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Research Article

The Influence of Flexible Work Arrangements on Employee Innovation Moderated by Human Resource Support in the Information Technology and Telecommunications Industry: A Mixed-Methods Approach

Akisha Julianne Cu[1], Zoraia Nikole Esguerra[2], Angela Gatbonton[3], Janvi Sakhrani[4], Jessica Jaye Ranieses[5]

[1,2,3,4,5] Department of Decision Sciences and Innovation, Ramon V. del Rosario College of Business, De La Salle University, Manila, Philippines
* Corresponding author: jessica.ranieses@dlsu.edu.ph

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Abstract

Purpose- This study, grounded in the Demand–Resource–Individual Effects (DRIVE) Model and Social Exchange Theory (SET), explores the impact of Flexible Work Arrangements (FWAs)—namely Flexible Working Hours (FWH) and Telecommuting/Work From Home (T/WFH)—on Employee Innovation (EI), with an examination of Human Resource Support (HRS) as a potential moderating factor.

Design/Methodology- Utilizing a mixed-methods design, this research integrates quantitative results from 150 purposively and snowball-sampled respondents with qualitative insights from four detailed interviews. Statistical analyses included Correlation, Regression, and Explanatory Sequential analysis.

Findings- The study's key findings show that both FWH and T/WFH significantly enhance EI. While quantitative findings indicated no significant moderating effects of HRS, qualitative responses underscored its vital role in fostering a supportive and innovative environment.

Practical Implications- These findings underscore the crucial role of FWAs in enhancing innovation and suggest that fostering schedule autonomy and strengthening support systems can significantly boost innovation in hybrid work setups.

Introduction

The COVID-19 pandemic has accelerated the adoption of digital technology for flexible working arrangements (FWAs), particularly evident in the Philippine telecommunications sector. These FWAs not only attract and retain highly skilled workers but also demand enhanced governmental support for stable internet services, which is crucial for economic progress (Gaduena et al., 2022; Philippine Statistics Authority, 2020 as cited in Hung et al., 2023). Information technologies such as smartphones and computers have become indispensable in modern employment, driving significant interest in remote work within IT and IT-enabled industries. These industries strive to involve the workforce actively, engage stakeholders, retain talent, and reduce turnover (Prasad et al., 2020).

Post-pandemic, FWAs have become a strategic tool for retaining knowledge-based employees (Bjarntoft et al., 2021, as cited in Wang & Xie, 2023). Studies have highlighted FWAs' role in fostering innovative behaviors through Human Resource Support (HRS), psychological empowerment, work-life balance, and job satisfaction, thereby enhancing employee innovation performance (Berkery et al., 2017; Obrenovic et al., 2020; Wang & Xie, 2023). Despite their widespread use, there is a notable lack of research on the impact of FWAs on employee innovation (EI) within the telecommunications and IT sectors in the Philippines. This study aims to fill this gap by investigating how FWAs influence EI, considering the moderating role of HRS. It also explores the prevalence of flexible work hours and the visibility of innovation-promoting practices among employees.

The primary research question is: *How do flexible work arrangements influence employee innovation in the IT and Telecommunications industries in the Philippines?*

Sub-questions include:

- How does Human Resource Support moderate the relationship between flexible work arrangements and employee innovation?
- What are the benefits and drawbacks of implementing flexible work arrangements for employee innovation in these industries?
- To what extent are flexible work hours practiced, and how visible are innovation-promoting practices among employees?

This research is poised to provide actionable insights that could influence labor policy and HR practices within the Philippines. By uncovering the dynamics between FWAs and EI, it offers a comprehensive framework to assist labor lawmakers and Human Resource professionals in creating a conducive environment that nurtures innovation. Additionally, the findings from this study will serve as a strategic guide for IT and Telecommunications companies, enabling them to optimize FWAs not just to retain talent but also to enhance competitiveness and drive innovation in the sector. Such optimization is crucial for sustaining growth and adaptability in an increasingly digital and flexible working environment. The following section reviews the existing literature to contextualize these impacts and outline the theoretical foundations of the study.

Literature Review

The IT and telecommunications sectors are central to the economic development of the Philippines, marked by significant growth due to advancements in technologies such as cloud computing, big data, and artificial intelligence. These sectors not only enhance connectivity but also improve the efficiency of services, making them pivotal for the nation's progress.

This section provides an overview of the variables and the link between the independent (FWH and T/WFH) and dependent (EI) variables. EI, the dependent variable in this study, involves generating, promoting, and

realizing ideas, including problem identification, solution implementation, and product or service development (Scott & Bruce, 1994, as cited in Vinh et al., 2019). Additionally, this section includes the moderating variable used in this study.

Impact of FWH on EI

FWH refers to agreements between employers and employees that allow employees to determine their working hours while still meeting contractual requirements (Shepard, 1996). Research by Setiyani et al. (2019) and Idowu (2020) highlights that FWH supports work-life balance, which is crucial for employee engagement and motivation.

Impact of T/WFH on EI

T/WFH has evolved to encompass remote work facilitated by modern information and communication technologies (Nilles, 1994, p.109; Steidelmüller et al., 2020). It offers significant professional advantages, including better performance and productivity, professional efficiency, and concentration (Biron & van Veldhoven, 2016; Bloom et al., 2015; Martin & MacDonnell, 2012; McNaughton et al., 2014; Vega et al., 2015; Wibowo et al., 2022, as cited in Vayre, 2022).

Moderating Role of HRS

HRS is a significant organizational support that increases employee morale and satisfaction (Wahab & Tatoglu, 2020). HRS can generally contribute to higher performance results (Truss et al., 2013) and improved employee well-being (Huang et al., 2016). Additionally, when employees receive high levels of support, their emotional and work resources are supplemented to enhance job autonomy, actively respond to work-family conflicts, and demonstrate high work engagement (Ma et al., 2023). Wahab & Tatogulu (2020) also concluded that workers' efforts at work would increase and be improved as a result of the concern Human Resources has regarding the welfare of these workers. With this in mind, the researchers chose to explore the moderating effect of HR Support as this could enhance and improve psychological empowerment on employees' work performance (Wang & Xie, 2023).

