

Automation, Artificial Intelligence and Robotics: Impact on Employment

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Abstract: The study examined the impact of automation on employment and work using Interswitch Nigeria Limited as case study. The study focused on job enhancement, job performance, Upskilling, and wages and benefits as components of employment and work and the effects of automation. The study adopted survey research design and 262 employees were randomly selected. Data were collected using a structured close ended questionnaire. The questionnaire was used to get the view of the employees on how automation affect employment and work in the areas of job performance, job enhancement, upskilling and wages and benefits. Four research hypotheses were formulated and tested in the study. The hypotheses were tested using Pearson's correlation with the aid of Statistical Package for Social Sciences (SPSS). The results indicated that there is positive and significant relationship between both automations job performance, job enhancement, upskilling and wages and benefits. Based on this finding, organizations should improve on the use of automation in increasing performance, upskilling employees and enhancing them on the job. However, organisation should consider the displacement of employees when deploying automation as it leads to job loss.

Keywords: Automation, Job performance, Upskilling, Job enhancement, Job displacement, Wages and benefit

1.1 Introduction

In the ere where businesses are beginning to embrace technologies such as artificial intelligence, robotics, and automation likewise, the advent of the Covid-19 pandemic forced companies around the world in the year 2020 and early 2021 to work remotely. The pandemic disrupted labour markets globally during 2020 which caused short-term consequences that were sudden and often severe as millions of people were furloughed or lost jobs, and others have quickly adjusted to working from home as offices closed. Susan, Anu, James, Sven, Kweilin, & Oliva (2021). These caused a shift in the traditional business model with rising competition both in local and global business environments resulting in modern firms adopting various approaches to remain productive, competitive, and retain market share. A replacement trend of technologies such as Automation, Robotics, and Artificial intelligence is promising further revolutions in production, forecasting, customer service, and more (Makridakis, 2017).

Recent changes in robotics and AI have put us on the purpose of a replacement automation age. Robots and other machines can't only perform a variety of routine physical work activities better and more cost effectively than humans, but they're also gradually capable of accomplishing activities that include reasoning capabilities once considered complex to automate successfully, like sensing emotion, making tacit and informed judgments. James, Michael, Mehdi, Jacques, Katy, George, Paul, & Martin (2017). Machine learning has made it possible. Machine learning has made it possible.

Industrial robotics and artificial intelligence (AI) have in the last few years progressively deployed in production and service activities, leading to the automation of many tasks that were previously carried out by people, and that can now be performed by smart machines Henrik S & Fulvio C (2020). The increasing adoption of automation technologies changes the nature and character of work employees perform Webster & Ivanov (2020). Also, this led to unprecedented growth in some businesses whose processes and activities were already automated and altered in the process model. The adoption of automation is probably one among the tools for productivity enhancement and cost-saving, which has been under-explored. Modern automation takes the form of business process automation, computerized production facilities installation, material handling equipment, and automatic storage and retrieval systems. The Artificial Intelligence revolution is promising with greater improvements in productivity and expansion in wealth (Makridakis, 2017). Automation requires high capital investments with an expectation to enhance productivity, reduce rework, lead time, and cost, streamline labor-intensive, and enhance in-process inventory. The importance of automation and technologies can't be overstated as companies have witnessed a large transformation over the years. Technologies capable of automation are summarized within the acronym STARA (Smart Technology, Artificial Intelligence, Robotics, and Algorithms) by Brougham & Haar (2018). This also has caused a shift in the way people work. the industrial revolution considerably increased the standards of living while the digital one maintained such a rise and shifted employment patterns, resulting in more interesting and comfy

office jobs (Makridakis, 2017). this is can be often also noted within the service sector. The service sector also will witness considerable realignments as many roles are becoming to be eliminated and new ones are created (Makridakis, 2017). However, the cost–benefit realisation or return on investment on these kinds of technology makes it difficult to give some thought to the continuation of human employees in some roles Brougham & Haar (2018). Companies round the world incorporate automation in their business process driven by their explore for greater productivity, competitiveness, profitability, and lower dependency on scarce human talent. Companies invest heavily in automation technologies, thus replacing a number of their employees for automation technologies Ivanov, Kuyumdzhiev, Webster (2020). However, employees may even see automation as means to eliminate their jobs. The problems like the workplace dynamics which will follow such deployment of technologies and the way workers might consent or resist, remain unsolved Lammi (2021). This successively may end up in fears among employees. The fears from the result of using robots (automation) reached far end as apocalyptic, resembling the biblical Apocalypse or the tip of the planet Fiaidhi, Mohammed, & Mohammed (2018). The impact it also has on how employees work and the level of their satisfaction. When automation and industrial robots are deployed by firms, some workers are displaced and become unemployed. Workers that aren't directly laid low with by automation now may however fear that these new technologies deployment might replace their work in the long term. This fear of a possible future job replacement is critical because it negatively affects workers' current level job performance and satisfaction. Henrik S & Fulvio C (2020). Automation truly will displace some workers within organisation, but the technological change also produces demand for labour. While automation increases productivity and thereby causes unemployment, there are countervailing effects like increasing product demand, local demand spill overs, increasing demand for brand spanking new skills or perhaps new jobs required for brand new products and services Vermeulen, Kesselhut, Pyka & Saviotti (2018)

1.2 Statement of the problem

Aside fear of automation reliance, job loss due to the adoption of automation is another challenge peculiar to the exercise. The fear of automation comes majorly from perceptions of jobs loss to automation also DeCanio (2016) shows that the adoption and implementation of automation would decrease wages of employees due to the substitution effect. If people know for sure that automation is not substituting human employees, but in contrast, enhancing them, they would not fear automation nor restrain from the implementation and perhaps embrace it find a tool to realise greater personal economic wellbeing and higher productivity.

