

Original Article

STRESS MANAGEMENT AND EMPLOYEE PRODUCTIVITY IN SELECTED MANUFACTURING FIRMS IN AWKA METROPOLIS

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Abstract: The study examined stress management and employee productivity in selected manufacturing firms in Awka metropolis. This study adopted a survey descriptive research design. The population of the study comprised of 204 employees drawn from five selected manufacturing firms in Awka metropolis. A sample of 135 respondents (employees) was drawn using Taro Yamane statistical formulae for calculating sample size. The study employed a stratified sampling method where as Bowley's proportional allocation was utilized in ensuring appropriate distribution of questionnaires among the selected manufacturing firms. The data were analyzed with five-point likert scale using both descriptive and inferential statistics. Hypothesis testing was done using Pearson coefficient correlation. From the analysis, the study revealed that excessive workload has a significant relationship with employee effectiveness. Similarly, the findings of the study also showed that role ambiguity has a significant relationship on employee efficiency. Based on the study findings, the researcher recommended among others that the management of companies and firms should avoid excessive workloads and as well take strategic steps in ensuring that job roles and responsibilities assigned to employees align with employee capabilities so prevent job stress.

Keywords: Stress management, Employee Productivity, Work load, Role- ambiguity, Employee effectiveness, Employee efficiency

Introduction

Stress is often described as the body's response to perceived challenges or threats, and in the workplace, it can stem from various sources, including workload, workplace relationships, and organizational change (Aturu-Aghedo, 2024). When not managed properly, stress can lead to decreased employee productivity, increased absenteeism, and higher turnover rates, all of which pose significant financial implications for business firms and organizations. Employee productivity, defined as the output generated by an employee within a specified period, is vital for the success and sustainability of manufacturing companies. The efficiency with which

Original Article

employees perform their tasks affects the overall performance of the organization, impacting not only the bottom line but also the quality of products and services delivered to customers (Rijanto, 2023). Therefore, effective stress management strategies are essential for enhancing productivity levels, ensuring employees remain focused, motivated, and capable of contributing positively to the organization.

Understanding stress in the workplace involves exploring its multifaceted nature and its implications for employee health and productivity. Stress can be categorized into eustress (positive stress) and distress (negative stress). Eustress can motivate employees to perform better, while distress often results in anxiety, burnout, and various health issues, negatively impacting productivity (Kadouf, Rahman, Kamaruddin & Khaiyom, 2024). Main concepts related to workplace stress include stressors (factors causing stress), coping mechanisms (strategies employees use to manage stress), and organizational support (resources provided by employers to help employees cope with stress). Stressors can be external, such as organizational changes, job insecurity, and interpersonal conflicts, or internal, such as personal life issues and individual coping styles. Coping mechanisms range from healthy strategies, such as exercise and time management, to unhealthy ones, like substance abuse and avoidance behaviors (Obiora, Iyke-Ofoedu & Uzochukwu, 2023). Organizations play a crucial role in influencing the workplace environment and can provide support through policies, programs, and resources designed to help employees manage stress effectively. By understanding these concepts, organizations can develop targeted interventions that not only address the sources of stress but also enhance overall employee well-being and productivity.

In Nigerian manufacturing sector, the impact of stress on employee productivity is a pressing concern. Employees often encounter various stressors, including excessive workloads, inadequate resources, and lack of support from management (Oseremen, Ohiokha, Omokhudu, Ohiokha & Omowumi, 2022). These factors can lead to increased fatigue, decreased job satisfaction, and diminished focus on tasks, ultimately resulting in lower productivity levels. Research has shown that stress can impair cognitive functions such as attention, decision-making, and problem-solving, all of which are critical in a manufacturing environment where precision and efficiency are paramount. Furthermore, chronic stress can lead to physical and mental health issues, including cardiovascular problems, anxiety disorders, and depression, which does not only affect the employees negatively but also create a ripple effect on team dynamics and organizational culture.

The unique challenges faced by manufacturing companies in Nigeria, such as operational inefficiencies, economic fluctuations, and competition, further exacerbate stress levels among employees. High-stress levels can lead to absenteeism, as employees may take time off to recover from stress-related health issues, thus affecting overall productivity (Aturu-Aghedo, 2024). Moreover, when employees are stressed, their engagement and morale tend to decline, leading to a decrease in motivation and commitment to their work. In contrast, companies that implement effective stress management programs and create a supportive work environment can foster a culture of well-being, resulting in higher productivity and better employee retention. To sum up, the relationship between stress and employee productivity in manufacturing companies is complex and multifaceted (Adenuga, 2021).

