

The Role Of Employee Incentives In Driving Enterprise Innovation

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How to cite this article: Li Wang , Sudawan Somjai , Akramanee Somjai (2024). The Role Of Employee Incentives In Driving Enterprise Innovation. *Library Progress International*, 44(5), 521-529

ABSTRACT

In the dynamic landscape of global business, underscored by rapid technological advancements and escalating competition, this study investigates the pivotal role of financial incentives, flexible working arrangement, working environment and employee engagement in driving enterprise innovation within manufacturing enterprises in Guangzhou, China. The research aims to unravel the interplay between these variables and their collective impact on fostering a culture of innovation, with a focus on the mediating role of employee engagement. Employing a mixed-method approach that combines quantitative analysis through Structural Equation Modeling (SEM) and qualitative insights from senior personnel interviews, the study unveils that financial incentives, flexible working arrangement, and working environment contribute to enhancing enterprise innovation. Moreover, it highlights employee engagement as a crucial mediator in this process. These findings not only affirm the criticality of a holistic approach to incentivizing innovation but also extend the theoretical framework of employee motivation, engagement, and organizational innovation. By elucidating the relationships between incentives and innovation, this research offers valuable insights for practitioners aiming to cultivate innovation-centric cultures in their organizations.

Key words: financial incentives, flexible working arrangement, working environment, employee engagement, enterprise innovation

INTRODUCTION

In an era defined by rapid technological advancements, globalization, and increasing competition, the impetus for enterprises to innovate has never been more urgent (Day & Shea 2020). It is widely acknowledged that enterprise innovation is not merely a function of investment in research and development or adoption of new technologies; rather, it is a multi-faceted construct that is affected by various internal and external factors (Madsen, 2020). Among these internal factors, human capital, characterized by skills, expertise, and motivation, is considered a key asset. It is within this framework that the present study aims to explore the influence of financial incentives, flexible working arrangements, working environment, and employee engagement on enterprise innovation.

Financial incentives have long been a topic of interest in organizational research. From a traditional economics standpoint, financial rewards are believed to be the primary driver of human behavior in the workplace (Onwuzuligbo & Ezenyimulu, 2023). The basic tenet is that if an employee's efforts result in a tangible financial gain, either through salary increments, performance-related pay, or long-term benefits like pension and insurance, they are more likely to be motivated to contribute to innovative processes. But is this a simplistic view? As organizational structures have evolved, this question has gained increasing complexity, requiring a fresh perspective.

According to Choi (2020), flexible working arrangements are another aspect of modern employment that has seen significant changes over the past few years. The advent of digital technology has made it easier than ever to work remotely, and the recent global health crises have only accelerated this trend. Organizations are increasingly adopting flexible working policies, including variable hours, holidays, and paid leaves, as a strategy to attract and retain talent. While much of the existing literature focuses on the work-life balance benefits of such arrangements, fewer studies have examined how they might contribute to fostering a culture of innovation within enterprises.

The concept of the working environment is perhaps the most nuanced among the independent variables considered in this study. It encompasses not just the physical workspace but also the often-intangible aspects like company culture

and working conditions. Studies have shown that a positive working environment can lead to increased job satisfaction, lower turnover, and improved performance (Lis et al., 2022). However, the link between the working environment and enterprise innovation remains underexplored, particularly when considering the more abstract dimensions of culture and conditions.

Then comes the concept of employee engagement, which this study considers as a mediating variable in this study. While engagement itself is a complex psychological state involving emotional, cognitive, and behavioral dimensions, its relationship with enterprise outcomes is undeniable. Highly engaged employees are not just more productive but are also more likely to be proactive, share knowledge, and contribute to innovative activities (Chanana & Sangeeta, 2021). This study focuses on enterprise innovation as the dependent variable, characterized by process innovation, product innovation, and business innovation. Each of these dimensions is critical in determining an enterprise's competitiveness and long-term viability. Process innovation can lead to greater efficiency and lower costs; product innovation can meet the ever-changing demands of consumers and ensure market relevance; and business innovation can open new revenue streams and business models.

In summary, this research seeks to explore these intricate relationships and aims to fill a critical gap in existing literature. It aspires to not only establish empirical links between these variables but also to understand the nuanced interactions among them. By doing so, it hopes to provide actionable insights for organizations striving to foster a culture of innovation, thereby ensuring their sustainable growth in a rapidly evolving marketplace.

