

Bridging HR Practices and Frugal Innovation: Employee Innovative Work Behavior as a Key Mechanism within the AMO Framework

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ABSTRACT

Purpose - This paper has explored how High-Performance Work Systems (HPWS) affect the ability of firm frugal innovation capability (FIC) in small and medium enterprises (SMEs) and explored the mediating role of employee innovative work behavior (EIWB). Based on the Ability-Motivation-Opportunity (AMO) model, the research was meant to explain how organized human resource practices can translate into outcomes of innovation in resource-limited settings.

Design/methodology/approach- The empirical study's data were collected by surveying 365 respondents in 120 Pakistani Small and Medium Enterprises (SMEs). All hypotheses were tested using Partial Least Squares Structural Equation Modeling (PLS-SEM) through SMART PLS.

Findings- The findings suggested the positive impact of HPWS on the capability of firms to be frugal in their innovations is significant. HPWS has also positive effects on employee innovative work behavior that again has a significant positive impact on frugal innovation capability. Moreover, innovative work behavior by employees was identified to partially mediate the relationship between HPWS and frugal innovation capability and support the proposed theoretical model.

Originality/value- The study helps to fill the gap in the literature by combining the AMO framework with the research on frugal innovation and empirically proving the mediating role of employee innovative work behavior. It goes further to determine how HPWS leads to innovation in SMEs who have to operate within the limits of resources.

Introduction

Companies in emerging markets are increasingly forced to seek innovation in the face of serious resource limitations, unpredictable markets and institutional imperatives. Frugal innovation capability (FIC), the capacity to think of and cultivate cost-effective (Fisac-Garcia et al., 2025), resource-efficient and customer-centric solutions has developed as a critical contributing factor of sustained competitiveness in such settings (Albert, 2022). The small and medium enterprises (SMEs) especially in developing economies such as Pakistan have acute limitations in terms of financial, technological, and human resources, which increases the need of internally driven, efficiency-oriented, innovation strategies (Waseel et al., 2025). Although having strategic significance, the organizational processes by which firms develop frugal innovation capability, have not been as adequately investigated, at least, through the lens of human resource management (Cooke, 2025).

High Performance Work Systems (HPWS) has become a central organizational architecture that positively influences the performance of firms through a systematic alignment of human resource practices, including selective staffing, widespread training, compensated based on performance, and participative decision making (Boxall, 2012). Previous studies have determined that HPWS leads to better organizational performance, such as productivity, innovation, and competitive advantage (Hanu and Khumalo, 2024). Nevertheless, the particular mechanisms by which HPWS is converted into frugal innovation capability are not well-developed in the literature. Specifically, it is necessary to de-pack the micro-level behavioral processes that mediate the links between structured HR systems and innovation outcomes in resource-constrained environments (Mehralian et al., 2023).

Based on the Ability-Motivation-Opportunity (AMO) model, this research will hypothesize that HPWS enhances employee competencies (ability), increases intrinsic and extrinsic motivation (motivation), and creates a conducive environment where people can participate and generate ideas (opportunity) (Kang et al., 2025). All these dimensions together influence the novel work behavior (IWB) that can be defined as the deliberate creation, promotion and application of innovative ideas in the workplace (Saleem et al., 2023). IWB is a critical behavior mechanism by which organizational systems are converted to real-world innovation results (Islam et al., 2024). Although previous research has identified the direct relationship between HPWS and innovation (Saleem et al., 2023, Boxall, 2012), little empirical evidence has been found regarding the mediation effect of employee innovative work behavior in developing frugal innovation capability.

Moreover, this research paper advances this gap by formulating and empirically validating a mediation model whereby employee innovative work behavior is the mediating variable between HPWS and firm-level frugal innovation capability. This environment provides a rich platform upon which to discuss the ways in which structured HR practices can stimulate innovation not only novel in nature but also economically viable and resource-efficient. Likewise, this study provides a holistic and contextually informed insight in to how HPWS can stimulate frugal innovation capability by influencing the employee innovative work behavior, thus bridging an important gap in the literature of both innovation and human resource management. From the above discussion this study provide the answer of the following two research questions:

RQ1: Does the impact of High-performance Work Systems (HPWS) on firm frugal innovation capability in SMEs?

