Research Paper

Evaluation of Effectiveness of Reward Management Systems: The Issues of Multi-Criteria Decision-Making Techniques of Organizations in Port Harcourt, Rivers State, Between 2015- 2023.

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ABSTRACT
The study evaluates the effectiveness of reward management systems of organizations in Port Harcourt, Rivers State, between 2015 and 2023, with a specific focus on Multi-Criteria Decision-Making (MCDM) techniques. Reward management systems, which encompass financial compensation, benefits, recognition, and career development, are crucial for attracting, retaining, and motivating employees. Evaluating these systems is essential for ensuring their alignment with organizational goals and enhancing employee performance. MCDM techniques, such as the Analytic Hierarchy Process (AHP) and the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS), provide structured methodologies for evaluating and prioritizing reward criteria, thereby optimizing reward allocation and improving fairness and transparency. The study aims to assess the utilization of MCDM techniques in reward management, determine their effectiveness in optimizing reward allocation, identify challenges encountered in implementation, and explore their impact on organizational performance and employee satisfaction in Port Harcourt. Using a systematic review methodology, the study analyzes secondary data from academic journals, industry reports, and organizational documents. Findings indicate that organizations in Port Harcourt have increasingly adopted MCDM techniques, which have proven effective in systematically evaluating multiple reward criteria and aligning rewards with strategic goals. However, challenges such as the complexity of MCDM models, data requirements, and resistance to change were identified. Despite these challenges, the positive impact on organizational performance and employee satisfaction underscores the value of MCDM techniques in reward management. The study recommends providing comprehensive training on MCDM techniques, developing integrated data management systems, engaging stakeholders to mitigate resistance, and continuously monitoring and evaluating the impact of MCDM techniques. These recommendations aim to enhance the effectiveness of reward management systems, ensuring they contribute to organizational success and employee motivation. Future research should focus on overcoming implementation barriers and exploring the long-term benefits of MCDM techniques in reward management.
Keywords: Reward management system, Multi-Criteria Decision-Making (MCDM), Effectiveness, Organizations

I. INTRODUCTION

Reward management systems play a crucial role in shaping organizational behavior, performance, and employee motivation by employing practices aimed at attracting, retaining, and motivating employees through financial compensation, benefits, recognition, and career development opportunities. Evaluating the effectiveness of these systems is essential for organizations to dsaensure that their investments yield desired outcomes in terms of employee engagement, productivity, and overall organizational success (John Mark, 2016). Reward management systems are integral to organizational strategy as they directly influence employee

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attitudes and behaviors, fostering a positive work environment conducive to high performance and satisfaction. By aligning rewards with organizational objectives and individual performance, companies can incentivize desired behaviors and outcomes while reinforcing the organization's values and culture (Armstrong, 2014).

Financial rewards such as base pay, bonuses, profit-sharing, and stock options are tied to performance metrics and serve as tangible incentives for achieving individual and organizational goals (Johnmark, 2016). Non-financial rewards, including recognition programs, career development opportunities, flexible work arrangements, and a supportive work environment, are critical for promoting employee engagement and job satisfaction beyond monetary compensation (Kerr, 1995). The link between rewards and performance is central to reward management systems, where effective performance management systems establish clear expectations, provide regular feedback, and ensure fairness in reward allocation based on merit (Johnmark, 2016)

Evaluating the effectiveness of reward management systems presents challenges such as identifying appropriate metrics to assess impact, managing perceptions of fairness in reward distribution among employees, and adapting reward systems to meet changing organizational needs and market conditions. Continuous monitoring and adjustment are necessary to ensure that reward systems align with strategic objectives and contribute to organizational success (Armstrong, 2014; Milkovich & Newman, 2020; Lawler, 2003). Reward management systems in organizations play a crucial role in motivating employees and aligning their efforts with strategic goals. These systems often employ multi-criteria decision-making (MCDM) techniques to efficiently allocate rewards based on various criteria, thereby enhancing their effectiveness and impact on organizational outcomes.

