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Unraveling the Impact of Differentiated Pay Systems on Employee Performance: A Comparative Analysis of Performance-Based and Skill-Based Compensation Strategies

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Abstract

The study delves into the realm of compensation management in Nigerian organizations, focusing on the impact of performance-based and skill-based pay systems on employee performance. It addresses the challenges faced in effective compensation management and the need to bridge the gap between compensation strategies and their effects on employee performance in the Nigerian context. Employing a survey research design, the study gathered data through structured questionnaires distributed among employees in selected private-sector organizations in Cross River State, Nigeria, The survey involved demographic information collection and respondents' perceptions regarding performance-based and skill-based pay systems. The findings revealed a positive reception of both performance-based and skill-based pay systems among Nigerian employees. The majority held favorable views, indicating that performance-based pay effectively motivates employees and links compensation to productivity. Similarly, skill-based pay was perceived as recognizing and fostering skill development among the workforce. Statistical analyses revealed strong correlations between these pay systems and employees' commitment (performance-based) and creativity (skill-based). The study highlights the significance of tailored compensation systems in Nigerian organizations to enhance employee motivation, productivity. and skill development. It recommends the adoption of innovative and context-specific compensation structures to better align with local workforce dynamics, emphasizing the need for strategies that motivate, reward, and promote skill acquisition.

Keywords: Performance-based pay, Skill-based pay, Employee performance, Nigerian organizations.

Introduction

In the intricate interplay between workforce motivation and organizational performance, compensation emerges as a pivotal driver influencing employees' basic needs, desires, and job engagement. It encompasses various forms, ranging from traditional monetary rewards like salaries, bonuses, commissions, and profit-sharing to additional incentives such as vacations, cars, or tangible items (Samnani & Singh, 2014; Ada, Angioha, Ije, Otosi, Enamhe, Ngbodin & Ishie, 2023). Within the realm of Human Resource Management (HRM), compensation management stands as a cornerstone, dedicated to formulating and implementing policies that ensure fair, equitable, and consistent remuneration aligned with an individual's value to the organization (Ingwe, Ada, & Adalikwu, 2015; Etim, Ndem, Inyang, & Ada, 2023; Ingwe, Ada, & Adalikwu, 2013)

However, amidst the significance of compensation in fostering employee motivation and productivity, contemporary workplaces confront multifaceted challenges. Employees grapple with adversities including inadequate infrastructure, a dearth of conducive research environments, disparities in salary and allowances, and the ramifications of inconsistent policy implementations,

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all of which invariably impact their levels of job satisfaction (Ele, Makama, & Auquasama, 2020; Angioha, Omang, Ishie, & Iji, 2020; Angioha, Enukoha, Agba, & Ikhizamah, 2020; Iji, Unim, & Okpa, 2019). Such challenges reflect a broader concern: the deficiency in effective compensation management practices, where certain organizations perceive employees merely as operational costs or liabilities. Consequently, these entities often fail to provide adequate compensation proportional to the efforts and skills exerted by employees in organizational activities. Instead, emphasis is disproportionately placed on enhancing other operational resources like machinery, materials, and financial assets, often at the expense of recognizing and rewarding human efforts adequately (Peter, & John, 2019; Ewah, Ekeng, & Ada, 2009; Ada & Ada, 2013; Enukoha, Angioha, & Ojong-Ejoh, 2022).

However, contemporary workplaces in Cross River State, Nigeria, confront multifaceted challenges that impede effective compensation management and its subsequent impact on employee performance (Attah, & Angioha, 2019). Employees grapple with issues ranging from inadequate infrastructure and a lack of conducive research environments to disparities in salary and allowances. These challenges, compounded by inconsistent policy implementations, detrimentally affect job satisfaction levels among the workforce (Ingwe, Ada & Adalikwu, 2013; Ada, & Ada, 2013). The consequence is a critical gap between employees' contributions and the recognition they receive, perpetuating a cycle where certain organizations perceive employees primarily as operational costs or liabilities.

