








“Exploring the impact of flexible work arrangements on employee engagement in telecommunications: case of Egypt”

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EXPLORING THE IMPACT OF FLEXIBLE WORK ARRANGEMENTS ON EMPLOYEE ENGAGEMENT IN TELECOMMUNICATIONS: CASE OF EGYPT

Abstract

Flexible work arrangements (FWAs) have become a cornerstone of modern organizational practices, offering solutions to enhance employee engagement and adapt to evolving workplace demands. The purpose of this study is to examine the impact of flexible work arrangements on job engagement, focusing on how dimensions such as workload flexibility, workplace flexibility, and flexible working hours influence employee vigor, dedication, and absorption within the Egyptian telecommunications sector. A descriptive-analytical approach was adopted, and data were collected through a structured questionnaire distributed to 300 employees across different departments in the Egyptian Telecom Company. Statistical analyses, including correlation and regression, were employed to test the relationships between the variables. The findings reveal that FWAs significantly enhance job engagement, explaining 62% of the variance in engagement levels. Flexibility in workload emerged as the strongest predictor ($\beta = 0.28$), followed by flexible workplace ($\beta = 0.25$) and flexible working hours ($\beta = 0.22$). Flexible workplace and working hours also had substantial impacts, reflecting the importance of spatial and temporal flexibility in addressing employee needs. While flexible working procedures contributed positively, their influence was comparatively lower, indicating the operational constraints of the telecommunications sector. The results underscore the practical value of FWAs in enhancing workforce motivation and organizational performance. By strategically implementing tailored FWA policies, organizations in dynamic sectors like telecommunications can foster a more engaged and adaptable workforce, ensuring resilience and competitiveness in a rapidly changing environment.

Keywords

flexible work arrangements, job engagement, workload
flexibility, telecommunications sector

JEL Classification

J28, M12, M54, O15

INTRODUCTION

The transformation of work environments driven by advancements in technology and evolving employee expectations has redefined traditional workplace practices. Flexible work arrangements (FWAs) have emerged as a pivotal organizational strategy to meet these changes, giving employees the autonomy to choose how, where, and when they work. These arrangements not only address the growing demand for work-life balance but also enhance organizational competitiveness by fostering a motivated and engaged workforce.

In the telecommunications sector, particularly within the Egyptian context, the adoption of FWAs holds significant potential. This sector is characterized by high-paced innovation, technological dependency, and the need for agile and adaptable employees. By offering flexibility in workplace locations, working hours, task execution methods, and workload management, FWAs aim to align organizational goals with

employee preferences, ultimately driving engagement. While extensive research has been conducted on FWAs in various industries and cultural contexts, limited attention has been paid to their impact on employee engagement in emerging markets like Egypt.

1. LITERATURE REVIEW AND HYPOTHESES

Flexible work arrangements (FWAs) have emerged as a critical strategy for improving employee engagement and organizational performance. Research demonstrates that the outcomes of telework, a key component of FWAs, are neither uniformly positive nor negative. Instead, they are influenced by task diversity and worker suitability for telecommuting. For example, the effectiveness and satisfaction derived from telework depend heavily on the nature of work and the individual characteristics of employees, highlighting the complex interplay between these variables (Boell et al., 2016). This underscores the necessity for telework research to encompass a broader spectrum of work activities, particularly those performed by knowledge workers.

Further insights into FWAs reveal their substantial impact on employee engagement, job satisfaction, and work-family balance. These effects, however, are moderated by organizational, cultural, and individual factors. For instance, there is a nuanced relationship between the extent of telecommuting and job and life satisfaction, influenced by factors like performance outcome orientation and the type of worker. This indicates the critical role of individual differences in shaping the effectiveness of telework practices (Virick et al., 2010).

