

JOB ENRICHMENT AND ORGANIZATIONAL INNOVATION OF MANUFACTURING FIRMS IN RIVERS STATE.

¹Ogundele Olajumoke Ruth and ²Charity Chinasa Njoku, Ph.D
¹M.Sc. Student, Department of Office and Information Management (OIM)
²Department of Office and Information Management (OIM), ^{1&2}Faculty of
Management Sciences, Ignatius Ajuru University of Education, Rumuolumeni, Port
Harcourt, Rivers State, Nigeria

charity4njoku@gmail.com

ABSTRACT

The study examined Job Enrichment and Organizational Innovation in selected manufacturing firms in Rivers State. The study sought to determine how skill variety influences process innovation of manufacturing firms, autonomy influences administrative innovation of manufacturing firms and how technology moderate job enrichment and organizational innovation. Cross sectional survey design method was adopted. The population comprises 230 employees and 230 respondents were selected using census sampling techniques. Questionnaire was used for data collection (primary data), data collected were presented and analyzed using mean score rating to analyze the research questions and statistical tool used for testing their associated hypotheses were Pearson Product Moment Correlation Coefficient Analysis formula with Statistical Package for Social Science (SPSS) version 20. The findings shows that the respondents indicated high extent that skill variety influenced process innovation, autonomy influenced administrative innovation and technology moderately influenced Job Enrichment and Organizational Innovation in the selected manufacturing firms in Rivers State. The study concludes that job enrichment and organizational innovation is a stronger, dexterity, respect among employees, fairness, caring and objectivity manifests to the highest extent, nonprofit organization were able to access much more donor funding and have good reputation in the public and that strengthen bond with country government, Job enrichment analyzed the various assumptions inherent in the job enrichment approach, along with the ramifications and utility of employing it in work organizations. The study recommends amongst others that since skill variety and process innovation is significant and positive, the employees in the selected manufacturing firms should fully embrace and give more attention to skill variety system and process innovation etc.

Keywords: Job Enrichment, Organization and Innovation

Background to the Study

Job enrichment analyzed the various assumptions inherent in the job enrichment approach, along with the ramifications and utility of employing it in work organizations. This article suggested that the utility of job enrichment programs predicted on the development of increasing intrinsic job elements and down-grading attention to extrinsic factors, is questionable, at best, Kaplan et al (1969). Job enrichment adds a feeling of satisfaction derived from work itself. Structured jobs make people feel like human beings rather than units of production and that the pressures arising from the obvious discrepancies between social and technological changes are reduced, Walsh (1974).

Magaji (2014) noted that managers for decades have been trying to device better means to ensure employees get fulfillment from their current jobs. Enriching an employee's job is one of the various means managers have device to ensure employees get the desired fulfillment and satisfaction from their jobs. The concept of job enrichment is now a vital tool for management of organizations in improving workers' motivation and organizational innovation. Jobs are enriched to motivate employees by adding to their responsibilities with a higher need for skill varieties in their jobs. Due to rapid environmental changes and competitive rivalry, business

organizations are now turning from the traditional ideology of seeing monetary reward as the highest motivating element to a situation where employees will continue to value their job, have more control in scheduling their job, and deciding the best way to do their job and to be regarded for the work they perform (Bratton, 2007 & Hover, 2008).

Leach and Wall (2004), indicates that job enrichment is a design of job that increases the volume of employees' autonomy, control, skill varieties and responsibility which in turn helps to reduce rigidity, tediousness, lack of creativity/innovation and employee's dissatisfaction.

Innovation on the other hand, is an inherent aspect of human activity. Chen and Sawhney (2010) argued that innovation comes in different forms: some may have little to do with technology or research and development (R&D). The employees within the organization are the most crucial ingredient in the innovation success formula. The foundation of innovation is ideas and it is the employees, who through enriching their jobs develop, carry, react to and modify ideas (Van de Ven, 1986). Woodman, Sawyer and Griffin (1993), states that organizational innovation is dependent on the creativity of the group, which in turn is dependent on individual employee's creativity. Innovation is the reflection of the creative efforts of the workers. Therefore, it is the workers who build, promote and breathe life into an innovative culture, because the innovative potential of any organization resides in the knowledge, skills and abilities of its human resources (Patterson, Kerrin & Gatto, 2009). Based on this understanding, this research study attempts to investigate the relationship between job enrichment and organizational innovation of selected manufacturing firms in Rivers State.

Statement of the Problem

The challenges of dissatisfaction in a job and boredom which as a result leads to low productivity, slow administrative performance, work stress, absenteeism, psychological breakdown, lateness and withdrawal of services are common elements in most manufacturing organizations. One of the reasons for this development is that the employees see their jobs as lacking enthusiasm, creativity and therefore have no pride in their jobs (Beatty & Schneier, 1981). It is observed that most firms in Nigeria have taken advantage of the harsh economic conditions of the country to only use employees as tools and resource in the production process and any attempt to complain could attract sack hence job dissatisfaction is a common decimal occurrence. It is therefore imperative to note that for organizations to prevent losing their valuable employees to their rivals resulting from job dissatisfaction and boredom, Brown (2004) opined that enriching an employee's job could be an excellent means to harnessing the innovative capabilities of their workforce. Therefore, this study evaluates the relationships between job enrichment and organizational innovation.

Many studies in the past have tried to link motivation and employees' empowerment to organizational innovation but had not really looked at job enrichment and organizational innovation. It is believed that when employees have more responsibilities and authority over their job, there is the tendency that it could motivate the employees to be innovative and work hard to achieve the goals and objectives of that organization.

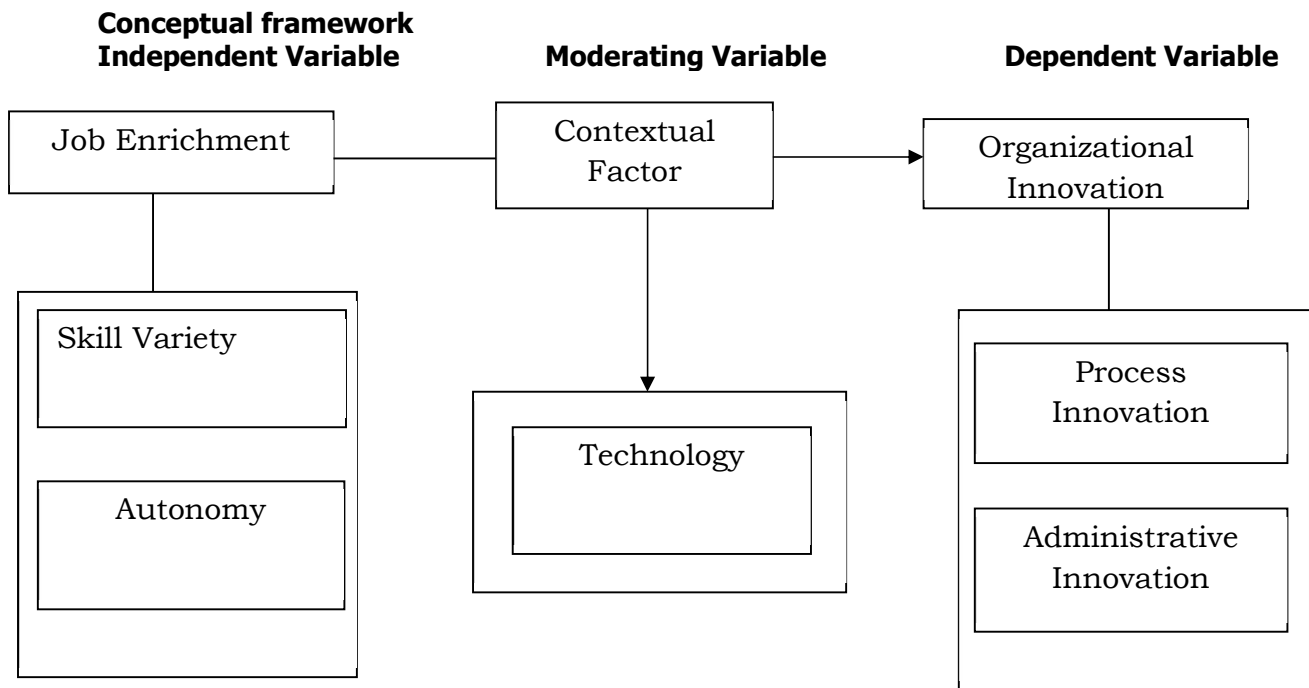


Fig 1.1: Conceptual Framework showing the independent and dependent variable of Job Enrichment and Organizational Innovation and their dimensions and measures.

