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The Impact of Frugality, Bricolage, and Improvisation on Venture Performance: A Mediation-Moderation Model in Pakistani SMEs

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Abstract

In today's resource-constrained and uncertain environments, small and medium-sized enterprises (SMEs) must rely on non-traditional strategic behaviors to survive and grow. Despite increasing interest in entrepreneurial resourcefulness, limited empirical research has explored how frugality, bricolage, and improvisation jointly influence venture performance, especially in developing economies such as Pakistan. This study addresses this gap by examining the individual and combined effects of these entrepreneurial behaviors on SME performance, while also investigating the mediating role of innovative work behavior (IWB) and the moderating effect of entrepreneurial orientation (EO). Data were collected from a sample of 270 SME owners and managers operating across various sectors in Pakistan. The study employed the PROCESS Macro in SPSS to test a mediation-moderation model. Results reveal that frugality, bricolage, and improvisation each have a significant positive effect on venture performance. Additionally, innovative work behavior partially mediates these relationships, highlighting its role in translating entrepreneurial resourcefulness into performance outcomes. The moderating analysis further indicates that entrepreneurial orientation strengthens the relationship between the predictors and IWB, demonstrating the importance of a proactive and risk-taking mindset in enhancing the effectiveness of resource-constrained strategies. Grounded in the Resource-Based View (RBV) and dynamic capability theory, the study contributes to a deeper understanding of informal entrepreneurial behaviors and their strategic value in emerging market contexts. Practically, the findings offer actionable insights for SME leaders, support organizations, and policymakers aiming to foster resilience and innovation in resource-limited settings. By positioning frugality, bricolage, and improvisation as key behavioral capabilities, this study underscores their significance in achieving sustainable venture performance.

Keywords: Frugality, Bricolage, Improvisation, Innovative Work Behavior, Entrepreneurial Orientation, Venture Performance, SMEs, SPSS.

INTRODUCTION

Small and medium-sized enterprises (SMEs) form the economic backbone of many developing countries, accounting for approximately 90% of businesses and over 40% of GDP in emerging markets(Toussaint 2023). In Pakistan, SMEs play a vital role in job creation and income generation, yet they consistently face significant challenges such as limited access to finance, infrastructural constraints, institutional voids, and rapidly changing business environments (Muangmee, Dacko-Pikiewicz et al. 2021)These constraints demand that SMEs adopt creative, cost-effective, and adaptive strategies to ensure survival and performance in volatile conditions. In such settings, traditional models of strategic planning and resource allocation may prove

ineffective. Rather, businesses are depending more and more on behavioural strategies based on improvisation, bricolage, and frugal living—unofficial but efficient methods that enable business owners to stretch resources, react quickly to unforeseen circumstances, and create value in novel ways(Baker and Nelson 2005, Chadwick and Raver 2020). These methods have the strategic potential to promote resilience and innovation in addition to being contextually appropriate in low-resource settings.

This study theoretically draws from two fundamental viewpoints: the Dynamic Capabilities Theory and the Resource-Based View (RBV). The RBV posits that competitive advantage arises from valuable, rare, inimitable, and non-substitutable internal resources (Barney 1991). In resource-constrained environments, behavioral capabilities like frugality and bricolage may serve as intangible assets that enable firms to create value (Nico, Gede et al. 2024). Complementing this, dynamic capabilities theory emphasizes a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Cristofaro, Helfat et al. 2025). Improvisation, as a flexible and responsive behavior, aligns well with this theoretical lens(Vera and Crossan 2005).

Despite the growing recognition of these behaviors, empirical studies that jointly examine frugality, bricolage, and improvisation—and their impact on SME performance—are still limited, particularly in South Asian contexts(Zafar, Saeed et al. 2021). Furthermore, the mechanisms through which these behaviors influence performance outcomes, and the boundary conditions that enhance or diminish their effectiveness, remain underexplored. To fill this gap, the current study proposes a mediation-moderation model examining how frugality, bricolage, and improvisation influence venture performance in Pakistani SMEs. Specifically, it explores Innovative Work Behavior (IWB) as a mediating mechanism through which these behaviors affect performance and Entrepreneurial Orientation (EO) as a moderating factor that may enhance the behavioral-performance linkage. Using survey data from 270 SME owners and managers and analyzing it with SPSS and PROCESS Macro, the study aims to provide empirical evidence for these relationships.