2. LITERATURE REVIEW

2.1 Relationship between financial incentives and enterprise innovation

Scholars conducted some studies on the relationship between financial incentives and enterprise innovation and acquired valuable research results in the past few years.

Easa & Orra (2021) focused their research on the impact of performance-related pay systems on product innovation. They found that enterprises adopting such pay systems saw a 25% increase in product innovation compared to those that did not. The study suggests that performance-related pay serves as a motivational tool that encourages employees to think creatively and take calculated risks.

Kalkabayeva et al. (2020) examined how offering robust pension and insurance plans could influence innovation, specifically process innovation, within companies. The study employed a sample of 150 enterprises across various industries and used multiple regression analysis to establish the relationship. The research found that companies offering strong pension and insurance benefits had higher levels of process innovation.

2.2 Relationship between flexible working arrangement and enterprise innovation

Scholars conducted some studies on the relationship between flexible working arrangement and enterprise innovation and acquired valuable research results in the past few years.

Yu et al. (2019) explored the impact of flexible working arrangements, such as remote work, flextime, and unlimited vacation policies, on enterprise innovation. Their study found a significant positive correlation between these flexible working arrangements and the level of creative thinking among employees.

Austin-Egole et al. (2020) investigated how flexible working arrangements contribute to business innovation, particularly in fast-paced industries like technology and healthcare. Their study found that in these sectors, where the speed of innovation can be a critical factor for success, flexible working arrangements are particularly beneficial.

2.3 Relationship between working environment and enterprise innovation

Scholars conducted some studies on the relationship between working environment and enterprise innovation and acquired valuable research results in the past few years.

Haddud & McAllen (2018) shed light on the often-overlooked aspect of the physical working environment as a driver of enterprise innovation. According to their research, well-designed office spaces are not just aesthetic choices but strategic investments that can significantly contribute to a company's innovative capabilities. The study suggests that spaces designed to promote collaboration—such as open floor plans, communal work areas, and interactive whiteboards—can act as catalysts for idea generation and problem-solving.

Popadinets et al. (2021) focus on the role of working conditions in promoting enterprise innovation. Their research indicates that favorable working conditions—such as flexible work hours, a healthy work-life balance, and access to resources and training—can significantly impact employee engagement and motivation.

2.4 Mediating role of employee engagement

In the past few years, many scholars explored the mediating role of employee engagement in the relationship between financial incentives, flexible working arrangement, working environment and enterprise innovation.

Aldoghan (2021) concluded that employee engagement is a robust mediator between financial incentives and enterprise innovation. The research synthesizes a plethora of studies, offering a comprehensive view that bridges gaps in the existing literature. The research argues that financial incentives alone are not sufficient to drive innovation within an organization. Instead, these incentives serve as a catalyst that boosts employee engagement, which in turn fosters an innovative culture. Riyanto et al. (2021) explored the role of different types of financial incentives in fostering enterprise innovation. While confirming the mediating role of employee engagement, as established by previous studies, they explored how different forms of financial rewards impact this relationship. Their findings suggest that the type of financial incentive—be it bonuses, stock options, or profit-sharing plans—does matter, but the mediating role of employee engagement remains a constant factor across these different forms.

Malik et al. (2021) examined how holidays and vacations, as a form of flexible working arrangement, affect enterprise innovation through emotional engagement. The study found that taking extended breaks helps rejuvenate employees emotionally, making them more receptive to new ideas when they return to work. This heightened emotional state serves as fertile ground for innovative thinking and problem-solving, thereby fostering business innovation. Weideman & Hofmeyr (2020) explore the role of behavioral engagement as a mediator between flexible working arrangements, particularly paid leaves, and process innovation. According to their findings, when employees have the flexibility to manage their work-life balance through paid leaves, they are more likely to exhibit behaviors that promote innovative processes. These behaviors may include proactive problem-solving, collaboration, and a willingness to experiment with new methods.

Ali et al. (2020) explored the mediating role of employee engagement between the working environment and enterprise innovation. Using a sample size of 236 employees, the research found compelling evidence that a conducive working environment has a positive impact on enterprise innovation. What makes this study particularly noteworthy is its focus on the mediating role of employee engagement. The research emphasized that when employees are engaged, they are more likely to contribute to innovative processes within the organization. Kang et al. (2021) took a qualitative approach, conducting in-depth interviews and focus groups with employees across various industries. Their research aimed to understand the underlying psychological and social mechanisms that explain how employee engagement mediates the relationship between the working environment and innovation. They found that employees who felt engaged were more likely to share ideas, collaborate, and take risks, thereby fostering an innovative culture.