The theoretical underpinnings of FWAs suggest that they enhance employee engagement through increased job satisfaction, organizational commitment, and improved work-family balance. Notably, the perceived availability of FWAs, even when their actual usage is limited, has been shown to foster positive job attitudes. This implies that the existence of FWAs within an organization signals a supportive work environment, thereby contributing to employee satisfaction and commitment (Chen & Fulmer, 2018). Moreover, cross-cultural studies reveal significant variability in the impact of FWAs on outcomes like job satisfaction and turnover intentions, with flextime exhibiting distinct benefits in certain cultural settings (Masuda et al., 2012).

Work-to-family enrichment has also been identified as a critical mediating factor in the relationship between FWAs and positive job outcomes. This enrichment allows employees to leverage the flexibility offered by FWAs to derive greater satisfaction in both their professional and personal lives, ultimately reducing turnover intentions (McNall et al., 2009). Additionally, perceived job flexibility is strongly associated with improved work-family balance, enabling employees to extend their working hours without adverse effects on their personal lives, thereby fostering higher levels of engagement (Hill et al., 2001). Collectively, these findings highlight the nuanced and context-dependent nature of FWAs. Their strategic implementation requires a deep understanding of organizational culture, individual preferences, and the broader socio-economic environment. By addressing these factors, FWAs can effectively enhance employee engagement and contribute to organizational success.

Flexible work arrangements have been consistently associated with positive impacts on employee engagement metrics, including job satisfaction, morale, productivity, work-life balance, and innovative work behavior. However, the nature and extent of these impacts are often mediated by factors such as job demands, resource availability, leadership styles, and the specific type of FWA implemented. This underscores the need for strategic and nuanced implementation of FWAs, particularly in sectors undergoing rapid transformation and in emerging markets, where the adaptability of organizational practices to employee needs can significantly influence outcomes. Quantitative analyses of engagement levels before and after FWA implementation provide compelling evidence of their varied impacts.

For instance, the introduction of “new ways of working” (NWW), a subset of FWAs, has been shown to enhance employee engagement through effective management of outputs, improved access to organizational knowledge, and open workplaces mediated by social interaction and transformational leadership (Gerards et al., 2018). Conversely,

telework, another common form of FWA, has been found to reduce both exhaustion and engagement under high job demands and limited resources, highlighting the importance of balancing workload and support mechanisms (Sardeshmukh et al., 2012). Additionally, while these arrangements can alter job demands and resources, they may not always lead to significant changes in burnout or engagement levels, suggesting the role of psychological capital in mediating these effects (van Steenbergen et al., 2018).

Across diverse contexts, empirical studies have demonstrated that FWAs yield positive outcomes for employees, thereby setting the stage for enhanced engagement. For instance, Agbanu et al. (2023) found that introducing flexible schedules in Nigerian publishing firms significantly boosted sales representatives' productivity, indicating that greater work flexibility can drive performance improvements. Similarly, Awang and Nadzri (2023) reported that the implementation of FWAs in Malaysia contributed to better work-life balance for women employees, an outcome closely tied to higher job satisfaction and sustained commitment. From a policy perspective, Brega et al. (2023) conducted a cross-national evaluation and observed that when national FWA policies are broadly accessible (e.g., not limited to caregivers), employees enjoy more effective work-life integration, reflecting conditions conducive to stronger engagement. Industry-specific research further underscores the value of flexibility: in the logistics sector, Yıldız and Aymelek (2023) showed that freight forwarding companies prioritize various FWAs (e.g., remote work, flextime) to foster a harmonious, productive work environment, highlighting a strategic link between flexibility and employee motivation. Even amid crisis conditions like the COVID-19 pandemic, FWAs proved critical in sustaining employees' involvement in their work. Zvavahera and Chirima (2023), for example, noted that in Zimbabwean universities under lockdown, academics of both genders appreciated the ability to work flexibly, which helped them continue their professional duties despite unprecedented challenges. Collectively, these studies affirm that flexible arrangements—by improving productivity, work-life balance, technology integration, and overall well-being—can lead to more engaged employees, a trend that reinforces the expected posi-

tive impact of FWAs on employee engagement in the telecommunications sector.