Source: Researcher's conceptualization, (2022).

Aim and Objectives of the Study

The aim of this study is to examine Job Enrichment and organizational innovation in selected manufacturing firms in Rivers State. The specific objectives of this study includes as follows.

1. To examine how skill variety influences process innovation in the selected manufacturing firms of Rivers state.
2. To examine how autonomy influences administrative innovation in the selected manufacturing firms of Rivers State.
3. To investigate how technology moderates job enrichment and organizational innovation in the selected manufacturing firms of Rivers State.

Research Questions

The following research questions guided the study.

- i. To what extent does skill variety influence process innovation in the manufacturing selected firms in Rivers State?
- ii. To what extent does Autonomy influence administrative innovation in the selected manufacturing firms in Rivers State?
- iii. To what extent does organizational technology influence job enrichment and organizational innovation in the selected manufacturing firms in Rivers State?

Research Hypotheses

The following research hypotheses are formulated to guide the study.

H_{o1}: Significant relationship does not exist between skill variety and process innovation in the selected manufacturing firms in Rivers State.

H_{o2}: Significant relationship does not exist between autonomy and administrative innovation in the selected manufacturing firms in Rivers State.

H₀₃ Technology does not significantly moderate the relationship between job enrichment and organizational innovation in the selected manufacturing firms in Rivers State.

Scope of the Study

The scope of this study covered geographical scope, content scope, and unit scope.

Geographical scope: The geographical scope of this study concentrated on eight selected manufacturing firms in Rivers State. **Content Scope:** The content scope comprises the independent (predictor) and dependent (criterion) variables of this study, their dimensions and measures. Independent variable is (Job Enrichment), its dimensions includes skill variety and autonomy. While dependent variable is (Organizational Innovation) its measures are process innovation and administrative innovation. **Unit scope:** The study unit for this study was based on individual levels of analysis, managers and supervisors from the selected manufacturing firms in Rivers State. This is because they are the category of employees that will provide the necessary information on job enrichment and organizational innovation.

REVIEW OF RELATED LITERATURE

Concept of Job Enrichment

Feldman and Thomas, (2012), opined that job enrichment means redesigning jobs in a way that increases the opportunities for the workers to experience feelings of responsibility, achievement, growth, and recognition. It does this by empowering the worker for instance, by giving the worker the skills and authority to inspect the work, instead of having supervisors do that. Herzberg said empowered employees would do their jobs well because they wanted to, and quality and productivity would rise. That philosophy, in one form or another, is the theoretical basis for the team-based self-managing jobs in many companies around the world today, (Dessler, 2013).

The concept of job enrichment goes beyond job enlargement to add greater autonomy and responsibility to a job, and is based on the job characteristics approach. Job enrichment is an approach to job design that directly applies job characteristics theory to make jobs more interesting and to improve employee motivation. Job enrichment puts specialized tasks back together so that one person is responsible for producing a whole product or an entire service. Job enrichment expands both the horizontal and the vertical dimensions of a job. For example, at Motorola's Communications Division, individual employees are now responsible for assembling, testing, and packaging the company's pocket radio-paging devices. Previously, these products were made on an assembly line that broke the work down into 100 different steps and used as many workers, (Balkin 2012).

Dimensions of Job Enrichment

1. Skill Variety

Skill variety is the degree to which a job requires a variety of different activities and involves the use of a number of various skills and talents of the workers. Jobs that are high in skill variety are seen by workers as more challenging because of the range of skills involved; relieve monotony that results from repetitive activity, and gives employees a greater sense of competence. According to Bratton (2007), when a variety of skills are essential to complete a task and those skills are perceived to be of value to the organization, employees find their jobs to be more meaningful. The idea behind providing skill variety in job design is that it will reduce boredom, thereby increasing job satisfaction and motivation. It has been proven that one-skill jobs that led to repetition and monotony could bring about boredom, fatigue and stress that may negatively affect performance and productivity. According to Laura & Derek (2000), movement of employees from one job-task to another job within the organization and allowing them to adopt a variety of tasks in their work helps in mitigating the effect of repetitiveness and boredom.

Skill Variety, according to Hackman & Oldham (1975) is the instance where a job requires various tasks in order to carry out a complete piece of work and involves using various skills and abilities by the employee. Just as the job characteristics model indicates, the different skills that are

required to complete a task often led to desired performance by the intervening psychological state of experienced importance of a job. Garg & Rastogi (2005) indicated that skill variety involves the degree of utilization of different skills and abilities. A variety of Skills variety is one factor in the JCM which affects the meaningfulness of a job. A job that is high in the level of skill variety always requires a wide array of skills and abilities (Hackman & Oldham, 1975).

Jobs that are complicated have shown substantial but positive relatedness with job satisfaction, internal employee motivation and employee output (Spector, 2012; Jassen, 2001). Chandler (2007) stated that a wide range of skills are required for employees to grow and a vast range of skills is also necessary for the purpose of being flexible at in other studies, skill variety is considered as the number of various task elements that are necessary for the job fulfillment. Task Variety communicates clarity of knowledge (Pentland, 2003). According to the literature of careers, employees at the start of their careers make attempts to discover tasks from which they attain or achieve their goals (Feldman & Thomas, 2012). Inherent characteristics of a job including significance of a task and skill variety are usually mostly associated with low rates of absenteeism (Taber & Taylor, 1990).

In the view of Garg & Rastogi (2006), Skill variety refers to the extent to which the job requires the employee to draw from a number of different skills and abilities as well as upon a range of knowledge (Ali & Rehman, 2010). According to Benjamin (2012) the theory behind providing skill variety in job design is that it will reduce boredom, thereby increasing job satisfaction and motivation. This is likely to be true as long as the employee enjoys the skills and perceives the addition and mix of skills to be a benefit to the job. But adding a variety of skills the employee finds stressful, is not qualified to address, or simply adding basic duties and minimal skills without adding to the intrinsic value of the job could actually have the opposite effect and increase dissatisfaction. Involve employees in job design to have the greatest positive impact on motivation and satisfaction.

Role of Skill Variety

According to job crafting theory, employees craft their jobs if doing so fulfills their basic needs such as control over one's job, positive sense of self and human connection with others (Wrzesniewski and Dutton, 2001). We propose that a high level of skill variety stimulates employee job crafting because crafting such a job will especially fulfill the needs of control over the jobs and a positive sense of self for the following reasons: First, because high skill variety requires a wide range of abilities, talents, and activities to complete the work, crafting such a job is difficult and challenging in comparison to a job with low skill variety. Traditional job design theory states that job tasks are more meaningful if they involve a greater variety of skills and challenges (Ghitulescu, 2006; Hackman & Oldham, 1980). Second, because a wide range of activities associated with different skills are included in a job with high skill variety, more opportunities exist to change the physical and cognitive boundaries of such a job. For the above-mentioned reasons, a high level of skill variety generates employees' positive expectations that job crafting will improve productivity and meaningfulness (Berg et al., 2013). These characteristics of skill variety stimulate both perceived challenges and opportunities to foster an employee's skills and talents by crafting such a job (Humphrey et al., 2007). Although a high level of skill variety makes job crafting riskier or more challenging, it also increases the job meaningfulness and promotes a flexible role expectation. Thus employees are more engaged in such a job. Accordingly, skill variety has been proposed as an antecedent for proactive behaviors (Ren et al., 2018). Therefore, crafting a job will with high skill variety increases one's positive sense of self and perceived control over the job. In short, a high level of skill variety stimulates challenging and meaningful aspects of job crafting, and employees are motivated to craft such jobs to achieve a positive sense of self and control over the job by taking on those challenges and opportunities (Wrzesniewski & Dutton, 2001).

2. Autonomy

Autonomy is related to granting and allowing freedom to employees for determining the means by which to achieve a goal (Amabile, 1998), not necessarily autonomy for selecting what goals to go after. Individuals who stand out in their ability to perform creative acts often value independence and autonomy. An environment of freedom and autonomy is more likely to tap into the intrinsic motivation of its employees, which has been found to be a key factor in promoting innovation among employees in organizations. Also, higher levels of autonomy on the job have been shown to increase job satisfaction, and in some cases, motivation to perform the job. New organizational structures, such as flatter organizations, have resulted in increased autonomy at lower levels. Additionally, many companies now make use of autonomous work teams. Autonomy in the workplace can have benefits for employees, teams, managers, and the company as a whole.