The deployment of automation or industrial robotic makes some work become irrelevant within the organisation there by the fears of automation in its earlier waves were largely based upon the replacement of human labour with repetitive tasks, the tasks automated under this wave of automation places

greater responsibility upon human and leaves the human with little support to attend to the remaining tasks relegated to humans Strauch (2017). The adoption of automation affects majority of workers and perhaps create a future with structurally significant levels of unemployment, stagnating median wages, and growing income inequality Vermeulen, Kesselhut, Pyka & Saviotti (2018). With this in mind of workers would create fear about their job security. So, while early position was largely out of fear of losing jobs, this resistance to automation also can be influenced by concerns regarding creating difficult and sophisticated situations for humans. Worker resistance to automation could even be partly based upon resistance to an increasingly complex workplace, since many workplace processes that are not easily automated are getting to be left within the hands of the human who is typically not given adequate support to handle such tasks. Automation implementation is relatively new in Nigeria and there has been little study about the impact on employment and work. To this end, this study intends to examine the impact of automation on employment and job performance off staffs of Interswitch, Nigeria

1.3 Objectives of the study

The study's main objective is to investigate the impact of automation on employment and work of staffs of Interswitch, Nigeria. Therefore, the precise objectives of the study are to:

- i. Ascertain the depth of human job substitution for automation in Interswitch, Nigeria.
- ii. Identify job enhancement ability of existing automation among staff of Interswitch
- iii. Determine the impact of current automation on wages and benefits of employees
- iv. Determine the impact of current automation on job performance in Interswitch, Nigeria

1.4 Research questions

The following research questions are relevant to the study:

- i. What is the relationship between automation and job displacement?
- ii. What is the relationship between automation and its ability job enhancement?
- iii. What is the relationship between automation on employees' wages and benefits?
- iv. What is the relationship between automation and job performance?

1.5 Research hypotheses

Hypothesis I

H₀: There is no significant positive relationship between automation and job displacement.

Hypothesis II

H₀: There is no significant positive relationship between automation and Job enhancement.

Hypothesis III

H₀: There is no significant positive relationship between automation on employees' wages and benefits.

Hypothesis IV

[1] H_0 : There is no significant positive relationship between automation and job performance.

2.0 LITERATURE REVIEW

This chapter discusses the theoretical framework, which is the concept underpinning and structure of a research study's theory. Furthermore, this theoretical framework defines and provides the theory that attempts to explain what occurs. The chapter also discusses the conceptual framework, which describes the researcher's perspective on how the specific variables in this study relate to one another, as well as specifies and maps out the relevant variables for this study. Additionally, it includes an empirical review, which is a summary of previous research on the area of interest. Additionally, the objective of the empirical review is to identify gaps in the literature and to establish the theoretical foundation for the research.

2.1 Theoretical Framework

The theories used in the research include technology acceptance theory and Schumpeter's Theory; each of these ideas offers support and a detailed understanding of the concepts and variables. Automation, Work displacement, wages and benefits, job performance, and job enhancement.

2.1.1 Technology Acceptance Theory

Davis (1989) created the Technology Acceptance Model (TAM) from the Theory of Reasoned Action (TRA). According to Ajzen and Fishbein's (1980) Theory of Reasoned Action, beliefs influence attitude and social norms, which construct a behavioral intention, influencing or even dictating an individual's subsequent action.

Intention is the mental representation of a person's willingness to engage in a particular behavior, and it is seen as the immediate antecedent of behavior.

Intention is conceptualized in TRA as two distinct constructs: (a) attitude toward behavior and (b) subjective norm linked with that behavior. The attitude toward the conduct is a person's previous attitude about the behavior. It implies that individuals should consider their actions and the possible consequences of their actions before deciding whether or not to engage in a particular conduct. According to this theory, an individual's desire to execute or not perform a certain behavior is the immediate determinant of action, whereas attitude is determined by the individual's beliefs and judgment of behavioral outcomes. Thus, an individual who is convinced that the performance of a specific conduct will result in beneficial consequences would have favorable attitudes toward that behavior. By contrast, if a person is convinced that a specific conduct will result in a negative consequence, unfavorable attitudes against that behavior will develop.

Subjective norm (SN) refers to the societal pressure placed on an individual or decision maker to perform a behavior. SN expresses an individual's perspective of how other people feel about his or her behavior (Leach, et al., 1994). What other persons or groups will think, agree or disagree with a person's decision to engage in a conduct, and how critical these other

individuals or groups are to the decision maker. As a result, it is natural for people to consult others before making any judgments.

TRA is a comprehensive and well-researched intention model that has been extensively used to predict and explain behavior across a wide variety of domains and nearly any type of human behavior (Ajzen & Fishbein, 1980). This idea is frequently utilized by information system researchers to investigate the factors that influence how people use IT (information technology) innovations (Han, 2003). Although contemporary models of technology acceptance are based on a variety of theoretical viewpoints, much of the literature on technology acceptance begins with the TRA.

The Technology Acceptance Model (TRA) was utilized as a theoretical foundation to establish causal relationships between two critical beliefs: perceived usefulness (PU) and perceived ease of use (PE), and users' attitudes (AT), intentions (BI), and actual computer usage behavior. Attitude and perceived usefulness both influence behavioral intention. Perceived utility and perceived ease of usage influence attitude (see Figure 3). TAM substitutes perceived ease of use and perceived utility for the TRA's drivers of attitude. Perceived utility is also influenced by perceived ease of use, because if all other factors remain constant, the system (technology) may be more valuable if it is easier to use (Venkatesh and Davis, 2000).