3. RESEARCH METHODOLOGY

This research employs a mixed research method, integrating both quantitative and qualitative strategies to investigate the influence of financial incentives, flexible working arrangements, and working environment on enterprise innovation within manufacturing enterprises in Guangzhou, China. This methodological choice is predicated on the premise that combining these approaches enhances the robustness, depth, and breadth of the research findings, allowing for an understanding of the complex interplay between employee incentives and enterprise innovation.

The quantitative segment of this study is underpinned by a stratified random sampling methodology. It targets 300 participants drawn from 30 manufacturing enterprises in Guangzhou, representing a diverse cross-section of the city's manufacturing sector. This approach ensures that the sample is representative of the broader population, enhancing the generalizability of the findings. Data collection is conducted through a structured questionnaire, distributed via WJX, a platform known for its efficacy in China. The questionnaire encompasses demographic information and measures on five key variables: financial incentives, flexible working arrangements, working environment, employee engagement, and enterprise innovation. Each of these variables is dissected into three dimensions, with specific items designed to capture the nuances of each. The quantitative data analysis leverages statistical tools, including Structural Equation Modeling (SEM) and Confirmatory Factor Analysis (CFA), to unravel the relationships between the variables and validate the theoretical constructs underpinning the study.

The qualitative component complements the quantitative findings by exploring the lived experiences of participants, offering contextual depth and insights into the dynamics at play. This phase employs purposive sampling to select 12 interviewees from among senior personnel in the manufacturing sector of Guangzhou. These interviews aim to capture the strategic and nuanced perspectives on how incentives influence innovation within their organizations. Data collection follows an open-ended, semi-structured format, facilitating rich, detailed responses. NVivo software supports the thematic analysis of interview transcripts, enabling a systematic examination of patterns and themes that emerge from the data.

4. DATA ANALYSIS AND FINDINGS

4.1 Quantitative analysis section

(1) Descriptive analysis

The study conducted the descriptive analysis of demographic data, including demographic variables, like gender, age, years of working, educational background, with the results presented in Table 1.

Table 1 Descriptive analysis of demographic data

Demographic variables	Categories of demographic variables	Number	Percentage
Gender	Male	198	66.0%
	Female	102	34.0%
Age	20-29 years old	125	41.7%
	30-39 years old	73	24.3%
	40-49 years old	67	22.3%
	50 years old and above	35	11.7%
	Less than 3 years	79	26.3%
Years of working	3 to 5 years	158	52.7%
	6 to 10 years	35	11.7%
	More than 10 years	28	9.3%
Educational background	Senior high school diploma and below	37	12.3%
	College diploma	174	58.0%
	Bachelor	70	23.3%
	Master and above	19	6.4%

(2) Reliability and validity analysis

The reliability analysis showcases the internal consistency of various dimensions measured in the study, using Cronbach's alpha as the evaluative statistic. The dimensions, encompassing areas such as Salary (SA), Performance-Related Pay (PRP), Pension & Insurance (PI), Holidays & Vacations (HV), Paid Leaves (PL), Flexible Working Hours (FWH), Physical Environment (PE), Company Culture (CC), Working Conditions (WC), Emotional Engagement (EME), Cognitive Engagement (CE), Behavioral Engagement (BE), Process Innovation (PI), Product Innovation (PRI), and Business Innovation (BI), all exhibit Cronbach's alpha values ranging between 0.891 and 0.935. These values indicate “good” to “excellent” levels of internal consistency for the scales, affirming the reliability of the survey items in consistently measuring their intended constructs within the context of the study.

The Confirmatory Factor Analysis (CFA) results for the latent variables of financial incentives (FI), flexible working arrangement (FWA), working environment (WE), employee engagement (EE), and enterprise innovation (EI) show strong statistical validity in both convergence and discriminant aspects. For instance, in the case of financial incentives (FI), the square root of the AVE for salary (SA), performance-related pay (PRP), and pension & insurance (PI) were 0.858, 0.856, and 0.883 respectively, which surpassed the correlation coefficients among them, indicating strong discriminant validity. Similar patterns of discriminant validity were observed for the other latent variables. Specifically, the square roots of the AVEs for dimensions within FWA, WE, EE, and EI all exceeded the correlation coefficients between those dimensions, such as 0.837 (HV), 0.877 (PL), 0.852 (FWH) for FWA, and 0.864 (PI), 0.853 (PRI), 0.839 (BI) for EI, thereby affirming that the items within each dimension were distinct and did not overlap significantly with items in other dimensions. These findings underscore the robustness of the measurement models and validate the distinct conceptual boundaries among the dimensions studied.