In recent times, newer and more organic structures rely on autonomy, empowerment, and participation to succeed. Employee autonomy is believed to have minimized some of the relational barriers between superiors and subordinates. Therefore, autonomy may improve workplace functions through the ideas and suggestions of employees (innovative behavior), and foster relationships with a greater degree of trust between management and employees. In a study among German middle managers, Krause (2004) investigated whether leaders can influence the innovation process by granting their subordinates freedom and autonomy. She found that granting freedom and autonomy was positively related to various types of innovative behavior, including the generation, testing, and implementation of ideas. Again, in an early study among NASA scientists, Andrews & Farris (1967) concluded that providing subordinates with more freedom to explore, discuss and challenge ideas was associated with higher innovation performance. Other studies carried out in different contexts point in a similar direction, these studies include work by West & Wallace (1992) in primary care teams and by Frischer (1993) in product development department. Also, worker autonomy has received considerable attention in the context of job characteristics (Hackman & Oldham, 1976; Sims, Szilagyi & Keller, 1976).

Moeller and Fitzgerald (1985) have meta-analyzed the relationship between job characteristics and job satisfaction, and found autonomy to be more highly related to job satisfaction than any of the other job characteristics. Intrinsic motivation of employees has however been found to be a key factor in promoting innovation in organizations (Amabile, 1998). However, increased autonomy in the organization also may create disparity among units through different work practices and rules. In the worst case, increased autonomy may allow some employees to engage in unethical behavior. Thus, a certain amount of oversight is necessary in organizations to prevent wrongdoing that may go unnoticed when there are high levels of autonomy. When given autonomy, workers may believe that they have authority somewhat equal to that of their direct supervisor. This may cause them to resent the extra responsibility or feel that their pay should be increased. A related concern is that managers may feel marginalized when employee autonomy increases, particularly when there is a change to a traditional work environment. Managers may feel that by giving employees autonomy, they no longer contribute as much to the organization or that their jobs may be at stake. Thus, some caution must be taken when it comes to giving some level of autonomy to workers. Notwithstanding, worker autonomy generally is a positive attribute for employees, managers, teams, and organizations as a whole. Employees typically desire autonomy, and its introduction can increase motivation and satisfaction which are precedents of innovative behavior. However, because too much autonomy can have organizational drawbacks, care should be taken when increasing it.

Autonomy among front-line employees and immediate supervisors could be said to be nonexistent in some companies in Ghana. This can be attributed to the fact that the Ghanaian culture has respect and reverence for the elderly in society and younger ones are not given the opportunity to express themselves or make suggestions about issues in the presence of superiors. And it is evident that some aspects of a nation's culture, whereby the elderly control issues whereas juniors

only obey and take orders from superiors, perhaps can influence workplace culture. In the case of autonomy therefore, junior staff may not be given the opportunity to be autonomous. Autonomy is related to granting and allowing freedom to employees for determining the means by which to achieve a goal (Amabile, 1996), not necessarily autonomy for selecting what goals to go after. Individuals who stand out in their ability to perform creative acts often value independence and autonomy. An environment of freedom and autonomy is more likely to tap into the intrinsic motivation of its employees, which has a key factor in promoting innovation in organizations. Organizations in contemporary times require employees who can work with minimum supervision, and this recent development in organization calls for autonomy in the workplace. Despite numerous research findings linking autonomy or empowerment to organizational commitment (e.g., Kraimer, Seibert, & Liden, 1999), there has been little research to examine how autonomy influence innovation which is considered vital for the success of an organization (Amabile, 1997). Lake & Mouton (1994), suggested that subordinates should be given greater power in decision making if they are exceptionally skill; the superiors should exercise power in decision making in terms of crises or when subordinates lack skills and abilities. Work autonomy is valued to the extent that is within the capability of the participant. Moreover, satisfaction with supervision has a more general meaning which includes factors other than quality and amount of supervision. Thus, it is concluded that all other factors being equal, increased autonomy when accorded within the decision making capabilities of subordinates is accompanied by greater satisfaction with supervision, and a higher ability to innovate.

Perceived Job Autonomy.

Job autonomy is among several other job conditions (task variety, feedback, completion of task, task significance, and task importance) included in Hackman and Oldham's job characteristics model that is believed to have an impact on employees' responses to work. Job autonomy, by definition, is the freedom and discretion allowed of employees in facets of work method, work schedule, and work criteria to perform their tasks and responsibilities (Dodd & Ganster, 1996; Hackman & Oldham, 1976). Breaugh (1985) defined work method autonomy as the discretion in choosing the procedures/methods to go about one's work, work scheduling autonomy as the feeling of which one could take control of the sequencing or timing of his or her tasks, and work criteria autonomy as the discretion in making changes to indicators/standards used to evaluate one's own performance. Based on this definition, having sufficient job autonomy is viewed as a favorable workplace condition that allows employees to exercise their decision-making skills in fulfilling job-related tasks. Aligned with Hackman and Oldham's model, employees' perceptions of their job autonomy tend to impact their psychological states of "experienced meaningfulness of work" (i. e., how work makes a difference to others), "felt responsibility" (i. e., the degree of responsibility assumed for work), and "knowledge of results" (i. e., the awareness of work quality) (Nwoku, Chiamaka, & Tochukwu, 2013). These psychological states in turn affect the level of commitment in employees.

Organizational Innovation

In the face of fast changes in the economic, social, demographic and environmental conditions of business environment occasioned by technology advancement, organizations cannot afford not to improve its products, processes and administrative philosophy and practices in order to gain competitive edge over others. It is important to note unequivocally that organizations are embracing innovation to succeed and thriving Innovation is critical in achieving competitive advantages (Noefer *et al*, 2009). Without innovation, organizations will fail to create the conditions for sustainable growth. Thus, it is highly valued and imperative for organizations to prioritize innovation for their long-term success (Anderson *et al*, 2014).

Chen and Sawhney (2010), are of the opinion that Innovation comes in many forms, some of which may have little to do with technology or research and development (R&D). The human

resources within an organization are the single most important ingredient in the innovation success formula. The foundation of innovation is ideas and it is employees who develop, carry, react to, and modify ideas (Van de Ven, 1986). Woodman, Sawyer & Griffin (1993), argued that organizational innovation is dependent on the creativity of the employees, which in turn is dependent on individual creativity. Innovations reflect the creative efforts of employees. Thus, it is the employees who build, promote and breathe life into an innovative culture. The innovative potential of an organization resides in the knowledge, skills and abilities of its employees. (Patterson, Kerrin & Gatto, 2009). Innovation is not the enterprise of a single entrepreneur; instead, it is a network building effort that centers on the creation, adoption, and sustained implementation of a set of ideas among people who, through transactions, become sufficiently committed to these ideas to transform them into good currency (Van de Ven, 1986). Job enrichment and innovation reinforces each other. Enriched jobs are more likely to spur employees to be innovative and an innovative organization is more likely to motivate and engage its employees. According to Birkinshaw (1997) job enrichment is the sine qua non of innovation in modern practice.

1. Process Innovation

Gabriel, (2017), opined that process innovation focused on the processes by which the products/services are created or delivered. Therefore, it consists in the implementation of new or improved ways of production and delivery services. In business, it can be based on the idea to achieve a sustainable competitive advantage, either a diversification or cost leadership strategy. Over the years we have seen how process innovation influences business, for instance the famous term "Lean manufacturing" implemented by Toyota, the world's largest automaker, and which consists in incrementing customer value by reducing their seven kinds of waste.

A process innovation facilitates methods, procedures, designs and techniques to produce quality goods (output) from inputs resources. Norman (2012), noted that there is no product that is produced that will not follow an established standard. This standard could refer to the method, design or specification that the raw materials will go through before it finally comes out as products. We can say that the outcome of any product is determined by the process adopted to create or produce such goods. Kotler (2011) argued that the process that brings a product should be robust enough to ensure quality products at the final production stage. The ability of the organizations to produce goods that will appeal to customers remains a very fundamental challenge. A typical production process involves three elements - inputs, transformation and output.

- a) The inputs may comprise men, machine, materials, money and information.
- b) The transformation may comprise conversion methods, techniques and factory Organizations can thrive or fail at this point should there be uncontrollable failure in the production process (Gabriel, 2017). Configuration and packaging (Gabriel, 2017).
- c) Finally, the outputs may include quality goods of different shapes Process Innovation begins with planning, facility layout, instructions and controlling to ensure standards are comply with.