Employees are facing a significant challenge in high-pressure work environments, where excessive workloads, role ambiguity and even conflict are preventing them from meeting production demands. The situation is further aggravated by stressors such as tight deadlines, poor workplace relationships, and job insecurity, which

Original Article

collectively contribute to diminished productivity and motivation (Rijanto, 2023). Many employees report experiencing burnout and disengagement, reflecting a deeper issue within the organizational culture that fails to prioritize mental health and employee well-being (Oyewole & Agbesanya, 2024). This gap between the ideal work environment, where employees are supported and motivated, and the actual experience of employees, has led to a decline in overall morale and an increase in stress-related health issues.

Thus, reduced employee productivity does not only negatively affect individual performance but also impacts negatively the overall output and profitability of the organization. Chronic stress from excessive workload, role ambiguity and even workplace conflict can lead to increased absenteeism and turnover rates, creating a cycle of instability that disrupts operations and increases costs associated with recruiting and training new employees. Furthermore, the negative impact on employee well-being can result in higher healthcare costs and a decrease in the overall quality of products produced. As stress becomes a pervasive issue within the manufacturing sector, organizations must recognize the urgent need to address these challenges to enhance employee productivity and maintain competitiveness in the market (Adenuga, 2021). Failure to do so may result in diminished organizational performance and the inability to meet the demands of a rapidly evolving business domain, hence the need for this study.

The main objective of the study is to ascertain the relationship between stress management and the employee productivity in selected manufacturing firms in Awka metropolis. The specific objectives are as follows:

1. To ascertain the relationship between excessive workload and the employee effectiveness in selected manufacturing firms in Awka metropolis.
2. To examine the relationship between role ambiguity and the employee efficiency in selected manufacturing firms in Awka metropolis.

REVIEW OF RELATED LITERATURE

Workplace Stress

Workplace stress refers to the psychological and physical response that occurs when the demands of a job exceed an individual's capacity to handle them effectively (Hasan, Shafin & Akter, 2023). This form of stress emerges from the pressures and challenges that employees encounter in their work environment (Okechukwu, 2021). These pressures may be triggered by various elements, such as tight deadlines, high expectations, and job insecurity. Workplace stress is not always negative; a moderate amount can motivate employees and enhance performance (Amadi, 2024). However, when stress becomes chronic or overwhelming, it can result in detrimental consequences, including mental health issues, burnout, and reduced productivity.

The concept of workplace stress is deeply rooted in the dynamic interplay between job demands and an employee's resources (Mubarok, Safutri, Gideon, Sugiarti & Suhariadi, 2024). When the demands are high and resources like support, time, and skill levels are inadequate, stress levels tend to spike. This condition may lead to physical symptoms such as headaches, fatigue, and muscle tension, as well as psychological symptoms like anxiety, irritability, and depression. Long-term exposure to such stress can undermine not only individual health but also organizational outcomes, resulting in higher absenteeism rates and lower job satisfaction (Hasan, Shafin & Akter, 2023).

Workplace stress is influenced by both external and internal factors. External factors include organizational culture, management practices, and work conditions, while internal factors often relate to an individual's coping

Original Article

mechanisms, personality traits, and personal life stressors. The relationship between workplace stress and productivity is well-established in the literature, with studies indicating that elevated stress levels can negatively impact concentration, decision-making abilities, and overall job performance (Amadi, 2024). Furthermore, employees under significant stress are more likely to disengage, leading to reduced morale and efficiency.

Excessive Workload

Excessive workload refers to a situation where the volume and complexity of tasks assigned to an employee surpass their ability to complete them within standard working hours or reasonable expectations (Daniel, Ekoriko, Akpan & Nsima, 2024). This phenomenon is characterized by continuous demands that overwhelm an individual's capacity for performance, leading to a significant strain on both physical and mental health. Excessive workload can stem from various factors such as unrealistic deadlines, insufficient staffing, and continuous multitasking, all of which contribute to a cycle of pressure that hinders overall effectiveness and job satisfaction (Aturu-Aghedo, 2024).