RQ2: Does the Innovative Work Behaviour mediate the relationship between the High-performance Work Systems (HPWS) on firm frugal innovation capability in SMEs?

Theoretical Prospective and Literature Review

The Ability Motivation Theory

The Ability Motivation Opportunity (AMO) framework offers a solid theoretical framework to describe the ways organizational practices are translated into better employee behavior and ultimately firm level outcomes (Benítez-Núñez et al., 2024). The AMO theory, based on the literature on strategic human resource management, postulates that the performance of employees is a function of three fundamental components (Lin et al., 2025): ability (skills and knowledge of the employees), motivation (the willingness to work hard possessed by the employees) (Alkhalaf and Al-Tabbaa, 2024), and opportunity (the degree to which the context of an organization enables the employees to participate and contribute) (He et al., 2024). The AMO framework, in the case of this study, describes how HPWS enhances the employee innovative work behavior (IWB), which in turn generates the capability of frugal innovation in firms (Çera et al., 2025). In particular, HPWS equips employees with the required set of competencies to come up with novel ideas within constraints, motivates them to engage in creative problem-solving, and creates a conducive environment to encourage experimentation and sharing of knowledge (Saleem et al., 2023). This combined mechanism is especially applicable in the context of the SMEs that have to operate in the environment that is constrained by the resources, where the process of innovation has to be both cost-effective and effective (Durrani et al., 2024). In this way, AMO becomes the theoretical ground of connection between HPWS and employee level innovation behavior and, finally, with the frugal innovation outcomes on the firm level.

Literature Review and Hypotheses Development

High Performance Work System and Frugal Innovation

The concept of High-Performance Work Systems (HPWS) has been well-known as a strategic method of improving the performance and innovation of the organization (Bhardwaj et al., 2025). These systems are a synergistic blend of HR practices designed to enhance the capabilities of employees and to align their efforts to the organizational objectives (Ayanponle et al., 2024). Innovation-driven environments, HPWS supports the creation, sharing, and implementation of knowledge, which are imperative in developing innovative solutions (Bhardwaj et al., 2025). Frugal innovation, which is cheap, easy to use and efficient in the use of resources, demands that the firms have to make effective use of internal capabilities (Fazal, 2023). HPWS helps companies to better harness the human capital, and thus, enables the companies to develop cost-effective innovations (Bhardwaj et al., 2025). The results of previous studies have been in agreement that those firms that adopt HPWS portray higher amount of innovation performance as a result of better utilization of knowledge and employee engagement. Therefore, the first hypothesis is developed from the above literature discussion.

Hypothesis01: High-Performance Work System positively associated with Firm Frugal Innovation.

High Performance Work System and Innovative Work Behaviour

On employee level, HPWS is a key to developing an innovative work behavior (IWB) (Jatoi and Channar, 2026). Innovative work behavior is a behavior that entails the creation, viewing and application of the new ideas in the workplace (Arshad et al., 2026). The employees can be made more competent through ability enhancing practices like training and skill development, which helps the employees to identify and solve problems in a creative manner (Ayanponle et al., 2024). Rewards, recognition, and other practices that motivate employees make them invest effort in other activities that are related to innovation (Boxall, 2012). Moreover, opportunity-enhancing practices

including participative decision-making and open communication provide a setting in which employees will feel empowered to share and realize their ideas (Waseel et al., 2025). Empirical data indicate that HPWS has a significant effect on IWB, by providing a productive and conducive working environment (Saleem et al., 2023, Bhardwaj et al., 2025). From the above discussion the following is our second hypothesis:

Hypothesis 02: High-performance Work system had a positive relationship with Employee Innovative Work Behavior.