2. Administrative Innovation

Administrative Innovation relates to management oriented processes such as structure, human resources management and accounting systems. According to Sola (2014) management innovation refers to innovation in management principles, corporate practices and processes that will eventually influence the practice of what managers do and how they do it. Such innovation could mean a fundamental shift in management philosophy and organizational goals and objectives that result in customer-focus approach to product manufacturing and distribution (Kotler, 2011). One could believe that this kind of innovation empowers the employees to be

innovative by integrating organizational structures, policies and human resources systems to foster and induce innovation. Udhas (2013) opined that empowerment of workers is the centerpiece of a human resources management system that foster continuous improvement of existing structures and innovation. Management can adopt a three-pronged strategies for innovation: Initiatives that will impact in the long term, quick wins and continuous incremental improvement on existing products (Damanpour, 1991). Multinational organizations are becoming learner in terms of structure even in the pace of wider spread to different parts of the world with the use of technology to be able get a large market. Technology has revolutionized business operations and enhances link-ups of organizations all over for commercial purposes. The traditional methods of administration and distribution of goods have been replaced with technology driven methods in this 21st century. Management innovation is a must for organizations to survive and compete favourably in the industry.

New Product Development

New Product Development is essential for the creation of products that satisfy needs of industrial customers and differentiate company among competition. The NPD process has specific character in case of industrial sector, taking into account the level of product personalization and possibilities of close cooperation with final client. The traditional sequentially executed new product development process, based on the concept, development, validation and manufacturing phases, has been outdone and the present most used and successful approach is the one that integrates stages and functions. The design of an industrial product is nowadays strictly integrated into the whole process of development and production of the item and there is no longer a sequential distinction between the different phases of concept, design and manufacture, as was common in the past. In majority of companies, product design is an element of the new product development as one of the different functional areas. The expertise of industrial designers can provide important support for the NPD team at most stages of development. The design function is integrated in the NPD. Thanks to IT technology, such as computer-aided design, engineering and manufacturing tools as well as advanced prototyping technology, it is possible to support product design from concept to detailed designs and ultimately manufacturing. Computer-aided technologies are presently used in most companies in new product development process. This aim of this article is to present the process of new product introduction on example of industrial sector in context of new product development concept.

Technology

In this age of digital evolution, technology plays a crucial role in skills development and innovative drive of organization. The word Innovation is derived from the Latin word 'innovare' which means to make something new or improve on something. Innovation literature has emanated from different fields of knowledge including management, psychology, economics, sociology and science. Within these and other disciplines, researchers tend to conceptualize innovation in different ways (Gopalakrishnan & Demanpour 1997; Tang 1998).

Innovation is the key to competitive advantage in a highly dynamic and turbulent business environment. The ability to innovate has direct consequences for the ability to compete as an organization. The values created by innovations are often manifested in new ways of doing things (processes) or new products and management structures that contribute to increase profitability of organizations (Chen & Sawhney, 2010).

Wallas (1996), described the process of a thought into 4 different stages that result in technology in some instances: preparation, incubation, illumination and verification.

- i) The preparation stage consists of analyzing the situation or problem in all directions; it is a step of self-conscious research, planning and brain storming. Therefore, it represents an accumulation of intellectual resources in order to solve a specific problem.
- ii) The incubation takes into consideration an unconscious state of mind where we are free

to every mental workout. Thereby, it allows our brain to assimilate different information in order to solve a problem. On one hand, it can create a positive effect whereby involuntary actions and the famous combinatory play of Albert Einstein takes place (Wallas, 1996).

The combinatory play consists of the assimilation of two complete different kinds of information in order to create something new. Other works can be related such as the theory of dissociation by Arthur Koestler, where he states that creativity is the combination of elements that do not ordinarily belong together. On the other hand, there exists a negative effect where we are not consciously focused on a specific problem.

iii) The illumination is a situation where the magic takes place based on the concept sudden illumination (Poincare, 1910).

This stage cannot be controlled and can last from one second to a couple of hours. This final flash is called by many the secret of the genius and study by other in order to have a higher control on every stage. There are many techniques of producing new ideas, as we can control the different processes in order to manufacture car so also we can control the processes to manufacture a new idea (Young, 1939).

iv) The final verification stage consists of a conscious effort to validate the information gathered by the unconscious work.

Wallas explain in his work that the information gathered in the previous stage represents only the guidelines of the real innovation or solution to the problem. Therefore, it needs to be consciously process and test in order to achieve an optimum solution. We are here talking about the In-action stage, where the idea needs to be verified and improved in order to put it into effect. As the mind is a complex tool, there exist many ways to simplify and explain the different processes that occur when creating a new idea. Every stage depends on other factors, and we need to consider every one of them in order to understand and thereby influence the control that have over them. Knowing the different stages in the development of a new idea, we can now consider the different inputs involved in the employees' job enrichment in order to develop a clear relationship between both concepts (Job enrichment & Innovation).

In view of the foregoing, it suffices to say that there is a strong relationship between job enrichment and innovation and productivity of employees in an organization. The level of job enrichment determines how innovative, effective and productive an employee can contribute to ' organizational goals. Apart from joining and staying in the organization, job enrichment leads to innovative behavior where employee goes beyond individual roles to collaborate with colleagues, make suggestions to improve the organization, and work collaboratively to improve the organization's standing in the external environment. Job enrichment assumes a critical precursor role to creativity and innovation at the workplace. Employees are enthusiastic about their work if given some level of autonomy and will often be fully immersed in their job resulting in creativity and innovation. Job enrichment and innovation are both intentional acts and are linked to tasks. Job enrichment has become an essential aspect in motivating employees for better and greater performance through a mutual sense for skill variety and autonomy.

Theoretical Review

There are a lot of researches about job enrichment and they followed two main paths, one is known as Herzberg theory which involves redesign the work to give the employee the chance to prove his achievements and ability to handle responsibility; and the second one focused on the work standards which is Hackman model for job characteristics.

a) **Herzberg Motivation Theory:** Known as the Two Factor Theory, it is one of the theories that tried to explain how to enrich a job. Herzberg thought that employees could be motivated by positive job-related experiences such as feelings of achievement, responsibility, and recognition. To this end, he advocated vertical job loading: not only adding more tasks to a job, as in horizontal loading, but also giving the employee more control over those tasks (Moorhead & Griffin &

Moorhead, 2014) Vertical job loading should enrich a job in six ways: Accountability. This is a situation where workers should be held responsible for their performance, Achievement. A situation workers should feel that they are doing something worthwhile. Feedback. Here, workers should receives direct and clear information about their performance. Work place. Should show the extent to which workers should be able to set their own work place. Control over resources. It shows the level in which workers should have control over the resources used in their jobs. And Personal growth and development. Here, workers should have the opportunity to learn new skills.

b) The Job Characteristics Model theory (JCM)

This study is based on the job characteristics theory developed by Hackman and Oldham (1976). An important view on factors affecting jobs and motivation is provided by Hackman and Oldham (1974) in the job characteristics model. Hackman and Oldham's framework distinguished live key components of a job that are useful in making jobs more satisfying for staff. Crucial elements of employments are specifically; skill variety, task identity, task significance, autonomy and feedback. This study is based on this model which is the lead model. The JCM model is one of the primary endeavors to configure occupations or jobs with expanded motivational properties. The model proposed by Hackman and Oldham (1975) portrays five center employment measurements prompting three basic mental states, bringing about business related results. The proximity of these five main occupation measurements drives workers to interact with three mental states. They see their work as significant, they feel responsible for the results of their job, and they achieve knowledge of outcomes.

Garg and Rastogi (2005) noted that, this theory was built on the previous knowledge and research from other theories such as Hierarchy of Need Theory, Expectancy Theory, and Frederick Herzberg Two-Factor Theory. According to Hackman and Oldham (1976), job enrichment is based on job characteristics that offer motivation, satisfaction, commitment, involvement and performance quality.

The theory assumed that the job itself should be designed to possess certain characteristics that create conditions for high work motivation, satisfaction, performance involvement and commitment. The theory identifies the tasks condition in which an employee is predicted to prosper in his work. Job characteristics theory provides management with the insight that employee effectiveness can be enhanced by enriching their jobs with high levels of key characteristics and ensuring that those employees with appropriate individual qualities are assigned to those jobs (Garg, 2006). Organizations exist primarily to achieve their goals and expand business operations/objectives in terms large market share, high profitability, competitive advantage and employees' satisfaction among others. The main reason for adopting the Job Characteristics theory is that, it posits clearly that jobs should be design in such a way that provide autonomy, robust feedback mechanism and opportunity for skills variety development that encourage and support organizational innovation. Skill variety, task identity, task significance autonomy and feedback will not have uniform effects.