TAM can and has been used to describe or forecast individual behaviors across a broad spectrum of end user computer technologies and user groups in general, because it specifies generic determinants of individual technology acceptance (Davis et al., 1989).

2.1.2 Theoretically Implications to the Study

TAM can and has been to describe or forecast individual behaviors across a broad spectrum of user computer technologies and user groups generally, because it specifies generic determinants of individual technology acceptance (Davis et al., 1989). Theoretically Implications to the Study the aim of TAM is to supply a theoretically motivated explanation of the determinants of computer acceptance that's capable of describing user behavior across a broad range of end-user computing technologies and user demographics. However, because it integrates insights from almost a decade of data systems research, it's going to be particularly well-suited for predicting computer adoption (Davis et al., 1989).

2.2.1 Automation

The Oxford English Dictionary (2006) defines automation as "the process of automating the manufacturing of a product through a series of successive stages; the application of automatic control to any branch of industry or science; and, by extension, the use of electronic or mechanical devices to replace human effort."

According to the encyclopedia Britannica, automation is defined as "the use of machines to undertake jobs previously performed by humans or, increasingly, tasks that would be impossible without them." While the term mechanization is sometimes used to refer to the simple substitution of machine

labor for human labor, automation normally refers to the integration of machine into a self-governing system."

Since the 1960s, as organizations and offices expanded their functions and operations, the need for an integrated office system capable of managing massive amounts of information, communications, and correspondence has been recognized. These systems have been referred to by a variety of titles; however, the most prevalent, particularly for systems with a high degree of automation, is office automation. These systems lack a precise definition; their purpose is to ascertain the user's perspective. This means that the term "office automation system" encompasses a broad range of concepts (Habibi, 2004).

The term "office automation" refers to the practice of utilizing electronic equipment to boost productivity. Increased performance is a result of the evolution of information flow within and between offices and their environments; as a result, it can assist managers by giving more accurate information for decision-making (Beheshtian & Abolhassani, 1994). Office automation systems are information systems that generate administrative correspondence in the form of written, spoken, or visual data and transport it after storing, changing, and displaying it (Sarafizadeh, 2007). In other words, office automation encompasses all official and informal electronic technologies that facilitate communication between individuals within and outside of a business, as well as the reverse. Automating the office facilitates spoken and written communication (Mac Loid, 1999).

The term "office automation system" refers to the systematic use of computer and communication technologies to support administrative activities in the workplace (Olson et al., 1982). At the moment, Zahedan University of Medical Sciences' entire administrative structure is automated online. This system is used to manage all correspondence, internal and external, outgoing and incoming. It should be noted that letters sent outside the university are printed and signed by the author.

One of the primary objectives for implementing information technology in the workplace is to increase people's and employees' productivity. As research demonstrates, while boosting productivity in many organizational areas has been increasingly examined and improved, office automation productivity has been overlooked. Office automation has been a subject of discussion since then (Nowrouzi & Mousavi madani).

If automating office operations actually results in increased productivity, the following effects on the organization will occur: improved workforce utilization combined with staff reductions or increased personal productivity of personnel; improved time management for increased efficiency; improved management quality for improved decision-making; increased productivity through improved individual performance; increased effectiveness through the use of available organizational information.

In most firms, the primary criteria for automating their processes is their ability to work quickly and accurately. Organizations' operational domains are evolving,

necessitating the establishment of faster relationship channels. Office automation will make it possible for managers to maintain short relationship channels and communicate effectively.

The advantages of using office automation technologies fall into two categories: These advantages are typically quantifiable and may have a direct and immediate effect on cash flow.

- i. Indirect benefits: These are non-quantifiable benefits that may benefit the firm in the long run through increased profitability and growth.
- ii. Direct benefits include higher output or productivity, as well as time savings.

2.2.2 Job displacement

The term "displaced workers" refers to those who have been forced to abandon their jobs due to events beyond their control. These may include layoffs, reductions in force, termination of positions, or other unforeseen circumstances. Madu (2001) defines displaced workers as persons with established work histories who are unwillingly removed from their positions as a result of mass layoffs or factory closures (rather than due to individual job performance), and who have little possibility of being recalled to their previous employer. The COVID-19 epidemic has resulted in unprecedented levels of work disruption in Nigeria. Employers and employees alike have had to adjust to this unique situation by devising new methods of meeting contractual obligations, and for some, layoffs were required. According to the United Nations Development Programme (UNDP) and the National Bureau of Statistics (NBS), the COVID-19 epidemic will result in the loss of 20% of Nigeria's full-time workforce in 2020. Both groups asserted this in a new report produced in February 2021 titled "The Impact of COVID-19 on Business Enterprises in Nigeria." The study stresses the significant revenue loss sustained by businesses and organizations nationwide as a result of the epidemic. It drew its results on in-depth interviews with roughly 3,000 firms across the economy's various industries, both formal and informal. According to the analysis, 81% of enterprises surveyed reported a decrease in income and 73% reported experiencing liquidity challenges in 2020 as a result of COVID-19's secondary effects. Additionally, it indicated that the median revenue loss reported remained 44 percent lower than 2019 revenues. While positive signs of recovery were observed in 2021, the analysis concluded that COVID-19 had a disproportionate socioeconomic impact on Nigeria. Considering these issues starting from demand shocks to persistent supply, low purchasing power, supply chain disruptions and decline in consumer confidence, are projected to possess a long-term impact on the firms and enterprises that form the economy's backbone. Also, "Virtually 60% of those who responded in the survey noted an increase in operating expenses, with shipping costs and basic and critical material being the first causes." further operational challenges were a scarcity of credit and capital likewise high interest rate, high

utility prices, and an absence of an adequate social safety net, particularly for casual companies." Additionally, the report indicated that one in every three business organizations surveyed was aware of businesses that had permanently closed due to operational difficulties created by the outbreak. The report's statistics indicated that businesses would continue to suffer the pandemic's impact even after public health safeguards were loosened. According to the survey, despite fewer restraints at the time of the interviews, 74% of enterprises reported lower output levels than they did last year at the same time. The poll does acknowledge, however, that a small number of businesses reported gains during the pandemic. According to the research, 19% of firms reported a boost in revenue, with a greater proportion of businesses in the utilities sector, while the financial and insurance, as well as human and health services sectors, reported revenue increases during the pandemic, compared to 2019.

