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The Impact of Employee Engagement, Job Rotation, On Job performance in The Egyptian organizations

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Abstract

Job rotation and employee involvement have emerged as crucial tactics for businesses looking to improve workers' performance, flexibility, and long-term competitiveness. The importance of human capital has increased in the age of globalization and technological improvement, especially in developing nations where businesses must contend with issues including high employee turnover, a lack of opportunities for professional growth, and skill mismatches. It is often known that engagement is a key factor in retention and productivity since it shows how motivated, emotionally invested, and committed workers are to their jobs. On the other hand, job rotation broadens employees' competencies and lessens work boredom by allowing them to methodically move across jobs, departments, or activities.

This study examines how job rotation and employee engagement affect job performance in Egyptian firms, where there is currently little research on these topics. The study used a quantitative research design and a positivist worldview. A standardized questionnaire that was disseminated to various management levels was used to gather data. To investigate the suggested hypotheses, responses were examined using regression modeling, confirmatory factor analysis (CFA), and descriptive statistics. The findings show that work performance is considerably and favorably impacted by both employee engagement and job rotation. Job attributes, recognition, and opportunity for growth were some of the best indicators. The results also show how rotation techniques can increase engagement, which in turn increases their impact on performance.

By analyzing the combined effects of engagement and rotation and providing empirical evidence from a developing-country perspective, this study adds to the body of knowledge. Practically speaking, the study highlights how crucial it is for HR directors in Egypt to combine engagement tactics with organized job rotation programs in order to promote flexibility, bolster workforce competencies, and attain long-term organizational performance in cutthroat markets.

Research Methodology

In order to test preconceived assumptions and validate a conceptual framework connecting employee engagement, job rotation, and job performance, this study used a positivist attitude and relied on a quantitative research design. Because it places an emphasis on observable facts, objective measurement, and the generalizability of conclusions, the positivist paradigm was judged appropriate. In order to offer empirical support for hypothesis testing and to explain the nature of the interactions between variables, a descriptive and causal method was used within this paradigm.

Research Instrument

A standardized questionnaire that participants self-administered was used to gather primary data. Closed-ended items on the instrument were scored on a five-point Likert scale, which goes from "strongly disagree" to

"strongly agree." To guarantee construct validity, items were modified from well-established and validated scales in earlier studies. For instance, the Utrecht Work Engagement Scale (Schaufeli et al., 2002) was used to measure employee engagement, and scales from previous HRM studies (Campion et al., 1994; Nassar et al., 2020) were utilized to measure job performance and job rotation. A pilot study was carried out with a small sample of employees prior to full deployment in order to evaluate the items' dependability, phrasing, and clarity. In order to improve the questionnaire and reduce measurement errors, feedback was taken into consideration.

Population and Sampling

Employees at junior, middle, senior, and top management levels from a variety of Egyptian companies, with an emphasis on the banking and service industries, made up the population. A non-probability convenience sampling method was used because of the time and accessibility constraints. This approach offers sufficient representation and is frequently utilized in exploratory and applied business research, despite the fact that it restricts the ability to extrapolate findings to the full population. In order to perform structural equation modeling (SEM), which necessitates a comparatively high number of observations to guarantee statistical power, the sample size was found to be enough.

Data Collection

To increase response rates and guarantee variety across organizational levels, questionnaires were disseminated both electronically and on paper. To reduce social desirability bias, respondents were guaranteed anonymity and participation was entirely voluntary. By explaining the goal of the study, obtaining informed consent, and guaranteeing that the participants' answers would be kept private and used only for scholarly purposes, ethical concerns were taken care of.

Data Analysis Techniques

The statistical programs SPSS and AMOS were used to code and analyze the data. First, descriptive statistics were created to compile general response patterns and demographic information. The measurement model was then validated using Confirmatory Factor Analysis (CFA), and model fit was evaluated using indices including CFI, RMSEA, and GFI. Cronbach's alpha coefficients were used to evaluate reliability; values greater than 0.70 were deemed acceptable. Average Variance Extracted (AVE) and Composite Reliability (CR) calculations were used to test for convergent and discriminant validity. Lastly, the assumptions were tested using structural equation modeling (SEM), which yielded estimates of the direct impacts of work rotation and employee engagement on job performance.

This meticulous approach made sure that the results were legitimate and trustworthy, and that the study's conclusions could make a significant contribution to human resource management theory and practice.

Findings

Numerous significant insights regarding the connection between job performance, job rotation, and employee engagement were uncovered by the analysis. First, job performance was found to be positively impacted by employee involvement in a substantial and statistically significant way. Higher levels of drive, zeal, and psychological commitment were indicated by engaged workers; these traits translated into increased productivity, better cooperation, and a readiness to go above and beyond the call of duty. These results are in line with research that indicates motivated workers are more likely to exhibit organizational citizenship traits and provide better performance results (Christian, Garza, & Slaughter, 2011).

Second, the findings showed that job performance is significantly improved by job rotation as well. Workers that underwent organized rotation across departments or positions reported increased adaptability to organizational change, increased flexibility, and improved problem-solving skills. Additionally, rotation increased learning opportunities, decreased job boredom, and expanded employee competencies. The claim that rotation is a useful developmental technique that improves organizational and individual performance is empirically supported by these findings (Campion, Cheraskin, & Stevens, 1994; Li & Yan, 2007).

Descriptive statistics showed that the most important engagement criteria in predicting performance were job qualities, developmental opportunities, and recognition. Employee satisfaction and productivity were significantly influenced by growth possibilities and recognition of their contributions.

The measurement model was confirmed by the Confirmatory Factor Analysis (CFA), which showed that all constructs had factor loadings higher than the suggested cutoff of 0.60. According to metrics like the Goodness of Fit Index (GFI), Root Mean Square Error of Approximation (RMSEA), and Comparative Fit Index (CFI), the overall model showed an adequate fit. These results validated the accuracy and reliability of the measures of job performance, job rotation, and employee engagement.

The conclusions were further supported by the validity and reliability test results. Internal consistency was confirmed by Cronbach's alpha values exceeding 0.70 for every construct. Convergent and discriminant validity were supported by Composite Reliability (CR) values exceeding 0.70 and Average Variance Extracted (AVE) values exceeding 0.50.

Regression and structural equation modeling (SEM) were used to evaluate the hypotheses, and the results showed that rotation and engagement both strongly affect job performance. The suggested hypotheses (H1 and H2) were strongly supported by the positive and statistically significant standardized regression weights (β). Additionally, the data showed that job rotation improved engagement, which in turn improved performance. Higher levels of involvement were reported by workers who had rotation chances, which in turn supported their performance results. According to this finding, which emphasizes the interacting relationship between the two independent variables, job rotation has a greater impact on organizational outcomes by acting as a catalyst for engagement in addition to directly improving performance.