According to Sandra, Raymond, John, Barry and Patrick (2012), the more of these characteristics a job has, the more motivating the job will be. The job characteristics model foresees that .a person with such a job will be highly satisfied and will produce more and better work, which is better performance. This model will be very useful in the study as it contains and explains the main independent variables in the study, which are skill variety, task identity, task significance, autonomy and feedback. Furthermore, the particular characteristics that should be subsume into the job design should able to create opportunities for work motivation, satisfaction, commitment and autonomy deploy individual skills and know-how that promotes organizational innovation.

c) Demand-Control Model (DCM): The Demand-Control Model considers the people in the working environment and considers the job environment as a fully one created by the people themselves and are able to change it to the best learning environment (Karasek, 1979, 2004; Karasek & Theorell, 1990). Jobs that have high demand and low control, which are also referred

to high stress jobs, are usually the most unpleasant for an employee in terms of employee wellbeing or wellness. Similarly, work that consists of less overwhelming demands as well as higher levels of control provide the situation for employees to have some freedom regarding how and when to deal with current and new challenges. Job demand control model is among the few theories that predict how workers' health and well-being problems can nevertheless be avoided by enhancing workers control. The philosophy of the demand control model has captured the attention of many researchers and has dominated empirical research on job pressure and wellbeing and on job redesign research over the past fifteen years (Cordery, de Jonge & Kompier, 2009).

The job demand control model was used to describe how job demands affect employees and the effect of achieving proper control on the job. The model demonstrates huge amounts of experimental power, that has encouraged large scholarly work in epidemiology and different paradigms of job control as a major one in the work stress literature (Ganster & Perrewe, 2011). Lately, job control has been considered as one of the many resources which protect the outcomes of demands that may consists of high work load and contrast on the employee wellbeing or even have beneficial effects (Ganster & Rosen, 2013).

Empirical Review

Hassan, (2012), carried out study on Impact of Job Enrichment on the employees' achievement motivation – Case Study of Government Services Bureaus – Mansora City. This study aimed to determine the impact of job enrichment on the employees' achievement motivation by applying it in the government services Bureaus of Mansora City. It also aimed to recognize the factors that affect the achievement motivation of the employees and the effect of the different aspects of job enrichment on it. It was found that there is a positive direct relationship between the job enrichment and the employees' achievement motivation, it also showed the different aspects of job enrichment affects the employees' achievement motivation but each one has a different level of impact.

Al Oteibi, (2009), carried out research on the impact of Applying the Concept of Job Enrichment on the Level of Job Satisfaction. Applied Study on the employees of Jeddah Governorate Municipality. The study aimed to figure out the impact of applying the concept of job enrichment with its five characteristics on the job satisfaction of employees working in Jeddah Governorate Municipality. The data was collected from a stratified sample of 304 employees. The study showed a positive relationship between each of the job enrichment characteristics and the job satisfaction. The research recommended re-studying and analyzing the nature of jobs in the governmental organizations in the aspects of job analysis and measuring to what extent the job enrichment characteristics are available in order to make them more enriched and encouraging to the employee which leads to increase to the level of their job satisfaction. In addition to that, it was mentioned that job enrichment requirements must be taken into consideration when having new jobs or new organizational structure.

Hayagna, (2008), conducted a study on the Role of Job Enrichment in Organizational Learning: A Field Study of the Jordanian Local and Private Health Sectors. The study aimed to recognize the role of job enrichment aspects on the practicing of organizational learning as a field study in the Jordanian local and private sectors and knowing the level of practicing these aspects. The researcher used the descriptive analytical approach and the questionnaire as a tool of collecting data from a sample of 327 people. The study showed the availability of a high level of the job enrichment aspects in the Jordanian health sector and that there is a positive connective relation between the job enrichment aspects individually or collectively and the organizational learning. The researcher recommended that working, preparing and training programs for the workers in the hospitals and set standards to choose and attract qualified workers. The hospitals should also care more and encourage innovation and adoption of new ideas and suggestions provided by workers.

Jaradat, (2008), carried out study on Job Enrichment and its relation to Job Satisfaction in Independent General Organizations in Jordan. The study aimed to identify the relationship between job enrichment factors (task variety, task identity, and feedback) and the job satisfaction in eight independent general organizations. The researcher used the descriptive analytical approach with a sample of 256 employees. The study showed a significant statistical relationship between the factors of job enrichment and the job satisfaction in the independent general organization in Jordan.

Neyshabor and Rashidi, (2013), They carried out investigation on the Relationship between Job Enrichment and Organizational Commitment. This research aimed to recognize the relationship between job enrichment and organizational commitment of the employees working in the Iranian industrial companies. The researcher used the descriptive analytical approach to collect data from a sample of 250 workers in 20 Iranian industrial companies.

RESEARCH METHODOLOGY

This study adopted a cross sectional survey design. The study adopted macro study, therefore, the population comprises 23 selected manufacturing firms in Rivers State and 10 management staff (respondents) from each manufacturing firms were selected with purposive sampling technique which total 230. The primary data was collected mainly through structured self-administered questionnaire titled "Job Enrichment and organizational Innovation. The questionnaire contained questions relating to the variables under study. Specifically, item 1 to 3 sought answers to research question one, item 4 to 6 sought answers to research question two, item 7 to 9 sought answers to research question three. Meanwhile, all the items were structured using the modified Likert 4 point scale of Strongly Agree (SA) =4-Points; Agree (A) 3 = points, Disagree (D)=2 points; and Strongly Disagree(SD)=1 point. The research instruments were validated by the research supervisor and other experts in the field of Office and Information Management (OIM) in order to ensure coherent clarity and internal consistency in line with best practices. The researcher used Cronbach alpha co-efficient method in measuring the reliability of the research instrument for the study which is a principal technique of testing reliability, The degree of reliability of the questionnaire was based on adoption of test-retest method. The data obtained were subjected to reliability test via Product Moment Correlation Coefficient arriving at 0.80 a coefficient considered reliable enough. Data collected were collated and subjected to statistical analysis. The researcher used mean and standard deviation to analyze the research questions and Spearman Rank Order Correlation Co-efficient statistical tool to test the hypotheses as to indicate whether or not there is significant relationship between skill variety and process innovation, autonomy and administrative innovation and if technology moderates job enrichment and organizational innovation in the selected manufacturing firms in Rivers State through the use of Statistical Package for Social Sciences (SPSS) version 23.

DATA PRESENTATION AND ANALYSIS

Research question 1: What is the relationship between Skill variety and Process innovation of selected manufacturing firms in Rivers State?

Table 4.1 Relationship between skill variety and process Innovation (n=230, Cut-off = 2.5).

s/n	Questionnaire Items on Skill variety	n	SA	A	D	SD	x/n	MEAN X	STD
		690					1927/690	2.79	1.67
1	Skill variety gives the opportunity to do a number of different jobs.	230	40(4) 160	104(3) 312	65(2) 130	21(1) 21	623/ 230	2.71	1.64

2	Skill variety affects a lot of people by how well their works are performed	230	18(4) 74	137(3) 411	45(2) 90	30(1) 30	605/ 230	2.63	1.62
3	Skills provide the opportunity for independent thought and actions	230	72(4) 288	117(3) 351	19(2) 38	22(1) 22	699/ 230	3.03	1.74
Questionnaire Item on Process Innovation		N					x/n	MEAN	STD
		690					2126/ 690	3.08	1.75
4	Process innovations establishes economic benefits that generate new products, implement and what ratio exist between those benefits and their costs	230	65(4) 260	112(3) 336	12(2) 24	41(1) 41	661/ 230	2.87	1.69
5	Process innovation is the implementation of a new or significantly improved production process, distribution method, or supporting activity.	230	79(4) 316	126(3) 378	19(2) 38	6(1) 6	738/ 230	3.21	1.79
6	Process innovations must be new to your enterprise, but they do not need to be new to your market.	230	112(4) 448	69(3) 207	23(2) 46	26(1) 26	727/ 230	3.16	1.78
Grand mean			M= 2.79 + 3.08 = 5.87/2 = 2.94					2.94	1.71
			Stdev=1.67+1.75=3.42/2= 1.71						

Source: Survey Data, (2022)

Table 4.1 shows that there is a consensus among the categories of respondents. All responses were above the criterion mean of 2.5 on the items of **skill variety** with a total mean and standard deviation (**M=2.79, Stdev=1.67**) for all its three items. The highest mean rating shows that Skills variety provide the opportunity for independent thought and actions with (**M=3.03, Stdev=1.74**), followed by skill variety gives the opportunity to do a number of different jobs with (**M=2.71, Stdev=1.64**) and lastly that skill variety affects a lot of people by how well their works are performed with (**M=2.63, stdev=1.64**).