Research Gap

Despite the recognized benefits of FWAs in fostering employee innovation, there is a notable lack of comprehensive research exploring this relationship within the context of the Philippine IT and telecommunications sectors. Most existing studies focus on generic outcomes such as job satisfaction and productivity, with little emphasis on how FWAs directly influence the innovative capabilities of employees. Furthermore, the moderating role of human resource support in this dynamic remains underexplored. This study aims to fill these gaps by examining how FWH and T/WFH, as specific types of FWAs, impact employee innovation, and how human resource support may enhance or hinder this effect. This could help aspiring IT and Telecommunication business owners decide on what working arrangement would be most effective for their employees to be successful in the IT and Telecommunications industry.

Framework of the Study

The study examines the relationship between FWAs and EI using the Social Exchange Theory (SET) and the Demand–Resource–Individual Effects (DRIVE) Model. According to Sukumaran and Lanke (2021), SET posits that employees reciprocate improved performance when they feel valued by their organization. Meanwhile, the DRIVE model, as described by Wang and Xie (2023), assesses how work demands, resources, and personal factors influence outcomes–including the impact of flexible work arrangements on innovation. Furthermore, the moderating effect of HR is explored for its potential to enhance employee performance through psychological empowerment (Wang & Xie, 2023).

Linkage between SET and DRIVE Model

SET, DRIVE Model, and FWH

Both the DRIVE model and SET explain FWH's influence on EI. The DRIVE model poses FWH as a resource that fosters innovation, enhances autonomy, and reduces social pressure. However, if poorly implemented, FWH may also act as a demand that creates stress and reduces innovation. Meanwhile, SET implies that FWH strengthens organizational support by encouraging reciprocity through innovative behavior unless poorly implemented, which may lead to low-quality exchanges.

SET, DRIVE Model, and T/WFH

The DRIVE model emphasizes T/WFH as both a resource (e.g., flexibility) and a demand (e.g., isolation). T/WFH may positively impact employees by reducing stress while also negatively affecting those who may struggle with communication barriers. SET supplements this as T/WFH is viewed as a trust-building tool, promoting reciprocity and innovation.

SET, DRIVE Model, and HRS

In alignment with the DRIVE model's focus on resources mitigating demands, HRS as a moderator enhances FWH's positive impact by providing resources and addressing challenges like isolation. Similarly, SET emphasizes HRS as fostering high-quality exchanges by meeting employee needs enhances trust and innovation. However, insufficient HRS may weaken this relationship and reduce the benefits of FWH on EI. Similarly, the ability of HRS to reduce the stress associated with T/WFH by providing tools and promoting collaboration can be hypothesized using the DRIVE model as HRS allows employees to innovate in the face of challenges. SET reinforces this idea by framing HRS as essential for maintaining reciprocity and fairness in T/WFH arrangements. Perceived inequities without strong HRS may also weaken the effect of T/WFH on EI.

Based on these theories, Figure 1 illustrates the conceptual framework of the study, which emphasizes each variable to investigate further the relationship between the two FWAs (FWH and T/WFH) towards EI as moderated by HRS.

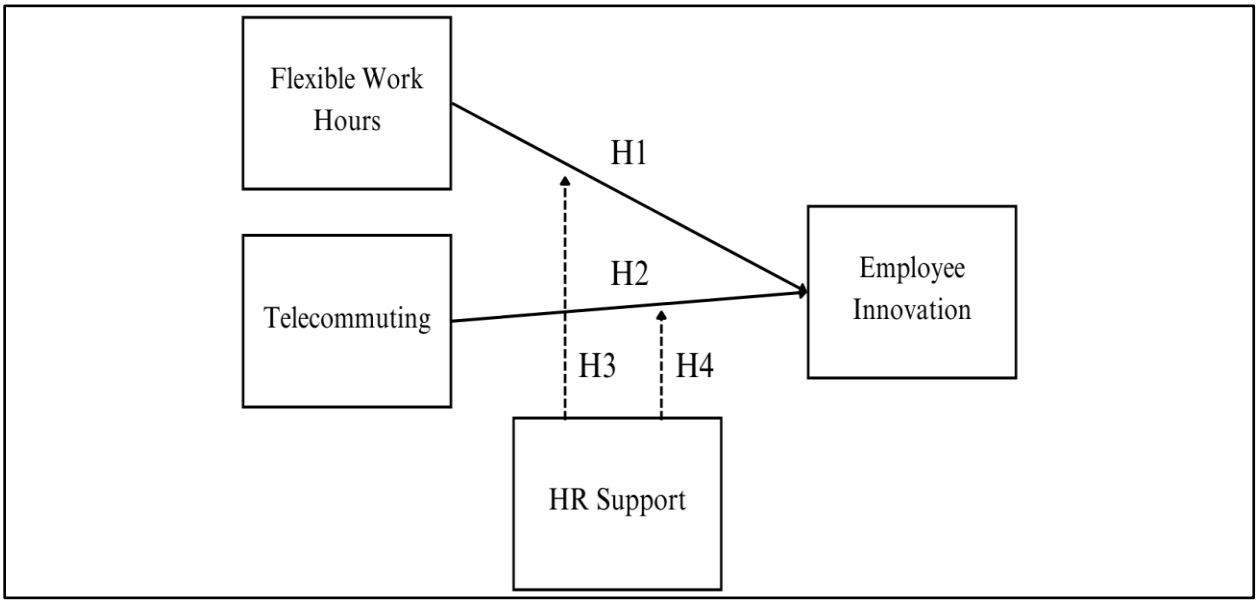

Figure 1: Operational Framework

In relation to the different variables stated in the literature review and the theories listed below are the hypotheses of the study:

H_{01}: FWH does not have a significant positive effect on EI.

H_{a1}: FWH does have a significant positive effect on EI.

H_{02}: T/WFH does not have a significant positive effect on EI.

H_{a2}: T/WFH does have a significant positive effect on EI.

H_{03}: HRS does not significantly moderate the relationship between FWH and EI.

H_{a3}: HRS does significantly moderate the relationship between FWH and EI.

H_{04}: HRS does not significantly moderate the relationship between T/WFH and EI.

H_{a4}: HRS does significantly moderate the relationship between T/WFH and EI.