(3) SEM path analysis

The study employed Structural Equation Modeling (SEM) to examine the relationships among five research variables with results in Figure 1.

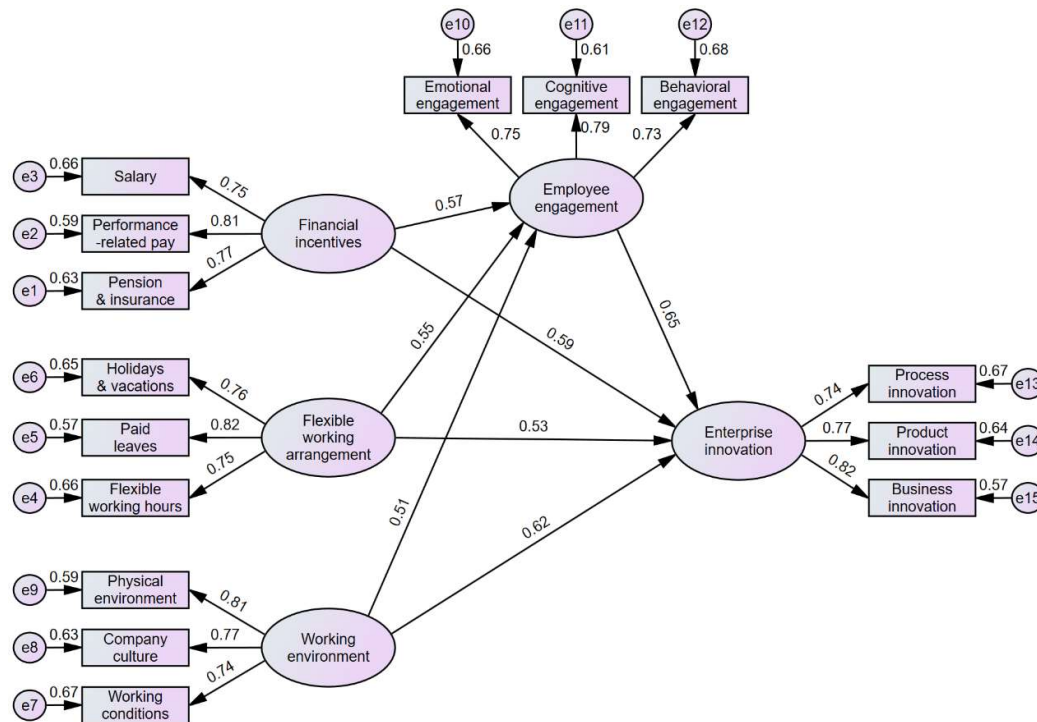


Figure 1 Structural equation model

Based on the figure 1, the standardized path coefficient from financial incentives (FI) to enterprise innovation (EI) is 0.591 with the p-value 0.000, indicating that financial incentives have a positive influence on enterprise innovation.

Based on the figure 1, the standardized path coefficient from financial incentives (FI) to enterprise innovation (EI) is 0.591 with the p-value 0.000, indicating that financial incentives have a positive influence on enterprise innovation.

Based on the figure 1, the standardized path coefficient from working environment (WE) to enterprise innovation (EI) is 0.616 with the p-value 0.000, indicating that working environment has a positive influence on enterprise innovation.

(4) Mediating effect of employee engagement

This study examined the influence of employee incentives on enterprise innovation of manufacturing enterprises in Guangzhou city, China. In terms of research model (framework) of the study, employee engagement was conceptualized as the mediating variable in the relationship between financial incentives, flexible working arrangement, working environment and enterprise innovation. The study adopts the Bootstrap method with 5,000 resamples suggested by Grzegorzewski & Romaniuk (2022) to examine the mediating effect of employee engagement. As Igartua & Hayes (2021) illustrated, a mediating effect is deemed to be statistically significant if the 95% confidence interval excludes the value zero. The mediating effect results of employee engagement were presented in Table 2.