Innovative Work Behavior and Frugal Innovation

The innovative work behavior of employees is a key driving force behind the firm-level innovation performance (Mehralian et al., 2023), especially when frugal innovation is involved. Employees who are actively involved in generating and implementing ideas will help in developing new ideas that are cost-effective and efficient (Zastempowski and Ciechan-Kujawa, 2026). Within SMEs, where resources are scarce, employee contribution is even more important as employees tend to be the main driver of innovation (Makki et al., 2026). IWB can help firms to discover other means of utilizing the existing resources, lower the costs, and enhance the offerings of the product or service (Makki et al., 2026, Fazal, 2023). Past studies have emphasized the fact that organizations that have a greater proportion of employees who engage in innovative behavior are also likely to have a high level of innovation performance (Ayanponle et al., 2024, Saleem et al., 2023).

Hypothesis 03: There was a positive relationship between Employee Innovative Work Behavior and Firm Frugal Innovation.

High Performance Work System, Frugal Innovation and Innovative Work Behaviour

Following the AMO framework, another hypothesis of current study is that employee innovative work behavior is a mediating variable between HPWS and firm frugal innovation capability. Although HPWS offers both the structural and motivational starting point (Kesumayani, 2026), innovative actions of the employees actually transform these organizational inputs into actual innovation outputs (Saleem et al., 2023). According to the mediation perspective, HPWS in itself might not directly result in frugal innovation unless employees actively participate in the innovation behaviors (Cooke, 2025). HPWS brings about the IWB which further leads to the creation of frugal innovation. This indirect solution is a more complex view of how the HR systems can affect the firms-level outcomes through processes that impact the employees-level and provide the strong argument for our fourth hypothesis.

Hypothesis 04: High Performance Work System positively mediated between High Performance Work System and Firm Frugal Innovation.

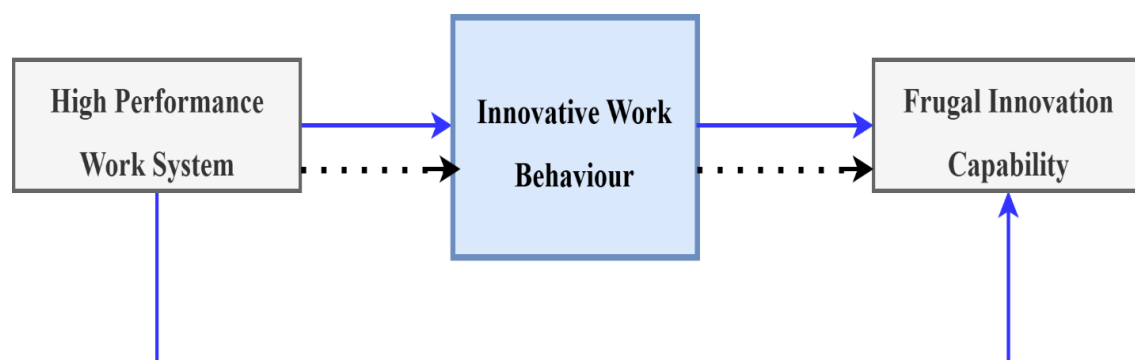


Figure 01: Research Model

Methodology

Data collection and sample

The current study took a quantitative-style research design that uses structured survey approach to empirically test the proposed relationships among High-Performance Work Systems (HPWS), Employee Innovative Work Behavior (IWB), and Frugal Innovation Capability (FIC) of firm. The target population included small and medium enterprises (SMEs) that are based in major industrial cities within Pakistan, such as, Karachi, Lahore, Sialkot, Faisalabad and Multan. A cross-sectional data collection method was used. The data were gathered among employees at managerial level including supervisors, middle managers, department heads among others in functional areas like operations, production, marketing, and administration. The respondents were deemed suitable since they are directly involved in the organizational processes, HR practices, and activities related to innovations. Stratified random sampling method was used so that it was adequately represented across industries and organizational functions. The distribution of questionnaires was done both physically and electronically to maximize the response rates. To reduce common method bias, various procedural correctives were followed, such as assuring respondent anonymity, simple and unambiguous wording, and separation of predictor and criterion variables in the questionnaire design. All the items were measured in a five-point Likert scale (starting with 1 - strongly disagree to 5 - strongly agree).