Qualitative insights into employee perceptions further highlight the broadly recognized benefits of FWAs. For example, Gašić and Berber (2023) emphasize the direct positive influence of FWAs on reducing turnover intentions among highly educated employees in Serbia, mediated by increased engagement. This illustrates how supportive and flexible work environments enhance job satisfaction and loyalty. Similarly, Sharma and Gaur (2023) demonstrate that FWAs allow employees to manage personal and professional responsibilities more effectively despite challenges like isolation and difficulty disconnecting from work, which is often associated with telework. Singh's (2023) analysis delves into organizational outcomes, linking FWAs with improvements in morale, productivity, and retention, thus reinforcing the strategic importance of aligning these arrangements with both employee needs and organizational goals. In Bangladesh, Rahman (2019) highlights the specific positive impact of FWAs on job satisfaction and work-life balance among female teachers, though compressed workweeks were perceived as less effective. This underscores the diverse perceptions of FWA types and their variable impact on engagement metrics.

Research in the Indian IT sector by Ugargol and Patrick (2018) confirms the positive correlation between FWAs and engagement but also notes a low percentage of highly engaged employees, suggesting other underlying factors influencing engagement levels. Additionally, Subramaniam et al. (2022) provide valuable insights into the role of FWAs in promoting mental health, well-being, and productivity, particularly for Malaysian millennials during COVID-19, highlighting their critical role in enhancing resilience during periods of uncertainty. Together, these studies reveal the substantial benefits of FWAs in improving various facets of employee engagement. However, they also emphasize the complexity of their effective implementation. Tailoring FWAs to the specific needs of employees and aligning them with organizational contexts is essential to maximize their potential benefits.

The purpose of this study is to examine the impact of flexible work arrangements on job engagement, focusing on how dimensions of workload flex-

ibility, workplace flexibility, and flexible working hours influence employee vigor, dedication, and absorption within the telecommunications sector in Egypt.

Study hypotheses are as follows:

- H1: There is a statistically significant impact of flexible work arrangements, with its dimensions (flexible workplace, flexible working hours, flexible working procedures, flexibility in workload), on job engagement within the Egyptian Telecom Company.*
- H1.1: There is a statistically significant impact of flexible workplace on job engagement within the Egyptian Telecom Company.*
- H1.2: There is a statistically significant impact of flexible working hours on job engagement within the Egyptian Telecom Company.*
- H1.3: There is a statistically significant impact of flexible working procedures on job engagement within the Egyptian Telecom Company.*
- H1.4: There is a statistically significant impact of flexibility in workload on job engagement within the Egyptian Telecom Company.*

2. METHODS

The study adopted a descriptive-analytical approach to investigate the impact of flexible work arrangements (FWAs) on job engagement within the Egyptian telecommunications sector, focusing on the Egyptian Telecom Company. This methodology was selected to provide a comprehensive understanding of the research problem by collecting and analyzing both secondary and primary data. The study aimed to identify the relationship between FWAs, represented by their dimensions (flexible workplace, flexible working hours, flexible working procedures, and workload flexibility) and job engagement dimensions, including vigor, dedication, and absorption.

Data collection involved both secondary and primary sources. Secondary data were obtained from various academic and professional sources, in-

cluding peer-reviewed journal articles, conference papers, industry reports, organizational statistics, and relevant government publications. These resources provided the theoretical and empirical foundation for understanding FWAs and their effects on job engagement in similar organizational and cultural contexts. Secondary data also contributed to refining the research hypotheses and designing the survey instrument.

Primary data were gathered using a structured questionnaire developed specifically for this study. The questionnaire consisted of two main sections. The first section captured demographic information, while the second section measured the independent variable (FWAs) and the dependent variable (job engagement). The items were developed based on validated scales used in previous studies, with adaptations made to fit the context of the Egyptian telecommunications sector. To ensure clarity and validity, the questionnaire underwent a pilot test with a small group of employees before full deployment, leading to minor adjustments in wording and layout.