The definition of excessive workload extends beyond the mere quantity of tasks to include the intensity and nature of the work. It encompasses both objective and subjective experiences. Objectively, it may involve measurable metrics such as the number of tasks or hours worked. Subjectively, it includes the personal perception of being overburdened, which varies based on an individual's resilience, time management skills, and work ethic. This perception of an unmanageable workload can induce feelings of stress, frustration, and fatigue, which impair cognitive function and productivity (Weni, Kawiana, & Astrama, 2023). Prolonged exposure to excessive workload can have serious repercussions. On an individual level, it can lead to burnout, a state of emotional, mental, and physical exhaustion caused by prolonged and excessive stress. This condition often results in decreased motivation, reduced performance, and a higher likelihood of making errors. On an organizational level, a workforce burdened by excessive workloads is likely to exhibit lower levels of job satisfaction and higher turnover rates, as employees seek environments with more balanced work expectations (Boakye, Boadi, Tang, Osei, & Rahman, 2022).

To mitigate the impact of excessive workload, organizations must assess the distribution of tasks and set realistic expectations for employees. This can be achieved by fostering open communication between management and staff, ensuring that employees feel comfortable expressing concerns about their workload (Daniel, Ekoriko, Akpan & Nsima, 2024). Implementing strategies such as job rotation, task prioritization, and the use of productivity-enhancing tools can also help manage workload distribution effectively. The ultimate goal is to create a work environment where tasks are appropriately balanced, allowing employees to function at their optimal capacity and contribute positively to the organization's success (Weni, Kawiana, & Astrama, 2023).

Role Ambiguity

Role ambiguity occurs when there is a lack of clear information regarding an employee's job responsibilities, expectations, or authority within an organization (Boakye, Boadi, Tang, Osei, & Rahman, 2022). It arises when individuals do not have a clear understanding of what is required of them, leading to confusion about their duties and how to prioritize tasks. This state of uncertainty can be a significant source of stress, as employees are left to navigate unclear boundaries and make decisions without adequate guidance or support (Latif, Nor, Wahab, Zid, & Anuar, 2022).

Original Article

The concept of role ambiguity emphasizes the absence of clearly defined job descriptions, performance metrics, and communication channels within an organization. Employees experiencing role ambiguity often struggle to determine the scope of their responsibilities, which can lead to inefficiencies and increased stress (Aturu-Aghedo, 2024). The lack of direction creates a scenario where employees are more prone to conflicts, as overlapping duties may result in misunderstandings or disputes with colleagues. Furthermore, role ambiguity can disrupt workflow and impact decision-making, as employees may hesitate or act tentatively due to their unclear roles.

Role ambiguity is associated with negative outcomes for both individuals and organizations (Latif, Nor, Wahab, Zid, & Anuar, 2022). For employees, it can lead to anxiety, diminished job satisfaction, and a reduced sense of personal accomplishment. This, in turn, affects productivity, as individuals may become demotivated or overly cautious, expending more energy on clarifying their roles than on fulfilling them. For the organization, prolonged role ambiguity can result in decreased efficiency, lower morale, and higher employee turnover, as workers may seek employment elsewhere in search of greater clarity and direction.

Employee Productivity

Employee productivity refers to the measure of an employee's output in relation to the resources, such as time and effort, they use within a set period (Gomathy, Aparrajit, Vishnu & Rangaprasad, 2022). It represents how effectively and efficiently employees are able to accomplish their assigned tasks and contribute to the overall goals of an organization. High productivity implies that an employee or group of employees can produce a greater amount of output with minimal resources, indicating optimal performance. This concept is crucial for organizations as it directly affects their ability to remain competitive, achieve financial success, and ensure sustainable growth (Okechukwu, 2021).

Employee productivity is influenced by a myriad of factors, including organizational structure, management practices, workplace culture, and individual skill sets. The level of productivity often reflects the degree to which an employee is motivated, adequately trained, and supported within their role. It also hinges on external conditions such as the work environment, availability of resources, and quality of leadership. In essence, productivity is not only a measure of the quantity of work done but also the quality and impact of that work on the organization's objectives (Gomathy, Aparrajit, Vishnu & Rangaprasad, 2022).

The concept of employee productivity extends beyond the mere completion of tasks; it encompasses an employee's ability to prioritize important activities and consistently deliver high-quality results (Dunmade, Aderibigbe, Asa & Obadare, 2024). Productive employees contribute not only through their work output but also through their ability to collaborate, innovate, and adapt to changing circumstances. This holistic view of productivity highlights that it is as much about working smarter as it is about working harder. Organizations strive to enhance productivity by implementing practices such as clear communication, goal-setting, and performance evaluations.

Employee Effectiveness

Employee effectiveness refers to an individual's capacity to achieve desired outcomes and meet set goals within their role (Mehrabani & Shajari, 2013). It is a measure of how well an employee can carry out their job responsibilities and contribute to the objectives of their team and organization. Unlike general productivity, which focuses on output volume, effectiveness emphasizes the quality and alignment of results with strategic

Original Article

goals. When employees are effective, they not only complete their assigned tasks but also deliver results that advance the broader mission of their organization (Wang, Guo, Ni, Shang & Tang, 2019).