Methodology

The research was conducted within the National Capital Region (NCR) of the Philippines, a hub for the IT and Telecommunications industry due to its dense population and concentration of corporate headquarters. Participants, all residing in the NCR, were recruited online via platforms such as Facebook Messenger, LinkedIn, and Email, encompassing a diverse sample of individuals engaged in remote or hybrid work setups within these sectors.

The study utilized a mixed-method approach combining descriptive, correlational, and explanatory sequential designs to comprehensively analyze the interactions between FWAs and EI, with HRS serving as a moderating variable. This innovative approach allowed for a detailed exploration of the dynamic relationships among the variables, enhancing the depth of understanding regarding their interplay. In line with this, a mixed-method approach was appropriate for this study as it allowed the researchers to leverage the strengths of both quantitative and qualitative methodologies. The quantitative analysis provided statistical significance of the direct and indirect effects between the independent and dependent variables. Meanwhile, the qualitative insights added depth by capturing diverse perspectives and underlying factors that further explain the quantitative findings. This integration enabled the study to address why these relationships occur, making the findings both contextually relevant.

The initial target sample size was calculated to be approximately 384 based on a formula for an unknown population. However, due to time constraints, this was pragmatically adjusted to 200 participants, using non-probability methods such as purposive and snowball sampling. This adjustment has implications for the generalizability of the findings as a smaller sample size, combined with non-probability methods, may limit the ability to make broad inferences regarding the wider population. In addition, the lack of random sampling may introduce selection bias and reduce external validity. However, this approach was appropriate for the study as it ensured the inclusion of respondents who met specific criteria: Filipino citizens residing in Metro Manila, and actively engaged in IT or Telecommunications roles for at least two years, either in managerial or non-managerial capacities. Such targeted sampling aligns with the study's objectives, prioritizing contextual relevance and depth over generalizability which provides more meaningful insights into the specific population. Future research may aim for larger samples to enhance generalizability and mitigate bias.

The survey instrument included 52 Likert scale-rated items, distributed across sections on FWH (10 items), T/WFH (12 items), EI (21 items), and HRS (9 items). Reliability testing was rigorously conducted using Cronbach's Alpha, with coefficients for all variables exceeding the 0.70 threshold, indicating high internal consistency and reliability of the measures used.

Descriptive statistics elucidated central tendencies and distributions, while Pearson Correlation Coefficients, multicollinearity analysis, and multiple linear regression models were applied to quantify the relationships and impacts among the study variables. Furthermore, moderation analysis was conducted to examine the influence of HRS on the FWH and T/WFH effects on EI. Hierarchical regression and Structural Equation Modeling (SEM) were methods considered instead of multiple linear regression. However, as hierarchical regression analyzes variables of interest after controlling for other variables (University of Virginia, n.d.), it was not the method appropriate for this study as the researchers were only interested in observing two to three variables at a time. SEM, on the other hand, has a statistical pre-requisite that requires the variables of the study to be normally distributed (Statistics Solutions, n.d.). As this study's variables fall under a non-normal distribution, this method was not chosen for this study. Instead, the study chose to analyze its data using moderation analysis.

Qualitative insights were also gathered through Zoom interviews with four employees (two managerial and two non-managerial), enriching the quantitative findings. The interviewees provided diverse insights into FWAs, EI, and HRS. The researchers identified patterns and coded responses to highlight similarities and differences, which were then compared to the quantitative results to deepen the study's findings. The interview questions, derived from the literature review and aligned with the survey questions, covered aspects of FWH, T/WFH, EI, and HRS to ensure a comprehensive understanding of the contextual dynamics influencing FWAs and their effect on innovation.

Results

Respondent Demographics

The demographics of the 150 respondents who participated in the study offered insights into their views on FWH, T/WFH, EI, and HRS. With this, the majority of respondents are identified to be male (70.67%) and aged 31 or older (49.33%). Importantly, all respondents are engaged in FWAs, ensuring they meet the study's criteria. Notably, the largest number of respondents are affiliated with the two telecommunications company, each representing 12.67% of the sample. Additionally, the IT department is the most represented, with 28% of respondents. In terms of work setup, most follow a hybrid schedule of two remote and three onsite days per week. Lastly, 33.33% of respondents have been in flexible work arrangements for approximately four years, highlighting their significant experience with these setups.

Descriptive Analysis

As previously mentioned, 150 respondents were able to answer the questionnaire and provide their perceptions toward the independent variables. A descriptive analysis was conducted to summarize respondents' perspectives on FWH, T/WFH, EI, and HRS in which the data is summarized with the calculated mean and standard deviation for each variable to provide clear insights and meaningful interpretation. These values were achieved through Jamovi. Respectively, the Mean of FWH, T/WFH, EI, and HRS arrived at the values of 4.371, 3.968, 3.878, and 3.798. As for the Standard Deviation, these are known to be 0.594, 0.530, 0.408, and 0.917. Moreover, the Mean score and Standard Deviation for every question categorized under each variable were also calculated.

For the respondents' perceptions of FWH, its mean of 4.371 draws back to the findings of each question asked about this variable in the survey questionnaire. The respondents also agree that FWH boosts their optimism toward work responsibilities, provides better control over their work hours, and enables more efficient time planning. Additionally, respondents believe that FWH enhances their productivity by allowing them to work during their most optimal hours.

As for T/WFH, the findings would be that respondents partly agree that working from home offers an energetic atmosphere and some freedom in choosing tasks. However, respondents also have mixed feelings about the absence of idea theft and workplace humor, as they only partly agree with these aspects. Moreover, respondents

strongly agree that T/WFH allows time to explore new ideas and that their employers trust them in this setup. They also appreciate the cost savings from reduced commuting, with this element receiving the highest mean score (4.620) among all telecommuting-related questions. Additionally, respondents agree that WFH enables them to work during their most productive hours. Despite this, neutrality is evident in regard to power struggles and mixed views on feeling welcomed when presenting new ideas.