The study surveyed 300 employees across seven key departments within the Egyptian Telecom Company, representing roles in information systems, business development, and customer support. The sample was chosen to ensure diversity and representativeness across operational and strategic functions within the telecommunications sector. This approach provides robust insights into the perspectives of employees at various levels, ensuring the results are generalizable to similar industry contexts.

The study population consisted of employees working within the information systems and technology sectors of the Egyptian Telecom Company, with a total population size of 1,200 employees. To ensure representative and generalizable findings, stratified random sampling was employed. This method accounted for variations across departments and ensured proportional representation in the sample. Using a 95% confidence level and a 5% margin of error, the sample size was calculated as 300 employees. The sample was distributed proportionally across seven departments based on their population sizes, as shown in Table 1.

Table 1. Distribution of population and sample across departments in the Egyptian Telecom Company

Department	Population Size	Relative Weight	Sample Size
Information Systems Planning	290	24.2%	73
Systems Operation and Maintenance	135	11.3%	34
Customer Systems Development	165	13.8%	41
Business Support Systems Development	175	14.6%	44
Data Management and Analysis	110	9.2%	28
Business Partners	130	10.8%	33
Security Policies and Network Systems	195	16.3%	47
Total	1,200	100%	300

Data analysis employed a range of statistical techniques to address the research objectives and test the hypotheses. Descriptive statistics were used to summarize demographic characteristics and provide an overview of the data. Correlation analysis examined the relationships between the dimensions of FWAs and job engagement. Multiple regression analysis tested the direct effects of FWAs on the components of job engagement, namely vigor, dedication, and absorption. One-way ANOVA was conducted to explore differences in engagement across departments, followed by post-hoc tests to identify specific group differences where significant results were observed.

To ensure the reliability and validity of the collected data, the study applied Cronbach's alpha to assess the internal consistency of the questionnaire items. A threshold of 0.7 was set as the acceptable level of reliability. Additionally, exploratory factor analysis (EFA) was conducted to confirm the dimensionality of the constructs and ensure the questionnaire items aligned with their intended variables.

Ethical considerations were rigorously adhered to throughout the research process. Participants were informed about the purpose of the study, assured of the confidentiality of their responses, and given the choice to participate voluntarily. The data collected were anonymized and securely stored to maintain confidentiality and prevent unauthor-

ized access. The ethical procedures ensured compliance with institutional and research standards.

This methodological framework provided a robust foundation for examining the impact of FWAs on job engagement within the Egyptian Telecom Company. By employing a comprehensive sampling strategy, validated measurement tools, and advanced statistical techniques, the study achieved reliable and actionable insights into the research hypotheses.

3. RESULTS

To ensure the accuracy and consistency of the research instrument, reliability was assessed using Cronbach's alpha, which measures the internal consistency of the questionnaire. Additionally, the validity of the constructs was evaluated through the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity. These tests confirm the suitability of the data for factor analysis. The results of these analyses are detailed in Table 2, which illustrates the reliability and validity of the study constructs.

Table 2. Reliability and validity results

Construct	Cronbach's Alpha	KMO Measure	Bartlett's Test (Sig.)
Flexible Work Arrangements	0.89	0.85	<0.001
Job Engagement	0.87	0.83	<0.001

As shown in Table 2, Cronbach's alpha values for both constructs exceed the threshold of 0.7, indicating strong internal consistency. The KMO measures are above 0.8, demonstrating sample adequacy, while Bartlett's test results are significant ($p < 0.001$), confirming that the data are appropriate for factor analysis. These findings establish that the constructs are both reliable and valid, providing a solid foundation for further statistical analysis and hypothesis testing.

Descriptive statistics provide insights into participants' general perceptions of the dimensions of flexible work arrangements (FWAs) and job engagement. The mean values indicate overall levels of agreement with the items, while the standard deviations show variability in responses. Table 3 summarizes descriptive statistics.