Measurement of Variables

All the constructs were measured by means of well-established and validated scales based on the previous literature with slight contextual adjustments to suit the SME and Pakistani industrial setting.

High-Performance Work Systems (HPWS).

The operationalization of HPWS was based on a multidimensional construct of a bundle of HR practices that increase employee ability, motivation and opportunity. The measurement scale was consisted on ten items scales and modified based on Takeuchi et al. (2007). The training and development, performance appraisal, compensation, and the participation of employees were among the dimensions included in the construct.

Innovative Work Behavior (IWB)

The nine items scale created by Janssen (2000) was widely-validated, and was used to measure employee innovative work behavior. There are three important dimensions of innovation behavior that are captured in this scale: idea generation, idea promotion and idea implementation.

Frugal Innovation Capability (FIC)

Measured using adapted eight items of previous studies on frugal and cost-efficient innovation, specifically, scales were created by Waseel et al. (2025). The scale reflects the capability of the firm to come up with resource-efficient, simple, and affordable solutions.

Results

Measurement Model Assessment

The reliability and validity of the items measuring the study constructs of Frugal Innovation Capability (FIC), High-Performance Work System (HPWS), and Innovative Work Behavior (IWB) were tested in the measurement model. The results indicate that the constructs have good indicator reliability with most factor loadings above the recommended minimum value of 0.70, as

shown in Table 2 and Figure 2. More specifically, the factor loadings for FIC ranged from 0.685 to 0.872, HPWS from 0.745 to 0.883, and IWB from 0.700 to 0.798. There were a few indicators with slightly lower values, but these were retained due to their theoretical relevance and adequate scores on the construct measurement. Furthermore, the constructs had high internal consistency reliability. The Cronbach α s were from 0.904 to 0.945, and the Composite Reliabilities were 0.907 to 0.946, which is above the criterion of 0.70. Convergent validity was also confirmed with the Average Variance Extracted (AVE) values which were greater than 0.50 for FIC (0.645), HPWS (0.672) and IWB (0.565). The overall results prove that the measurement model is reliable and valid, which in turn proves that the measurement model is suitable to be used to analyze the structural model and test the hypotheses.