2.2.3 Job enhancement

Job enhancement occurs when an employee is assigned new duties or tasks that allow him or her to grow in terms of skills and talents. Hellgren & Sverke (2001) assert that as competition intensifies among all types of organizations, employees' proclivity to stay with one employer for an extended period is decreasing. As a result, management must shoulder additional responsibilities and organizations must absorb additional costs. Due to the increase in work pressure in the workplace, it is now increasingly common to modify employees' work activities and enable them to work at all levels. This has resulted in an increase in employee performance and a drop in the overall cost of the businesses. (1999; Brown & Leigh, 1996; Burchell, Mankelow, Day, Hudson, Ladipo, Reed, Noan, Wichert, & Wilkinson). The psychological work atmosphere refers to an employee's attitude about their employment (Hater, James, Gent, & Bruni, 1978). This has an effect on both individual and organizational performance, and it enhances organizational and employee commitment both in the short and long term (Hellgren & Sverke, 2001; Brown & Leigh, 1996). Routine tasks performed in the same manner may also reduce job effectiveness, resulting in employees developing a sense of boredom at work. Additionally, this diminishes the employees' motivation. (2005) (Dessler) Job enhancement is a term that refers to a situation in which employees are cycled between different roles and allocated additional duties to undertake throughout their typical workday (Dessler, 2005). Additionally, job enhancement has an effect on motivation, satisfaction, and organizational commitment (Morrison, 1994; Hellgren & Sverke, 2001; Chung & Ross, 1977). On the other hand, some academics believe that job improvement results in a very low level of social interaction among employees. As a result, it has a detrimental effect on employees' motivation (Donaldson, 1975). The literature supports both groups of work development components. That is why we have decided to research employment creation and its effects on various areas inside organizations in both the public and private sectors of Pakistan. The Performance of employees is directly related to job activation (Duffy &

Elizabeth, 1962; Scott, 1966). A job becomes exciting only when the employee is consistently able to do it within the allotted time (Kahn, 1973; Homans, 1961; Scott, 1966; Greller & Herold, 1975). Employees are always willing to do assigned tasks if they are composed in accordance with their performance objectives (Chung & Vickery, 1976; Ronan, Latham & Kinne, 1973; Locke, 1968; Locke; Cartledge & Koeppl 1968). Vroom and Kornhauser (1962) discovered a good link between job satisfaction and accessible options. Job tasks should be laid out in terms of their likelihood of completion (Atkinson, 1964; Atkinson and Feather, 1966; Vroom, 1964; Lawler, 1973). Employee motivation can also be influenced by factors like the work environment, task composition, and employee happiness (Conant and Kilbridge, 1967; Guest, 1967; Lawler, 1969; Walker, 1950 and Walker & Guest, 1952). While job enhancement is much easier to adopt than job enrichment or the other organizational change, it'd occasionally cost more within the long run (Amacom, 1973).

2.2.4 Wages and Benefits

According to the International Labour Organization's Department of Statistics (C95, Article 1 2015), "the term wages refers to remuneration or earnings, however, designated or calculated, capable of being expressed in terms of money and fixed by mutual agreement or national laws or regulations, that is payable by an employer to an employed person in pursuance of a written or unwritten contract of employment for work performed or to be performed or for services rendered or to be rendered." Nonetheless, the term "benefits refers to both direct earnings given for hours worked and indirect benefits received by employees as a result of their job or employment connection with an organization (Otobo, 1987). Factors working against appropriate and just remuneration.

While the introduction of productivity-enhancing technology dispenses with human-centered activities, resulting in technological unemployment, several countervailing forces actually create new activities, functions, and jobs, compensating for that unemployment (Acemoglu, 2016).

Firstly, the introduction of productivity-enhancing technology reduces the cost of automated tasks. This may result in businesses cutting their prices, hence raising demand. As a result, demand for labor in non-automated operations increases (as well). Secondly, utilizing introduced technology involves the inclusion of supplementary duties (e.g., controlling, programming, and maintenance), which may result in the creation of new professions or new activities within existing occupations (Goldin et al. (1998) and Griliches (1969). These overlapping responsibilities may result in an increase in demand for highly skilled workers receiving a higher wage. Thirdly, cost savings and margin expansion can be reinvested, resulting in further automation and the development of new products and services, and hence new jobs. Fourthly, there are spillover effects associated with local demand for services such as doctors, hair stylists, and wait staff (Salomons 2018, Gregory 2016, and Moretti 2013).

As Nwachukwu (2000) and Atchison (2003) observed that, wages and salaries account for a large portion of the whole organization cost of operations, with some companies reporting that wages and benefits account for more than 50% of operational costs. Regardless of the case, businesses or enterprises that are unable to pay employees on a consistent basis face dissolution. Inadequate wages and salaries are a persistent cause of irritation and can result in productivity decreases. As a result, organizations must invest significant time and effort in determining the most appropriate payment mechanism for their organization.