In conclusion, the results offer solid empirical support for the notion that job rotation and employee engagement are critical factors in raising performance in Egyptian companies. The way these two elements interact provides HR professionals with insightful information and highlights how crucial it is to combine engagement tactics with organized rotation programs in order to maintain competitive advantage.

Practical Implications

The study's conclusions have a number of significant ramifications for HRM practices, especially in Egypt and other developing nations. First, the data shows that companies must take a more coordinated approach to job rotation and employee engagement. Engagement strategies like ongoing feedback, developmental opportunities, and recognition programs should be used in conjunction with organized job rotation plans rather than in isolation. This kind of alignment guarantees that workers not only feel appreciated and inspired, but also acquire a variety of experiences that enhance their skills and flexibility.

This has immediate practical implications for businesses operating in the banking and service industries in Egypt. According to the report, employees place a high priority on professional advancement and recognition. Banks can expose staff members to a variety of departments, roles, and clientele by putting in place organized job rotation programs. In addition to producing multiskilled employees who can adapt to changing market demands, this also lessens the perception of boredom and stagnation that frequently fuels employee disengagement and attrition. Employees are therefore more likely to feel inspired, involved, and dedicated to the long-term prosperity of the company.

Second, the findings imply that training and development ought to be given more priority in human capital policy. To guarantee that workers can successfully transition into their new positions, job rotation should be accompanied by organized training programs, coaching, and mentorship opportunities. Without this assistance, rotation runs the danger of overburdening staff members or temporarily decreasing productivity. However, rotation turns into a potent instrument for knowledge transfer between departments, succession planning, and career advancement when combined with learning and development programs.

Third, managers need to understand that feedback and recognition systems are directly related to employee engagement. Recognizing employee contributions is one of the best indicators of performance, according to the study. HR directors should so provide open lines of communication, frequent performance evaluations, and clear recognition programs. In order to maintain engagement levels and promote discretionary effort, managers can reinforce positive behaviors and accomplishments.

From a wider angle, the results show that by deliberately implementing engagement and rotation strategies, businesses in emerging nations like Egypt can become more globally competitive. These techniques provide affordable and long-lasting solutions in a setting where many businesses face issues with high staff turnover,

skill mismatches, and low motivation. As part of national plans to improve labor capacities and support economic growth, Egyptian policymakers and regulators may also think about enticing firms to implement organized development programs.

Lastly, the study emphasizes that job rotation and engagement are ongoing activities rather than one-time treatments. Organizations must incorporate them into their organizational culture and HR strategy for long-term success. Top management commitment, alignment with corporate objectives, and ongoing outcome monitoring are necessary for this. Programs for integrated engagement and rotation, when properly implemented, can enhance employee well-being, increase organizational resilience, and promote sustainable growth in addition to improving work performance.

Keywords

Employee engagement; job rotation; job performance; human resource management; organizational performance; employee development; work motivation; structural equation modeling (SEM); banking sector; Egyptian organizations

1. Introduction

Organizational performance is widely acknowledged as a requirement for survival, growth, and global competitiveness in today's knowledge-based economy. Globalization, digital transformation, and consumer demands for greater quality and innovation are putting increasing pressure on organizations across all industries. The ability of businesses to build and manage their human capital has become a crucial component of success in this environment. In contrast to other resources, employees contribute innovation, adaptability, and problem-solving skills—all of which are critical for surviving in cutthroat markets (Armstrong & Taylor, 2020). Consequently, increasing staff performance is both a strategic necessity and an issue of operational efficiency.

Employee engagement is one of the most important concepts in this context. When workers are emotionally connected, motivated, and dedicated to their work, it's referred to as engagement (Kahn, 1990; Schaufeli, Salanova, González-Romá, & Bakker, 2002). Generally speaking, engaged workers are more inventive, more productive, and less likely to quit their jobs. According to Gallup's State of the Global Workplace Report (2023), the majority of employees are disengaged or apathetic, with only roughly 23% of workers globally actively engaged. Disengagement costs businesses billions of dollars every year in lost productivity, decreased customer satisfaction, and higher employee turnover. Engagement levels in Egypt and the rest of the Middle East and North Africa (MENA) area are significantly lower than the worldwide average, which makes organizational sustainability even more difficult.

Job rotation is another important strategy that has drawn attention. The term "job rotation" describes the methodical shifting of workers over time among various responsibilities, roles, or departments (Campion, Cheraskin, & Stevens, 1994). This approach aims to increase organizational flexibility, decrease monotony, and expand employees' skill sets. Additionally, rotation is a useful training and development tool that gets staff ready for leadership positions and succession planning. Job rotation increases employee flexibility, job happiness, and performance, according to earlier research conducted in both Western and Asian contexts (Ortega, 2001; Li & Yan, 2007). However, rotation is frequently used informally without a clear strategic framework in many Egyptian firms, especially in the banking and financial services industry. Its potential advantages are thus not completely utilized.

Organizations in Egypt are currently facing a number of workforce-related issues. The stability of the company is threatened by high turnover rates, particularly among younger staff. Lack of recognition, few prospects for growth, and inflexible career structures are the main causes of employee discontent (Nassar, Abdallah, & Mohamed, 2020). By exposing workers to a variety of tasks, encouraging learning, and maintaining their engagement, job rotation may be a useful remedy to lessen these issues. However, to maintain employee enthusiasm and dedication, engagement strategies including career growth, acknowledgment, and encouraging leadership are required. Rotation and engagement together can produce a motivated and adaptable staff, which will improve job performance.

There is still a study void in the Egyptian setting, despite the significance of these behaviors. The majority of research on rotation and involvement has been done in affluent nations or in Asia's quickly expanding economy. Although this research has continuously shown promising results, it appears that results cannot be applied directly to Egypt due to institutional and cultural variations. For instance, hierarchical organizational structures are common in Egyptian businesses, where employee voice and movement are constrained. Furthermore, even in the international literature, there is still a dearth of research on the combined impacts of rotation and engagement on performance. The majority of research has handled them as distinct factors without looking at any possible interactions between them.

By conducting an empirical investigation into the connection between job performance, job rotation, and employee engagement in Egyptian firms, this study aims to close this gap. It specifically seeks to ascertain if rotation and engagement, both separately and together, lead to improved performance and whether rotation improves engagement, which in turn affects performance indirectly. By doing this, the study not only advances scholarly understanding but also offers useful advice to Egyptian businesses looking to boost their competitiveness through improved personnel management techniques.