Again, all responses were above the criterion mean of 2.5 on the items of **process innovation** with a total mean and standard deviation (**M=3.08, Stdev=1.75**) for all its three items. The highest mean rating shows that process innovation is the implementation of a new or significantly improved production process, distribution method, or supporting activity with (**M=3.21, Stdev=1.79**), followed by Process innovations must be new to your enterprise, but they do not need to be new to your market with (**M=3.16, Stdev=1.78**) and lastly that process innovations establishes economic benefits that generate new products, implement and what ratio exist between those benefits and their costs with (**M=2.87, Stdev=1.69**). Therefore, a grand mean and standard deviation (**M=2.94, Stdev=1.71**) for both **Skill Variety and Process Innovation** which is above the criterion mean of 2.5 was an indication of positive responses. Hence, Skill Variety has moderate relationship with Process Innovation in the selected manufacturing firms in Rivers State.

Research question 2: What is the relationship between Autonomy and Administrative Innovation of selected Manufacturing Firms in Rivers State?

Table 4.2 Relationship between Autonomy and Administrative Innovation (n=230, Cut-off = 2.5).

Questionnaire Item on Autonomy	N	SA 4	A 3	D 2	SD 1	x/n	MEAN X	STD
	690					1959/	2.84	1.69

							690			
7	Autonomy gives the opportunity and arranged so that I may see projects through to their final completion.	230	19(4) 76	145(3) 435	39(2) 78	27(1) 27	616/ 230	2.68	1.63	
8	Autonomy gives considerable opportunity for independence and freedom in how I do my work.	230	63(4) 252	93(3) 279	48(2) 96	26(1) 26	653/230	2.84	1.69	
9	Autonomy provides me with the feeling that I know whether I am performing well or poorly.	230	50(4) 200	144(3) 432	22(2) 44	14(1) 14	690/230	3.00	1.73	
Questionnaire Items on Administrative Innovation		N	SA 4	A 3	D 2	SD 1	x/n	MEAN	STD	
							690	X		
							2,051/ 690	2.97	1.72	
10	Administrative Innovation can be the generation of a new product, of a new service, new technology.	230	51(4) 204	90(3) 270	62(2) 124	27(1) 27	625/230	2.7	1.64	
11	Administrative Innovation develop strong financial integration with performance management	230	136(4)) 554	49(3) 147	24(2) 48	21(1) 21	770/230	3.35	1.83	
12	Administrative Innovation should be quarterly revised to redirect resources at frequent intervals.	230	51(4) 204	129(3) 387	15(2) 30	35(1) 35	656/230	2.85	1.69	
Grand mean		M = 2.84 + 2.97 = 5.81/2 = 2.91							2.91	1.71
		Stdev = 1.69 + 1.72 = 3.72/2 = 1.71								

Source; Source; Survey Data 2022

Table 4.2 shows that there is a consensus among the categories of respondents. All responses were above the criterion mean of 2.5 on the items of **Autonomy** with a total mean and standard deviation (M=2.84, Stdev=1.68) for all its three items. The highest mean rating shows that Autonomy provides me with the feeling that I know whether I am performing well or poorly with (M=3.00, Stdev=1.73), followed by Autonomy gives considerable opportunity for independence and freedom in how I do my work with (M=2.84, Stdev=1.69) and lastly that Autonomy gives the opportunity and arranged so that I may see projects through to their final completion with (M=2.68, stdev=1.63).

Again, all responses were above the criterion mean of 2.5 on the items of **Administrative Innovation** with a total mean and standard deviation (M=2.97, Stdev=1.72) for all its three items. The highest mean rating shows that Administrative Innovation develop strong financial integration with performance management with (M=3.35, Stdev= 1.83), followed by Administrative Innovation should be quarterly revised to redirect resources at frequent intervals with (M=2.85, Stdev=1.69) and lastly that Administrative Innovation can be the generation of a new product, of a new service, new technology with (M=2.7, Stdev=1.64). Therefore, a grand mean and standard deviation (M=2.91, Stdev=1.7) for both **Autonomy and Administrative Innovation** which is above the criterion mean of 2.5 was an indication of positive responses. Hence, Autonomy has moderate relationship with Administrative Innovation in the selected manufacturing firms in Rivers State.

Research question 3: How does Technology moderate Job Enrichment and Organizational Innovation of selected Manufacturing Firms in Rivers State?

Table 4.3 How Technology moderates Job Enrichment and Organizational Innovation

(n=230, Cut-off 2.5)

	Questionnaire Items on Technology	N	SA 4	A 3	D 2	SD 1	x/n	MEAN X	STD
		690					1868/ 690	2.71	1.65
13	Effectiveness through economic indicators have increase due to technological process innovation	230	56(4) 224	107(3) 321	25(2) 50	42(1) 42	637/2 30	2.77	1.66
14	The organization uses technology to achieve its objectives	230	33(4) 132	108(3) 324	55(2) 110	34(1) 34	600/2 30	2.61	1.62
15	The manufacturing firms uses technology to improve communication within their team	230	55(4) 220	94(3) 282	48(2) 96	33(1) 33	631/2 30	2.74	1.67

	Item on Job Enrichment	N					x/n	MEAN X	STD
		690					2,367/ 690	3.43	1.84
16	Job enrichment is a top priority because it's critical to organizational success.	230	70(4) 560	100(3) 300	40(2) 80	20(1) 20	960/230	4.17	2.04
17	An organization's expected innovation, experiences, philosophy, as well as the values that guide member behavior, and is expressed in member self-image, inner workings, interactions with the outside world, and future expectations	230	67(4) 268	108(3) 324	46(2) 92	9(1) 9	693/230	3.01	1.73
18	Job enrichment stress employee behavioral components, and how organizational innovation directly influences the behaviors of employees within an organization..	230	90(4) 360	82(3) 246	50(2) 100	8(1) 8	714/230	3.10	1.76
	Item on Organizational Innovation		SA 4	A 3	D 2	SD 1	x/n	MEAN X	STD
		690					2,142/ 690	3.10	1.76
19	My organizational innovation improve its products, processes and administrative philosophy and practices in order to gain competitive edge over others	230	104(4) 416	60(3) 180	34(2) 68	32(1) 32	696/230	3.03	1.74
20	My organizational innovation embraces innovation to succeed and thriving innovation is critical in achieving competitive advantages	230	96(4) 384	90(3) 270	20(2) 40	24(1) 24	715/230	3.11	1.76
21	Without organizational innovation, my organization will fail to create the conditions for sustainable growth	230	101(4) 404	79(3) 237	40(2) 80	10(1) 10	731/230	3.18	1.78

Grand mean	$M=2.71 + 3.43 + 3.10 = 9.24/3 = 3.08$ $Stdev = 1.65 + 1.84 + 1.76$ $= 5.25/3 = 1.75$	3.08	1.75
------------	---	------	------

Source; Survey Data 2022

Table 4.3 shows that there is a consensus among the categories of respondents. All responses were above the criterion mean of 2.5 on the items of Technology with a total mean and standard deviation (**M=2.71, Stdev=1.65**) for all its three items. The highest mean rating shows that Effectiveness through economic indicators have increased due to technological process innovation with (**M=2.77, Stdev=1.66**), followed by The manufacturing firms uses technology to improve communication within their team with (**M=2.74, Stdev=1.67**) and lastly that manufacturing firms uses technology to achieve its objectives with (**M=2.61, Stdev=1.62**).

Again, all responses were above the criterion mean of 2.5 on the items of Job Enrichment with a total mean and standard deviation (**M=3.43, Stdev=1.84**) for all its three items. The highest mean rating shows that Job enrichment is a top priority because it's critical to organizational success with (**M=4.17, Stdev= 2.04**), followed by Job enrichment stress employee behavioral components, and how organizational innovation directly influences the behaviors of employees within an organization with (**M=3.10, Stdev=1.76**) and lastly that organizations expected innovation, experiences, philosophy, as well as the values that guide member behavior, and is expressed in member self-image, inner workings, interactions with the outside world, and future expectations with (**M=3.01, Stdev=1.73**).

Also, all responses were above the criterion mean of 2.5 on the items of **Organizational Innovation** with a total mean and standard deviation (**M=3.10, Stdev=1.76**) for all its three items. The highest mean rating shows that without organizational innovation my organization will fail to create the conditions for sustainable growth with (**M=3.18, Stdev=1.78**), followed by my organizational innovation embraces innovation to succeed and thriving innovation is critical in achieving competitive advantages with (**M=3.11, Stdev=1.76**) and lastly that my organizational innovation improve its products, processes and administrative philosophy and practices in order to gain competitive edge over others with (**M=3.03, Stdev=1.74**).