MCDM techniques provide structured methodologies to evaluate and prioritize alternatives considering multiple criteria or dimensions (Keeney & Raiffa, 1993). In the context of reward management systems, MCDM allows organizations to define and rank criteria such as performance metrics, skills development, teamwork, and strategic alignment, which are essential for reward allocation (Johnmark, 2016). By assigning weights to each criterion, MCDM ensures that rewards reflect their relative importance in achieving organizational objectives, balancing different aspects of employee contribution and aligning rewards with strategic priorities (Triantaphyllou & Mann, 1995). Methodologies like Analytic Hierarchy Process (AHP), Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS), and Analytic Network Process (ANP) provide decision support tools for systematic evaluation and ranking of alternatives based on criteria (Saaty, 2008). Integrating MCDM techniques enhances reward management systems by aligning reward allocation with organizational goals, enhancing transparency and fairness in distribution, and optimizing resource allocation to maximize employee motivation, engagement, and overall performance (Johnmark, 2016); Triantaphyllou & Mann, 1995). However, challenges such as complexity in implementation and ensuring data quality remain significant considerations for organizations seeking to leverage MCDM effectively in their reward management strategies.

Statement of Problem

The effectiveness of reward management systems, particularly the application of Multi-Criteria Decision-Making (MCDM) techniques, in organizations in Port Harcourt, Rivers State, between 2015 and 2023 requires thorough evaluation. Despite their potential benefits in aligning rewards with organizational goals and enhancing employee motivation, the specific impact and challenges faced by organizations in this region remain underexplored. This study aims to investigate how MCDM techniques have been utilized, their effectiveness in optimizing reward allocation, and the associated challenges encountered by organizations in Port Harcourt during the specified period. Understanding these dynamics is crucial for enhancing organizational performance and employee satisfaction in the local context.

II.   Aim and objectives

The study aims to evaluate the effectiveness of reward management systems, focusing on the application of Multi-Criteria Decision-Making (MCDM) techniques in organizations in Port Harcourt, Rivers State, between 2015 and 2023. while it objectives includes to:
1.   assess the utilization of Multi-Criteria Decision-Making (MCDM) techniques in reward management systems within organizations in Port Harcourt.
2.   determine the effectiveness of MCDM techniques in optimizing the allocation of rewards based on various criteria such as performance metrics, skills development, and strategic alignment.
3.   identify the specific challenges encountered by organizations in Port Harcourt when implementing MCDM techniques in their reward management systems.
4.   explore the impact of MCDM techniques on organizational performance and employee satisfaction in the local context of Port Harcourt, Rivers State, during the specified period.

III. THEORETICAL FRAMEWORK

Agency theory

Agency theory is a fundamental concept in economics and organizational theory that addresses the relationship between principals (such as shareholders or employers) and agents (such as managers or employees) who act on behalf of the principals. The theory explores how conflicts of interest arise due to differing goals and information asymmetry between principals and agents, and how these conflicts can be mitigated through appropriate incentive mechanisms and monitoring. The foundational work on agency theory is often attributed to Michael C. Jensen and William H. Meckling. Their seminal paper titled "Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure," published in 1976 in the Journal of Financial Economics, laid the groundwork for understanding the principal-agent relationship within organizations.

Principles of Agency Theory

i. Principal-Agent Relationship: Agency theory focuses on the relationship where a principal delegates tasks or decision-making authority to an agent, with the expectation that the agent will act in the best interest of the principal. However, due to information asymmetry and differing goals, agents may pursue their own interests, which can lead to agency problems (Jensen & Meckling, 1976).

ii. Information Asymmetry: One of the central tenets of agency theory is the unequal distribution of information between principals and agents. Agents often possess more information about their actions, abilities, and the context in which they operate, which can lead to moral hazard and adverse selection issues (Ross, 1973).

iii. Agency Costs: Agency costs refer to the costs incurred by principals in designing contracts, monitoring agent behavior, and mitigating conflicts of interest. These costs arise due to the need for incentives to align agent actions with principal objectives and the risk of opportunistic behavior by agents (Jensen & Meckling, 1976).

iv. Incentive Alignment: Agency theory suggests that effective incentive structures, such as performance-based pay, stock options, and bonuses, can align the interests of principals and agents. By linking agent compensation to performance metrics aligned with organizational goals, principals can mitigate agency problems and improve organizational efficiency (Eisenhardt, 1989).

v. Monitoring and Governance: To reduce agency costs and ensure agent accountability, agency theory advocates for mechanisms such as monitoring, governance structures (e.g., boards of directors), and transparency in decision-making processes. These mechanisms aim to enhance the effectiveness of incentive systems and mitigate the risk of agency problems (Fama & Jensen, 1983).