The report is especially pertinent to Egypt's banking industry, which is vital to the country's economic expansion. Banks must contend with fierce competition, stringent regulations, and rising client expectations. They need to make sure that workers are motivated and skilled in order to stay competitive. A route to creating a resilient and productive workforce is provided by the simultaneous emphasis on engagement and job rotation. However, the study has wider ramifications for firms in underdeveloped nations dealing with comparable issues as well as other industries in Egypt.

This research makes three contributions. In order to demonstrate how engagement and rotation interact to affect performance, it first offers theoretical contributions by applying the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007) and Social Exchange Theory (Saks, 2006) to the Egyptian environment. Second, it offers actual data from a developing nation where little research has been done on the subject. Lastly, it provides useful advice on how to create integrated engagement and rotation programs that can boost productivity while increasing employee retention and satisfaction for HR managers and legislators.

Thus, the following are the study's particular goals:

1. To investigate how employee involvement affects work performance in Egyptian firms.
2. To assess how job rotation affects job performance.
3. To determine if job rotation improves engagement and increases its effect on output.
4. To offer HR executives useful advice on how to incorporate these approaches into organizational strategy.

By tackling these goals, the study emphasizes how important human capital strategies are to attaining long-term organizational success. Organizations in Egypt and elsewhere must understand that job rotation and engagement are strategic requirements for long-term competitiveness, not optional interventions, in a time when workers are seeking more and more possibilities for advancement, recognition, and purpose.

2. Literature review

This section examines previous studies on job performance, job rotation, and employee engagement in order to analyze the study's theoretical and empirical underpinnings. It also identifies gaps in the body of literature and incorporates theoretical models that clarify the connections between these notions.

2.1 Employee Engagement

In 1990, Kahn established the idea of employee engagement, defining it as the "harnessing of organizational members' selves to their work roles." Kahn asserts that motivated workers devote all of their mental, emotional, and physical resources to their jobs, which increases engagement and produces better results. Three essential psychological factors are included in engagement: availability, safety, and meaningfulness. Meaningfulness is the belief that one's job is important; safety is the assurance that one can express oneself without fear of

repercussions; and availability is the possession of the mental, emotional, and physical means to give oneself completely to one's work.

The concept has been expanded by later researchers. Engagement, according to Schaufeli, Salanova, González-Romá, and Bakker (2002), is a pleasant, satisfying mental state associated with one's work that is marked by vigor, dedication, and absorption. Absorption denotes being totally focused and absorbed in one's task; vigor represents strong levels of energy and resilience; and devotion entails a sense of significance and excitement. Engagement research is grounded in a number of theories. Employee engagement, according to Bakker and Demerouti's (2007) Job Demands-Resources (JD-R) model, occurs when job demands—like workload and time pressure—and job resources—like autonomy, recognition, and support—are optimally balanced. Job resources encourage engagement, which boosts motivation and ultimately improves performance. Additionally, the Social Exchange Theory (SET) (Blau, 1964; Saks, 2006) offers a basis for comprehension of participation. Employees respond with greater levels of dedication and performance when their employers provide them resources, recognition, or assistance, claims SET. Thus, a cycle of reciprocal communication between an employer and employee is reflected in engagement.

Numerous empirical research have attested to the beneficial effects of involvement on performance. In a number of industries, Harter, Schmidt, and Hayes (2002) discovered a substantial correlation between productivity and involvement. In a similar vein, a meta-analysis conducted by Christian, Garza, and Slaughter (2011) found that involvement significantly predicts task performance and organizational citizenship behavior. Engagement has been demonstrated to improve financial results, customer satisfaction, and service quality in the banking industry (Al Mehrzi & Singh, 2016).

Globally, and especially in the Middle East and North Africa, involvement levels are still low in spite of this data (Gallup, 2023). This emphasizes how crucial it is to look at engagement in the Egyptian environment, where low morale, turnover, and poor performance are all caused by disengagement.

2.2 Job Rotation

The methodical transfer of workers between various positions, duties, or divisions within a company is known as job rotation (Campion, Cheraskin, & Stevens, 1994). It is generally accepted as a developmental technique that aims to improve organizational flexibility, multiskilled worker development, and employee learning.

The following are the goals of job rotation:

1. **Skill Development:** Employees gain broader competencies through exposure to various positions.
2. **Reducing Monotony:** Rotation reduces boredom and burnout by interrupting repetitive job cycles.
3. **Career Development:** By training staff members for leadership positions, rotation aids in succession planning.
4. **Organizational Flexibility:** By redeploying workers where necessary, rotation enables businesses to adapt to changes.

Job rotation is seen as an investment in employee development from a human capital perspective (Becker, 1964), which boosts productivity on both an individual and organizational level. Rotation enhances learning chances by enabling individuals to gain tacit knowledge across many jobs, according to the learning-by-doing perspective (Ortega, 2001).

The beneficial effects of work rotation are supported by empirical studies. Rotation improves employees' talents and adaptability, which results in improved performance, as Li and Yan (2007) showed. Rotation lowers turnover intentions and increases commitment, according to Benson (2006). Rotation has been associated with creativity and problem-solving skills in banking and manufacturing settings (Ortega, 2001). Rotating jobs is not without its difficulties, though. According to some research, too much rotation might lead to stress, short-term decreased productivity, and higher training expenses (Campion et al., 1994). As a result, proper training and planned implementation are required.

Job rotation is frequently used informally or infrequently in Egypt. The lack of formal rotation procedures in many firms restricts the opportunities for staff development. This emphasizes how important it is to research rotation in the Egyptian setting.

2.3 Job Performance

The degree to which workers successfully fulfill their duties in order to support organizational objectives is commonly referred to as job performance (Borman & Motowidlo, 1993). There are two main aspects of performance:

1. Task Performance: fulfilling essential work obligations and responsibilities.
2. Contextual Performance: optional actions that support organizational operations, such as lending a hand to coworkers and showing initiative.

Performance is affected by a number of elements, such as organizational support, skills, job design, and motivation (Campbell, 1990). Because they have a direct impact on employee motivation, learning, and adaptability, engagement and job rotation are regarded as essential variables.

According to research conducted in Egypt, performance-related issues include inflexible hierarchies, a lack of acknowledgment, and a lack of possibilities for professional growth (Nassar et al., 2020). HR procedures that improve engagement and give workers a variety of experiences—like organized rotation—are necessary to address these problems.