Therefore, a grand mean and standard deviation (**M=3.08, Stdev=1.75**) for how Technology moderates Job Enrichment and Organizational Innovation which is above the criterion mean of 2.5 was an indication of positive responses. Hence, Technology significantly moderates Job Enrichment and Organizational Innovation in the selected manufacturing firms in Rivers State.

Testing of Research Hypotheses

Ho₁: There is no significant relationship between Skill Variety and Process Innovation of Manufacturing Firms in Rivers State.

Table 4.4: Correlation analysis showing the relationship between Skill Variety and Process Innovation of selected Manufacturing Firms in Rivers State.

Correlations

	SK	PI
Spearman's rho	1.000	-.381**
SK		
Correlation Coefficient		
Sig. (2-tailed)	.	.000
N	230	230
PI		
Correlation Coefficient	-.381**	1.000
Sig. (2-tailed)	.000	.

N	230	230
---	-----	-----

** . Correlation is significant at the 0.01 level (2-tailed).

Source; SPSS Output Data 2022

Table 4.4above shows correlation of the relationship between Skill Variety and Process Innovation of Manufacturing Firms in Rivers State, which shows a positive and significant relationship (p-value= 0.38). We reject the null hypothesis and therefore accept the alternate that says "there is a significant relationship between Skill Variety and Process Innovation of Manufacturing Firms in Rivers State.

H0₂: There is no significant relationship between Autonomy and Administrative Innovation of Manufacturing Firms in Rivers State.

Table 4.5: Correlation analysis showing the relationship between Autonomy and Administrative Innovation of Manufacturing Firms in Rivers State.

Correlations

			AT	AI
Spearman's rho	AT	Correlation Coefficient	1.000	.041
		Sig. (2-tailed)	.	.005
		N	230	230
	AI	Correlation Coefficient	.041	1.000
		Sig. (2-tailed)	.005	.
		N	230	230

** . Correlation is significant at the 0.01 level (2-tailed).

Source; SPSS Output Data 2022

Table 4.5above shows correlation analysis showing the relationship between Autonomy and Administrative Innovation of Manufacturing Firms in Rivers State. Which shows a positive and significant relationship (p-value= 0.041). We therefore, reject the null hypothesis and accept the alternate that said "there is a significant relationship between autonomy and administrative innovation of manufacturing firms in Rivers State.

H0₃: Technology does not significantly moderate the relationship between Job Enrichment and Organizational Innovation of selected Manufacturing Firms in Rivers State.

Table 4.6: Correlation analysis showing how Technology significantly moderate the relationship between Job Enrichment and Organizational Innovation of Manufacturing Firms in Rivers State.

Correlations

			JE	OI
Spearman's rho	JE	Correlation Coefficient	1.000	.244**
		Sig. (2-tailed)	.	.000
		N	230	230
	OI	Correlation Coefficient	.244**	1.000
		Sig. (2-tailed)	.000	.
		N	230	230

** . Correlation is significant at the 0.01 level (2-tailed).

Source; SPSS Output Data 2022

Table 4.6 shows Correlation on how Technology significantly moderate the relationship between Job Enrichment and Organizational Innovation of Manufacturing Firms in Rivers State. Which shows a positive and significant relationship (p-value= 0.244). We reject the null hypothesis and accept the alternate which said that "there is a moderate relationship between job enrichment and organizational innovation of manufacturing firms in Rivers State.

Discussion of Findings

Skill Variety and Process Innovation of Manufacturing Firms in Rivers State

The result shows a positive and significant relationship (p-value= 0.38). We reject the null hypothesis and therefore concluded that "there is a significant relationship between skill variety and process innovation of manufacturing firms in Rivers State. Which is in line with the ascertain of Bratton (2007), when a variety of skills are essential to complete a task and those skills are perceived to be of value to the organization, employees find their jobs to be more meaningful. The idea behind providing skill variety in job design is that it will reduce boredom, thereby increasing job satisfaction and motivation. It has been proven that one-skill jobs that lead to repetition and monotony could bring about boredom, fatigue and stress that may negatively affect performance and productivity.

Autonomy and Administrative Innovation of Manufacturing Firms in Rivers State.

The finding shows a positive and significant relationship (p-value= 0.041). We reject the null hypothesis and therefore concluded that "there is a significant relationship between autonomy and administrative innovation of manufacturing firms in Rivers State. According to Krause (2004) investigated whether leaders can influence the innovation process by granting their subordinates freedom and autonomy. She found that granting freedom and autonomy was positively related to various types of innovative behavior, including the generation, testing, and implementation of ideas.

How does Technology Significantly Moderate the Relationship Job Enrichment and Organizational Innovation of Manufacturing Firms in Rivers State?

The finding shows a positive and significant relationship (p-value= 0.244). We reject the null hypothesis and therefore concluded that "technology significantly moderate the relationship between job enrichment and organizational innovation of manufacturing firms in Rivers State. In line with (Hassan, 2012) this study determined the impact of job enrichment on the employees' achievement motivation by applying it in the government services Bureaus of Mansora City. It also aimed to recognize the factors that affect the achievement motivation of the employees and the effect of the different aspects of job enrichment on it. It was found that there is a positive direct relation between the job enrichment and the employees' achievement motivation, it also showed that the different aspects of job enrichment affects the employees' achievement motivation but each one has a different level of impact.

CONCLUSIONS

The study concluded that the effects of job enrichment on organizational innovation enhances programs that promote job enrichment, incentives that improves employee's standards and aspects of organizational innovation as well enhances organizational success. Job enrichment and organizational innovation is a stronger; dexterity, respect among employees, fairness, caring and objectivity that manifest to the highest extent. nonprofit organization were able to access much more donor funding and have good reputation in the public and that strengthen bond with country government, Job enrichment analyzed the various assumptions inherent in the job enrichment approach, along with the ramifications and utility of employing it in work organizations. There is

interdependence between job enrichment, job enlargement, employees' satisfaction and employee's performance. Job enrichment and job enlargement made the employees' feel that the organization actually owns them and thus improved their performance.

RECOMMENDATIONS

The study recommends that:

1. Since skill variety and process innovation is significant and positive, the employees in the selected manufacturing firms should fully embrace and give more attention to skill variety system and process innovation.
2. The selected manufacturing firms should set up a special unit and departments to ascertain on a regular basis the establishment of employee autonomy that enhances administrative innovation.
3. The administrative head of the selected manufacturing firms should embrace modern technologies that improves job enrichment and organizational innovation programs also implement feedback mechanisms to achieve a transparency in quality of service.

REFERENCES

- Amabile, T. M. (1998). How to kill creativity. *Harvard Business Review*, 76, 77-89.
- Anderson, N., De Dreu, C.K.W. & Nijstad, B. (2004) "The routinization of innovation research: A constructively critical review of the state-of-the-science", *Journal of organizational behavior*, 25, 147-173.
- Andrews, H. & Farris, K. (1967). Workers and flexible manufacturing systems: Three installations compared. *Journal of Organizational Behaviour*, 12, 447-460.
- Balkin, F. (2012). Impact of job design on employee performance, mediating Role of job satisfaction: *International journal of business and management*; 2(9).
- Beatty, J.O., & Schneier, O.L. (1981). Regulatory focus theory: Implications for the study of emotions at work. *Organizational behavior and Human decision Processes*, 86(1), 35-66
- Benjamin, K. (2012). Uncertainty during organizational change: managing perceptions through communication. *A Journal Change Management*, 7(2), 36-48.
- Berg, J.M., Dutton, J.E. & Wrzesniewski, A. (2013). "Job crafting and meaningful work", in Dik, B.J., Byrne, Z.S. & Steger, M.F. (Eds.), Purpose and meaning in the workplace, *American Psychological Association*, DC, 81-104.
- Birkinshaw, U. (1997). Making a good decision: Value from fit, *American Psychologist*, 55(11), 1217-1230.
- Bratton, J. (2007). *Work and organizational behavior*. New York: Paul Grave MacMillan Publishers
- Breaugh, A. (1985). Job enrichment and motivation. *Education + training*, 19(10), 295-300.
- Brown, E (2004). Does employee satisfaction matter? A study to determine whether low employee morale affects customer satisfaction and profits in the business-to-business sector. *Journal of Communication Management*, 7(4), 333-339.