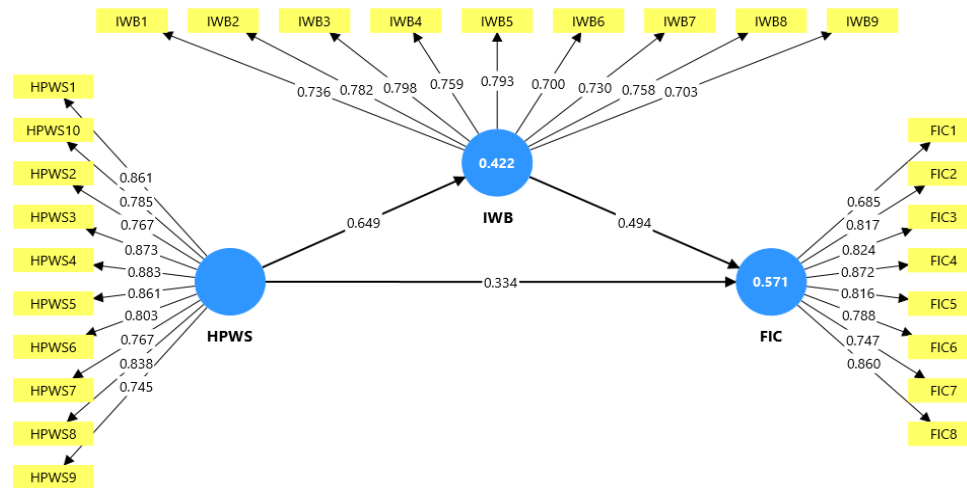


Figure 2: Measurement Model

Table 2: Measurement Result

Constructs	Items	Loadings	Ca	CR	AVE
Frugal Innovation Capability	FIC1	0.685	0.920	0.922	0.645
	FIC2	0.817			
	FIC3	0.824			
	FIC4	0.872			
	FIC5	0.816			
	FIC6	0.788			
	FIC7	0.747			
	FIC8	0.860			
High Performance Work System	HPWS1	0.861	0.945	0.946	0.672
	HPWS2	0.767			
	HPWS3	0.873			
	HPWS4	0.883			
	HPWS5	0.861			
	HPWS6	0.803			
	HPWS7	0.767			
	HPWS8	0.838			
	HPWS9	0.745			
	HPWS10	0.785			
Innovative Work	IWB1	0.736	0.904	0.907	0.565

Behavior		
	IWB2	0.782
	IWB3	0.798
	IWB4	0.759
	IWB5	0.793
	IWB6	0.700
	IWB7	0.730
	IWB8	0.758
	IWB9	0.703

To assess the distinctiveness of the constructs of the study, the Heterotrait–Monotrait (HTMT) ratio approach was used as part of the evaluation for discriminant validity.

The results show that none of the HTMT values in Frugal Innovation Capability (FIC), High-Performance Work System (HPWS) and Innovative Work Behavior (IWB) exceeded the suggested cut-off point of 0.85 and even lower than the more lenient cutoff point of 0.90. The results indicate that constructs have a sufficient discriminant validity. The analysis also suggests that none of the constructs measured a similar conceptual dimension within the proposed framework, thus there is no serious problem of construct overlap. The relationships between some of the variables, in particular, FIC and IWB are moderately high, but the HTMT values are still within acceptable limits, meaning that the variables are conceptually related and empirically distinct, as shown in Table 3. Thus it can be concluded that the measurement model has achieved good discriminant validity with the aid of the HTMT results.

Table 3: Discriminant Validity through HTMT

	FIC	HPWS	IWB
FIC			
HPWS	0.696		
IWB	0.772	0.694	

Table 4 confirms that all constructs of Frugal Innovation Capability (FIC), High Performance Work System (HPWS) and Innovative Work Behavior (IWB) have acceptable discriminant validity. The square root of each AVE (AVE FIC = 0.803, AVE HPWS = 0.820, AVE IWB = 0.752) is greater than its corresponding inter-construct correlation, suggesting that each construct has more variance common to it and their own indicators than to other constructs in the model. While moderate relationships are found between the constructs there are no correlations that surpass the values of square root of the AVE that are empirically distinct.

Table 4: Discriminant Validity through Fornell-Larcker

	FIC	HPWS	IWB
FIC	0.803		
HPWS	0.655	0.820	
IWB	0.711	0.649	0.752

The coefficient of determination (R^2) and effect size (f^2) were analyzed to measure the ability of the model in predicting the endogenous constructs and the contribution of the independent variables to the endogenous constructs. The results suggest that the relationship between HPWS and Frugal Innovation Capability (FIC) is small with f^2 value 0.151. On the other hand, both HPWS and FIC have high values of f^2 (0.729 and 0.330) respectively on Innovative Work Behavior (IWB) as shown in Table 5. Within Cohen's recommendations, these values are strong

and moderate effect sizes, indicating the substantial effect of HPWS on IWB, especially on the latter. The R^2 values of endogenous constructs were also used to test the explanatory power of the model. The result indicates that the R^2 value was obtained as 0.571 and the adjusted R^2 value was 0.569, which shows the moderate level of explanatory power of FIC. Similarly, as seen in Table 5, IWB reported R^2 value of 0.422 and adjusted R^2 value of 0.420, indicating that it has a good predictive ability. In sum, the results indicated that the model proposed has sufficient explanatory power and prediction of the study constructs.

Table 5: Explanatory Power of Model

Effect Size F^2			Coefficient of Determination R^2		
	FIC	HPWS	IWB	R-square	R-square adjusted
FIC				FIC	0.571
HPWS	0.151		0.729	IWB	0.422
IWB	0.330				0.420

Structure model assessment

The structural model was evaluated using PLS-SEM with 10,000-sample bootstrapping to assess the significance of direct, mediating, and moderating effects. The results indicate strong empirical support for all proposed hypotheses.