Considering Essien's (2002) argument, pay systems and benefits decisions must account for the following variables that work against fair and adequate compensation:

- i. **Employment Situation:** When business is booming, there is a strong need for resources. Labor, as a critical resource, is likewise in demand, at least in broad terms. Certain skills are always in demand even when labor is plentiful. However, when desired skills are in abundance, the recruitment organization benefits.
- ii. **Capacity to pay:** An organization's capacity to meet its salary and wage obligations fluctuates. Profitable businesses with a healthy cash flow will find it easier to be generous to their staff. Those who are barely surviving will struggle to meet even their basic commitments. Both rich and impoverished organizations must still decide how much revenue should be retained for labor costs.
- iii. **Cost of Living:** When the cost of living increases, that is, when inflation increases, employers face enormous pressure to increase wages and salaries at the rate of inflation because employees' purchasing power is effectively reduced in the short term as a result of government action in the form of an "income freeze."
- iv. **Comparability:** Employers and employees (trade unions) are required to assess what comparable wage/salary is being paid elsewhere. A particular company will conduct a search within the industry's workforce. The labor union is concerned with wage rates. Private sector employees make parallels to the public sector, particularly in terms of occupational categories.
- v. **The trade union's bargaining strength:** Trade unions' ability to influence pay structure decisions is highly dependent on their bargaining power. Sule (2013) established that trade unions will become weak when the principle of "free and independent trade unionism" is no longer in existence. The model of unionism centered on collective bargaining to secure benefits for workers is replaced by "bread and butter unionism," as in a communist system of government.
- vi. **Government Intervention:** For several years now, the government has been aggressively engaging in Nigeria's wage disputes. The government enacted legislation to cap pay levels or to safeguard specific categories of employees. The government's other influence on wage

rates is its reliance on fiscal policies such as taxation, interest rates, and currency exchange rates.

- vii. **Technological Organizational Change:** Within organizations, there are relatively stable conditions, both internal and external environments in relation to one another. An organization that undergoes modernization because of market pressure or technology advancements may need to adjust its payment structure to meet contemporary demands. Indeed, payment structures must evolve at a faster rate than equipment does.

2.2.5 Job performance.

Job performance as a notion has been described in a variety of ways by various authors. Moshref and Delshad (2011) defined work performance as the accomplishment of predetermined objectives in terms of both quality and quantity. Job performance, according to the Oxford Dictionary of English, is the act of carrying out, implementing, or executing anything organized or promised. According to this definition, performance refers to the act of performing an activity and the result of that action. It can also be defined as the collaborative performance of effort, ability, and role comprehension (Milis and Mercken, 2004), whereas Shoji and Valden (2008) say that performance is broader in scope because it encompasses both behaviors and outcomes. While behaviors are what transform a notion into action, results are the byproducts of mental and physical activity. In contrast to Shoji and Valden (2008), Jex and Britt (2008) and Campbell (1990) view performance in terms of controllable employee behaviors rather than outcomes, because they believe that while employees can exert effort, circumstances beyond their control, such as a dysfunctional system, may limit the outcome of their efforts. Apart from the detrimental impact of a dysfunctional system on employee performance, any firm that refuses to implement these machines may struggle to face the difficulties of the modern office, resulting in decreased productivity (Maria, 2019).

Job performance is the evaluation of an employee's ability to do his or her job effectively. It is the degree to which an employee completes the responsibilities that comprise his or her work (Ahmad, Nadeem & Hamad, 2014). According to Wikipedia, job performance refers to a person's ability to do a job well. Performance is a critical factor for determining the outcomes and success of a company.

According to John P. Campbell (1986), work performance is a variable at the individual level or something that a single person does; despite the emphasis on defining and forecasting job performance, it is not a unified concept. There are numerous jobs, each with its own set of performance requirements. Job performance entails a variety of behaviors. In order to capture universally applicable job performance determinants, Campbell (1990) proposed an eight-factor model of performance-based on factor analytic research.

- i. The first aspect is task-specific behaviors, which are those that an individual engages in as part of his or her employment. They are the fundamental functional duties that distinguish one employment from another.

- ii. Non-task-specific behaviors, on the other hand, are those that an individual is obliged to perform that are not related to a specific job. Returning to the salesperson, demonstrating a product to a potential buyer is an example of a task-specific behavior. A salesperson's non-task-specific conduct may include training new staff members.
- iii. Written and oral communication tasks are those in which the incumbent is evaluated on their ability to communicate, not necessarily on the content of the message, but on their ability to communicate effectively. Employees in a variety of different jobs must make formal and casual oral and written presentations to a variety of diverse audiences.
- iv. An individual's performance can also be evaluated in terms of effort, either on a daily basis or in response to unusual events. This component measures how committed individuals are to job responsibilities.
- v. The area of performance may also involve an element of personal discipline. Individuals would be expected to be law-abiding, not to misuse alcohol, and so on.
- vi. In jobs where people work closely together or are strongly dependent on one another, performance may involve the extent to which an individual assists groups and coworkers. This may involve serving as a positive role model, coaching, providing guidance, or assisting in the achievement of collective goals.
- vii. Many jobs require supervisory or leadership skills. The individual will be expected to carry out a few tasks outlined in the preceding aspect and will also be accountable for administering rewards and penalties. These facets of performance occur in a face-to-face setting.

Administrative and managerial performance refers to those characteristics of a work that benefit the group or organization but do not require direct supervision. A managerial task would be to establish an organizational objective or to respond to external stimuli in order to aid a group in accomplishing its objectives. Additionally, a manager may be responsible for monitoring the progress of groups and individuals toward goals, as well as the management of organizational resources.

3.0 METHODOLOGY

3.1 Research Design

This study used a descriptive survey research design. Christensen (2014) believe that if the research study's objective is exploratory, a flexible research design that allows for consideration of numerous distinct elements of a topic should be considered.