2.4 Linking Engagement, Rotation and Performance

By boosting motivation, dedication, and focus, engagement improves performance (Bakker & Demerouti, 2007). Employee engagement increases the likelihood that they will use their discretion and support company objectives. In addition to directly improving performance, job rotation also raises engagement, which has an indirect effect. Rotation improves engagement by reducing monotony, offering possibilities for improvement, and offering valuable job experiences (Nguyen et al., 2020). The combined effects of rotation and engagement have not been extensively studied. Nonetheless, the connection implies that rotation increases engagement, and the two work together to produce a potent performance-enhancing mechanism. This viewpoint is consistent with the JD-R paradigm, which holds that job resources (such as recognition and rotation) improve engagement, which in turn influences performance.

2.5 Research Gap and Contribution

Significant gaps still exist even though a large body of research has validated the significance of job rotation and engagement:

- Few studies have examined the combined effects of engagement and rotation on performance; most concentrate on Western or Asian environments with little emphasis to Egypt.
- Because rotation is frequently used informally in Egypt, nothing is known about how efficient it is. By investigating the individual and combined effects of work rotation and engagement on job performance in Egyptian businesses, this study fills these gaps. The results will help expand theoretical models like SET and JD-R while offering HR managers in developing nation's useful advice.

3. Relation Between Variables

3.1 Employee Engagement and Job Performance

It is often acknowledged that a key indicator of work performance is employee engagement. The JD-R model states that when workers have access to enough job resources, like autonomy, recognition, and learning opportunities, engagement occurs. These resources boost job performance by fostering resilience and motivation (Bakker & Demerouti, 2007).

Discretionary effort is the tendency of engaged employees to voluntarily go above and beyond the call of duty. They exhibit increased degrees of focus, attention, and perseverance in reaching their objectives. According to research, motivated workers are more creative, productive, and produce better results (Christian, Garza, & Slaughter, 2011).

Increasing engagement is particularly crucial for enhancing organizational outcomes in the Egyptian setting, as disengagement is still a prevalent issue (Gallup, 2023). Therefore, the following hypothesis is put forth:

- **H1: Employee engagement has a positive effect on job performance.**

3.2 Job Rotation and Job Performance

Because job rotation fosters skill development, adaptability, and a reduction in boredom, it is also associated with improved work performance. Rotation offers possibilities for ongoing learning and exposure to a variety of job demands by methodically shifting workers between activities and departments (Campion, Cheraskin, & Stevens, 1994). This increases organizational flexibility and broadens competencies. Rotation is an investment in staff development from the standpoint of human capital (Becker, 1964). Workers acquire problem-solving techniques and implicit knowledge that enhance performance. Rotation also lessens boredom and burnout, which are frequently brought on by monotonous work. This guarantees that workers stay inspired and driven, which directly leads to better work output (Li & Yan, 2007).

Job rotation can be an effective way to increase productivity in Egyptian firms, where inflexible structures frequently restrict career advancement and variation. Therefore, the following hypothesis is put forth:

- **H2: Job rotation has a positive effect on job performance.**

3.3 Job Rotation and Employee Engagement

In addition to having a direct impact on performance, job rotation may also have an indirect effect through employee engagement. Employees are exposed to fresh challenges, responsibilities, and learning opportunities when they are rotated among tasks. This improves their sense of purpose at work, which is one of the essential psychological requirements for engagement that Kahn (1990) stated.

Employees who rotate also feel more available because they have a wider range of skills and become more comfortable in a variety of tasks. Furthermore, it promotes safety since workers believe that the company is making an investment in their growth, which increases reciprocity and trust. When combined, these factors raise engagement levels, which in turn raise

Consequently, job rotation is both an antecedent of engagement and a direct predictor of performance. This raises the prospect of a mediating relationship in which:

4. Research Framework

4.1 Purpose of the Framework

Providing an organized depiction of the variables being studied and their relationships is the aim of creating a research framework. By combining ideas from the Social Exchange Theory (SET) (Saks, 2006) and the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007), the paradigm combines two commonly held viewpoints on how organizational practices affect worker performance and behavior. According to the JD-R model, job resources like recognition, opportunities for growth, and work rotation encourage engagement and motivation, which in turn boost performance. According to SET, when companies provide resources, opportunity, and support to their staff, the staff members return the favor by becoming more engaged and committed, which improves results.

4.2 Independent Variables: Employee Engagement and Job Rotation

Two independent variables are identified by the framework: job rotation and employee engagement. According to Schaufeli et al. (2002), employee engagement is the extent to which workers are psychologically invested in their work and exhibit enthusiasm, devotion, and absorption. Engagement is regarded as a motivating condition that inspires workers to achieve better results.

The intentional and planned movement of workers among various jobs, departments, or roles is known as "job rotation" (Campion, Cheraskin, & Stevens, 1994). Rotation improves flexibility and adaptation by exposing workers to new challenges, expanding their skill set, and reducing job boredom.

It is anticipated that both structures will have a direct or indirect impact on job performance.

4.3 Dependent Variable: Job Performance

Job performance, or how well employees' complete tasks and contribute to corporate goals, is the dependent variable in the framework. There are two dimensions to performance (Borman & Motowidlo, 1993):

1. Task Performance: carrying out essential job responsibilities.

2. Contextual Performance: optional actions like initiative and teamwork that promote organizational efficacy. The paradigm makes the assumption that these performance outcomes are influenced by both rotation and engagement.

Although rotation and engagement are both thought to have a direct impact on performance, engagement may also have a reciprocal effect. Employee engagement is increased when they are rotated into different roles because it gives them possibilities for growth and acknowledges their strengths. Better performance follows from this increased engagement.

4.4 Conceptual Model

In Figure 1, the conceptual model is displayed. It illustrates the proposed connections:

- A direct correlation between job success and employee engagement.
- work performance is directly impacted by work rotation.

(Diagram showing arrows from Employee Engagement → Job Performance, Job Rotation → Job Performance)

Research model

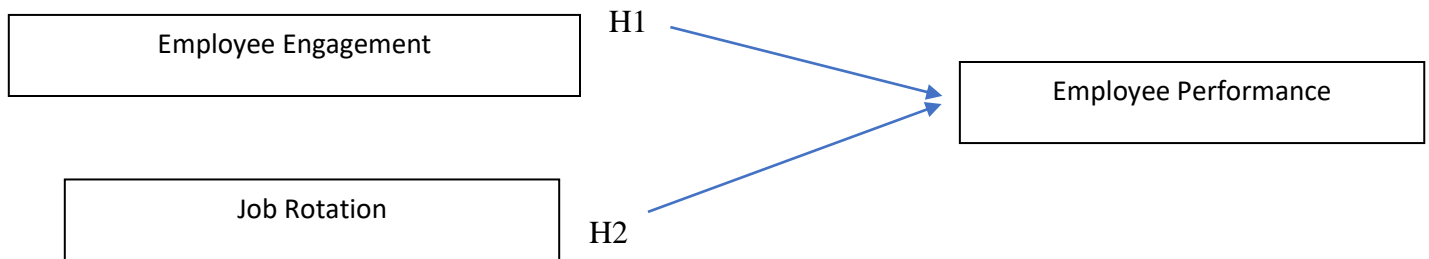


Figure 1. Research Conceptual Model

* Developed by Researcher

4.5 Contribution of the Framework

The suggested structure adds a number of benefits:

1. Integration of Constructs: It integrates job rotation and employee engagement, two concepts that have frequently been researched independently, into a unified framework.