Meanwhile, the respondents' views on EI are that they strongly agree that they actively seek improvement opportunities, with a mean score of 4.607, and explore new methods and solutions. However, they only partly agree on engaging with issues outside their daily work and motivating others about their ideas. While respondents partly agree on convincing colleagues and systematically introducing innovative ideas, they strongly agree that they contribute to and develop new ideas regularly. In contrast, they strongly believe in the value of their projects, disagreeing that management is mistaken in introducing them, and strongly agree that these projects are important and necessary. Finally, respondents strongly agree that they enjoy their work, complete tasks successfully, and adhere to standard procedures.

Lastly, for HRS, mean scores for all questions (HRS1-HRS9) ranged from 3.653 to 3.893, thus indicating a general sense of reservation. Respondents partly agree that HR practices create a positive work environment, offer job satisfaction schemes, and motivate employees. They also partly agree that HR practices are regularly reviewed and upgraded, that training and development programs meet current needs, and that these practices boost their confidence and contribute to skill development. Additionally, they agree that HR policies are communicated clearly and that managers are aligned on implementing these policies.

Correlation Analysis

Table 1. Correlation Matrix

		FWH	T/WFH	EI	HRS
FWH	Pearson's r	–			
	df	–			
	p-value	–			
T/WFH	Pearon's r	0.590	–		
	df	148	–		
	p-value	< 0.001	–		
EI	Pearon's r	0.596	0.630	–	
	df	148	148	–	
	p-value	< 0.001	< 0.001	–	
HRS	Pearon's r	0.552	0.427	0.412	–
	df	148	148	148	–
	p-value	< 0.001	< 0.001	< 0.001	–

According to Akoglu (2018), the correlation between the two variables is indicated by the letter r and measured by a value ranging from -1 to +1. In line with this, zero indicates no connection, whereas 1 indicates "complete or perfect correlation" (Akoglu, 2018). As the researchers ran a correlation analysis in Jamovi, results show that there is a moderately positive correlation between FWH and T/WFH ($r = 0.590$). FWH shows a moderately positive correlation with EI ($r = 0.596$). Moreover, T/WFH also exhibits a moderately positive correlation with EI ($r = 0.630$). Furthermore, the correlations between these variables and HRS are also moderately positive, with FWH and HRS ($r = 0.552$), T/WFH and HRS ($r = 0.427$), and EI and HRS ($r = 0.412$). Furthermore, the p-values are all below the significance level (0.05), which indicates that the correlation between these variables is all significant.

Discussion

Descriptive Analysis

The respondents' perceptions of FWH, which had a mean of 4.371, imply that respondents strongly agree that FWH helps them maintain a healthy work-life balance and show strong support for its implementation in their organizations. The respondent's answers to the survey questionnaire suggest that FWH are well-received and contribute positively to both work-life balance and productivity. These align with the study conducted by Setiyani et al. (2019), in which FWH was found to help improve work-life balance and employee engagement. Setiyani et al.'s (2019) findings also indicated that FWH positively impacts employee motivation and engagement. Therefore, implementing FWH can lead to enhanced motivation and engagement levels among employees. These findings address the first hypothesis where FWH has a positive/ no positive impact on EI. As for the results of the second hypothesis of T/WFH positive/no positive impact on EI, it could be stated that respondents generally view T/WFH positively, especially in terms of trust, flexibility, and cost savings. Similarly, Steidelmüller et al. (2020) conducted a study that identified the benefits of Telecommuting, these being flexibility, greater autonomy, better work-life balance, higher productivity, and creating adverse working conditions for employees.

Table 2. Descriptive Analysis

Variable	N	Mean	Std. Deviation
FWH	150	4.371	0.594
T/WFH	150	3.968	0.530
EI	150	3.878	0.408
HRS	150	3.798	0.917

The results of EI emphasize that improvement in the clarity and transparency of their organization's compensation structure and project-related remuneration is essential, given that the majority of the respondents only partly agree with this. Overall, the findings highlight a proactive approach to innovation while having some reservations about compensation transparency and motivating others.

Lastly, the HRS findings suggest that HRS in the workplace has room for improvement in communication and effectiveness. Given these insights, the benefits of HRS in the workplace of the different respondents are not fully maximized despite this being a promoter of active innovation in the workplace. In relation to this, a study conducted by Park et al. mentioned that for businesses to accomplish innovation and diverse development, efficient use of internal resources, the acquisition of external resources, and their integration are necessary (Park et al., 2019).

Correlation

Pearson's correlation coefficient is commonly used to determine the strength of the relationship between two variables (Senaviratna & Cooray, 2019). According to Akoglu (2018), the correlation between the two variables is indicated by the letter r and measured by a value ranging from -1 to +1. The correlation results of the study indicate that IT or Telecommunications companies implementing FWH tend to support T/WFH, that FWH may nurture EI, and T/WFH can also positively influence EI. Lastly, the correlations between HRS and FWH, T/WFH, and EI indicate an evident association between FWH, T/WFH, and HRS.

Multicollinearity

In determining the presence of multicollinearity among each independent variable, the Variance Inflation Factor (VIF) and Tolerance were calculated. Multicollinearity is present when the VIF is higher than 5 to 10 (Kim, 2019). Meanwhile, a tolerance value below 0.1 signifies a significant issue with collinearity and implies that a

tolerance value less than 0.2 indicates the presence of a potential collinearity problem (Senaviratna & Cooray, 2019). With this, the value that was arrived at for the VIF of FWH and T/WFH to EI is 1.533, with its tolerance also being 0.652. This indicates that multicollinearity is not a concern as it is not present for the independent variables of the study since the calculated VIF is lower than 5, and its tolerance value exceeds the recommended minimum of 0.2. These results affirm that FWH does not exhibit multicollinearity with T/WFH, which ensures the reliability of its impact assessment on the dependent variable, EI.

Multiple Linear Regression

Multiple linear regression is used to predict the outcome of the dependent variable based on the value of two or more independent variables (Taylor, n.d.). Firstly, Cook's distance (D_i) was used to detect influential outliers that could affect the multiple linear regression model, wherein this measures the impact of removing each observation on the residuals (Boussiala, 2020). Following PennState Ebberly College of Science (n.d.), if D_i is over 0.5, the data point warrants further investigation as the i^{th} data point may be influential, and if this is over 1, this is quite likely influential. On the other hand, if D_i varies greatly from the other D_i values, it is almost certainly influential. Given this, Cook's distance of FWH and T/WFH is equivalent to 0.215, thus implying that the data point is not influential and has no significant influence on the estimated regression coefficients.

