantz et al. (2013), in their study showed a positive relationship for four of the five features (variety, autonomy, significance and feedback), with skill variety showing the strongest relationship. The study also showed that workers who were strongly engaged were also more likely to help others out at work (undertake citizenship behaviours) and to perform better. Furthermore, they also found that highly engaged workers were less likely to exhibit deviant behaviours, such as coming to work late.

5.2 Conclusion

Based on the findings, the researcher concludes that job design has a significant positive relationship with employee engagement in the selected manufacturing companies in Nigeria. The way jobs are designed has a significant influence on engagement levels. This involves several inter-related areas like the design of the actual work itself; the setting within which work takes place; and the role of the line manager. The line manager has a significant and optimal role to play in creating an environment where workers can find their work engaging, through shaping job content, treatment of the role holder, and levels of trust (Clegg and Spencer, 2007). Consequently, jobs with these characteristics (skill variety, identity, significance, autonomy and feedback) are most likely to lead to high levels of performance, positive attitudes towards work, and decreased negative attitudes and behaviours.

5.3 Recommendations

It is recommended that management should not ignore the influence of job design and redesigning on employee engagement. Organisations need to unleash the talents and motivations of all their employees if they are to achieve peak performance. Management must develop a sense of community and ensure that favourable behaviours are displayed, such as trusting employees by giving them autonomy to make their own decisions. Above all, management need to pay more attention to job design, by creating more opportunity for workers to contribute. The design of workers' jobs needs to be linked with a consideration of the role of the line manager as well.

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