The employee effectiveness encompasses various elements, including competence, decision-making ability, and the strategic use of skills and resources. An effective employee is one who understands their role clearly and has the ability to execute tasks with precision and minimal supervision. This capability often stems from a combination of professional knowledge, experience, and the motivation to achieve excellence. The notion of effectiveness also involves the employee's ability to adapt to changes and tackle challenges in a way that supports their team's overall performance (Mehrabani & Shajari, 2013).

Employee effectiveness is critical for organizations aiming for operational excellence and sustained growth (Wang, Guo, Ni, Shang & Tang, 2019). When employees are effective in their roles, they contribute to the smooth operation of processes, reduce errors, and create a positive impact on the company's reputation and bottom line. Effectiveness also involves an element of strategic thinking; it is not just about performing tasks correctly but also choosing which tasks to prioritize to align with company goals. This approach ensures that employees are contributing in a meaningful way that supports the company's vision and mission.

To enhance employee effectiveness, organizations can implement a range of strategies, such as continuous training, performance feedback, and skill development initiatives (Wang, Guo, Ni, Shang & Tang, 2019). Effective management plays a pivotal role in creating an environment where employees understand expectations, have the resources needed for success, and receive recognition for their achievements (Mehrabani & Shajari, 2013). By investing in these aspects, organizations can ensure that their workforce operates at an optimal level, effectively meeting current demands while being prepared for future challenges.

Employee Efficiency

Employee efficiency refers to the ability of an employee to complete tasks using the least amount of time and resources while maintaining high standards of quality (Ludwikowska, 2018). Efficiency measures how well an employee can optimize their efforts to produce results, indicating their ability to manage time, effort, and tools effectively. In other words, while productivity focuses on the quantity of output, efficiency is about maximizing that output with minimal resource expenditure. An efficient employee is one who completes their work swiftly without sacrificing the quality or accuracy of their output (Dwivedi, Chaturvedi & Vashist, 2020).

The concept of efficiency is crucial for organizations looking to streamline operations and reduce costs. When employees perform tasks efficiently, they contribute to the overall operational effectiveness by minimizing waste and maximizing the utilization of available resources (Ludwikowska, 2018). Efficiency involves employing methods and practices that enhance workflow, such as time management skills, the use of technology, and the application of best practices. Employees who are efficient often exhibit strong organizational abilities, planning skills, and the capability to work under pressure without compromising their performance.

Empirical Review

Aturu-Aghedo (2024) examined the relationship between occupational stress variables and employee work performance in selected universities in north-central Nigeria. The study's population included 1,471 academic staff members from three universities, with a sample size of 314 calculated using the Taro Yamane method. A descriptive research approach was used, collecting data through questionnaires. The analysis involved multiple

Original Article

linear regression. The findings indicated a positive (0.094) and significant relationship ($p\text{-value} = 0.000 < 0.05$) between workload balancing and job performance. Role ambiguity was found to have a substantial positive effect (0.699) on job performance ($p\text{-value} = 0.000 < 0.05$). The study concluded that occupational stress factors could lead to improved work environments and job satisfaction, enhancing performance. It recommended effective workload management and role clarity for academic staff.

Anggraini, Thamrin, Martini, and Qomariah (2024) analyzed the influence of leadership and work stress on employee performance at the Jember Regency Regional Disaster Management Agency (BPBD). The study used primary data from questionnaires, covering a population of 80 employees through a saturated sampling method. Descriptive analysis, validity, and reliability tests were performed. The study found that both leadership and work stress had significant effects on employee performance.

Oyewole and Agbesanya (2024) explored the correlation between job stress and academic staff performance in government-owned colleges of education in Southwest Nigeria. The study employed descriptive survey and correlation research designs, targeting 600 academic staff and 60 department heads through multi-stage sampling methods. The "Job Stress Questionnaire" (JSQ) and "Academic Staff Productivity Questionnaire" (ASPQ) were validated and tested for reliability with coefficients of 0.82 and 0.78, respectively. Data were analyzed using descriptive and inferential statistics, with hypotheses tested at a 0.05 significance level. Findings showed moderate job performance and stress levels, with a significant relationship between the two.