Table 6: Hypothesis results

Hypothesis	Statistical path	Path coefficient	STDEV	T statistics	P values	Conclusion
Direct effects						
Hypothesis 1	HPWS -> FIC	0.334	0.049	6.879	0.000	Supported
Hypothesis 2	HPWS -> IWB	0.649	0.034	19.161	0.000	Supported
Hypothesis 3	IWB -> FIC	0.494	0.049	10.096	0.000	Supported
Mediating effects						
	Indirect effect					Partial mediation
Hypothesis 4	HPWS -> IWB -> FIC	0.321	0.032	9.955	0.000	Supported

Direct Effects: Direct structural relationships show that all hypothesized paths are statistically significant and supported as seen in Table 6. The findings indicate that there is a strong positive relationship between HPWS and Frugal Innovation Capability (FIC) ($\beta = 0.334$, $t = 6.879$, and $p < 0.001$). In other words, the positive relationship between HPWS and FIC is significant, meaning that a stronger HPWS practice would make firms more capable of frugal innovation.

Likewise, HPWS is highly significant and positively related with Innovative Work Behavior (IWB) ($\beta = 0.649$, $t = 19.161$, $p < 0.001$), which means that the role of HPWS is very important in employee innovative behavior. Besides, IWB is also a strong positive predictor of FIC ($\beta = 0.494$, $t = 10.096$, $p < 0.001$), which shows that IWB is one of the factors that can contribute significantly to the development of FIC. Overall, all direct hypotheses (H1–H3) are supported.

Moreover, the mediation analysis has been used to confirm the mediating effect of Innovative Work Behavior (IWB) in transmitting the effect of HPWS on Frugal Innovation Capability (FIC). The indirect effect of HPWS on FIC via IWB is significant ($\beta = 0.321$, $t = 9.955$, $p < 0.001$), suggesting that the proposed model is meaningful, and IWB is a significant mediator. This

suggests that the effect was partially mediated since the direct effect and indirect effect are both present. This implies that HPWS has two pathways to FIC, one is direct and one is indirect via improving employees' innovative work behavior, as is presented in Table 6 and Figure 3.

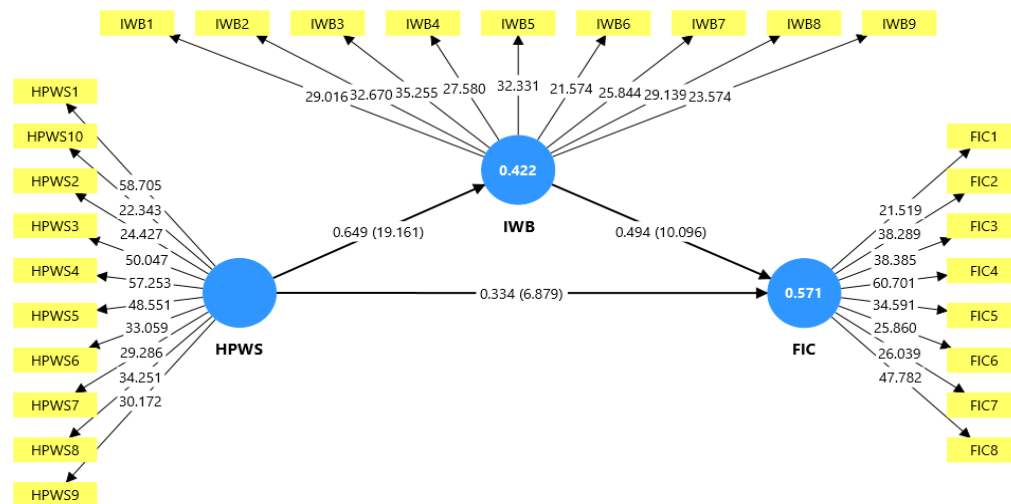


Figure 3: Structural Model

Discussion

This paper has analyzed the association between High-Performance Work Systems (HPWS) and firm frugal innovation capability (FIC), and the mediating role of the employee innovative work behavior (IWB) in the theoretical framework of the Ability-Motivation-Opportunity (AMO) model. The empirical data can be a good support of the proposed model and can be offered as a clear explanation of how structured HR practices can translate into innovation outcomes in resource constrained SME settings.