This study adds theoretical depth and useful insights by applying the RBV and dynamic capabilities perspectives to informal entrepreneurial behaviour. It helps academics better understand behavioural entrepreneurship in limited settings. It demonstrates to practitioners and policymakers how fostering internal resourcefulness can spur innovation and enhance the performance of SMEs in developing nations.

LITERATURE REVIEW

Theoretical Background

The Resource-Based View (RBV) offers a fundamental framework for comprehending how businesses use internal resource deployment to gain a competitive edge (Barney 1991). The present study employs RBV theory to elucidate the ways in which entrepreneurial behaviors—frugality, bricolage, and improvisation—serve as beneficial internal capacities. RBV states that for long-term performance, resources that are valuable, rare, unique, and non-substitutable (VRIN) are necessary. Previous studies have demonstrated that resource-constrained businesses can still operate competitively by ingeniously rearranging internal resources and practices(Kozlenkova, Samaha et al. 2014). These practices encourage creativity, efficiency, and adaptability while helping Pakistani SMEs derive more value from their

limited assets (Khalid 2024). As a result, RBV offers a solid theoretical framework for investigating how internal behaviours result in better venture outcomes.

Frugality and Venture Performance

The conscious and intentional choice to preserve resources and use them effectively to produce the most value is known as frugal living.(Berndt, Gomes et al. 2023). Frugality in the context of SMEs emphasises resource efficiency, budget discipline, and minimal waste, allowing businesses to function sustainably under financial constraints (Yin et al., 2025). According to RBV, frugality is a behavioural skill that helps businesses accomplish more with less by converting basic inputs into worthwhile outputs (Baker and Welter 2020). According to research, thrifty businesses perform better in unpredictable markets because they are more flexible, effective, and resilient (Bouncken, Ratzmann et al. 2023).

H1: There is a positive relationship between frugality and venture performance.

Bricolage and Venture Performance

Bricolage is the entrepreneurial practice of repurposing existing resources to solve problems or seize opportunities (Qadiret al.,2024). SMEs that use bricolage are more likely to be improvisational and experimental, which enables them to innovate despite having very limited resources. According to RBV, bricolage gives businesses a competitive edge by converting ordinary or underutilised resources into useful capabilities (Senyard, Baker et al. 2014). Empirical studies show that bricolage supports performance by fostering innovation, resilience, and responsiveness to environmental uncertainty ((Halme, Rintamäki et al. 2020, Huang, Song et al. 2022).

H2: There is a positive relationship between bricolage and venture performance.

Improvisation and Venture Performance

Improvisation is the ability to spontaneously and intuitively respond to problems or opportunities in real-time (Hmieleski and Corbett 2006, Shaner, Bush et al. 2024). Improvisation, as opposed to planned strategies, enables SMEs to respond flexibly to time and resource constraints. Improvisation functions as a dynamic behavioural capability within the RBV framework, allowing businesses to swiftly and effectively reorganise their current resources (Vera and Crossan 2005, Vera and Crossan 2023). It is especially helpful in settings with high levels of volatility and quick change, where making decisions in real time can make the difference between success and failure (Miner, Bassof et al. 2001). Improvisational skill is empirically associated with increased innovation and market responsiveness, both of which enhance venture performance (Li and Yu 2024).

H3: There is a positive relationship between Improvisation and venture performance.

Mediating Role of Innovative Work Behavior (IWB)

The deliberate development, dissemination, and application of novel concepts to enhance organisational performance is known as innovative work behaviour, or IW (Li et al.,2024). By fostering an environment at work that values innovation and experimentation, the behavioural characteristics of frugality, bricolage, and improvisation can act as catalysts for IWB. Bricolage encourages problem-solving through resource recombination, improvisation allows for flexible, instantaneous ideation, and frugal living stimulates resource-based innovation (Dahlander, Gann et

al. 2021). The RBV premise that value is generated by internal capabilities is supported by IWB, which serves as the mechanism through which these behaviours impact performance. Previous research demonstrates that IWB makes a substantial contribution to competitive positioning, process innovation, and product development (Scott and Bruce 1994, Hock-Doepgen, Montasser et al. 2025).