Rijanto (2023) investigated the effect of work stress on employee performance using a descriptive and associative research design with a quantitative approach. The study involved a sample of 65 respondents and employed observation, interviews, and questionnaires for data collection. Primary data was used, and validity and reliability tests were conducted. Regression analysis and t-tests were applied to analyze the data. Results showed a significant relationship between work stress and employee performance, with a $p\text{-value} < 0.000$ and a $t\text{-value of } 3.851 > 1.998$, indicating that the hypothesis was supported. The findings confirmed that work stress has positive and significant implications for employee performance, though further investigation on positive work stress effects is needed.

Obiora, Iyke-Ofoedu, and Uzochukwu (2023) explored the effect of stress management strategies on employee performance in deposit money banks in Enugu State, Nigeria. The study examined the impact of counseling services and flextime programs using a descriptive survey design. Data analysis revealed that counseling services significantly influenced employee efficiency, while flextime programs positively affected service delivery.

Kawiana, Arifin, Tulasi, Wibowo, and Setyawasih (2023) explored the impact of work-related stress, motivation, and the work environment on employee productivity at a freight forwarding and logistics company. This quantitative research included a sample of 100 employees, with data collected from 80 respondents through random sampling. Various linear regression analysis models were applied using SPSS. The study revealed that workplace motivation, stress, and the work environment all significantly affect employee performance. Work stress showed a positive impact on performance, motivation positively influenced performance, and the work environment also had a positive impact.

Obiora, Iyke-Ofoedu, and Uzochukwu (2023) studied the impact of stress management strategies on the performance of employees in deposit money banks in Enugu State, Nigeria. The study aimed to determine the

Original Article

effect of counseling services on employee efficiency and the impact of flextime programs on service delivery quality. A descriptive survey design was utilized, with a sample size of 394 drawn from a population of 25,275 bank employees. Mean scores and standard deviation were used for data analysis, while regression analysis tested the hypotheses. Results showed that counseling services significantly improved employee efficiency (t-statistic = 7.312, p-value = $0.000 < 0.005$), and flextime programs significantly enhanced service delivery (t-statistic = 6.491, p-value = $0.000 < 0.005$).

Lestari and Manggiasih (2022) examined the effect of implementing work-from-home arrangements and stress management on employee productivity during the COVID-19 pandemic. Utilizing a quantitative approach and explanatory survey, data was collected via questionnaires distributed to private employees in Jakarta using incidental sampling. Multiple linear regression analysis, along with t-tests and f-tests, was employed for hypothesis testing. The t-test results indicated that work-from-home practices and stress management positively impacted employee productivity. The f-test confirmed that both variables collectively influenced productivity during the pandemic.

Catherine and Fonceca (2022) explored stress management as a tool for performance management in a manufacturing unit in Hosur, Tamil Nadu, India. A sample of 100 employees was selected using simple random sampling (lottery method). Findings revealed that 57% of respondents reported moderate stress levels, 84% experienced moderate stress related to their work environment, and 67% reported low job stress. Additionally, 69% indicated a low quality of life, which correlated with reduced job performance.

Boakye, Boadi, Tang, Osei, and Rahman (2022) investigated the impact of stress on employee performance at the African Methodist Episcopal Zion Hospital in the Offinso North District of Ghana. The study used a case study methodology and semi-structured interviews to gather data from 25 health workers. Qualitative analysis revealed stress-related factors such as workload, role ambiguity, work-family balance, adverse conditions, career development issues, time pressure, and dual supervision. Physiological stress effects included anxiety, irritation, and depression, which negatively impacted relations with clients and colleagues and contributed to reduced productivity, low morale, and poor work relationships.

Ibe (2022) examined the impact of workplace stress on employee productivity among healthcare professionals through a qualitative exploratory case study. Data collection involved telephone and face-to-face interviews, as well as emails. The findings highlighted factors influencing productivity, including burnout, initial job satisfaction, professional growth, teamwork, and team productivity. The study discussed its implications based on existing literature and concluded that further research is needed to standardize terminology and gain deeper insights into workplace stress and productivity.

Naibaho and Naibaho (2022) investigated the effect of the work environment and stress on productivity at PT. MSM. The study was descriptive and explorative, involving all 40 employees at PT. MSM Medan as a saturated sample. Multiple linear regression analysis, determinant tests, and F and t-tests were used for data analysis. Results showed that both work environment and stress significantly influenced productivity, with an Adjusted R^2 value of 0.963, indicating that 96.3% of productivity variation was explained by the work environment and stress variables. The remaining 3.7% was influenced by factors not included in the study. The F-test value (548.07) and partial results demonstrated significant effects of both the work environment and stress on productivity.