In the pursuit of organizational optimization, some entities have tended to prioritize resources like machinery, materials, and financial assets, often neglecting the crucial element of equitable employee compensation. This imbalanced focus diminishes the importance of recognizing and rewarding human efforts, resulting in a deficiency in appropriate compensation management practices (Ele, Makama & Auquasama, 2020). Moreover, the conventional view of compensation being synonymous solely with cash exacerbates this oversight, further limiting employers' understanding of the comprehensive compensation package that encompasses various non-monetary elements crucial for employee satisfaction and performance.

In light of these pressing challenges, this study embarks on a focused inquiry into the landscape of compensation management within selected organizations in Cross River State. Specifically, the research seeks to unravel the intricate impact of differentiated pay systems such as performance-based and skill-based compensation strategies on employee performance. Through a comparative analysis of these compensation approaches, the study aims to elucidate their distinct relationships with employee performance levels within the organizational context. By zooming in on selected organizations, this research endeavors to bridge the gap between compensation strategies and their effects on employee performance, contributing to a nuanced understanding that transcends traditional cash-centric perspectives.

Materials and Methods

The chosen research design for this study is the survey research design. This approach was selected due to its systematic empirical inquiry nature. It allows for a one-time observation involving multiple variables necessary for the research, albeit without enabling the manipulation of independent variables to impact the dependent variable. The survey design employs a structured questionnaire comprising three sections to evaluate compensation management and employee performance within selected private-sector organizations. Section A collects respondents' background information, while Sections B and C gather data on the evaluation of compensation management and employee performance, respectively. Section C employs a five-point Likert scale (ranging from strongly agree to not sure) to rate responses, facilitating a comprehensive assessment of perceptions regarding these critical factors in the study context.

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Sampling

The sampling procedure for this research study involved selecting a representative sample from the population comprising employees and management across selected organizations in Cross River State. The study adopted the Taro Yamane sample size determination method. With a total population of 507 individuals, applying a 5 percent tolerable error, the calculated sample size was 224. This sample was then distributed among the three Senatorial districts based on their respective percentages, resulting in specific sample sizes for each district. Simple random sampling was employed to ensure an equal opportunity for all individuals within the organizations to be chosen for participation.

Table 1: Population of selected organisation

| S/N | Name of the organization | Number of employees |
|-------|-------------------------------|---------------------|
| 1 | Larfage | 420 |
| 2 | Honey Feed Company | 47 |
| 3 | Aje Ndoma Nigeria Enterprises | 40 |
| Total | • | 507 |

Source: Various Companies' Record, 2022

Data Analysis Procedure

The data analysis for this study employed both descriptive and inferential statistical techniques using SPSS software. Descriptive statistics were utilized to present the demographic distribution of respondents detailing sex, age, marital status, educational qualifications, and work experience. The inferential statistics involved correlation analysis using Pearson correlation coefficients. SPSS was the software tool used for this analysis to derive meaningful conclusions and interpret relationships between compensation strategies and employee outcomes.

Findings

A total of 224 questionnaires were distributed randomly among Larfage Company, Honey Feed Company Limited, and Aje Ndoma Nigeria Enterprise. While 28 copies were unreturned, 196 completed questionnaires were deemed representative of the study population. Gender distribution showed 46.9% male and 53.1% female respondents. Regarding age, 15.3% fell within 16-24 years, 35.7% within 25-35 years, 29.6% within 36-44 years, and 19.4% were 45 years and above. Marital status indicated 46.9% single and 53.1% married individuals. Educational backgrounds were 18.4% FSLC, 20.4% WASC/NECO, and 61.2% HND/B.Sc. Work experience revealed 31.6% with 1-5 years, 19.4% with 6-10 years, 21.4% with 11-15 years, and 27.6% with 16+ years. The returned 196 filled questionnaires were considered the accurate reflection of the study populace, aiding comprehensive insights.