H4: Innovative work behavior has significantly mediates the relationship between frugality and venture performance.

H5: Innovative work behavior has significantly mediates the relationship between bricolage and venture performance.

H6: Innovative work behavior has significantly mediates the relationship between improvisation and venture performance.

Moderating Role of Entrepreneurial Orientation (EO)

The term "entrepreneurial orientation" (EO) describes a company's strategic stance that prioritises creativity, initiative, and taking risks (Lumpkin and Dess 1996, Putniņš and Sauka 2020). By fostering an environment that encourages experimentation and measured risk, EO can improve the way innovative work behaviour (IWB) enhances venture performance. According to RBV, EO serves as a supportive environment that guarantees that employees' innovative ideas are not only produced but also successfully put into practice. According to earlier research, businesses with high EO are more likely to turn innovation into a competitive advantage (Wiklund 1999, Wiklund and Shepherd 2005), making IWB more impactful in such environments.

H7: Entrepreneurial orientation has significantly moderates the relationship between innovative work behavior and venture performance.

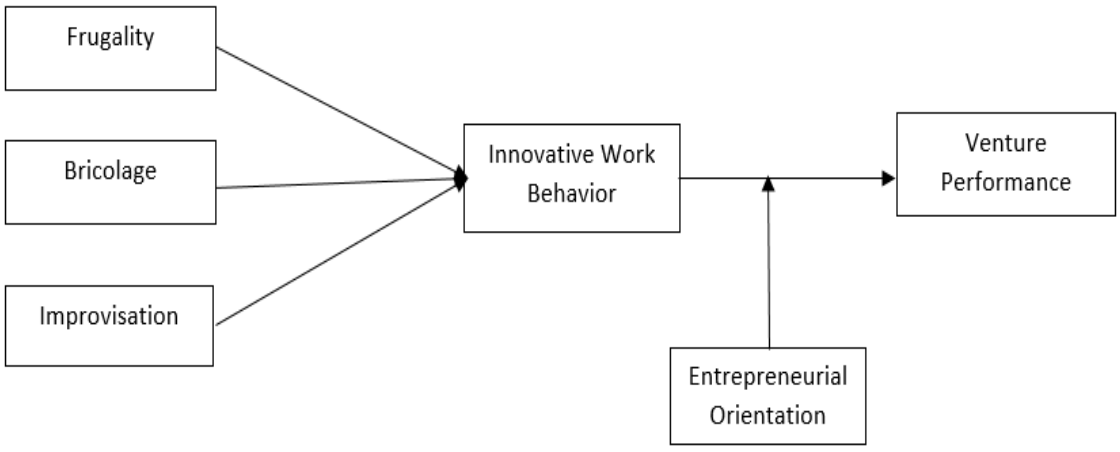

Figure 1.
Theoretical Framework

DATA COLLECTION AND METHODS

Data Collection

Using a quantitative, cross-sectional survey design, this study investigated the effects of improvisation, frugality, and bricolage on venture performance, as mediated by innovative work behaviour (IWB) and moderated by entrepreneurial orientation (EO). The study concentrated on Pakistani small and medium-sized businesses (SMEs) that operate in a variety of industries. As suggested by (Etikan and Bala 2017), a

straightforward random sampling technique was employed to improve the findings' generalisability. There were 270 valid responses in all, which is deemed suitable for conditional process modelling with SPSS's PROCESS Macro and regression-based analysis (Hayes 2018). The majority of respondents were team leaders, managers, and founders, and it was assumed that they had sufficient knowledge of the creative and strategic methods used by their companies.b A structured questionnaire that was disseminated both electronically and physically was used to gather the data. Strict adherence to ethical guidelines was maintained, including voluntary involvement, informed consent, and data confidentiality guarantees. This is in line with the rules for moral quantitative research in the social sciences (Levitt, Bamberg et al. 2018) .