Original Article

Kumala, Utarindasari, and Joesyiana (2022) studied the effect of work stress on employee productivity in the Extruder Division at PT Unggul Karya in Wanaherang, Bogor Regency. Using quantitative research methods and descriptive statistical analysis, the study applied linear regression, revealing that productivity (Y) is influenced by stress (X), with the regression equation being $Y = 41.045 + 0.606X$. The correlation coefficient (r) was 0.71, demonstrating a strong link between stress and productivity.

Adenuga (2021) investigated the effects of occupational stress on employee performance in Lafarge and Dangote cement industries in Ogun State, Nigeria. The study identified causes of stress unique to these companies, assessed the effects of workplace stress on job performance, and explored coping strategies. Anchored on Structural-Functionalism, the study used a descriptive research design and a sample size determined by Taro Yamane's formula. Data collected through questionnaires were analyzed using SPSS. The results highlighted various stressors, including lack of promotion, excessive workload, transportation issues, job insecurity, and inadequate training. Stress led to reduced productivity, increased recess time, absenteeism, and resource wastage. Coping strategies included taking loans, bulk food purchases, delegation of tasks, medical tests, and side businesses.

Odunlami and Oludipe (2021) examined the impact of work stress on employee performance in selected deposit money banks in Lagos and Ogun States, Nigeria. The survey research design included administering 400 questionnaires to bank employees. Descriptive statistics were used for demographic analysis, while multiple regression analysis tested the hypotheses. Findings showed that in Lagos, independent variables like workload-induced stress and work-family conflict did not significantly impact service quality, sales turnover, or customer satisfaction, except for employee commitment. In Ogun State, however, these stressors significantly affected performance metrics except for employee commitment.

Sokpuwu and Ibara (2021) investigated job stress management among university staff, noting that job stress is rising due to significant economic, infrastructural, and organizational changes. The study focused on staff from the National Open University of Nigeria's study centers in the Niger Delta, involving 120 respondents. Data were collected through the "Staff Stress Management Questionnaire (SSMQ)," which had validated face and content measures and a reliability coefficient of 0.86. Analysis used descriptive statistics (mean and standard deviation) for research questions and the t-test for hypothesis testing. Findings indicated that workload, lack of recognition, and insufficient career development opportunities were notable stressors.

METHODOLOGY

This study adopted a survey descriptive research design to investigate the effect of stress management on employee productivity in selected manufacturing firms in Awka metropolis. This design was considered suitable because it allows for the collection of data from a subset of the population to describe, analyze, and infer the relationship between variables.

Study Population

The study population comprised 204 employees drawn from five selected manufacturing firms in Awka metropolis. These firms include Chiadi Manufacturing Company Ltd, Juhel Nigeria Limited, Ozalla Plastics Enterprises Ltd, Comfort Triumphant Company Ltd, and Zontal Fobis Limited. Table 1 below provides the details of the population distribution:

Table 1: Population of the Study

Original Article

Name of Firms	Location/Address	Staff Strength
Chiadi Manufacturing Company Ltd	9, Oguguo, Gibson Nwosu Avenue	37
Comfort Triumphant Company Ltd	Opposite Nigeria Brewery, Agu-Awka	33
Juhel Nigeria Limited	Enugu-Onitsha Expressway, Awka South	79
Ozalla Plastics Enterprises Ltd	Plot 253, Awka Industrial Estate	28
Zontal Fobis Limited	257, Zik Avenue, Awka South	27
Total		204

Source: Survey from Field (2024)

Sample Size and Sampling Technique

To determine an appropriate sample size for the effective distribution of questionnaires, the Taro Yamane statistical formula was applied. This method provides a systematic approach to calculating the sample size based on the total population, ensuring reliability and precision in the study.

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

Where; N = Population
 S = Sample Size
 e = Error term (0.05)
 1 = Constant

$$S = \frac{204}{1 + 204(0.05)^2}$$

$$S = \frac{204}{1 + 204 (0.0025)}$$

$$S = \frac{2041}{1 + 0.51}$$

$$S = \frac{204}{1.51}$$

$$S = 135.0993377483444$$

$$S = 135 \text{ respondents}$$

Sampling Technique

The study employed a stratified sampling method. To determine the appropriate distribution of questionnaires among the selected manufacturing firms, Bowley's proportional allocation formula was utilized. This approach was chosen to ensure that each organization received a fair and representative share of the total questionnaires, based on the variations in their population sizes. By applying Bowley's formula, the researcher aimed to achieve a balanced and equitable representation across the sampled firms. The detailed calculations using the formula are outlined below:

$$x = \frac{h}{y} \times 135$$

Where x = stratum sample size.

h = No. of items in each stratum in the population.