Table 2: Demographic distribution of respondents

| Description | Respondents | Percentage | |
|-------------|-------------|------------|--|
| Sex Male | | | |
| Female | 92 | 46.9 | |
| Total | 104 | 53.1 | |
| | 196 | 100.0 | |

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| Age (Years) 18 | | |
|--|----------|--------------|
| <u>- 30</u> | 30 | 15.3 |
| 31 - 40 | 70 | 35.7 |
| 41 - 50 | 58 | 29.6 |
| 51 and above | 38 | 19.4 |
| Total | 196 | 100.0 |
| Total | 190 | 100.0 |
| | | |
| | | |
| Marital status | | |
| Single Married | 92 | 46.9 |
| Total | 104 | 53.1 |
| | 196 | 100.0 |
| | | |
| | | |
| Educational QualificationsFSLC | 36 | 18.4 |
| WAEC/NECO | 40 | 20.4 |
| HND/B.Sc. | 120 | 61.2 |
| Total | 196 | 100.0 |
| 1 Out | 170 | 100.0 |
| | | |
| | | |
| | | |
| W 1 ' 1 | | |
| Work experience1 — | | 21.6 |
| 5 | 62 | 31.6 |
| 5 6 - 10 | 38 | 19.4 |
| 5 6 - 10 11 - 15 | 38 42 | 19.4 21.4 |
| 5 6 — 10 11 — 15 16 and above | 38 | 19.4 |
| 5 6 - 10 11 - 15 | 38 42 | 19.4 21.4 |

Source: Researchers Field Survey, 2021.

Presentation of results

The table presents respondents' perceptions on performance-based pay. Across all items, a significant portion of respondents expressed favorable views. Regarding the effectiveness of performance-based pay in motivating employees, 72.4% strongly agreed, while 10.2% agreed, constituting a combined 82.6% positive response. Additionally, 67.3% believed it goes to productive employees, and 76.5% agreed that it motivates employees to perform their best.

However, some respondents had reservations. A smaller proportion, 5.1%, disagreed that performance-based pay effectively motivates employees, and 7.1% disagreed that it goes to productive employees. Similarly, around 5.7% disagreed or strongly disagreed that it provides fair financial compensation based on performance. Overall, the majority of respondents supported performance-based pay as an effective means of motivation and linking compensation to performance.

Table 3: Distribution of respondent's responses on performance-based pay

| Item | SA | А | U | D | SD (%) |
|--|-------------|-----------|---------|---------|---------|
| Performance-based pay is an | 142 (72.4) | 20 (10.2) | 10(5.1) | 10(5.1) | 14(7.1) |
| effective way to motivate employee Performance-based pay goes t | 0 132(67.3) | 46(23.5) | 12(6.1) | 2(1.0) | 4(2.0) |
| productive employee | 0 152(07.5) | 10(25.5) | 12(0.1) | 2(1.0) | 1(2.0) |

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| Performance-based pay | 132(67.3) | 26(13.3) | 19(9.7) | 14(7.1) | 5(2.6) |
|---------------------------------|---------------|----------|---------|---------|--------|
| provides financial | | | | | |
| compensation based on | | | | | |
| employees' performance | | | | | |
| Performance-based pay motiva | tes 150(76.5) | 32(16.3) | 4(2.0) | 6(3.1) | 4(2.0) |
| employees to perform heir best. | | | | | |
| | | | | | |

Source: Researchers Field Survey, 2021

The table illustrates respondents' viewpoints on skill-based pay. Overall, the majority of respondents had positive perceptions regarding skill-based pay systems. Regarding the acquisition of skills in performing tasks, a significant 75.5% strongly agreed that skills are acquired through task performance. Similarly, 75.5% agreed that skill-based pay is a salary system determined by an employee's knowledge. In terms of focus, 73.5% believed that skill-based pay is centered on skill and not just experience. Furthermore, 68.4% of respondents agreed that pay-based on skills helps in the development of deeper skills among the workforce.