First, the findings substantiate that HPWS has a strong and positive impact on firm frugal innovation capacity, thus validating Hypothesis 01 and addressing Research Question 1. This observation implies that those companies that are embracing holistic HR systems that include training, rewards based on performance and participation in practices are in a better position to develop cost effective and resource efficient innovations. Following the AMO model, HPWS improves employee's capacity through skills development, enhances motivation through incentives, and provides opportunity to participate, which collectively help firms to innovate under constraints. This finding is in line with previous research of Waseel et al. (2025) and Saleem et al. (2023) that has established the strategic role of HR systems in promoting innovation performance, but it builds upon prior work through its specific linkage of HPWS to frugal innovation capability, an area that remains understudied.

Second, the results indicate that HPWS has a significant and positive impact on the innovative work behavior of employees, which supports the Hypothesis 02. This implies that when organizations invest in employee development, performance recognition and promotion and implementation, employees are more likely to get involved in the idea generation process, promotion, and implementation. In the AMO perspective, this relationship makes the need to align HR practices in the stimulation of proactive and creative employee behaviors important. The outcome supports the idea that the concept of innovation is not only a structural or technological occurrence but is rooted in the processes of employees.

Table 7: Demographic Information of the Study

Characteristic	Category	Frequency	Percentage (%)
Gender	Male	245	67.1%
	Female	120	32.9%
Working Position	Directors	57	57.0%
	Managers	43	43.0%
Experience	< 3 years	190	62.1%
	3 to < 6 years	74	24.2%
	6 to < 9 years	24	7.8%
	9 to < 12 years	8	2.6%
	≥ 12 years	10	3.3%

Third, the study concludes that there is a positive and significant association between employee innovative work behavior and firm frugal innovation capability, and supports Hypothesis 03. This implies that the active employees who engage in innovative behaviour will directly contribute to the creation of affordable, simple and resource efficient solutions. Employees in SMEs are important drivers of innovation because in many cases, formal R&D structures are not present. Their creative use of available resources and ability to make practical suggestions becomes one of the most important factors of frugal innovation performance (Bhatti et al., 2013). This observation reinforces the micro-foundational view of innovation by highlighting the importance of individual actions in developing firm-level competencies.

Lastly, the mediation analysis supports the fact that employee innovative work behavior significantly mediates the relationship between HPWS and frugal innovation capability, which supports Hypothesis 04 and addresses Research Question 2. This finding underscores the idea that HPWS cannot directly translate into the effects of innovation unless it is elicited by employee behaviors. That is, IWB serves as an important transmission channel whereby HR practices can affect the level of innovation in firms. The mediation result offers a more detailed explanation of the HPWS-innovation connection since it reveals the underlying behavioral pathway, which is in line with the AMO framework. It shows that the efficiency of HPWS is that it can influence employee behaviour which in the end lead to innovation within resource limits. This result is also support the previous research of Hanu and Khumalo (2024). On the whole, the results provide a logical and theoretically based explanation of how HPWS can lead to frugal innovation capability by activating the innovative behavior of employees. The combination of AMO theory and innovation literature would give a comprehensive explanation on the how and why of these relationships.

Theoretical Contributions

This paper makes some substantial contributions to the literature. First, it expands the use of the AMO framework by uniting it with the new field of frugal innovation. Although AMO has been extensively applied to explain employee performance, its use with regard to innovation amidst resource limitations is scarce. This work fills that gap by showing that ability-, motivation-, and opportunity-enhancing practices contribute to frugal innovation capability. Second, the research adds to the body of HPWS research by going beyond the traditional performance results, and connecting HPWS to the capability of frugal innovation. The current research adds a more context-specific and strategically relevant outcome to existing research on HPWS, thus broadening the scope of HPWS research. Third, this study contributes to the literature of micro-foundations of innovation by implausibly validating the mediating influence of employee innovative work behavior. It emphasizes that employee-level behaviors are not just the consequences of HR

practices but the crucial processes that transform organizational systems into a tangible innovation capability. This mediation view further expounds on the current models by revealing the behavior pathways through which HPWS-innovation relationship operates.