Original Article

y = population size.

The strata distribution using Bowley's formula is calculated below:

Table 2 Strata Calculation

<i>Firm</i>	<i>Calculation of Strata Ratio: (Individual Firm population/Total population)</i>	<i>Calculation of Strata Size: (Strata ratio X sample size)</i>
1. Chiadi Manufacturing Company Ltd	$(37 / 204) = 0.181$	$0.18137 \times 135 = 25$
2. Juhel Nigeria Limited	$(79 / 204) = 0.387$	$0.387 \times 135 = 52$
3. Ozalla Plastics Enterprises Ltd	$(28 / 204) = 0.137$	$0.137 \times 135 = 18$
4. Comfort Triumphant Company Ltd	$(33 / 204) = 0.162$	$0.162 \times 135 = 22$
5. Zontal Fobis Limited	$(27 / 204) = 0.132$	$0.132 \times 135 = 18$
Total	$(204 / 204) = 1.0$	$1 \times 135 = 135$

Source: Field Survey, 2024

Thus, the study deployed stratified sampling technique in recruiting the sample participants. This approach ensured that the sample accurately represented the different banks and employee categories within the population, enhancing the reliability and validity of the study's findings.

Method of Data Collection

The study relied on primary data collected directly from employees of the selected firms through a structured questionnaire. This method ensured the data gathered was specific and relevant to the study objectives. A structured questionnaire was used, designed with a five-point Likert scale ranging from "Strongly Agree" (5) to "Strongly Disagree" (1). The questionnaires were administered both in person and electronically. Participants were provided clear instructions to ensure accurate and honest responses. Adequate follow-up was conducted to maximize response rates.

Reliability of the Instrument

Reliability was tested using Cronbach's alpha, with all variables exceeding the threshold of 0.7. Table 3 presents the reliability coefficients:

Table 3: Reliability Estimates

Variables	Number of Items	Cronbach's Alpha
Work load	3	0.84
Role ambiguity	3	0.81
Employee effectiveness	3	0.77
Employee efficiency	3	0.72

Source: Author's Compilation (2025)

Original Article

Method of Data Analysis

The analysis of the data collected in the study involved the use of both descriptive and inferential statistical techniques. Descriptive statistics, such as mean and frequency, were employed to summarize and present the demographic characteristics of the respondents. These descriptive measures provided a clear and concise overview of the demographic distribution within the study population, including factors such as age, gender, educational qualifications, and years of experience. Pearson coefficient correlation was used in testing the hypothesis.

Decision Rule

The test of hypotheses of the study was carried out at 5% level of significance. Thus, if the *p-value* of the test is less than 0.05, reject the null hypothesis; otherwise, accept.

DATA ANALYSIS

Out of one hundred and thirty-five (135) copies of questionnaire administered, one hundred and eleven (111) were completed and returned, this represent **76%**.

Table 1: Responses Summary for question One

Question 1: How does excessive workload affect the employee effectiveness in selected manufacturing firms in Awka metropolis?

S/N	Excessive Workload	SA	A	Un	D	SD
1	My job role is more than my capacity	35	50	0	26	0
2	The benefits from my job is small compare to my task	38	45	1	26	1
3	There is no balance between my work and social life	32	49	0	28	2
	Employee Effectiveness					
4	I contribute to the attainment of organizational goals	43	45	0	21	2
5	I usually achieve my job requirements	35	46	0	29	1
6	I am proactive towards problem solving	39	46	0	25	1

Table 2: Responses Summary for question Two

Question 2: To what extent does role ambiguity affect the employee efficiency in selected manufacturing firms in Awka metropolis?

S/N	Role Ambiguity	SA	A	Un	D	SD
1	The aims of my job are clear	38	50	0	23	0
2	I know what my responsibilities are	30	55	0	26	0
3	I work on unnecessary things	35	53	0	21	2
	Employee Efficiency					
4	I excel in my job under minimum supervision	42	45	0	24	0
5	I achieve my job goals with minimum resources	29	51	1	29	1
6	I perform my job within the stipulated time frame	40	43	1	27	0

Original Article

Data Analysis

Table. 3:: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
EME	5	.00	137.00	66.6000	63.08962
EPE	5	1.00	139.00	66.6000	62.98651
EWL	5	1.00	144.00	66.6000	63.23211
RAM	5	.00	158.00	66.6000	67.63727
Valid N (listwise)	5				

The descriptive statistics for the dependent variables, employee effectiveness (EME), and employee efficiency (EPE), with the independents variables; excessive workload (EWL), role ambiguity (RAM) was represented in table 3. The mean is used to establish a baseline. The maximum and minimum numbers, on the other hand, aid in the detection of data problems. The variation from the mean is represented by the standard deviation. It is a risk indicator; the greater the standard deviation, the greater the risk. The standard deviation is a metric that expresses how much each item in a dataset deviates from the mean. It is the most reliable and extensively used metric. The standard deviations in the firms are 63.23, and 67. 64 for EWL, and RAM respectively.