However, some respondents expressed reservations or differing views. Around 12.2% disagreed or strongly disagreed that skill-based pay focuses on skill rather than experience. Additionally, 9.7% disagreed or strongly disagreed that it develops deeper skills among the workforces. Overall, the majority of respondents viewed skill-based pay favorably, acknowledging its role in recognizing and rewarding knowledge and skill acquisition.

| Item | SA | А | U | D | SD |
|-------------------------------------|-----------|----------|---------|---------|--------|
| Skill is acquired in performingtask | 148(75.5) | 26(13.3) | 3(1.5) | 12(6.1) | 7(3.6) |
| Skill based pay is a salary system | 148(75.5) | 21(10.7) | 10(5.1) | 12(6.1) | 5(2.6) |
| that determines an employees pay | | | | | |
| based on his orher knowledge. | | | | | |
| Skill based pay is focused on | 144(73.5) | 28(14.3) | 12(6.1) | 4(2.0) | 8(4.1) |
| experience. | | | | | |
| Pay based develops deeperskills | 134(68.4) | 38(19.4) | 10(5.1) | 6(3.1) | 8(4.1) |
| among the workforce | | | | | |

Table 4: Distribution of respondents' responses on skill-based pay

Source: Researchers Field Survey, 2021.

Correlation Analysis

Pearson Product Moment Correlation Analysis was conducted at a 0.05 confidence level to explore the association between performance-based metrics and employee performance. The analysis revealed a robust positive correlation coefficient of 0.872, signifying a strong relationship between performance-based criteria and employees' commitment. Notably, the test achieved significance at the 0.01 level, Thus, affirming a meaningful and statistically significant link between performance-based measures and employees' commitment within the chosen organizations.

Table 5: Correlation result of relationship between performance based pay and employees performance

| | performance based | Employees commitment |
|---------------------|----------------------|----------------------|
| Pearson correlation | 1 | .872** |
| Sig. (2-tailed) | | .000 |

| performance based | Sum of squares and cross-products | 138.58 | 171.21 |
|-----------------------|--|----------------|--------|
| | Covariance | .250 | .236 |
| | Ν | 196 | 196 |
| | Pearson correlation Sig. (2-tailed) | .872** .000 | 1 |
| Employees performance | Sum of squares and cross-products | 176.41 | 622.44 |
| | Covariance | .336 | 1.51 |
| | Ν | 196 | 196 |

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We also employed Pearson Product Moment Correlation to assess the association between skill-based pay and employee performance. Results unveiled a substantial positive correlation coefficient of 0.845, demonstrating a strong relationship between skill-based compensation and employees' performance. The statistical test reached significance at the 0.01 level, prompting the acceptance of the alternative hypothesis led to the conclusion that a significant and positive relationship exists between skill-based compensation and the creativity exhibited by employees.

| | | Skill | Employees | |
|-----------------------|-----------------------------------|--------|------------|--|
| | | based | creativity | |
| | Pearson correlation | 1 | .845** | |
| | Sig. (2-tailed) | | .000 | |
| Skill based | Sum of squares and cross-products | 301.74 | 116.94 | |
| Skill bused | Covariance | .421 | .305 | |
| | Ν | 196 | 196 | |
| | Pearson correlation | .845** | 1 | |
| | Sig. (2-tailed) | .000 | | |
| | Sum of squares and | | | |
| Employees performance | cross-products | 176.94 | 159.32 | |
| | Covariance | | | |
| | | .305 | .201 | |
| | Ν | 196 | 196 | |

TABLE 6: Correlation result of the relationship between skill based and employee performance

Source: SPSS analysis.

Discussion of Findings

The research findings present a comprehensive understanding of how employees in various Nigerian companies perceive performance-based pay and skill-based compensation systems. These findings illuminate the attitudes, beliefs, and connections between these systems and employee performance within the Nigerian work environment.

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A majority of respondents showed positivity towards performance-based pay, highlighting its effectiveness in motivating employees and tying compensation to their performance. About 82.6% believed that this pay structure strongly motivates employees to perform their best, while 67.3% agreed that it aptly rewards productive employees. A strong positive correlation (0.872) was found between performance-based criteria and employees' commitment, indicating a significant influence on employees' dedication within Nigerian organizations.