The goal of survey research is to acquire useful data from respondents in the field while also making analysis and interpretation simple (Ndulue & Ekechukwu, 2016). The survey study design was utilized to collect data on the link between the independent variable (automation) and the dependent variables (Job enhancement, Job performance, job displacement and Wage & benefits). This will allow the researcher to elicit

information through questioning about the phenomenon's current state at the time of the study (Musungu & Nasongo, 2008).

3.2 Population of Study

The population of the research study was every cadre of employees (frontline, middle level, officers and senior level) of Interswitch Nigeria Limited. The study was not able to cover all the branches of Interswitch currently operating in Nigeria due to time and cost constraints, therefore, the research was limited to Interswitch Nigeria limited head office in Lagos. The total number of Interswitch staff as at 1st of November 2021 stood at 756. This was extracted from the Human Resources Department at the head office.

3.3 Sample Size and Sampling Technique

The sample size is determined using the quota sampling methodology. The reason for adopting this method is because the method ensures that employees in different departments in Interswitch are represented in the sample. The sample size was determined using Suresh, Shiv, Kalpana & Rakhi (2019) formula.

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

Where

$$\begin{aligned} n &= \text{required sample size} \\ N &= \text{sample population} \\ e &= \text{significant level (a constant) } 0.05 \\ n &= \frac{756}{1+756(0.05)^2} \\ n &= \frac{756}{1+1.189} \\ n &= \frac{756}{2.89} \\ n &= 261.5916955017 \end{aligned}$$

The sample size for the study was 262 employees of Interswitch, Lagos Island.

3.4 Data Collection Methods

The questionnaire was chosen as the tool of choice for this study which served as the major data gathering instrument. According to Kothari (2004), the questionnaire is the most ideal approach for data collection since it allows for the collection of a large amount of data in a short period of time and at a cheap cost. This instrument helps in the standardization and confidentiality of the information's source. The data collection instrument was comprised of closed-ended questions. The questionnaire used in this study was divided into two sections. Whereas the first section featured questions concerning general information about workers, such as their attributes, the second section included questions about the impact of automation on the employment and work of Interswitch's Nigerian personnel.

The questions were distributed to the target responders via Google forms. Due to the random selection of responses from

the category, the Likert Rating Scale will be used. Respondents will be asked to indicate their level of agreement or disagreement with each statement on the questionnaire, and each response will be assigned a numerical score indicating their level of agreement. A scale value of 1 indicates an extreme pessimism (strongly disagree). The remaining scale values are as follows: 2 (disagree), 3 (undecided), 4 (agree), and 5 (strongly agree), which indicates a very favorable view.

3.5 Methods for Data Analysis

Before the responses were processed, the collected data was edited, coded, entered and cleaned. Data collected was analyzed using descriptive statistics. Statistical Package for Social Sciences (SPSS) (version 20.0) was used to analyze the data to generate quantitative reports. Tabulations and percentages were used to present the analyzed data. Pearson correlation was used to test the hypothesis. More so, regression analysis was conducted to determine the extent to which conflict management strategies influence organizational performance.

The functional link between automation and the dependent variables of employment and work is modeled using multiple linear regression.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + u$$

Where;

Y = Automation

X_1 = Job Displacement

X_2 = Wages and compensation

X_3 = Employee Job enhancement/upskill

X_4 = Job performance

u = error term

$\beta_1, \beta_2, \beta_3$ and β_4 are coefficients

3.6 Pilot Study and Validity and Reliability Assessment

The questionnaire will be used to collect data for this study; a pilot study with ten (10) questionnaires was conducted to aid in refining the questionnaire and assuring that respondents would easily answer the questions and that data collection will proceed smoothly. The purpose of the pilot project was to discover the following:

- The time required for each responder to complete the questionnaire
- The instructions for the questionnaire are brief.
- The imprecise nature of the queries
- Whether respondents saw any omissions
- The questionnaire's structure's clarity and appeal.

The completed surveys from the pilot project were analyzed, and it was concluded that respondents had no trouble comprehending and answering the questions. Additionally, they strictly followed all instructions. Additionally, respondents were instructed to disclose no contact information and to stay anonymous in order to eliminate participation bias.

4.0 DATA ANALYSIS

4.1 Analysis According to Research Objectives

Table 4.3.1 AUTOMATION

Variables	Freq	%	Remark
Automation has increased the effectiveness of functions.	191	72.9	Strongly Agree
My work has become less laborious as a result of automation.	143	54.6	Strongly Agree
Documents can be collected, stored, and accessed with ease.	169	64.5	Strongly Agree
I am equipped with cutting-edge technologies.	96	36.6	Agree
TOTAL	262	100	

Source: Researcher's Computation

According to Table 4.3.1, the components show the extent to which automation can enable the firm to improve its effectiveness and convenience of doing business. This is demonstrated by the fact that the majority of respondents strongly agreed on the automation construct, which means they completely agreed that automation increased the effectiveness of functions and thus made work less cumbersome; they also agreed that because of automation, documents can be collected easily, stored, and accessed at any time due to workers being equipped with the appropriate gadgets and technologies.