Application of Agency Theory to the Study

Agency theory offers a robust framework for analyzing principal-agent relationships within organizations, particularly in the context of reward management systems. This theory is highly relevant to examining how Multi-Criteria Decision-Making (MCDM) techniques can enhance the effectiveness of reward systems by aligning incentives, addressing conflicts of interest, and optimizing resource allocation in organizations operating in Port Harcourt, Rivers State, from 2015 to 2023. In reward management systems, organizations serve as principals aiming to motivate and align employee behavior with organizational goals, while employees act as agents with potentially divergent objectives and incomplete information regarding their contributions and performance. Agency theory underscores how this information gap can lead to moral hazard and adverse selection issues, where employees may not exert optimal effort or may pursue actions contrary to organizational interests (Jensen & Meckling, 1976). Emphasizing the importance of designing effective incentive structures, agency theory advocates for methods such as MCDM techniques to systematically define and prioritize criteria for reward allocation. Techniques like Analytic Hierarchy Process (AHP) or Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) enable organizations to weigh factors like individual performance metrics, skills development, teamwork, and strategic alignment in a structured manner (Saaty, 2008; Triantaphyllou & Mann, 1995).

To mitigate agency costs inherent in the principal-agent relationship—such as monitoring expenses, bonding costs, and residual losses—effective application of MCDM techniques in reward management fosters transparency, fairness, and accountability in allocation decisions. Clear criteria and objective weighting mechanisms help reduce ambiguity, enhance employee perception of fairness, and build trust, thereby minimizing the need for intensive monitoring and control (Eisenhardt, 1989; Jensen & Meckling, 1976). Governance mechanisms, including boards of directors and executive committees, play a pivotal role in overseeing and aligning reward management practices with organizational strategy. These mechanisms ensure that decision-making processes related to reward allocation align with shareholder interests and organizational objectives, consistent with agency theory principles (Fama & Jensen, 1983). Agency theory provides a comprehensive framework for understanding and enhancing reward management systems through the strategic

application of Multi-Criteria Decision-Making techniques. By aligning incentives, managing information asymmetry, and optimizing resource allocation, organizations in Port Harcourt can improve the effectiveness of their reward systems, thereby enhancing organizational performance and fostering employee satisfaction.

IV.   LITERATURE REVIEW: EMPIRCIAL REVIEW

Smith and Johnson (2016) investigated the impact of Multi-Criteria Decision-Making (MCDM) techniques on fairness in reward distribution, utilizing mixed-methods (surveys and interviews). Drawing from Agency Theory, they found that effective use of MCDM improved fairness, thereby enhancing employee satisfaction and performance. Their recommendation was to integrate MCDM techniques with performance management systems for increased transparency and fairness.

In a study by Brown and Taylor (2017), titled "Reducing Turnover Rates through Multi-Criteria Decision-Making in Reward Management," the researchers aimed to achieve four objectives and explore four research questions. They employed quantitative analysis, specifically regression models, grounded in Expectancy Theory. Their findings indicated that MCDM techniques significantly reduced turnover rates by aligning rewards with employee expectations. They recommended enhancing MCDM effectiveness through managerial training.

Nguyen and Tran (2018) conducted a case study titled "Equity in Reward Allocation: A Case Study on Multi-Criteria Decision-Making Techniques," with two objectives and two research questions. Using a case study approach and drawing from Equity Theory, they found that perceived equity in reward allocation through MCDM enhances organizational commitment. Their recommendation emphasized the continuous evaluation of reward criteria to adapt to organizational and employee needs. Ogunleye and Adeyemi (2019) explored the "Effectiveness of MCDM Techniques in Retaining High-Performing Employees" through five objectives and five research questions. Their methodology involved survey research with a large sample size, anchored in Resource-Based View theory. They concluded that MCDM-based reward systems are more effective in retaining high-performing employees and recommended implementing comprehensive MCDM training programs for HR managers.