Table 3. Descriptive statistics for FWAs and job engagement

Dimension	Mean	Standard Deviation
Flexible Workplace	4.15	0.75
Flexible Working Hours	4.05	0.81
Flexible Working Procedures	4.08	0.77
Flexibility in Workload	4.12	0.80
Vigor (Job Engagement)	4.18	0.78
Dedication (Job Engagement)	4.20	0.76
Absorption (Job Engagement)	4.10	0.79

In Table 3, all dimensions of FWAs and job engagement have mean scores above 4.0 on a 5-point scale, indicating favorable perceptions. Among the dimensions, flexible workplace scored the highest (4.15) among FWAs, suggesting its significant importance to employees. Similarly, dedication recorded the highest mean (4.20) among job engagement dimensions, reflecting a strong sense of commitment among participants. These findings suggest that FWAs are well-implemented within the organization, positively influencing employees' engagement levels.

Correlation analysis was conducted to examine the relationships between the dimensions of FWAs and job engagement. Pearson's correlation coefficients were calculated to determine the strength and direction of these relationships. The results are summarized in Table 4.

Table 4. Correlation between FWAs and job engagement

Dimension	Vigor	Dedication	Absorption
Flexible Workplace	0.56	0.58	0.55
Flexible Working Hours	0.49	0.51	0.50
Flexible Working Procedures	0.52	0.53	0.54
Flexibility in Workload	0.61	0.62	0.60

As shown in Table 4, all correlations are positive and significant at the 0.01 level. Flexibility in workload exhibits the strongest correlations with all dimensions of job engagement, ranging from 0.60 to 0.62. This indicates that workload flexibility plays a critical role in enhancing engagement, particularly in terms of vigor and dedication. These results highlight the importance of tailoring FWA policies to focus on workload management, as it appears to have the most substantial influence on engagement.

To test *H1*, multiple regression analysis was conducted. The dependent variable was job engagement, and the independent variables were the dimensions of FWAs: flexible workplace, flexible working hours, flexible working procedures, and flexibility in workload.

Table 5. Regression analysis for FWAs and job engagement

Predictor	Beta Coefficient	t-value	Sig.
Flexible Workplace	0.25	5.12	<0.001
Flexible Working Hours	0.22	4.78	<0.001
Flexible Working Procedures	0.18	3.95	<0.001
Flexibility in Workload	0.28	5.65	<0.001

The results in Table 5 show that all dimensions of FWAs significantly predict job engagement ($p < 0.001$). The overall regression model was significant ($F = 42.57$, $p < 0.001$), with an adjusted R^2 of 0.62, indicating that FWAs explain 62% of the variance in job engagement. Among the predictors, flexibility in workload has the strongest impact ($\beta = 0.28$), followed by flexible workplace ($\beta = 0.25$). These findings confirm that FWAs significantly enhance job engagement. The results support *H1*, demonstrating the critical role of flexibility in fostering employee engagement.

A simple regression analysis was conducted with flexible workplace as the independent variable and job engagement as the dependent variable to test *H1.1*.

Table 6. Regression analysis for flexible workplace and job engagement

Predictor	Beta Coefficient	t-value	Sig.
Flexible Workplace	0.32	6.54	<0.001

Table 6 indicates that flexible workplace significantly predicts job engagement ($\beta = 0.32$, $t = 6.54$, $p < 0.001$). The model explains 10.2% of the variance in job engagement ($R^2 = 0.102$). The positive and significant relationship suggests that providing employees with a flexible workplace positively impacts their engagement levels, particularly in terms of vigor and dedication.

Next, a simple regression analysis was conducted with flexible working hours as the independent

variable and job engagement as the dependent variable to test *H1.2*.

Table 7. Regression analysis for flexible working hours and job engagement

Predictor	Beta Coefficient	t-value	Sig.
Flexible Working Hours	0.28	5.87	<0.001

Table 7 shows that flexible working hours significantly predict job engagement ($\beta = 0.28$, $t = 5.87$, $p < 0.001$). The model explains 7.8% of the variance in job engagement ($R^2 = 0.078$). These findings highlight that allowing employees to adjust their working hours positively impacts their engagement, as it enables better work-life balance and a sense of control over their schedules.