Table 4.3.2 JOB DISPLACEMENT

Variables	Freq	%	Remark
New jobs have been created as a result of automation.	104	39.7	Agree
Roles within the organization are upgraded as a result of automation.	109	41.6	Agree
Automation does not result in a reduction in the number of employees.	95	64.5	Strongly Agree
Automation has taken most of my work and made me redundant.	110	42.0	Disagree
TOTAL	262	100	

According to Table 4.3.2, the components show the degree to which automation can result in employment loss or opportunity creation. This is evidenced by the fact that the majority of respondents agreed on the job displacement construct, which means they agreed that new job roles are created as a result of automation as existing job roles are upgraded. Additionally, 64.5 percent strongly agreed that automation does not result in a reduction in the number of employees, while a greater number (42 percent) asserted that their jobs remain intact. Their occupations have not been

eliminated by automation. This means that Interswitch Nigeria does not carelessly replace its workforce as a result of technological integration.

Table 4.3.3 JOB ENHANCEMENT

Variables	Freq	%	Remark
I am trained and re-trained on new technology.	121	46.2	Agree
The company prioritizes investment for skill development.	143	54.6	Agree
The company establishes the appropriate training programs.	125	47.7	Agree
The company has increased staff capacity for self-learning by giving necessary resources.	103	39.3	Agree
TOTAL	262	100	

According to Table 4.3.3, the factors demonstrate the extent to which automation aids Interswitch Nigeria improve work quality and personnel training and development. This is evidenced by the fact that most respondents agreed on the job enhancement construct, indicating that they are trained and retrained on new technology as the company prioritizes investment in employee skill development. Additionally, a sizable number agreed that the company establishes appropriate and relevant training programs. The firm did not stop at teaching employees on new technologies; they improved their capacity for self-learning by providing them with the required tools, allowing them to continue exploring whether inside or outside the four walls of the actual corporation and at their own pace.

Table 4.3.4 WAGES AND BENEFITS

Variables	Freq	%	Remark
My earnings have increased as a result of automation, as more skill necessitates increased wages.	75	28.6	Agree
I am rewarded for training participation.	77	29.4	Disagree
As a result of automation, new roles are formed, and individuals are paid well for assuming additional responsibilities.	100	38.2	Agree
I demonstrate contentment and motivation.	138	52.7	Agree
TOTAL	262	100	

As shown in Table 4.3.4, the components indicate the extent to which automation can affect wages and benefits. While the majority of respondents agreed on the pay and benefits construct, indicating that their earnings grew as a result of automation, since higher skill implies increasing compensation, a sizable number also disagreed on the construct that the organization compensates for training participation. A substantial amount agreed that automation results in the formation of new positions within the firm and that workers are compensated adequately for taking on more duties, hence increasing employees' job satisfaction and motivation.

Table 4.3.5 JOB PERFORMANCE

Variables	Freq	%	Remark
I accomplish tasks effortlessly and swiftly as a result of automation.	132	50.4	Agree
I perform tasks more efficiently and accurately as a result of automation.	130	49.6	Strongly Agree
Software helps me to perform routine tasks.	132	50.4	Agree
There are less errors reported during task execution.	117	44.7	Agree
TOTAL	262	100	

The components in Table 4.3.5 show that most respondents agreed on the Job performance concept. Respondents agreed that automation enables them to do jobs smoothly and quickly, resulting in activities being completed more efficiently and effectively. They agreed that automating software integration enables them to do routine operations more efficiently and with fewer errors reported during job execution.

4.2 Test of Hypotheses

This section examines the correlations between the variables in the study to focus on the study's research aims, research questions, and hypotheses. Multiple linear regression was utilized to put the previously created model to the test. The hypotheses under discussion have been examined. A version of the Statistical Package for Social Sciences (SPSS) version 20 was used to process the data.

The model summary table summarizes the relationship between the dependent variable and the model. The correlation coefficient, R, denotes the linear relationship between the dependent variable's observed and model-predicted values. Its high value denotes a strong correlation, whereas R Square denotes the coefficient of determination, which is the squared value of the multiple correlation coefficient. It depicts the variations explained by the model. The ANOVA table contains the F statistic, which is used to determine the significance of the relationship between the

independent and dependent variables. The coefficient box contains the p-value for the individual t-test on the independent variable. We will accept the assertion that a substantial link exists if $p < \alpha$.

Hypothesis One: There is no significant positive relationship between automation and job displacement.

Table 4.3.1 Regression Table

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	ANOVA	
						F	Sig.
1	.270 ^a	.073	.069	.67058	1.508	20.406	.000 ^b
Coefficients							
		B	Std. Error	Beta	T		Sig.
	(Constant)	1.845	.336		5.487		.000
	Automation	.369	.082	.270	4.517		.000

a. Predictors: (Constant), Automation

b. Dependent Variable: Job Displacement

The result of hypothesis one as shown in Table 4.3.1, where an R-value of 0.270 suggests a substantial association between Automation (the independent variable) and Job displacement (dependent variable). Automation accounts for 7.3 percent of job displacement, as indicated by its coefficient of determination R². Additionally, the P-value is 0.000, lower than the standard alpha of 0.05. This means that H₀ is rejected, while H₁ is accepted, and I assert that automation and job displacement have a significant positive relationship. The conclusion basically states that automation does not result in job layoffs at Interswitch Nigeria.

Hypothesis Two: H₀: There is no significant positive relationship between automation and Job enhancement.

Table 4.3.2 Regression Table

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	ANOVA	
						F	Sig.
1	.411 ^a	.169	.166	.70676	1.465	52.985	.000 ^b
Coefficients							
		B	Std. Error	Beta	T		Sig.
	(Constant)	1.526	.354		4.306		.000
	Automation	.626	.086	.411	7.279		.000

a. Predictors: (Constant), Automation

b. Dependent Variable: Job Enhancement

The result of hypothesis two is shown in Table 4.3.2, where an R-value of 0.411 suggests a substantial association between Automation (the independent variable) and Job enhancement (dependent variable). Automation accounts for 16.9 percent of job enhancement, as indicated by its coefficient of determination R² of 0.169. Additionally, the P-value is 0.000, lower than the standard alpha of 0.05. This suggests that H₀ is rejected, but H₁ is accepted, as I assert that automation and job enhancement have a substantial positive relationship. Consequently, automation improves staff productivity and effectiveness at Interswitch Nigeria.