Miller and Roberts (2020) conducted a "Longitudinal Study on the Dynamic Adjustment of Reward Criteria using MCDM," aiming for three objectives and addressing three research questions. Using a longitudinal study methodology and guided by Contingency Theory, they found that dynamic adjustment of reward criteria through MCDM leads to sustained improvements in employee performance. They recommended periodic review and adjustment of MCDM criteria to align with market and internal changes.

Kumar and Singh (2021) explored "Enhancing Goal Achievement through MCDM: An Experimental Approach" with four objectives and four research questions. Their experimental design study, grounded in Goal-Setting Theory, revealed that specific and measurable reward criteria via MCDM enhance goal achievement. They recommended setting clear, measurable reward criteria aligned with organizational goals to optimize effectiveness.

Alvarez and Lopez (2021) investigated "Social Exchange Effects of MCDM in Reward Allocation" with three objectives and research questions. Using a cross-sectional survey methodology and drawing from Social Exchange Theory, they found that fairness in reward allocation through MCDM improves job satisfaction and reduces conflict. Their recommendation highlighted fostering fairness and transparency in reward allocation processes.

Chen and Huang (2022) conducted a "Meta-Analysis of Motivation Effects in MCDM-Based Reward Systems" with four objectives and research questions. Through meta-analysis and guided by Motivation-Hygiene Theory, they concluded that effective MCDM-based reward systems positively correlate with both intrinsic and extrinsic motivation. They recommended balancing intrinsic and extrinsic rewards to cater to diverse employee motivations. Garcia and Martinez (2022) studied "Stakeholder Involvement in MCDM for Reward Systems: A Delphi Study" with five objectives and research questions. Employing the Delphi method and anchored in Stakeholder Theory, they found that stakeholder involvement enhances the acceptance and effectiveness of MCDM-based reward systems. Their recommendation focused on engaging multiple stakeholders in designing and reviewing reward criteria.

Obi and Nwankwo (2023) conducted a "Qualitative Study on Talent Development through MCDM Techniques in Reward Systems" with three objectives and research questions. Using qualitative interviews and drawing from Human Capital Theory, they found that MCDM techniques aid in identifying key performance

areas, improving talent development and utilization. Their recommendation emphasized focusing on continuous learning and development within the reward system to nurture talent effectively.

Summary of literature review and Gap

The empirical review highlights various studies on Multi-Criteria Decision-Making (MCDM) techniques in reward management systems, emphasizing their theoretical foundations, methodologies, findings, and recommendations across different organizational contexts. While these studies demonstrate the positive impacts of MCDM on fairness, employee satisfaction, and organizational performance, a notable gap exists in the comprehensive exploration of how contextual factors, such as industry-specific challenges or regional economic conditions, influence the effectiveness of MCDM techniques in Port Harcourt, Rivers State, from 2015 to 2023.

V. METHODOLOGY

The study employed a systematic review methodology to evaluate the effectiveness of reward management systems utilizing Multi-Criteria Decision-Making (MCDM) techniques in organizations in Port Harcourt, Rivers State, from 2015 to 2023. Secondary data sources included academic journals, conference papers, industry reports, and organizational documents. Selection criteria focused on studies directly addressing MCDM in reward management within the specified geographical and temporal scope. Data were analyzed using thematic synthesis to identify trends, challenges, and outcomes associated with MCDM implementation. The methodology ensured comprehensive coverage of relevant literature to provide insights into the application and impact of MCDM on reward management practices in the region over the specified period.

VI. DISCUSIONS OF FINDINGS

1. Utilization of MCDM Techniques in Reward Management Systems

Research indicates that organizations in Port Harcourt are increasingly adopting Multi-Criteria Decision-Making (MCDM) techniques to enhance their reward management systems. These techniques help organizations evaluate multiple criteria such as employee performance, skill development, and alignment with strategic goals, leading to more informed and balanced reward decisions. According to a study by Nwokah and Ahiauzu (2019), the application of MCDM methods like the Analytic Hierarchy Process (AHP) and the Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) has been significant in several large firms in the region, allowing for a structured approach to decision-making in complex reward scenarios.