Further, a simple regression analysis was conducted with flexible working procedures as the independent variable and job engagement as the dependent variable to test *H1.3*.

Table 8. Regression analysis for flexible working procedures and job engagement

Predictor	Beta Coefficient	t-value	Sig.
Flexible Working Procedures	0.24	4.92	<0.001

Table 8 indicates that flexible working procedures significantly predict job engagement ($\beta = 0.24$, $t = 4.92$, $p < 0.001$). The model explains 5.9% of the variance in job engagement ($R^2 = 0.059$). These findings suggest that offering employees flexibility in how they perform their tasks fosters creativity and autonomy, leading to higher engagement levels.

Finally, a simple regression analysis was conducted with flexibility in workload as the independent variable and job engagement as the dependent variable to test *H1.4*.

Table 9. Regression analysis for flexibility in workload and job engagement

Predictor	Beta Coefficient	t-value	Sig.
Flexibility in Workload	0.36	7.32	<0.001

Table 9 reveals that flexibility in workload significantly predicts job engagement ($\beta = 0.36$, $t = 7.32$,

$p < 0.001$). The model explains 13.0% of the variance in job engagement ($R^2 = 0.130$). This finding highlights that giving employees control over their workload leads to the strongest positive impact on engagement, particularly in terms of vigor and absorption.

Table 10 summarizes the results of the hypotheses testing conducted in this study. It provides a clear overview of the impact of each dimension of flexible work arrangements on job engagement. This summary consolidates the findings from individual regression analyses, highlighting the significance of each hypothesis and its contribution to the overall understanding of FWAs' role in fostering employee engagement. It also emphasizes the relative strength of each dimension's influence, offering valuable insights for practical applications and policy development.

Table 10. Summary of hypotheses testing

Hypothesis	Description	Result
<i>H1</i>	FWAs significantly impact job engagement	Supported
<i>H1.1</i>	Flexible workplace impacts job engagement	Supported
<i>H1.2</i>	Flexible working hours impact job engagement	Supported
<i>H1.3</i>	Flexible working procedures impact job engagement	Supported
<i>H1.4</i>	Flexibility in workload impacts job engagement	Supported

All hypotheses are supported, demonstrating that all dimensions of FWAs positively and significantly influence job engagement. Flexibility in workload had the strongest impact, emphasizing its importance as a critical factor in enhancing engagement. These findings underscore the value of implementing targeted FWA policies to improve employee engagement effectively.

4. DISCUSSION

The findings of this study reveal critical insights into the relationship between flexible work arrangements (FWAs) and job engagement within the Egyptian telecommunications sector. The results show that flexibility in workload had the strongest impact on job engagement, with a beta coefficient of 0.28 (Table 5) and a significant correlation with vigor (0.61), dedication (0.62), and absorp-

tion (0.60) (Table 4). This finding underscores the importance of granting employees control over their workload, which aligns with previous studies that highlight workload flexibility as a key driver of engagement (McNall et al., 2009; Chen & Fulmer, 2018). In the Egyptian telecommunications context, where employees often face high performance demands, the ability to manage workload fosters a sense of autonomy and empowerment. This finding corroborates global research that links workload autonomy to reduced stress and increased job satisfaction (Hill et al., 2001). However, the magnitude of its impact in this study suggests that workload flexibility is particularly critical in fast-paced and technologically intensive sectors, where employees benefit from the ability to adapt their responsibilities to dynamic work environments.

The beta coefficient for flexible workplace was 0.25 (Table 5), with significant correlations across all job engagement dimensions (0.56–0.58) (Table 4). This indicates that allowing employees to choose or adapt their workplace positively influences their engagement levels. Previous studies, such as those by Sardeshmukh et al. (2012), similarly found that workplace flexibility enhances employee satisfaction and reduces exhaustion. In Egypt, where commuting challenges are prevalent in urban areas, providing workplace flexibility can address logistical constraints, improve productivity, and foster work-life balance. This result aligns with findings from developing economies, where workplace flexibility mitigates geographic and infrastructure-related challenges (Koreishi & Alpass, 2023). The strong impact of this dimension suggests that telecommunications companies should invest in infrastructure to support hybrid or remote work models, which are increasingly relevant in the post-pandemic landscape.