2. Theoretical Extension: It tests the suitability of the JD-R model and SET in a developing economy by applying them to the organizational setting of Egypt.
3. Practical Relevance: The framework gives HR professionals information on how to use rotation and engagement together to enhance job performance.

5. Research Design and Strategy

5.1 Research Design

A cross-sectional, quantitative research design was used in this investigation. Because it enables objective measurement of constructs and statistical testing of hypotheses, quantitative research was selected (Creswell, 2014). Examining the connections between job performance, job rotation, and employee engagement was best done using a cross-sectional technique, in which data is gathered all at once.

Because it sought to evaluate proposed cause-and-effect links in addition to describing employee perspectives, the design was also causal-descriptive. The study aimed to ascertain if rotation and involvement significantly predict job performance in Egyptian firms using statistical modeling and structured indicators.

5.2 Research Strategy

The main technique of data gathering in the research approach was the use of structured surveys. Because they facilitate the effective gathering of data from sizable groups and guarantee answer standardization, surveys are frequently employed in HR and organizational behavior research (Bryman & Bell, 2015). Closed-ended questions using a five-point Likert scale, from "strongly disagree" to "strongly agree," were included of the survey instrument. The simplicity and dependability of this scaling technique in capturing employee attitudes, perceptions, and behaviors led to its selection.

5.3 Research Methodology

The study was conducted using a deductive research methodology. Based on accepted theories, namely the Social Exchange Theory (SET) and the Job Demands-Resources (JD-R) model, hypotheses were formulated and tested with actual data. This method is consistent with positivist philosophy, which places a strong emphasis on generalizability and hypothesis testing.

The following items were modified from validated measures used in previous studies: The Utrecht Work Engagement Scale (UWES), created by Schaufeli et al. (2002), measures employee engagement.

- Job Rotation: Items taken from later HRM studies and Campion, Cheraskin, and Stevens (1994).
- Job Performance: Metrics derived from the task and contextual performance paradigm developed by Borman and Motowidlo (1993).

5.4 Data Collection

To increase accessibility, an online questionnaire was used for data collection. Electronic surveys were disseminated in both chosen and unselected universities via professional networks and organizational contacts.

A number of actions were taken to guarantee the quality of the data:

1. Informed Consent: Participants were reassured that participation was entirely voluntary and given information about the study's objectives.
2. Anonymity and confidentiality: Responses were handled with the utmost confidentiality, and no personally identifiable information was gathered.
3. Standardization: To lessen response bias, instructions were made consistent across all formats.

The current study used the questionnaire to collect data because it is compatible with the aims and questions of the research. The Questionnaire questions were prepared based upon previous studies, in order to test the impact of dynamic capabilities on organizational, with different ages and sizes. The responses were collected on a

standard scale; five-point Likert scale, ranging from 1 for “strongly disagree” to 5 for “strongly agree” (Elsanhawy & Badway, 2023).

By analyzing these two independent variables, the study will test whether job rotation and employee engagement have a significant effect on job performance, which is the dependent variable (Saunders et al., 2019).

Table 1. Dimensions Mapping

	Dimension	Question
Source: Shuck, B., Adelson, J. L., & Reio, T. G. Jr. (2017). The employee engagement scale: Initial evidence for construct validity and implications for theory and practice. <i>Human Resource Management</i> , 56(6), 953–977. https://doi.org/10.1002/hrm.21811		
Independent 1 – Employee Engagement	Cognitive Engagement	1. I am really focused on my job when I am working
Independent 1 – Employee Engagement	Cognitive Engagement	2. I concentrate on my job when I am at work
Independent 1 – Employee Engagement	Cognitive Engagement	3. When working, I think a lot about how I can give my best
Independent 1 – Employee Engagement	Cognitive Engagement	4. At work, I am focused on my job
Independent 1 – Employee Engagement	Cognitive Engagement	5. When I am at work, I give my job a lot of attention
Independent 1 – Employee Engagement	Emotional Engagement	6. Working at my current organization has a great deal of personal meaning to me
Independent 1 – Employee Engagement	Emotional Engagement	7. I feel a strong sense of belonging to my job
Independent 1 – Employee Engagement	Emotional Engagement	8. I am proud to tell others that I work for my current organization
Independent 1 – Employee Engagement	Emotional Engagement	9. I believe in the mission and purpose of my company
Independent 1 – Employee Engagement	Emotional Engagement	10. I care about the future of my company
Independent 1 – Employee Engagement	Behavioral Engagement	11. I do more than is expected of me
Independent 1 – Employee Engagement	Behavioral Engagement	12. I really push myself to work beyond what is expected of me
Independent 1 – Employee Engagement	Behavioral Engagement	13. I am willing to put in extra effort without being asked
Independent 1 – Employee Engagement	Behavioral Engagement	14. I often go above what is expected of me to help my team be successful
Independent 1 – Employee Engagement	Behavioral Engagement	15. I work harder than expected to help my company be successful
Source: Tarus, B. K. (2014). Effects of job rotation strategy on high performance workplace in Lake Victoria North Water Services Board, Kenya. <i>International Journal of Business and Management</i> , 9(11), 139–152. https://doi.org/10.5539/ijbm.v9n11p139		
Independent 2 – Job Rotation	Human Capital Development	1. I am satisfied that Job rotation has led employees to advanced learning
Independent 2 – Job Rotation	Human Capital Development	2. Since coming to this organization, I have developed positive attitude towards learning
Independent 2 – Job Rotation	Human Capital Development	3. I am confident that Job rotation has increased our efficiency in learning
Independent 2 – Job Rotation	Human Capital Development	4. I am fully aware that Job rotations is a tool for career development

Independent Rotation	2	–	Job	Human Development	Capital	5. I have accumulated a lot of experience through job rotation
Independent Rotation	2	–	Job	Human Development	Capital	6. Job rotation has promoted communication between employees. Human Capital Transformation
Independent Rotation	2	–	Job	Human Transformation	Capital	7. I believe that Job rotation has improved my job stability
Independent Rotation	2	–	Job	Human Transformation	Capital	8. I am confident that job rotation policy has achieved effective results in my organization
Independent Rotation	2	–	Job	Human Transformation	Capital	9. am confident that Job rotation has promoted health of employees in my organization
Independent Rotation	2	–	Job	Human Transformation	Capital	10. I am aware that job rotation has not achieved effective results in my organization
Independent Rotation	2	–	Job	Human Transformation	Capital	11. I am confident that job rotation does not create effective results

Source: Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., van Buuren, S., van der Beek, A. J., & de Vet, H. C. (2014). Improving the individual work performance questionnaire using Rasch analysis. *Journal of Applied Measurement, 15*(2), 160–175.