Test of Hypotheses

Hypothesis 1

H0₁: Excessive workload does not have a significant relationship on the employee effectiveness of selected manufacturing firms in Awka metropolis.

Table 4: Correlations

		EME	EWL
EME	Pearson Correlation	1	.993**
	Sig. (2-tailed)		.001
	N	5	5
EWL	Pearson Correlation	.993**	1
	Sig. (2-tailed)	.001	
	N	5	5

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

From the table above, correlation coefficient of .993 shows a positive correlation between excessive workload and employee effectiveness. To have an idea of how much variance the two variables share, the coefficient of determination (R) is calculated. R is $0.993 \times 0.993 = 0.986$. It implies that excessive workload helps to explain almost 99% of the variance in employee effectiveness in selected manufacturing firms in Awka metropolis. From the above result, the study discovers that the confidence level between excessive workload and employee effectiveness is very high, and that correlation coefficient is significant at 0.01 levels ($.001 > 0.01$). Therefore, the null hypothesis was rejected and alternate hypothesis was accepted which states that there is a significant

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relationship between excessive workload to the employee effectiveness in selected manufacturing firms in Awka metropolis is accepted.

Hypothesis 2

H0₂: Role ambiguity has no significant relationship on the employee efficiency of selected manufacturing firms in Awka metropolis.

Table 5: Correlations

		EPE	RAM
EPE	Pearson Correlation	1	.987**
	Sig. (2-tailed)		.002
	N	5	5
RAM	Pearson Correlation	.987**	1
	Sig. (2-tailed)	.002	
	N	5	5

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

From the table above, correlation coefficient of .987 shows a positive correlation between role ambiguity and employee efficiency. To have an idea of how much variance the two variables share, the coefficient of determination (R) is calculated. R is $0.987 \times 0.987 = 0.974$. It implies that role ambiguity helps to explain almost 99% of the variance in employee efficiency in selected manufacturing firms in Awka metropolis. From the above result, the study discovers that the confidence level between role ambiguity and employee efficiency is very high, and that correlation coefficient is significant at 0.01 levels ($.002 > 0.01$). Therefore, the null hypothesis was rejected and alternate hypothesis was accepted which states that role ambiguity is significantly related to the employee efficiency in selected manufacturing firms in Awka metropolis.

Discussion of Findings

Hypothesis one showed that there is significant relationship between excessive workload and the employee effectiveness in selected manufacturing firms in Awka metropolis. This result is in line with Annisa et al. (2024) whom indicated a significant relationship between tenure and work stress, workload and work stress, and workload and work productivity. However, significant relationship was found between work stress and work productivity.

Hypothesis two revealed that role ambiguity also has a significant relationship on the employee efficiency of selected manufacturing firms in Awka metropolis. This finding is also congruent with Boakye, Boadi, Tang, Osei, and Rahman, (2022) whom stated that role ambiguity occurs when there is a lack of clear information regarding an employee's job responsibilities, expectations, or authority within an organization.

CONCLUSION AND RECOMMENDAIONS

Conclusion

The study ascertained the relationship between stress management and the employee productivity of selected manufacturing firms in Awka metropolis. The study used excessive workload and role ambiguity to represent the independents variables. Survey research design was adopted for the study. Pearson correlation coefficient was employed to test the hypotheses. The study revealed that excessive workload significantly relate to the

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employee effectiveness in selected manufacturing firms in Awka metropolis. Role ambiguity has significant relationship on the employee efficiency in selected manufacturing firms in Awka metropolis. Conclusively, the study showed that stress management is essential management practice in enhancing employee productivity among staff of selected manufacturing firms in Awka metropolis.

Based on the outcome of the study, the study recommended that the followings;

1. The study recommended that the management of companies and firms should avoid excessive work hours, job threats, and at-home work assignments that contribute to workplace stress and home conflicts.
2. It is also recommended that employers should assign tasks that align with employees' capabilities so to prevent job stress.

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