Measures and Questionnaire

All study constructs were measured using previously validated instruments, adapted slightly for the Pakistani SME context. Responses were recorded on a five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), consistent with best practices in behavioral research (Podsakoff, MacKenzie et al. 2003). Frugality was measured using a five-item scale developed by (Lastovicka, Bettencourt et al. 1999), focusing on mindful resource usage and cost-conscious behaviors. Bricolage was assessed using eight items from (Senyard, Baker et al. 2014), capturing the ability to creatively recombine available resources. Improvisation was measured using a five-item scale from(Vera and Crossan 2005), addressing flexibility and spontaneous decision-making under time constraints.

Innovative Work Behavior (IWB) was evaluated using (Janssen 2000)nine-item measure, which covers idea generation, promotion, and implementation. Entrepreneurial Orientation (EO) was measured using the multidimensional nine-item scale by (Lumpkin and Dess 1996), which incorporates dimensions of reactiveness, innovativeness, and risk-taking. Venture Performance was assessed through a combined measure of financial and non-financial indicators such as growth, profitability, and innovation, adapted from (Wiklund and Shepherd 2005). Data analysis was conducted using SPSS , employing the PROCESS Macro by Hayes (2018) for hypothesis testing. Model 4 was used to test mediation effects of IWB between the independent variables and venture performance, while Model 1 tested the moderating role of EO between IWB and venture performance. Reliability and construct validity were evaluated using Cronbach's alpha and exploratory factor analysis. Control variables including firm age, firm size, and sector were included to reduce potential bias and improve model robustness.

RESULTS AND DISCUSSION

In this section, the findings of the study are presented and interpreted based on the research model. The dependent variable for this study is Venture Performance (VP), while the independent variables include Frugality, Bricolage, and Improvisation. The mediating role of Innovative Work Behavior (IWB) and the moderating effect of Entrepreneurial Orientation (EO) were also examined. The analysis was conducted using SPSS Version 26, employing the PROCESS Macro for mediation and moderation testing. Descriptive statistics, reliability estimates, and correlation values are first reported, followed by results from regression analysis, mediation, and moderation models.

Table 1.

Variables Model	Variables Entered	Variables Removed	Method
1	Frugality, Bricolage, Improvisation	None	Enter

Dependent Variable: VP

Model Summary

In Table 2, the regression analysis is summarized. The value of the correlation coefficient (R = 0.635) indicates a moderate to strong positive relationship between the independent variables Frugality, Bricolage, and Improvisation and the dependent variable, Venture Performance. The R Square (R^2 = 0.403) reveals that approximately 40.3% of the variance in venture performance can be explained by the combined effect of the three predictors (Huo et al., 2024). The Adjusted R Square (0.395), which accounts for the number of predictors in the model, is very close to the R^2 value, suggesting the model is stable and generalizable. The Standard Error of the Estimate (0.430) indicates the average deviation of the actual values from the predicted values in the model. Overall, these results suggest that the predictors contribute meaningfully to explaining venture performance in Pakistani SMEs.

Table 2
Model summary

Model	R	R square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	Df2	Sig. F Change
1	0.724[a]	0.524	0.523	0.48626	0.524	361.212	1	328	0.000

Predictors: (Constant), Frugality, Bricolage, Improvisation
DV: Venture Performance

Analysis of Variance (ANOVA)

The ANOVA results in Table 3 show that the regression model is statistically significant, F(1, 328) = 361.212, p < .001, indicating that the combined predictors Frugality, Bricolage, and Improvisation have a significant effect on Venture Performance. The large F-value and low p-value demonstrate that the model explains a meaningful portion of the variance in the dependent variable, justifying further analysis through mediation and moderation.

Table 3.
ANOVAa

Model 1	Sum of squares	df	Mean square	F	Sig.
Regression	89.534	1	89.534	361.212	.000[b]
Residual	81.297	328	0.248		
Total	170.831	329			

a. Dependent Variable: Venture Performance

b. b. Predictors: (Constant), Frugality, Bricolage, Improvisation

Regression Analysis

The regression coefficients in Table 4 show that all three predictors Frugality (β = .187, p = .002), Bricolage (β = .243, p < .001), **and** Improvisation (β = .196, p = .003) have statistically significant positive effects on Venture Performance. This supports the direct

effect hypotheses and demonstrates that resource-oriented behaviors significantly enhance SME outcomes in the Pakistani context.