Table 3. Model Fit Measures of FWH and T/WFH to EI

				Overall Model test			
Model	**R**	**R^2**	**Adjusted R^2**	**F**	**df1**	**df2**	**p**
1	0.688	0.474	0.467	66.226	2	147	<.001

Model Coefficients - EI

			95% Confidence Interval			
Predictor	**Estimate**	**SE**	**Lower**	**Upper**	**t**	**p**
Intercept	1.538	0.205	1.133	1.943	7.502	<.001
FWH	0.237	0.051	0.136	0.337	4.648	<.001
T/WFH	0.329	0.057	0.216	0.442	5.761	<.001

Multiple linear regression was used to analyze the relationship between FWH and T/WFH with EI. The results revealed that the model's R^2 of 0.474, which shows 47.4% of the variance in EI, is predicted by FWH and T/WFH. Meanwhile, the adjusted R^2 of 0.467 confirms the model's explanatory power is strong without overfitting. Considering the rule that if $F > 2.5$, the null hypothesis that all model parameters are zero is rejected (Kissell & Poserina, 2017). Provided that results show that the F-statistic is 66.226 and $p < .001$, it can be concluded that FWH and T/WFH effectively predict EI with the indicated p-value.

When examining the predictors, both FWH and T/WFH have p-values of <0.001, less than the standard value of $p \leq 0.05$ at a 95% level of significance. Therefore, the null hypotheses (Ho1 and H02) are rejected, and the alternative hypotheses (Ha1 and Ha2) stating that FWH and T/WFH have positive significant effects on EI are accepted. Furthermore, given that the coefficient of the slope for both predictor variables is positive, the multiple linear regression model shows a positive relationship between FWH, T/WFH, and EI. This indicates that increases in FWH and T/WFH are associated with increases in Employee Innovation. Specifically, this means that for every unit increase in FWH, there is a 0.237 increase in EI. Meanwhile, for every unit increase in T/WFH, there is a 0.329 increase in Employee Innovation (EI).

Moderation Analysis

The Moderation Analysis was used to determine whether HRS supports the relationship between FWAs and EI. Upon the execution of this, results showed that 48.9% of the variance in Employee Innovation ($R^2 = 0.488$),

with statistical significance ($F(5, 144) = 27.4$, $p < 0.001$), is statistically significant. However, neither FWH, Estimate = -0.135, p = 0.533) nor T/WFH (Estimate = 0.497, p = 0.080) significantly influence Employee Innovation. As for the moderator, HRS (Estimate = -0.235, p = 0.332) also shows no significant effect. Consequently, the interaction terms FWH✻HRS (Estimate = 0.104, p = 0.087) and T/WFH✻HRS (Estimate = -0.048, p = 0.500) are not significant, indicating that HRS does not moderate the relationship between FWH or T/WFH and Employee Innovation. Therefore, the null hypotheses (H03 and H04) are accepted stating that HRS has no positive moderating effect on the relationship between FWH and EI or between T/WFH and EI. Furthermore, this contradicts the study of Jyoti et al. (2017), who emphasized that innovation is brought about by high-performance human resource practices as this is vital in Organizational Learning. The study resulted in a negative moderating effect, and the reason for this may be the unequal distribution of the respondents' gender, in which the majority of them are male. Additionally, as evidenced by the lowest mean score of 3.653 for HRS4, "Our HR practices are reviewed and upgraded on a regular basis," the respondents believe that HR practices are not frequently reviewed and upgraded. In relation to Wahab and Tatoglu's (2020) study, another reason why there may not have been moderation could be that most HR departments have adopted the same practices from other companies. With this, it could be emphasized that respondents brought up comparable programs that their HR department runs, including events, incentives, online courses, and benefits. This suggests that the insignificance of HR procedures may have been influenced by HR practices' uniformity across organizations and their lack of continuous upgrades.

Table 4. Result for Moderated Multiple Linear Regression for FWH, T/WFH, and EI, as moderated by HRS

			Overall Model Test			
Model	**R**	**R^2**	**F**	**df1**	**df2**	**p**
1	0.698	0.488	27.4	5	144	<.001
Model Coefficients-EI						
Predictor	**Estimate**		**SE**	**t**		**p**
Intercept	2.370		0.873	2.716		0.007
FWH	-0.135		0.217	-0.624		0.533
T/WFH	0.497		0.282	1.764		0.080
HRS	-0.235		0.241	-0.973		0.332
FWH ✻ HRS	0.104		0.060	1.724		0.087
T/WFH ✻ HRS	-0.048		0.071	-0.676		0.500

Qualitative Results

Respondent 1, a software engineer and founder of a software development company, has implemented FWH and T/WFH practices in his company for the past ten years. He believes FWH allows employees to work during their most productive hours, thus improving both creativity and output quality. While there are some communication delays and challenges in addressing issues outside of regular hours, the respondent trusts his employees to manage their schedules as long as the work gets done. Similarly, T/WFH boosted productivity and work quality by eliminating the mental and physical fatigue caused by commuting. Respondent 1 also noted its positive impact on employees' quality of life, although he sometimes encounters communication delays and the challenge of addressing issues outside regular hours. In his experience, employees are more confident and willing to present new ideas. With regard to employee innovation, the respondent continues to receive new ideas and high-quality work. Although his company is small without formal HR practices, the role of HR in fostering EI is also evident, as Respondent 1 believes in the importance of meetups for team building and maintaining a positive work environment. With the complete adoption and practice of FWH and T/WFH, the respondent observed that flexible work practices significantly boost employee productivity, creativity, and morale.