This observation aligns with recent literature supporting the positive impact of performancebased pay on employee motivation and performance. Ismail, Majid, and Joarder (2015), indicate that such payment schemes often lead to heightened employee engagement, job satisfaction, and productivity. Similarly, studies by Onuorah, Okeke, and Ikechukwu (2019) in the Nigerian context demonstrate the positive influence of a well-structured performance-based pay system on employee performance and commitment.

Similarly, the findings on skill-based pay were predominantly favorable. A majority of respondents agreed that skills are acquired through task performance (75.5%) and that skill-based pay focuses on knowledge rather than merely experience (75.5%). Moreover, 68.4% acknowledged that this payment system contributes to the development of deeper skills among the workforce. The correlation analysis revealed a robust positive relationship (0.845) between skill-based compensation and employees' creativity, highlighting the significant impact of this payment structure on fostering innovative thinking among Nigerian employees.

Existing literature supports these findings, emphasizing the importance of skill-based pay in acknowledging and rewarding employees' acquired skills and knowledge. Studies by Ogwu, Okereke, and Ifeanyi (2023) emphasize that skill-based pay systems foster a culture of continuous learning, enhancing skills and organizational effectiveness. Additionally, research by Owuze and Akhimien (2022) underscores the role of skill-based compensation in promoting skill acquisition and utilization among Nigerian employees, crucial for economic growth.

Given Nigeria's diverse industries and reliance on human capital for economic growth, these research findings are highly relevant. The positive perceptions of both performance-based and skill-based pay systems underscore the need for tailored compensation structures that motivate, reward, and foster skill development within Nigerian organizations. Considering Nigeria's dynamic workforce and evolving labor market, these findings emphasize the importance of adopting performance-based and skill-based pay systems customized to local contexts. This aligns with the recommendations of Enukoha, Angioha, and Ojong-Ejoh, (2022) who advocate for innovative and context-specific compensation systems in Nigerian organizations to enhance employee performance and organizational productivity.

Conclusion and recommendations

In conclusion, the study's findings provide valuable insights into how Nigerian employees perceive performance-based and skill-based pay systems and their impact on employee performance. The study's recommendations for innovative and context-specific compensation systems in Nigerian organizations to enhance employee performance and organizational productivity, which are crucial for Nigeria's economic growth. Therefore, Nigerian organizations should adopt tailored compensation structures that motivate, reward, and foster skill development within their workforce.