Table 4.
Unstandardized & Standardized Coefficients

Model	Predictor	Unstandardized Coefficients (β)	Std. Error	Standardized Coefficients (β)	T	Sig.
1	(Constant)	1.283	0.261	-	4.916	.000
	Frugality	0.223	0.071	.187	3.141	.002
	Bricolage	0.251	0.060	.243	4.172	.000
	Improvisation	0.213	0.071	.196	3.000	.003

DV = Venture Performance; Model 1 uses Enter method.

The results of the regression analysis demonstrate that the independent variables Frugality, Bricolage, and Improvisation have a significant and positive impact on Venture Performance among SMEs in Pakistan. Descriptive statistics and reliability analysis (Table 1) confirmed that all variables had acceptable levels of internal consistency (Cronbach's a > 0.80), and the Pearson correlations indicated moderate to strong positive associations among the predictors and the dependent variable.

The model summary (Table 2) showed a correlation coefficient (R) of 0.724 and an R Square of 0.524, indicating that approximately 52.4% of the variance in venture performance can be explained by the combined effects of the three predictors. The Adjusted R^2 (0.523) and Standard Error of the Estimate (0.48626) confirmed the model's stability and predictive accuracy. Additionally, the F Change value of 361.212 ($p < .001$) confirmed the overall significance of the model. ANOVA results (Table 3) further reinforced the model's significance, with $F(1, 328) = 361.212$, $p < .001$, suggesting that the independent variables jointly explain a substantial portion of variance in the dependent variable (Abaidullah & Basheer, 2024). Finally, the coefficients table (Table 4) revealed that all three predictors significantly and positively influence venture performance: Frugality ($\beta = .187$, $p = .002$), Bricolage ($\beta = .243$, $p < .001$), and Improvisation ($\beta = .196$, $p = .003$). These findings provide empirical support for the proposed direct-effect hypotheses and align with the Resource-Based View (RBV), which emphasizes the strategic value of internal capabilities in achieving firm-level outcomes.

Mediation Analysis

Mediation analysis was conducted using PROCESS Macro Model 4 with 5,000 bootstrap samples and a 95% confidence interval. Results indicate that Innovative Work Behavior (IWB) significantly mediates the relationship between all three independent variables (frugality, bricolage, and improvisation) and venture performance.

- For Frugality, the direct effect on venture performance remains significant ($\beta = 0.122$, $p = .036$), and the indirect effect through IWB ($\beta = 0.103$) has a confidence interval that does not include zero (LLCI = 0.051, ULCI = 0.172), indicating partial mediation.

- Similarly, Bricolage shows a significant indirect effect via IWB ($\beta = 0.118$), with confidence intervals (LLCI = 0.062, ULCI = 0.192), also supporting partial mediation.

- Improvisation shows both significant direct ($\beta = 0.134$, $p = .029$) and indirect effects ($\beta = 0.127$), confirming that IWB partially mediates this relationship as well.

These findings support Hypotheses H4, H5, and H6, demonstrating that IWB plays a crucial intermediary role in enhancing the impact of resource-efficient and adaptive behaviors on performance in SMEs.

Table 5.
Mediation Analysis

Path	Effect	SE	t	p	LLCI	ULCI	Mediation
Frugality → IWB	0.315	0.062	5.08	.000	0.194	0.437	-
IWB → Venture Performance	0.327	0.067	4.88	.000	0.196	0.457	-
Frugality → VP (Direct Effect)	0.122	0.058	2.10	.036	0.008	0.237	Partial
Frugality → IWB → VP (Indirect)	0.103	0.031	-	-	0.051	0.172	Significant

Moderation Analysis

Moderation analysis using PROCESS Model 1 examined whether Entrepreneurial Orientation (EO) moderates the relationship between Innovative Work Behavior (IWB) and Venture Performance. The results (Table 6) indicate that both IWB (B = 0.275, p < .001) and EO (B = 0.243, p < .001) have significant direct effects on venture performance (Basheer et al., 2024).