Table 2 The path coefficient of the mediating effect model

Standard effect	Path	Effect coefficient	95% confidence interval		S.E.	P-value	Results
			Lower	Upper			
Total effect	FI--->EI	0.799	0.752	0.846	0.024	***	Mediating effect
Direct effect	FI--->EI	0.591	0.548	0.634	0.022	***	
Indirect effect	FI---> EE---> EI	0.208	0.167	0.249	0.021	***	
Total effect	FWA--->EI	0.717	0.666	0.768	0.026	***	Mediating effect
Direct effect	FWA--->EI	0.528	0.483	0.573	0.023	***	
Indirect effect	FWA--->EE---> EI	0.189	0.152	0.226	0.019	***	
Total effect	WE--->EI	0.783	0.734	0.832	0.025	***	Mediating effect
Direct effect	WE--->EI	0.616	0.569	0.663	0.024	***	
Indirect effect	WE--->EE--->EI	0.167	0.132	0.202	0.018	***	

Assuming employee engagement (EE) as a mediator in the influence of financial incentives on enterprise innovation, the study uncovers notable results with a 95% confidence level. The total effect's confidence interval spans from 0.752 to 0.846, while the confidence interval for the direct effect lies between 0.548 and 0.634, and the interval for the indirect effect ranges from 0.167 to 0.249. The absence of 0 in these intervals robustly indicates that employee engagement (EE) significantly mediates the relationship between financial incentives (FI) and enterprise innovation (EI), as illustrated in Figure 2.

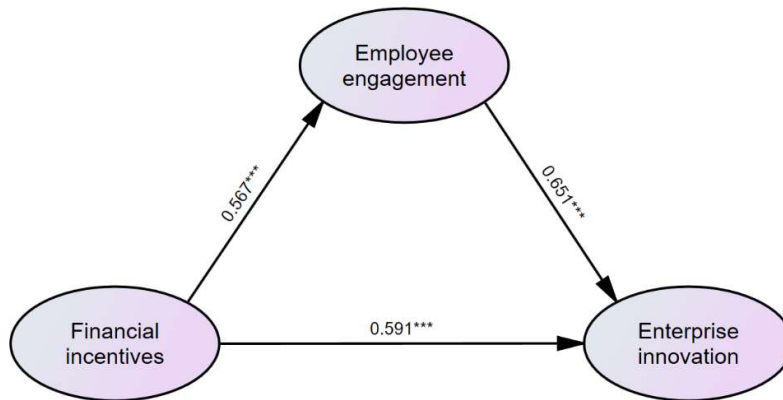


Figure 2 Test results of mediating effect of employee engagement between FI and EI

Assuming employee engagement (EE) as a mediator in the influence of flexible working arrangement on enterprise innovation, the study uncovers notable results with a 95% confidence level. The total effect's confidence interval spans from 0.666 to 0.768, while the confidence interval for the direct effect lies between 0.483 and 0.573, and the interval for the indirect effect ranges from 0.152 to 0.226. The absence of 0 in these intervals robustly indicates that employee engagement (EE) significantly mediates the relationship between flexible working arrangement (FWA) and enterprise innovation (EI), as illustrated in Figure 3.

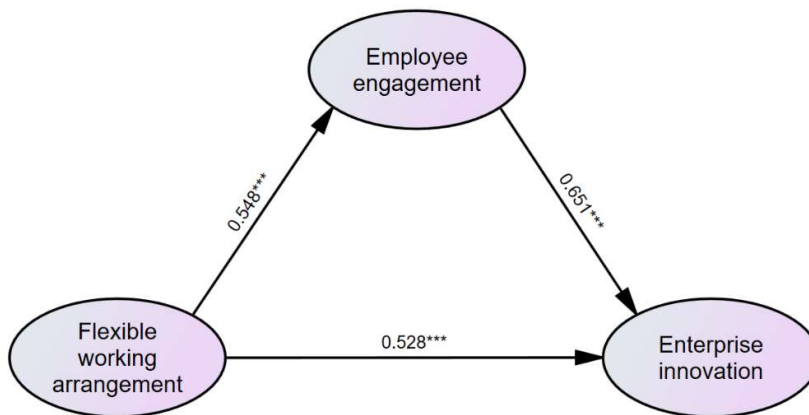


Figure 3 Results of mediating effect of employee engagement between FWA and EI

Assuming employee engagement (EE) as a mediator in the influence of working environment on enterprise innovation, the study uncovers notable results with a 95% confidence level. The total effect's confidence interval spans from 0.734 to 0.832, while the confidence interval for the direct effect lies between 0.569 and 0.663, and the interval for the indirect effect ranges from 0.132 to 0.202. The absence of 0 in these intervals robustly indicates that employee engagement (EE) significantly mediates the relationship between working environment (WE) and enterprise innovation (EI), as illustrated in Figure 4.