Practical Contributions

As a management paper, the study offers practical recommendations to SME managers and policy makers. First, the results indicate that high-performance work systems should be invested in to promote innovation, especially in resource-constrained settings. Managers ought to emphasize on how to design integrated HR practices that both increase employee skills, motivation and participation opportunities. Second, the paper describes why employee innovative work behavior is a strategic resource that should be nurtured within an organization. Organizations ought to establish an enabling environment that promotes the generation of ideas, open communication and experimentation. This could be done by training programs, reward systems and participative styles of leadership. Third, the findings suggest that internal human capital is of greater importance to SMEs that want to develop frugal innovation capability, compared to external resource availability. Using the creativity and involvement of their employees, companies can come up with cost-effective and effective innovations without necessarily having to rely on financial or technological support. Lastly, these findings can assist policymakers to promote HR development and SME training programs. By promoting the use of structured HR systems, one can expand the innovation capacity of firms, which will in turn lead to a wider economic development and competitiveness.

Limitations and Future Research Directions

Although this study provides some valuable theoretical and practical supplementary information, it is not free of limitations, which present a variety of opportunities to conduct a subsequent research. First, the research design was a cross-sectional research design, which does not permit making causal inferences among High-Performance Work Systems (HPWS), employee innovative work behavior (IWB), and firm frugal innovation capability (FIC). Though the proposed relationships are theoretically underpinned by the Ability-Motivation-Opportunity (AMO) model and supported by empirical analysis, the temporal dynamics of the given relationships are not observed at all. The longitudinal or time-lagged designs should be adopted in future studies to capture better the causal relationship and examine the extent to which the HPWS practice can impact innovation behavior and outcomes over time. Second, the data were gathered at one place in SMEs, and this can be seen as a problem in respect to common method bias (CMB) and subjectivity. Although procedural remedies were implemented (e.g., anonymity, separation of scale), the chances of bias could not be completely eliminated. The next research needs to take into consideration multi-source data collection (i.e., combining employee responses towards IWB with managerial evaluation of frugal innovation capability), or an objective performance indicator (to further strengthen the strength of findings). Third, the research was limited to SMEs in selected industrial cities of Pakistan (Karachi, Lahore, Sialkot, Faisalabad and Multan). The results, however, may not be applicable in other settings, such as large firms, service industries, or other institutional settings. It is recommended that future studies should replicate this model in different geographical and industrial environments including cross-country comparisons, to confirm that the results have external applicability. Fourth, this paper has studied employee innovative work behavior as the only mediating variable between HPWS and frugal innovation capability. Nonetheless, the processes of innovation are complicated, and they might imply a variety of behavioral and organizational routes. Future research can further expand this model by adding other types of mediators like sharing of knowledge, organizational learning or dynamic capabilities to offer a better understanding of the underlying mechanisms. Fifth, although AMO framework offers a

robust theoretical base, this research did not specifically separate the separate impacts of ability-, motivation-, and opportunity-enhancing practices. Rather, HPWS was considered as a bundle construct. Further studies may have a more fine-grained approach by analyzing the differential or configurational impacts of AMO dimensions on employee behavior and innovation outcomes, possibly using more advanced methods of analytical processing, such as fsQCA or multilevel modeling. Lastly, the current model failed to include contextual factors that may influence corporate performance, including leadership style, organizational culture and environmental turbulence. These variables can potentially have a strong moderating role in determining the effectiveness of HPWS and employee innovative behavior. These boundary conditions should be investigated in future studies to gain a better understanding of when and how HPWS is best used to drive frugal innovation capability.

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