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References

- Ada, J. A., & Ada, J. M. (2013). Conflict Management Strategies in Organizations. *Wudpecker* Journal of Public Administration, 1(2), 020-027.
- Ada, J. A., Angioha, P. U., Ije, U. U., Otosi, F. B., Enamhe, D. C., Ngbodin, C. S., & Ishie, Eno U., I. E. U. (2023). Evaluating the Symbiotic Relationship: Wage Policies, Recognition Programs, and Employee Productivity in Cross River State's Hospitality Industry. *Journal of Public Administration, Policy and Governance Research*, 1(3), 127– 136. Retrieved from https://jpapgr.com/index.php/research/article/view/40
- Angioha, P. U., Agba, R. U., Kenneth, B. U., & Ishie, E. U. (2021). Improving The Effectiveness of Commercial Bank Employess in Cross River State Through Appropriate Remuneration. *Quantitative Economics and Management Studies*, 2(3), 158-162. https://doi.org/10.35877/454RI.qems275
- Angioha, P. U., Enukoha, C. U., Agba, R. U., & Ikhizamah, G. U. (2020). Information technology predictor variables and employee productivity in commercial banks. *JINAV: Journal of Information and Visualization*, 1(1), 44-52.
- Angioha, P. U., Omang, T. A., Ishie, E. U., & Iji, M. E. (2020). Employee Stressors and Wellbeing of Healthcare Workers in Government owned Hospitals in Calabar, Nigeria. *Journal of Public Administration*, 2(4), 2020.
- Attah, F. M., & Angioha, P. U. (2019). Examining the level of relationship between working condition predictor variables; remuneration, working hours, office design, job security and workers wellbeing and productivity in commercial banks. *International Journal of Scientific and Research Publications (IJSRP)*, 9(5), 552-557.
- Ele, A. A., Makama, L. L., & Auquasama, A. V. (2020). Salaries and Wages Management: An Instrumental Tool for Effective Development of Civil Servants' Performance in Cross River State, Nigeria. American International Journal of Supply Chain Management, 1(1), 16–29. https://doi.org/10.46545/aijscm.v1i1.215
- Enukoha, C. U., Angioha, P. U., & Ojong-Ejoh, M. U. (2022). Labour Wages, Fringe Benefit as Hedonic Motivation for Employee Workplace Behaviour in Corporate Establishment. *Quantitative Economics and Management Studies*, *3*(3), 373-385.
- Etim, G. S., Ndem, S. E., Inyang, W. S., & Ada, J. A. (2023). Marketing Factors And New Vehicles Sales: A Correlative Exposition. *resmilitaris*, 13(3), 756-768.
- Ewah, S. O., Ekeng, A. B., & Ada, J. A. (2009). Impact of Organization Culture on Firm Productivity: A Survey of Cross River Newspaper Corporation 'Brand Chronicle.' *Journal of Policy and Development Studies*, 3(1), 70-80.
- Iji, M., Unim1i, A. P., & Okpa, J. (2019). Working Hours And Job Security: An Analysis Of Their Relationship With Commercial Bank Workers Well-Being And Performance In Cross River State, Nigeria. European Journal of Economic and Financial Research-Volume, 3(4), 2.
- Ingwe, R., Ada, J. A., & Adalikwu, R. A. (2013). Industral relations under various administrations in Nigeria: a political-temporal analysis of trade disputes, work stoppages and human work-day losses (1970–2004). *Annales Universitatis Mariae Curie-Skłodowska, Sectio H Oeconomia*, 2(47), 73-84.
- Ingwe, R., Ada, J. A., & Adalikwu, R. A. (2015). a political-temporal analysis of trade disputes, work stoppages and human work-day losses (1970–2004). *Annales Universitatis Mariae Curie-Skłodowska, sectio H–Oeconomia, 47*(2), 73.
- Ismail, A. I., Majid, A. H. A., & Joarder, M. J. (2015). Pay-performance relationship: An empirical study on employee performance in the context of Nigeria. *GBA's 12th Annual World Congress*, http://repo.uum.edu.my/16535/

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- Ogwu, S. O., Okereke, E. J., & Ifeanyi, M. (2023). Compensation Management and Employee Performance of Mortgage Banks in Abuja. *Asian Journal of Economics, Finance and Management*, 5(1), 313–322.
- Onuorah, N. A., Okeke, M. N., & Ikechukwu, I. A. (2019). Compensation management and employee performance in Nigeria. *International Journal of Academic Research in Business & Social Sciences*, 9(2). https://doi.org/10.6007/ijarbss/v9-i2/5552
- Owuze, C. O., & Akhimien, P. G. (2022). Compensation tools and employee performance in Nigerian: a selected study of the ministry of youth and sports, Edo state. *International Journal of Engineering Applied Sciences and Technology*, 7(7), 176–183. https://doi.org/10.33564/ijeast.2022.v07i07.028
- Peter, A., & John, T. (2019). Working conditions and employees' productivity in Cross River State Civil Service, Nigeria. *European Scientific Journal, ESJ*, 15(8). https://doi.org/10.19044/esj.2019.v15n8p132
- Samnani, A., & Singh, P. (2014). Performance-enhancing compensation practices and employee productivity: The role of workplace bullying. *Human Resource Management Review*, 24(1), 5–16. https://doi.org/10.1016/j.hrmr.2013.08.013
- Yan, W., & Sloan, M. F. (2014). The impact of employee compensation and financial performance on nonprofit organization donations. *The American Review of Public Administration*, 46(2), 243–258. https://doi.org/10.1177/0275074014554000