Dependent Performance	–	Job	Task Performance	1. I managed to plan my work so that it was done on time.
Dependent Performance	–	Job	Task Performance	2. My planning was optimal
Dependent Performance	–	Job	Task Performance	3. I kept in mind the results that I had to achieve in my work
Dependent Performance	–	Job	Task Performance	4. I was able to separate main issues from side issues at work
Dependent Performance	–	Job	Task Performance	5. I was able to perform my work well with minimal time and effort
Dependent Performance	–	Job	Contextual Performance	6. I took on challenging work tasks, when available
Dependent Performance	–	Job	Contextual Performance	7. I took on challenging work tasks, when available
Dependent Performance	–	Job	Contextual Performance	8. I worked at keeping my job knowledge
Dependent Performance	–	Job	Contextual Performance	9. I worked at keeping my job skills up-to-date.
Dependent Performance	–	Job	Contextual Performance	10. I came up with creative solutions to new problems.
Dependent Performance	–	Job	Contextual Performance	11. I actively participated in work meetings

5.5 Population and Sample

Employees at junior, middle, senior, and top management levels in Egyptian companies, with a focus on the banking and service industries, made up the study's population.

Due to time and accessibility constraints, a non-probability convenience sampling method was used. This approach is commonly utilized in organizational research where access to respondents is limited, despite the fact that it limits the generalizability of results (Sekaran & Bougie, 2016).

For structural equation modeling (SEM), which depends on sizable datasets to guarantee statistical power and model stability, the sample size was intended to be adequate. In accordance with Hair et al. (2019), SEM requires at least 200 responses. This investigation went above and beyond that limit, offering solid data for examination.

5.6 Data Analysis Justification

SPSS and AMOS software were used for data analysis. Several steps were taken in the analysis:

- Descriptive statistics: To provide an overview of general trends and demographic characteristics.
- Confirmatory factor analysis (CFA): To evaluate construct validity and validate the measurement model.
- Cronbach's alpha, Composite Reliability (CR), and Average Variance Extracted (AVE) are used in reliability and validity testing.
- Structural Equation Modeling (SEM): To evaluate proposed connections between performance, rotation, and engagement.

SEM was selected because it allows for the testing of several associations at once and takes measurement error into consideration. For analyzing complicated models, this makes it better than standard regression (Kline, 2015).

This research design has several strengths:

- Theory-driven: To improve validity, the framework was derived from proven models.
- Sturdy techniques: SEM and CFA offer sophisticated statistical rigor.
- Contextual relevance: The design's practical impact is increased by reflecting actual difficulties faced by Egyptian organizations.

Notwithstanding its advantages, the design has many drawbacks:

The ability to infer causality is limited by the cross-sectional character. Deeper insights would be obtained with longitudinal designs.

- Convenience sampling: May restrict generalizability and induce bias.

Although anonymity precautions were implemented, self-report data may be prone to social desirability bias.

6. Data Analysis

6.1 Demographic Analysis

In order to profile the respondents and give the study context, demographic data were examined. Gender, age, education, employment level, and tenure were all gathered through the questionnaire.

- Gender Distribution: Both male and female respondents were included in the sample, guaranteeing diversity and facilitating analysis of the representation of the workforce in Egyptian companies.

Table 2. Gender Analysis

Gender	Frequency	Percentage
Male	187	43%
Female	248	57%
Total	435	100%

The gender distribution of the sample comprises 248 females (57%) and 187 males (43%) out of a total of 435 respondents. This reflects a relatively balanced sample with a slightly higher representation of females. Such a distribution provides a well-rounded demographic base for examining the effects of job rotation and job engagement on job performance. The inclusion of both genders in meaningful proportions enhances the generalizability of the findings and allows for more inclusive interpretations. It also opens the opportunity to explore whether gender plays a moderating role in the relationships among the key variables. For instance, males and females may respond differently to job rotation or exhibit varying levels of engagement, which could influence job performance outcomes. Therefore, future analysis may benefit from examining gender-specific

trends or including gender as a control variable. Overall, the gender balance strengthens the credibility of the study and contributes to a more nuanced understanding of employee behavior.

- **Age Groups:** To reflect the diversity of generations, respondents were divided into age groups (e.g., 20–29, 30–39, 40–49, and 50+). While older employees focused on job stability and recognition, younger employees underlined the need for developmental chances.

Table 2. Age Group Analysis

Age	Frequency	Percentage
18 - 25	64	15%
26 - 35	128	29%
36 - 45	130	30%
46 - 55	106	24%
56 or older	7	2%
Total	435	100%

The age distribution of the sample reveals a broad representation across different age groups, with the majority falling between 26 and 45 years old. Specifically, 29% are aged 26–35 (128 respondents), and 30% are aged 36–45 (130 respondents), making up nearly 60% of the total sample. The 46–55 age group also accounts for a significant portion at 24% (106 respondents). Younger respondents aged 18–25 represent 15% (64 respondents), while only a small fraction (2%, or 7 respondents) are aged 56 or older. This age distribution suggests that the study primarily reflects the views and experiences of working-age adults, particularly mid-career employees who are more likely to be involved in or affected by job rotation and engagement initiatives. The concentration in the 26–45 range may offer valuable insights into how early to mid-career professionals perceive and respond to job-related practices, which can inform targeted organizational strategies for performance improvement.

- **Job Levels:** To provide a comprehensive understanding of organizational dynamics, the study included workers at the junior, middle, senior, and top management levels.
- **Tenure:** Participants' years of employment ranged from fewer than five to more than twenty, providing information on how experience affects views of rotation and involvement. The sample was sufficiently diversified to reflect a range of employee viewpoints within Egyptian firms, according to this demographic study.

6.2 Descriptive Statistics

For every important variable, such as job performance, job rotation, and employee engagement, descriptive statistics were computed. An overview of employee responses was given via mean values and standard deviations.