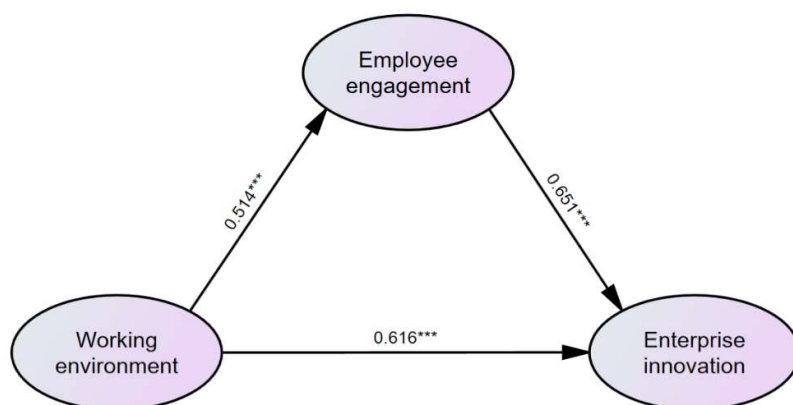


Figure 4 Test results of mediating effect of employee engagement between WE and EI

4.2 Qualitative analysis section

The qualitative analysis of interviews Q1 through Q10 provides robust support for the hypotheses that financial incentives, flexible working arrangements, and a supportive working environment significantly influence enterprise innovation. Additionally, the findings confirm the mediating role of employee engagement in the relationship between financial incentives and enterprise innovation, between flexible working arrangements and innovation, and between the working environment and innovation. The consistent confirmation of these hypotheses across multiple interview questions demonstrates a clear relationship between incentive structures, employee engagement, working environment, and their collective impact on fostering an innovative atmosphere within organizations.

5. CONCLUSION AND DISCUSSION

5.1 Major findings

The study adopted the mixed research method, including quantitative and qualitative research method, to investigate the influence of employee incentives on enterprise innovation of manufacturing enterprises in Guangzhou city, China. The study conducted the analysis around five research variables, including financial incentives, flexible working arrangement, working environment, employee engagement and enterprise innovation and acquired the following research findings: 1) Financial incentives have a positive influence on enterprise innovation; 2) flexible working arrangements have a positive impact on enterprise innovation; 3) The working environment significantly influences enterprise innovation; 4) The employee engagement plays as a mediating role in the relationship between financial incentives and enterprise innovation; 5) The employee engagement plays as a mediating role in the relationship between flexible working arrangements and enterprise innovation; 6) The employee engagement plays as a mediating role in the relationship between working environment and enterprise innovation.

5.2 Discussion of findings

The research findings from the study conducted on manufacturing enterprises in Guangzhou city, China, provide insightful observations on the interplay between financial incentives, flexible working arrangements, working environment, employee engagement, and enterprise innovation.

The confirmation of the positive influence of financial incentives on enterprise innovation aligns with established theories in the field. This finding resonates with the principles of expectancy theory (Vroom, 1964), which posits that the strength of a tendency to act in a certain way depends on the strength of an expectation that the act will be followed by a given outcome and on the attractiveness of that outcome to the individual. In the context of this research, financial incentives serve as a motivating factor that can drive innovative behaviors, suggesting a direct correlation between well-structured reward systems and innovation outcomes.

The positive impact of flexible working arrangements on enterprise innovation is in line with the results of studies like those by De Menezes & Kelliher (2011), which indicate that flexibility in the workplace can lead to increased employee satisfaction and, subsequently, a higher propensity for innovation. This aspect of the research underscores the growing recognition of the need for organizations to adapt to the changing dynamics of the workforce to cultivate an environment conducive to innovation.

Additionally, the findings on the significant influence of the working environment on enterprise innovation echo the research that links organizational climate to innovative outcomes (Dul & Ceylan, 2014). A conducive working environment, encompassing both physical and cultural aspects, is crucial for nurturing an innovative mindset among employees. This reinforces the idea that innovation is not just about individual creativity but also about the context in which individuals operate.

The study sheds light on the mediating role of employee engagement in the relationship between financial incentives, flexible working arrangements, working environment, and enterprise innovation. This finding is significant as it highlights the role of employee engagement as a critical link that transforms various organizational inputs into innovative outputs. Kahn's (1990) work on employee engagement provides a theoretical underpinning for this, suggesting that the more employees are psychologically present in their roles, the more they can contribute to their organization's innovative capacity.

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