Respondent 2 is a senior manager at a major telecommunications company in the Philippines. As a manager, she has observed that the implementation of FWH and T/WFH has positively influenced EI within her team. She believes that FWH provides an opportunity for her and her team to improve their mood and productivity in the work environment. Based on her experience, FWH helps them allocate their time towards work and personal plans efficiently. As a result, there is a better work-life balance, and her team feels innovative and much more productive as they work according to their respective productive schedules. With regard to T/WFH, the respondent fully supports working from home as it helps save time, money, and energy. While there are challenges like communication delays and connectivity issues, adjusting to the work-from-home setup came easily to the team. The respondent emphasized that she encourages her team to hold activities that require everyone's input and collaboration during their scheduled office days. In relation to EI, the respondent also highlighted the importance of continuous improvement and innovation in the telecommunications industry by detailing her team's ability to collaborate and present ideas more readily. She also greatly appreciates the efforts of Human Resources, as the role of HR in EI provides the respondent and her team with numerous incentives and provides an avenue for growth and continuous learning. Furthermore, FWH and T/WFH have been adopted and practiced by the company for a long time, allowing for flexible and innovative work arrangements that support both professional and personal growth.

Respondent 3 has been a part-time professor at a university for two years, teaching economics, and has worked in the IT industry as a Senior Strategy Planner at a large IT company in the Philippines for three years. He believes that FWH positively influences EI by reducing stress and enhancing efficiency as employees are allowed to work during their most productive hours. This flexibility also benefits client management and work-life balance, especially for those with demanding schedules. Similarly, the respondent noted that the adoption of T/WFH creates a more conducive environment for innovation as it reduces unnecessary office noise and allows introverted employees to be more confident. While there are drawbacks like communication delays and poor network connections, the respondent noted that the company has trust in their employees as they submit their work and remit deliverables on time. Concerning EI, the respondent also discussed how there is a natural inclination towards efficiency and proactiveness in simplifying processes necessary for innovation. Meanwhile, he also explained how the role of HR is pivotal in promoting a supportive environment for EI through training, wellness programs, and generous bonuses. As the HR Department in his company highly supports such a work setup, the employees are happier as their well-being is valued. In addition, the respondent detailed how the widespread adoption and practice of FWH and T/WFH shows the company's commitment to employee well-being and job satisfaction, which drives innovation and reduces turnover. Overall, Respondent 3 strongly believes that the adoption and practice of a hybrid setup is beneficial as it saves time and allows the employees to work when they feel most innovative and motivated.

Respondent 4, a graduate of a university, currently works in the telecommunications industry as a Product Assistant at a telecommunications company, where he assists in business-related testing and coordinates with the IT and operations team about prepaid products and services. With an improved work-life balance due to FWH, the respondent has experienced positive changes in his productivity, motivation, and collaboration. Specifically, he values the reduced commuting stress and overall improved work-life balance provided by FWH. However, the respondent noted communication delays as a challenge. Meanwhile, the T/WFH promotes a more relaxed and personalized work environment which encourages creativity and collaboration. In turn, the respondent is more innovative and feels increased job satisfaction through a sense of trust and autonomy. With regard to EI, the respondent's proactiveness in simplifying processes and seeking improvement, coupled with practicing FWAs, are significant factors that drive his innovation. The respondent thrives in a hybrid work setup that combines FWH and T/WFH. HR also plays a significant role in fostering the respondent's innovation by providing incentives, benefits, and training that contribute to skill development and job satisfaction. The respondent works during his most productive hours and works from home twice per week on

an alternating schedule. Overall, the practice of FWH and T/WFH practices are well-integrated into his work routine, allowing for flexibility in managing both professional and personal responsibilities.

Table 5. Interpretation of Interview Results

Hypotheses	Interpretation
H_{a1}: FWH does have a significant positive effect on EI.	The quantitative analysis shows that FWH positively and significantly impacts EI. This is supported by qualitative findings from four respondents who highlighted that FWH improves productivity, work quality, work-life balance, and innovation by allowing employees to work during their most effective hours. The positive effects of FWH on EI can be explained through Social Exchange Theory, where employees reciprocate the flexibility provided by their company with increased performance and innovation. However, while FWH generally enhances motivation and collaboration, some respondents noted occasional communication delays.
H_{a2}: T/WFH does have a significant positive effect on EI.	According to the quantitative results, there is statistical significance between the independent variable T/WFH and the dependent variable EI. This quantitative finding is supported by the qualitative results in which the interviews reveal that the adoption of T/WFH positively impacts employee innovation. All four respondents noted improvements across various different elements pertaining to productivity, creativity, and job satisfaction. While the respondents noted there were minor drawbacks like communication delays and connectivity issues, all respondents appreciated the trust and autonomy granted by management to work from home, a factor crucial in creating motivated and innovative employees.
H_{a3}: HRS does significantly moderate the relationship between FWH and EI.	The qualitative results highlighted that various HR practices, such as providing benefits, bonuses, loans, free medicines, and engagement activities, are valued by employees for enhancing engagement, camaraderie, and skill development. However, the quantitative findings show no significant relationship between FWH or T/WFH and EI when moderated by HRS. This aligns with the study conducted by Wahab and Tatoglu (2020), suggesting that existing HR practices may already cover the benefits that could moderate this relationship, leading to no additional impact. As most HR departments may have adopted the same practices from other companies, it implies that the lack of upgrading HR practices regularly and its similarities across different companies may have contributed to no moderating effect in the study.
H_{a4}: HRS does significantly moderate the relationship between T/WFH and EI.	The respondents had positive insights into the different HR departments' initiatives. HR activities that made the respondents feel supported include face-to-face meetups, training programs, and flexible work setups. However, despite these positive perceptions, the quantitative results of the study showed that HRS holds no significant moderating effect on the relationship between T/WFH and EI. In order to explain its insignificance, the results of a study by Wahab and Tatoglu (2020) also showed no significance between its HR support moderator towards productivity as benefits and advantages of HR support only benefit employees temporarily. In addition to this, HR benefits and incentives are not long-term solutions for issues that a company's employees are experiencing (Wahab & Tatoglu, 2020).

Conclusion

Upon analyzing the quantitative and qualitative results, the researchers were able to discern the following conclusions in relation to the study's research objectives.