Table 3. Descriptive Statistics for Independent and Dependent Variables

	N	Minimum	Maximum	Mean	Std. Deviation
Ind1 – Job Engagement	435	1.00	5.00	3.5025	.85
Ind2 – Job Rotation	435	1.00	5.00	3.2765	.74
Dep – Job performance	435	1.00	5.00	3.4747	.92

- Employee Engagement: Employees rated "recognition," "job meaningfulness," and "developmental opportunities" as the most important factors, with average scores indicating moderate-to-high engagement.
- Job rotation: According to mean values, rotation was implemented differently in different organizations. Nonetheless, most workers believed that rotation helped them become more flexible and expand their skills.
- Job Performance: The respondents' self-assessed performance was comparatively strong, particularly in the areas of teamwork and job completion.

According to the analysis, there was still opportunity for organized improvement to optimize performance results even when engagement and rotation procedures were in place.

6.3 Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was used to make sure the measurement model was valid. CFA examined the connections between the latent constructs of job performance, job rotation, and employee engagement and the observable indicators.

- Factor Loadings: Every item showed loadings above the suggested cutoff of 0.60, indicating that they contributed to the corresponding structures.
- Model Fit Indices: With a Goodness of Fit Index (GFI) above 0.90, a Comparative Fit Index (CFI) above 0.90, and a Root Mean Square Error of Approximation (RMSEA) below 0.08, the measurement model obtained an acceptable fit. These figures satisfied predetermined standards (Hair et al., 2019).
- Convergent Validity: All constructs had Average Variance Extracted (AVE) values greater than 0.50, meaning that items accounted for over half of the variance in their hidden variable.
- Discriminant validity was confirmed when each construct's square root of AVE was higher than its correlation with other constructs.

The use of the three constructs for additional structural testing was verified by the CFA results.

6.4 Reliability and Validity Tests

To guarantee internal consistency and measurement accuracy, validity and reliability were examined.

Table 4. Reliability and Validity Tests

Variable	Reliability (Cronbach Alpha)	AVE	CR	Validity
Dep – Job performance	0.852	0.722	0.772	0.747
Ind1 – Job Engagement	0.925	0.821	0.801	0.811
Ind2 – Job Rotation	0.885	0.814	0.884	0.849
Questionnaire – Overall	0.867	--	--	--

- Cronbach's Alpha: All constructs had values above the suggested cutoff of 0.70 (Nunnally & Bernstein, 1994), indicating internal consistency.
- Composite Reliability (CR): Reliability was further confirmed by the fact that the CR values for performance, rotation, and engagement were all above 0.70.
- Convergent Validity: Convergent validity was supported by AVE values over 0.50.
- Discriminant Validity: The square root of AVE for every construct was greater than the correlations between them, guaranteeing that the constructs were unique.

These tests collectively validated the resilience of the measurement model.

6.5 Hypotheses Testing of the Study

Structural Equation Modeling (SEM), which takes measurement error into account and enables the simultaneous study of many relationships, was used to evaluate the hypotheses.

- **H1 (Employee Engagement → Job Performance):** The findings demonstrated that performance was significantly and favorably impacted by engagement. Higher vigor, devotion, and absorption levels among employees were associated with stronger contextual performance and better task performance.
- **H2 (Job Rotation → Job Performance):** The results validated the idea that performance is directly impacted by job rotation. When given the chance to rotate, employees showed more versatility, a wider range of skills, and less boredom, all of which improved performance results.

The data supported the hypothesized correlations, as evidenced by the structural model's good fit with indices similar to the measurement model (CFI > 0.90, RMSEA < 0.08, GFI > 0.90).

The study's theoretical assumptions were validated by the data analysis:

1. Job performance is strongly predicted by employee engagement.
2. Job rotation boosts engagement and directly enhances performance.

These results offer solid empirical support for the idea that companies in Egypt can enhance staff performance by methodically combining organized job rotation programs with engagement activities.

7. Discussion

7.1 Employee Engagement and Job Performance

The findings supported Hypothesis 1 by demonstrating that employee involvement has a favorable impact on work performance. This result is in line with a large number of worldwide investigations. Christian, Garza, and Slaughter (2011), for instance, showed that task and contextual performance are significantly predicted by involvement. In a similar vein, Harter, Schmidt, and Hayes (2002) discovered a substantial correlation between involvement and decreased turnover, customer satisfaction, and productivity.

This outcome is especially significant in the Egyptian context because involvement levels are still below international standards (Gallup, 2023). In Egypt, a lot of workers say they feel underappreciated and have little possibilities for advancement. This study demonstrates that even in workplaces with strict hierarchies and little resources, individuals perform better when they are engaged—through opportunities for growth, meaningful work, and acknowledgment.

This supports the notion that engagement is a universal performance motivator that is as important in developing nations and is not only a "Western" phenomenon.

7.2 Job Rotation and Job Performance

The results also supported Hypothesis 2 by confirming that work rotation directly improves performance. Rotation-experienced workers reported greater flexibility, a wider range of talents, and less boredom at work. This is consistent with literature from around the world. Benson (2006) showed how rotation can lower turnover, whereas Li and Yan (2007) discovered that it improves learning and adaptation.

However, work rotation is frequently implemented informally or irregularly in Egypt. Employees may be reassigned based on short-term need rather than long-term growth plans in many firms that lack formal rotation programs. Despite these drawbacks, the study demonstrates that even a small amount of rotation improves performance, pointing to substantial unrealized potential for firms that implement systematic, institutionalized rotation programs.

As a result, the Egyptian context emphasizes the opportunities and difficulties of implementing work rotation in the real world.

Workers that experienced duty rotation felt more appreciated, more driven, and more equipped to handle future tasks. This is consistent with the three requirements of engagement—meaningfulness, safety, and availability—proposed by Kahn (1990). Rotation promotes availability by giving workers new skills, improves safety by indicating organizational investment, and adds meaningfulness by offering a variety of demanding situations.

According to the Social Exchange Theory (SET), job rotation is an organizational support mechanism. Employee loyalty and engagement increase when they believe their company is investing in their professional development (Saks, 2006). In Egypt, where hierarchical arrangements limit many workers, job rotation offers a concrete means for companies to show support and foster involvement.

This result has theoretical implications. Although rotation increases performance directly, its benefits are amplified when it also increases employee engagement.

Job resources like rotation chances boost engagement, which in turn boosts performance, according to JD-R (Bakker & Demerouti, 2007). By demonstrating how organizational practices generate a circle of reciprocity—rotation encourages engagement, which in turn leads to higher performance—the results further support SET.