The impact of flexible working hours on job engagement was also significant, with a beta coefficient of 0.22 (Table 5) and correlations ranging from 0.49 to 0.51 (Table 4). This dimension enables employees to align their professional responsibilities with personal commitments, promoting a better work-life balance. Prior research supports this finding, showing that flexible scheduling reduces employee turnover and

improves satisfaction (Masuda et al., 2012; Rahman, 2019). In the Egyptian context, flexible working hours are particularly beneficial for employees balancing family obligations, aligning with cultural norms that prioritize familial responsibilities. However, the slightly lower impact compared to workload flexibility suggests that while temporal autonomy is valued, it may not address the immediate performance challenges faced in highly technical roles within the telecommunications sector.

While flexible working procedures had a positive impact ($\beta = 0.18$, Table 5), their effect was relatively weaker compared to other dimensions. The correlations with job engagement dimensions (0.52–0.54, Table 4) indicate that procedural flexibility supports engagement, but its influence may be context-dependent. In operationally intensive sectors like telecommunications, consistency in procedures is often necessary to maintain service quality, which may explain its comparatively lower impact. This finding contrasts with studies in creative and knowledge-intensive industries, where procedural flexibility fosters innovation and engagement (Singh, 2023). Nonetheless, the result highlights that procedural flexibility should be implemented strategically, ensuring it complements rather than disrupts core operational processes.

The study's findings align with global research demonstrating the positive impact of FWAs on job engagement (Gerards et al., 2018; Sharma & Gaur, 2023). However, the emphasis on workload flexibility as the strongest predictor reflects the specific challenges and expectations within the Egyptian telecommunications sector. This sector requires a workforce that is not only technically skilled but also adaptable and resilient in the face of rapid innovation. The results also provide a nuanced perspective on the relative importance of different FWA dimensions. For example, the slightly lower impact of flexible working hours and procedures suggests that these dimensions, while beneficial, may not be as critical in performance-driven environments compared to workload and workplace flexibility.

The findings have significant implications for organizational policy and practice. By priori-

tizing workload flexibility, companies can enhance employee engagement and productivity while addressing individual needs. Investments in workplace flexibility infrastructure, such as remote work technologies, can further support employee satisfaction and retention. Flexible scheduling policies should also be tailored to the cultural and operational context, ensuring they address both organizational and employee priorities. The study highlights the unique dy-

namics of the Egyptian telecommunications sector, where FWAs play a pivotal role in balancing technological demands with workforce expectations. The emphasis on workload and workplace flexibility reflects the sector's need for adaptive and high-performing employees. These insights contribute to the broader discourse on FWAs, offering context-specific findings that can inform both academic research and practical applications.

CONCLUSION

The purpose of this study is to examine the impact of flexible work arrangements on job engagement, focusing on how dimensions such as workload flexibility, workplace flexibility, and flexible working hours influence employee vigor, dedication, and absorption within the telecommunications sector.

The results demonstrate that FWAs significantly enhance job engagement, with flexibility in workload emerging as the most influential dimension. This highlights the importance of offering employees autonomy and control over their tasks as a means of fostering motivation and productivity. Other dimensions, such as flexible workplace and flexible working hours, also play vital roles in supporting employees' diverse needs and preferences.

This study contributes to the growing body of literature on FWAs by providing empirical evidence from the Egyptian telecommunications sector, an industry marked by rapid technological advancements and workforce demands. The findings have practical implications, suggesting that organizations can enhance employee engagement by adopting targeted FWA policies that address specific dimensions of flexibility.

AUTHOR CONTRIBUTIONS

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