Table 6. Summary of Research Objectives

Research Objectives	Conclusions
1. **To understand how the implementation of flexible work arrangements influences employee innovation.**	Pearson's r correlation coefficient shows moderate and positive relationships between FWH and EI with a value of r = 0.596. Meanwhile, Pearson's correlation coefficient between T/WFH and EI presents a moderate and positive relationship with a value of r = 0.630. These relationships suggest that EI increases as FWH and T/WFH increase. Further support for these findings is seen in the statistical analysis, particularly in the multiple linear regression model. Both FWH and T/WFH have p-values of < .0001, proving their significant positive effects on EI at a 95% level of significance. With positive coefficients for the slope of both the predictor variables, an increase in flexible work arrangements is associated with increases in EI. It can, therefore, be concluded that implementing FWAs enhances the conditions of employees and increases their innovation as it fosters a more creative and productive work environment.
2. **To determine how Human Resource Support moderates the relationship between flexible work arrangements and employee innovation.**	The R^2 value of 0.488 presented in the moderated multiple linear regression model suggests that 48.9% of the variability in EI is explained by the model, which is statistically significant. However, the individual predictors (FWH and T/WFH) and the moderating variable (HRS) are not statistically significant. Consequently, the interaction terms FWH∗HRS and T/WFH∗HRS are not significant. Previous studies (Wahab & Tatoglu, 2020) support such findings, suggesting that HR support does not offer a long-term solution for enhancing employee innovation, though it provides temporary benefits. However, qualitative feedback from the four respondents interviewed for the study emphasizes the beneficial role of HRS. They highlighted various benefits of HRS, such as improved work output, collaboration, loan assistance, bonuses, training, and free medicines, which indirectly encourage EI. While the quantitative results do not show a significant moderating effect of HRS on the relationship between FWAs and EI, the qualitative findings demonstrate that HR support plays a significant role in fostering innovation by enhancing satisfaction and overall well-being.
3. **To determine the benefits and drawbacks of implementing flexible work arrangements towards employee innovation in the IT and**	Implementing FWAs in the IT and Telecommunications industry provides several benefits for EI. Based on the quantitative analysis, FWH allows respondents to achieve a healthier work-life balance, efficiently plan their time, and work during their most productive hours. Additionally, the T/WFH setup allows employees to feel trusted and gives them more time to explore new ideas when working from home. Ultimately, this allows them to enhance their optimism towards work and improve productivity. Similarly, the interviewees acknowledged the same benefits. Through FWH, they are able to save money on commuting, work during their most

Telecommunications industry.	productive times, and explore new ideas with more confidence. Meanwhile, the T/WFH setup reduces their mental and physical fatigue from traveling to the office, thus leading to higher quality outputs and increased efficiency. However, drawbacks of FWH include communication delays when employees are not online, which may hinder the immediate exchange of feedback and slow down collaboration. Additionally, the T/WFH setup limits social interactions and leads to privacy concerns and data security issues. Despite these drawbacks, the benefits of FWAs make this a valuable strategy for enhancing EI.
4. **To determine the degree to which flexible work hours are practiced by the respondents.**	FWH is actively practiced and valued by the respondents to a relatively high degree. The implementation of FWH varies as employees are encouraged to set their own work schedules depending on their optimal work hours and personal preferences. In particular, FWH extends beyond normal office hours as they accommodate diverse needs such as varying commute times, early morning starts, and late-night engagements. As a way to promote employee well-being, the degree to which FWH is adopted and practiced by the respondents emphasizes its role in enhancing factors that affect innovation, such as productivity, job satisfaction, and work-life balance.
5. **To determine the extent to which practices that promote employee innovation are evident.**	The extent to which practices promote EI in the IT and Telecommunications industry is evident but not uniformly consistent. The results show that, on average, these questions score above 4.00, indicating that the respondents partly too strongly agree with these questions. In addition, the interviewees highlighted that when employees provide innovative ideas, superiors work with the employees to enhance the ideas and establish them as policies once approved. However, the frequency and consistency of innovative ideas vary among employees. The interviewees highlighted that some employees came up with innovative ideas on a monthly basis, whereas others came up with such ideas once or twice a year. Overall, the extent to which practices promote EI is not consistent, as innovative ideas occur in an arbitrary manner as they arise when employees see an opportunity to do so.
6. **To understand the importance of imposing flexible work arrangements in the IT and Telecommunications industry.**	According to Hajar et al. (2022), the success and viability of companies in the IT and Telecommunications industry depend greatly on their ability to create new service value that satisfies the ever-changing needs of consumers. First, giving employees the flexibility to work when they feel most productive and creative empowers them to innovate and develop new solutions and technologies to stay competitive. Second, the nature of work in these industries may involve round-the-clock operations and global collaboration. Provided that flexible working hours and telecommuting enable project continuity and seamless communication across different locations, employees are able to improve responsiveness and management of project phases. Last, offering FWAs enhances employee satisfaction and improves the outputs they provide in return. Based on SET, employees reciprocate when they feel trusted and committed (Sukumaran & Lanke, 2021). Especially in a highly competitive business environment, work-life balance and trust achieved through FWAs aid in not only maintaining but

	also improving employee innovation.
7. To determine the degree to which telecommuting is practiced by the respondents.	Respondents partake in telecommuting to a relatively high degree. Telecommuting is dependent on their own respective schedules every week, and it was also discovered that the majority of the respondents report working remotely twice a week. To ensure continuous collaboration remotely, they are still able to collaborate by utilizing different digital platforms to stay connected to one another. With this, the sharing of ideas in this setup is encouraged, and respondents feel much more welcome to introduce these. Online meetings are commonly practiced, and collaborative platforms such as Microsoft Teams are utilized as the company's main mode of communication in the workplace. Through telecommuting, employees often accomplish tasks that can be done remotely, particularly those that require more focus during their work-from-home schedule.

Theoretical Implications

This study presents compelling evidence from both quantitative and qualitative analyses on the impact of FWH and T/WFH on EI. Quantitatively, FWH and T/WFH were found to significantly enhance EI, with statistical significance indicated by a p-value of 0.001. These findings underscore the direct positive effects of flexible work arrangements on employee productivity, creativity, and job satisfaction.

Contrarily, the quantitative analysis did not support the hypothesis that HRS moderates the relationship between FWH and EI or T/WFH and EI, with p-values of 0.087 and 0.5, respectively. This suggests that while HRS practices contribute to general employee welfare, they may not directly influence the effectiveness of FWH and T/WFH in enhancing innovation.