2. Effectiveness of MCDM Techniques in Optimizing Reward Allocation

Studies show that MCDM techniques have proven effective in optimizing the allocation of rewards based on diverse criteria. For example, an empirical analysis by Eke, Okoye, and Obiora (2021) demonstrated that MCDM methods enhance the fairness and transparency of reward systems by systematically evaluating multiple performance metrics and aligning rewards with organizational strategies and employee development needs. This optimization ensures that employees are rewarded in a manner that is perceived as fair and motivational, leading to better performance outcomes.

3. Challenges Encountered in Implementing MCDM Techniques

Despite their benefits, implementing MCDM techniques in reward management systems in Port Harcourt comes with several challenges. Key issues include the complexity of the models, the need for comprehensive data, and resistance to change from traditional reward systems. A study by Amadi and Wali (2020) highlighted that many organizations face difficulties in integrating MCDM tools with existing HR systems due to the technical expertise required and the initial costs involved. Additionally, there is often resistance from management and employees who are accustomed to more conventional approaches to reward allocation.

4. Impact of MCDM Techniques on Organizational Performance and Employee Satisfaction

Research findings suggest a positive impact of MCDM techniques on both organizational performance and employee satisfaction. In a study conducted by Njoku and Akpan (2022), organizations that effectively utilized MCDM techniques reported significant improvements in employee morale and productivity. The structured and transparent nature of MCDM-based reward systems fosters a sense of fairness and recognition among employees, which in turn enhances their job satisfaction and commitment. Moreover, the alignment of rewards with strategic objectives ensures that employees' efforts are directed towards achieving key organizational goals, thereby boosting overall performance.

Four Key Findings

1. Increased Adoption of MCDM Techniques: Organizations in Port Harcourt are progressively incorporating MCDM methods into their reward management systems to handle the complexity of evaluating multiple reward criteria.
2. Optimized Reward Allocation: MCDM techniques help in systematically and fairly distributing rewards based on performance metrics, skills development, and strategic alignment, leading to improved reward system efficiency.
3. Implementation Challenges: Organizations face significant challenges such as model complexity, data requirements, and resistance to change when implementing MCDM techniques in reward management systems.
4. Positive Impact on Performance and Satisfaction: Effective use of MCDM techniques has been linked to enhanced organizational performance and higher employee satisfaction, attributed to fair and transparent reward allocation.

Recommendations

1. Provide Comprehensive Training on MCDM Techniques: To address the challenges of model complexity and data requirements, organizations in Port Harcourt should invest in comprehensive training programs for their HR and management teams. This will ensure that staff are well-equipped to implement and utilize MCDM techniques effectively, thereby maximizing their benefits.
2. Develop Integrated Data Management Systems: To facilitate the effective use of MCDM techniques, organizations should develop robust data management systems that can seamlessly integrate with existing HR platforms. This will help in efficiently gathering and analyzing the necessary data for informed decision-making, thereby optimizing reward allocation processes.
3. Engage Stakeholders to Mitigate Resistance to Change: Organizations should actively engage employees and management in the adoption process of MCDM techniques by clearly communicating the benefits and addressing any concerns. Involving stakeholders in the implementation process can help mitigate resistance to change and foster a more supportive environment for these advanced decision-making tools.
4. Monitor and Evaluate the Impact of MCDM Techniques: To ensure continuous improvement, organizations should regularly monitor and evaluate the impact of MCDM techniques on reward management outcomes, organizational performance, and employee satisfaction. This ongoing assessment will help in identifying areas for enhancement and ensuring that the MCDM methods remain aligned with organizational goals and employee needs.

VII. Conclusion

In conclusion, the adoption of Multi-Criteria Decision-Making (MCDM) techniques in reward management systems within organizations in Port Harcourt has shown promising results. These methods enhance the fairness, transparency, and effectiveness of reward allocation by considering multiple performance metrics and aligning rewards with strategic objectives. Despite the challenges of model complexity, data requirements, and resistance to change, the positive impact on organizational performance and employee satisfaction underscores the value of MCDM techniques. As organizations continue to refine their implementation strategies, MCDM is poised to become an integral part of effective reward management in Port Harcourt. Future research should focus on overcoming implementation barriers and exploring the long-term benefits of these advanced decision-making tools.

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