7.3 Comparison with International Literature

The results mostly agree with research conducted abroad. It has been demonstrated that engagement improves performance in a variety of settings (Christian et al., 2011; Schaufeli et al., 2002). Both Asian (Nguyen et al., 2020) and Western (Campion et al., 1994) cultures have proven job rotation as a developmental technique that improves learning and adaptability.

By validating these connections in the Egyptian context, this work adds to that body of knowledge. It illustrates how the mechanisms of engagement and rotation function similarly in various circumstances, even in the face of institutional and cultural variations. The findings from Egypt, however, also emphasize how crucial it is to codify HR procedures. Organizations in Egypt typically use rotation informally, in contrast to industrialized economies where it is frequently a component of formal career development plans. This lessens its efficacy but also points out a place for development.

7.4 Implications for Egyptian Organizations

These findings have several ramifications for Egyptian businesses, particularly those in the banking and service industries:

1. Establish involvement Practices: Increasing involvement requires supportive leadership, professional development initiatives, and recognition mechanisms.
2. Establish Job Rotation Programs: Rotation should be planned intentionally to develop abilities and get staff ready for leadership positions rather than being an ad hoc reassignment.
3. Integrate Rotation and Engagement: The best outcomes occur when rotation opportunities boost engagement as well. Organizational strategy and HR policy must be in sync for this to happen.
4. Address Workforce Diversity: While older employees value stability and recognition, younger employees place a more priority on development. Engagement and rotation methods must consider these disparities.

7.5 Theoretical Contributions

The study makes multiple theoretical contributions:

By demonstrating how work rotation functions as a job resource that promotes engagement and performance, it expands on the JD-R paradigm.

- It highlights the mediating role of engagement, an area that has received little empirical attention, especially in developing economies; it applies SET in the Egyptian context, showing that reciprocity operates even in hierarchical cultures when employees perceive organizational support.

7.6 Unique Contextual Insights

The Egyptian setting contributes special perspectives to world literature:

- Hierarchical Structures: Stiff hierarchies frequently hinder engagement and mobility. These difficulties can be overcome with a planned employment rotation.
- Cultural Values: In line with collectivist cultural views, Egyptian personnel place a great value on job advancement and appreciation.

- Resource Constraints: Due to operational and financial limitations, cost-effective solutions like engagement tactics and work rotation are particularly beneficial.

8. Research Limitations, Recommendations, and Future Study

8.1 Research Limitations

Non-probability convenience sampling, which is frequently utilized in organizational research when respondent access may be limited, was used in this study (Sekaran & Bougie, 2016). Although this approach made it possible to get enough replies from a variety of management levels, it also raises the risk of sampling bias. As a result, the findings might not apply to the whole Egyptian labor force.

Data was gathered at a single point in time using a cross-sectional research approach. This makes it more difficult to prove a link between performance, rotation, and engagement. A longitudinal approach would offer more profound insights into how these linkages change over time, even though structural equation modeling (SEM) verified important relationships.

Self-administered questionnaires, which are susceptible to common method variance and social desirability bias, were used in this study. The findings' robustness may be limited by their reliance on employee impressions rather than objective performance measurements, even though anonymity was ensured to reduce such concerns.

Although workers from a variety of firms were involved in the study, the banking and service industries received special attention. This restricts the conclusions' applicability to other sectors, including manufacturing or technology, which can have distinct engagement strategies and organizational designs.

The results are predicated on the Egyptian setting, which is marked by limited mobility, significant power distance, and hierarchical organizational structures. Cultural differences may prevent results from being immediately applied to other emerging nations without modification, even though this offers unique insights.

8.2 Recommendations

A comprehensive HR strategy that incorporates structured work rotation programs and engagement activities should be implemented by organizations. To have the greatest effect on job performance, engagement programs—like training opportunities, frequent feedback, and recognition systems—should be coordinated with rotation schedules.

Job rotation is presently used informally by many Egyptian organizations. It is advised that businesses formally establish rotation policies by outlining goals, requirements for eligibility, deadlines, and assessment procedures. Programs with structure make sure that rotation is viewed as a planned developmental endeavor rather than as random.

Practices for engagement and rotation should take gender, management level, and generational variances into consideration. While older employees can place greater value on stability and recognition, younger employees might prefer possibilities for growth. Increasing the effectiveness of HR interventions throughout the workforce is ensured via customization.

In order to maintain participation and support rotation programs, leadership is essential. Supervisors should receive training on how to mentor staff members throughout rotation, give constructive criticism, and acknowledge employee accomplishments. The commitment of the leadership guarantees the integration of these efforts into the culture of the firm.

Digital HR platforms should be used by organizations to plan, carry out, and keep an eye on their rotation and engagement initiatives. Technology may make HR procedures more effective and transparent by facilitating performance tracking, enabling virtual rotation opportunities, and providing real-time feedback.

Macroeconomically, as part of national workforce development plans, legislators and regulatory agencies might think about promoting companies to use structured HR procedures. This can boost Egypt's competitiveness internationally, increase skill variety, and lower unemployment.

8.3 Future Study Recommendations

Longitudinal designs should be used in future studies to investigate the long-term effects of rotation and engagement on performance. Researchers could investigate causation and monitor the long-term effects of HR interventions with such methods.

Studies that compare various industries (such as banking, manufacturing, IT, and healthcare) would shed light on the ways in which sectoral factors affect the connection between performance, engagement, and rotation. For instance, manufacturing might find it simpler to adopt rotation than highly specialized industries like information technology.

Future research ought to look into the influence of moderating elements such employee personality traits, business culture, leadership style, and the adoption of digital HR. For example, the benefits of engagement on performance might be amplified by transformational leadership.

The validity of the links found in Egypt could be investigated in other emerging or developed economies through cross-national study. This would provide light on the cultural parallels and discrepancies in HR procedures.

Future studies could use mixed-methods approaches, combining quantitative surveys with qualitative interviews or focus groups, to get around the drawbacks of self-report surveys. Deeper insights into employee experiences and improved data would result from this.

Objective performance metrics like productivity statistics, customer happiness scores, or financial indicators may be used in future research. A more thorough evaluation of the effects of engagement and rotation might be possible by combining subjective and objective measurements.

This study offers important new information on how job rotation and employee engagement impact job performance in Egyptian companies. However, it is important to recognize sample, design, and context-related limitations. The need of formalizing HR rules, utilizing leadership support, and incorporating digital resources is emphasized in the practical advice. By using longitudinal designs, investigating moderating factors, and performing cross-industry and cross-cultural comparisons, future research should build on these findings.

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