In most Philippine workplaces, innovative culture is cultivated by working with a purpose. For example, working in an environment where staff members may collaborate across roles and departments to find innovative solutions to problems (Leonardo, 2024). Rather, organizational support that promotes team-based innovation practices and problem-solving workshops may be more effective in bridging the gap between flexible work arrangements and employee innovation. Additionally, Filipino workers also find meaningful relationships determined by the sense of belonging and the quality of relationships with co-workers important in workplace dynamics (Ilagan, 2014, as cited in Tablan, 2021). While HR offers initiatives like training programs and team building, they may not be sufficient to sustain long-term innovation in a T/WFH setup if employees perceive these efforts as transactional rather than transformative. Especially in cultural environments that place high importance on support and visible leadership, employees may value HR practices that promote support and camaraderie but may not directly associate these with fostering innovation in a T/WFH setup.

Moreover, studies also suggest that HRS contributes to increased performance results (Truss et al., 2013) and better employee well-being (Huang et al., 2016). According to Gragnano et al. (2020), women's engagement has increased, and working women and dual-earner partners—especially those with children—have managed their job and family responsibilities better. It is possible that the researchers found no moderating effect of HRS as the study gathered more male than female respondents which may have not accurately captured women's engagement in the workforce. With this, organizations may further conduct analysis on the effect of Human Resource Support on Employee Innovation wherein the study gathers data where the gender of the respondents are equally distributed. This may result in more accurate data.

Meanwhile, qualitative insights gathered from interviews with Respondents 1 through 4 further illuminate the practical benefits of these flexible work arrangements. All respondents testified to significant improvements in

productivity and work quality due to the ability to align work hours with personal peak performance times. The adoption of T/WFH specifically contributed to heightened creativity and overall job satisfaction. Additionally, respondents highlighted a variety of HRS initiatives provided by their companies, such as casual face-to-face meetings, robust employee engagement activities, financial support like loans and generous bonuses, and health-related benefits including free medications. These initiatives, while not moderating the core relationships studied, were noted for enriching the work environment and enhancing employee welfare.

Technological advancements are bringing about significant transformations to the Telecommunications Industry, and if the employees have the right skills and knowledge, they are considered as assets to the company (Jethy & Mohanty, 2022). A study conducted by Jethy and Mohanty (2022) found that HRM practices including "Training, Performance Appraisal, Career Planning, Employee Participation, Job Definition, Compensation, and Selection" significantly impacted employee performance and recommended that companies incorporate various incentive and recognition programs. It is possible that HRS did not moderate the relationship between FWH or T/WFH and EI because offering FWH or T/WFH must be supplemented with incentives and recognition programs as well.

The results of the study show that there is a significant positive relationship between FWH and EI which is also supported by the qualitative findings from the interviews. The second hypothesis which states that T/WFH does have a significant positive effect on EI was found to be statistically significant and corroborated by the qualitative findings as well. However, the third and fourth hypotheses found that quantitatively HRS did not significantly moderate the relationships between FWH and EI or T/WFH and EI, although the qualitative results contradicted these findings.

Together, these quantitative and qualitative findings provide a comprehensive understanding of how flexible working arrangements directly contribute to fostering innovation within organizations and the supportive role played by human resource practices in nurturing an engaging and productive workplace. With this, it would be wise for employers in various firms to develop policies and practices geared toward promoting these aspects. As such, businesses will be able to compete in the market thus allowing companies to maintain their competitive advantage and adapt to the fast-changing environment.

Lastly, it is also advisable that future researchers may entertain methods like focus groups or interviews to gain a better understanding of employee experiences with FWA and EI. They could also look into ways to solve issues like communication delays and connectivity problems by using better tools and systems to further discover strategic ways to increase remote work efficiency. Additionally, studying how different HRS initiatives, like mental health resources, training programs, or better pay, affect EI might provide useful insights since HRS didn't strongly impact the results in this study.

Implications to Business and Management

The research uncovered significant relationships between FWH and T/WFH on EI within the IT and Telecommunications sectors. These findings illuminate the substantial impact that FWAs have on fostering innovative ideas, demonstrating that when employees are granted autonomy over their schedules, they not only feel more supported but also become more innovative. This increase in employee satisfaction due to flexible working schedules contributes to lower turnover rates and enhances retention (John, 2017). To maximize these benefits, Managers should encourage employees to identify and utilize their most effective working hours and provide autonomy to manage their schedules. Additionally, companies should maintain open communication channels to address occasional delays to mitigate any drawbacks associated with FWH. Additionally, IT and Telecommunications companies should continue to support T/WFH and ensure employees have the necessary resources and support to work effectively from home. This may include providing reliable technology

infrastructure, regular virtual team meetings to maintain engagement, and clear communication protocols to handle any connectivity issues.

Previously, the role of HRS in linking FWAs and innovative behavior at work was less understood. However, the study indicates that HR departments play a crucial role by aligning flexible working hours with salary and allowances, thereby supporting creativity and innovation. Although the study noted a gender discrepancy in respondents that might affect generalizability, especially among women, the findings still offer valuable insights for enhancing employee engagement across diverse organizational contexts.

The analysis revealed that HRS practices are perceived neutrally to slightly positively by employees, with scope for enhancing HR policies to foster a better work environment conducive to skill development and innovation. There is a clear opportunity for organizations to refine their HR management strategies to boost employee confidence, increase productivity, and stimulate innovative thinking. Specific strategies that could be considered would be to provide employees the freedom to choose their working hours based on their peak productivity times, providing employees with the necessary resources for remote work, introducing much more comprehensive support programs, and utilizing regular feedback mechanisms for discovering employees' needs.

Meanwhile, the study is limited to 200 participants, majority of whom were male and many of which belonged to the Human Resource Department of their respective companies. These limitations may have impacted the results of the study. Future research will benefit from conducting surveys with more participants, who are equally male and female, and equally belong to different departments.

FWAs have proven to be especially pivotal in sectors heavily reliant on continuous innovation, such as telecommunications and IT. Employers in these sectors are encouraged to adopt flexible working policies proactively. By doing so, they not only enhance individual performance but also contribute significantly to organizational innovation, ensuring that firms remain competitive in a rapidly evolving market.

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