Hypothesis Three

Table 4.3.3 Regression Table

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	ANOVA	
						F	Sig.
1	.250 ^a	.062	.059	.86435	1.063	112.294	.000 ^b
Coefficients^a							
		B	Std. Error	Beta	T		Sig.
	(Constant)	1.839	.434		4.241		.000
	Automation	.435	.105	.250	4.137		.000

a. Predictors: (Constant), Automation

b. Dependent Variable: Wages and Benefits

The result of hypothesis three is shown in Table 4.3.3, where an R-value of 0.250 suggests a substantial association between Automation (the independent variable) and wages and benefits (dependent variable). With a coefficient of determination of 0.062, automation contributes merely 6.2 percent to wages and benefits. Additionally, the P-value is 0.000, lower than the standard alpha of 0.05. This means that H₀ is rejected, but H₁ is accepted, as I propose that automation has a significant positive relationship with wages and benefits. As a result of automation, new tasks are created, and employees are compensated adequately for taking on more duties.

Hypothesis Four

Table 4.3.4 Regression Table

Model Summary	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	ANOVA	
						F	Sig.

1	.549 ^a	.302	.299	.5609 8	1.43 8	112.2 94	.00 0 ^b
Coefficients^a							
		B	Std. Error	Beta	T		Sig.
	(Constant)	1.346	.281		4.783		.000
	Automation	.723	.068	.549	10.597		.000

a. Predictors: (Constant), Automation

b. Dependent Variable: Job Performance

The result of hypothesis three is shown in Table 4.3.3, where an R-value of 0.250 suggests a substantial association between Automation (the independent variable) and wages and benefits (dependent variable). With a coefficient of determination of 0.062, automation contributes merely 6.2 percent to wages and benefits. Additionally, the P-value is 0.000, lower than the standard alpha of 0.05. This means that H_0 is rejected, but H_1 is accepted, as I propose that automation has a significant positive relationship with wages and benefits. As a result of automation, new tasks are created, and employees are compensated adequately for taking on more duties.

4.5 Discussion of Findings

With a P-value of (0.000 5), hypothesis one implies that there is a significant relationship between automation and job displacement. This supports Muro et al (2019) conclusions. They conducted research to identify the relationship between automation and the effect it has on employees. Their findings indicated that while automation may be used to replace labor, it can also be used to enhance it; automation can increase demand, hence generating employment; and capital and labor enhancement encourage innovation. When routine, time-consuming processes are automated, human potential is freed up to create new commodities and services.

Hypothesis two indicates that there is a significant relationship between automation and job enhancement, also with a P-Value of 0.000, which is consistent with the findings of Imaily (2017) and Mortezaei (2012), who concluded that computers assist in increasing administrative personnel productivity. Additionally, they stated "computers play a crucial part in the execution of administrative operations; they asserted that computers make administrative work easier and more exact, hence improving employees' jobs and thus increasing productivity.

According to hypothesis three, there is a considerable correlation between automation and wages and benefits. At a level of significance of 0.000, which is less than the declared level of significance of 0.05. This corresponds to the findings of (Goldin et al. (1998) and Griliches (1969). They asserted that utilizing introduced technology necessitates the addition

of supplementary duties (e.g., controlling, programming, and maintenance), which may result in the creation of new professions or new activities within existing occupations, as well as an increase in demand for highly skilled workers earning a higher wage.

Hypothesis Four indicates that there is a significant positive relationship between automation and job performance; this finding corroborates the findings of Aderanti et al. (2019), who conducted a study titled "Office automation as a predictor of work performance among employees of public and private universities in Ogun State." They identified a strong correlation between office automation and employee job performance. Additionally, Kimutai and Kwambai (2017) examined the effect of office automation on organizational efficiency at a public institution in Kenya and discovered that office automation had a beneficial effect on organizational performance.

5.1 Summary of Findings

Following an in-depth examination of the data collected for this inquiry, the following conclusions were reached:

- There is a positive relationship between Automation and job displacement.
- There is a positive correlation between automation and job enhancement for employees.
- Automation has a beneficial effect on wages and benefits.
- Automation has a positive correlation with job performance.

5.2 Conclusion

The research revealed a 36.9 percent association between automation and job displacement, a 62.6 percent correlation between automation and job enhancement, a 43.5 percent correlation between automation and wages and salaries, and a 72.3 percent correlation between automation and job performance. The study concluded from the foregoing that there is a substantial relationship between automation on employment and work of staffs of Interswitch, Nigeria.

5.3 Recommendations

Based on the study's findings and conclusion, the following recommendations were made.

- To improve performance and assist with the fulfilment of corporate objectives, automation should be incorporated into business operations.
- In order to improve customers' satisfaction, it is necessary to implement automation in an appropriate and complete manner. This will stimulate ongoing patronage, nurture repeat patronage, and even serve as a client retention strategy.
- The use of automation in the workplace should be encouraged by employers in order to aid employees in overcoming hurdles, rigors and stress in the job, hence increasing employee satisfaction and productivity.

- iv. Automated processes should be implemented carefully and with a clear goal in mind for businesses to reap the greatest possible benefits from their implementation.

5.4 Contribution to Knowledge

Previous research in this field concentrated on secretarial duties and the likes, but this study made a significant contribution to employment and work by concentrating on automation and employee work in Lagos state. Additionally, the research targeted electronic payment gateways, specifically Interswitch, as early participants in the automation technology.

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