- Chen, J. & M. Sawhney (2010). *A Systemic View of Innovation: The Innovation Radar*. American Marketing Association Conference 2010, Boston MA.
- Cordery, J.L., De Jonge, W.S., & Kompier, L.M. (2009). Attitudinal and behavioural effects autonomous group working: A longitudinal field study. *Academy of Management Journal*, 34, 464-476
- Cropanzano, R., Prehar, C.A. & Chen, P.Y. (2002). "Using social exchange theory to distinguish procedural from interactional justice", *group & organization management*, 27(3), 324-351.
- Damanpour, H.F. (1991). Retirement as a voluntary organizational withdrawal behavior. *Journal of vocational behavior*, 37, 60-78.
- Dessler, G (2013). *Human resource management*, 13th edition. Prentice Hall.
- Dodd, N. G., & Ganster, D. C. (1996). The interaction effects of variety, autonomy, and feedback on attitudes and performance. *Journal of Organizational Behavior*, 17(4), 329- 347.
- Feldman, D. C., & David, C. T. (2012). Career Man- agreement issues facing expatriates. *Journal of international business studies, second quarter*, 2(1), 271–293
- Frischen, T.O. (1993). The proactive employee: Managing workplace initiative. *Academy of Management Executive*, 14(3), 52-66.
- Gabriel, H.D. (2017). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293-315.
- Ganster, D.C., & Perewe, P.L. (2011). Theories of occupational stress. In Quick, J.C., Tetrick, L.E. (Eds.). *Handbook of occupational health psychology* (2nd ed.): Washington. D.C: *American Psychological Association*, 37-53.
- Ganster, D.C., & Rosen, G. (2013). Comparing group and individual level assessments of job characteristics in testing the job demand-control model: A multilevel approach *Hunan Relations*, 52, 95-122.
- Garg, P., & Rastogi, R. (2005). New model of job design: motivating employees' performance. *The Journal of Management Development*, 25(6), 572-587.
- Garg. P., & Rastogi, R. (2006). An empirical investigation of two-factor theory. *Journal of Allied Psychology*, 1, 24-27.
- Gopalakrishman, E. & Demanpour, A. S (1997). Leveraging employee engagement for competitive advantage: HR's strategic role. *HR Magazine*, 52 (3) 1-11.
- Griffen, R., & Moorhead, G. (2014). *Organizational behavior. Managing people and organizations* 11th edition. South-Western College Publication.
- Haagna, A. (2008). The role of job enrichment in organization learning: A field study of the Jordanian local and private health sectors, Master degree thesis. Al Yarmook University-Jordan.

- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic Survey. *Journal of Applied Psychology*, 60(2), 159- 170.
- Hackman, J.R. & Oldham, G.R. (1980). Work redesign, addison-wesley, Reading, MA.
- Hackman, J. R., & Oldham, G. R. (1974). *The job diagnostic survey*. An instrument for the diagnosis of jobs and the evaluation of job redesign projects. Department of Administrative Sciences: Yale university Hackman.
- Hackman, J. R., & Oldham, G. R. (1976). Motivation through the design of work: Test of a theory. *Organizational Behaviour and Human Performance*, 16(2), 250-279.
- Hassan, H. (2012). *The impact of job enrichment on the employees' achievement motivation – Case Study: Government services bureaus – Mansora City*. Master thesis. University of Tanta-Egypt.
- Herzberg, Frederick. "One more time: How do you motivate employees?" *Harvard Business Review*, 4, 53-63.
- Humphrey, S.E., Nahrgang, J.D. & Morgeson, F.P. (2007). "Integrating motivational, social, and contextual work design features: A meta-analytic summary and theoretical extension of the work design literature", *Journal of Applied Psychology*, 92(5), 1332-1356.
- Jaradat, A. (2008). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.
- Kaplan, H.R., Tausky, C. & Bolaria, B.S. (1969). *Job enrichment*. *Personnel Journal* .48 (10), 791-798
- Kotler, P. (2011). Marketing management (4th ed.): London; Pearson education limited
- Kraimer, J., Seibert, G.T., Liden, R.E. (1999). Retirement as a voluntary organizational withdrawal behavior. *Journal of vocational behavior*, 37, 60-78.
- Kraimer, V.C., Seibert, F. W & Liden, P. (1999). Job enrichment in organizational citizenship behavior. *Journal of Indian Management*, 10(2), 106-112.
- Krause, O.M. (2007), "Work satisfaction, organizational commitment and withdrawal behaviours", *Management research news*, 30(10). 708-723.
- Lake, D.E., & Mouton, I.K. (1994). A review and evaluation of the psychometric properties of the Job Diagnostic Survey. *Personnel Psychology*, 43, 467–497.
- Laura H., Derek, T. (2000). *Human resource management-The inside out*, (4th/ed). London, England: Prentice hall publisher
- Leach, D. & Wall, T. (2004.). What is job design?. Retrieved February 10, 2004
- Magali, N. (2014). Effect of job enrichment on employee motivation in selected private universities in South-West Nigeria. *Journal of arts, science & commerce*, 6(2), 67-75.

- Moeller, S., & Fitzgerald, C. (2009). Customized job enrichment and its effect on job performance. Dissertation.com
- Neyshabor, A. & Rashidi, P.(2013). An investigation of the relations between job enrichment and organizational commitment. *International Journal of Research in Organizational Behaviour and Human Resource management*, 1(3), 57-65.
- Noefe, O.B., Cooper, C.L., Sanches, J.I., O'Driscoll, M. & Sparks, K. (2009). Locus of control and well-being at work: how generalizable are western findings?" *Academy of management journal*, 45, 453-466
- Noefer, K., Stegmaier, R., Molter, B. & Sonntag, K. (2009) "A great many things and note a minute to spare: Can feedback from supervisors moderate in relationship between skill variety, time pressure, and employees innovative behaviour", *Creativity research journal*, 21, (4) 384–393.
- Norman, K.S. (2006). Personality and the perception of transformational leadership: The impact of extraversion, neuroticism, personal need for structure, and occupational self-efficacy. *Journal of Applied Social Psychology*, 36, 708-741.
- Nwoku, H. O., Chiamaka, J. O., & Tochukwu, O. M. (2013). Job characteristics as predictors of organizational commitment among private sector workers. *International journal of asian social science*, 3(2), 482-491.
- Patterson, F., Kerrin, M., Gatto-Roissard, G. & Coan, P. (2009) Everyday innovation: How to enhance innovative working in employees and organizations. NESTA, London.
- Pentland, B., T. (2003). Sequential variety in work processes author. *Reviewed work(s) Organization Science*, 14(5), 528–540.
- Poincare, F.V. (1910). The impact of job enrichment and job enlargement on employee satisfaction keeping employee performance as intervening variable: A correlational study from Pakistan. *Arabian Journal of business and management review*, 1(9).
- Ren, R., Simmons, A.L., Barsky, A., See, K.E. & Gogus, C.I. (2018). "It's not my job: Compensatory effects of procedural justice and goal setting on proactive preventive behavior", *Journal of Management & Organization*.10.(1).69
- Sandra, J., Raymond, K. John, J.U., Barry, F. & Patrick, D. (2012). Incentive pay and firm performance moderating roles of procedural justice climate and environmental turbulence. *Human Resource Management*, 57(2), 287-305.
- Sim, Y.T., Szilagi, M.B., & Keller, H/G., (1976). Perceived organizational support: Reducing the negative influence of co-worker withdrawal behavior. *Academy of Management Journal*, 34, 55- 68.
- Sola, B.E. (2014). Shaping tasks and relationships at work: Examining the antecedents and consequences of employee job crafting, unpublished doctoral dissertation, university of pittsburgh

- Tang, I.S. (1998). *New patterns of Management*. New York: McGraw-Hill.
- Udhas, H. (2013). The effect of job characteristics and working conditions on job performance. *International journal of industrial ergonomics*, 37, 515-523.
- Van Der Merwe, T. W. & Miller, D.M. (1986). *Performance improvement interventions: Enhancing people, processes and organization through performance technology*. Mumbai: jaico publishing house.
- Wallas, S. (1996). *The strategic development of talent*. Human resource development press. Massachusetts.
- Walsh, B. (1974). A practical approach to job enrichment. *Industrial and commercial training*, 6 (4), 185-187
- West, U., & Wallace, F. (1982). Goal setting as a means of increasing motivation. *Journal of Applied Psychology*, 51, 274-277.
- Woodman RW, Sawyer JE, & Griffin RW (1993) Toward a theory of organizational creativity. *Acad Manag Rev* 18:293–321
- Wrezesniewski, A. & Dutton, J. E. (2001). Crafting a job: Revisioning employees as active crafters of their work. *Academy of management review*, 26(2), 179-201.
- Young, T.B. (1939). *Work and organizational behavior*. New York and organizational behavior. New York: Paul Grace MacMillan Publishers.