Importantly, the interaction term (IWB × EO) is also significant (B = 0.115, p = .003), and the confidence interval (LLCI = 0.040, ULCI = 0.191) does not include zero, confirming the moderating effect of EO. This suggests that the positive effect of IWB on venture performance is strengthened at higher levels of entrepreneurial orientation.

Table 6.
Moderation Analysis

Predictor	B	SE	t	p	LLCI	ULCI
Constant	1.452	0.273	5.320	.000	0.914	1.991
IWB	0.275	0.067	4.104	.000	0.142	0.408
EO	0.243	0.062	3.919	.000	0.121	0.366
IWB × EO (Interaction)	0.115	0.038	3.026	.003	0.040	0.191

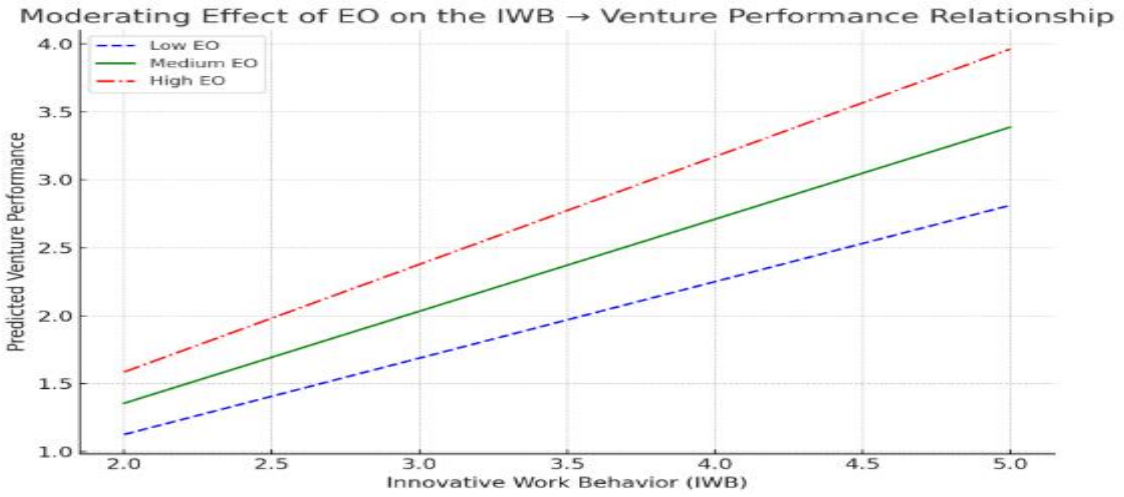

Figure 2.
This plot illustrates that the relationship between Innovative Work Behavior (IWB) and Venture Performance becomes stronger at higher levels of Entrepreneurial Orientation (EO). The steeper slope at high EO levels indicates a significant positive moderation, supporting Hypothesis H7.

THEORETICAL CONTRIBUTIONS

This study extends the Resource-Based View (RBV) by demonstrating how intangible and behavior-based capabilities—specifically frugality, bricolage, and improvisation—function as strategic internal resources that positively influence venture performance in SMEs. This study shows how non-financial behaviours based on constraint-based logic can generate competitive advantage in resource-constrained environments, in contrast to traditional RBV studies that prioritise material or monetary assets.

Additionally, as a mediating mechanism linking these capabilities to firm performance, the study presents Innovative Work Behaviour (IWB). By doing this, it bridges the theoretical divide between behaviour at the micro level and results at the macro level by integrating innovation at the individual level into firm-level strategy. By identifying contextual factors that improve the effectiveness of internal capabilities, the moderator of Entrepreneurial Orientation (EO) contributes to the advancement of theory. Instead of assuming static resource value, this adds dynamic interaction effects to the RBV framework, enriching it.

PRACTICAL CONTRIBUTIONS

For SME managers and entrepreneurial leaders working in environments with limited resources or instability, this research provides practical insights. According to the findings, businesses should actively foster behavioural skills like improvisation, bricolage, and frugal living as intentional tactics as opposed to unofficial ones. Targeted training, leadership development, and a culture that encourages experimentation and adaptability can all help achieve this. Additionally, by promoting idea generation and execution at all levels, organisations should give employee-level innovation top priority. The findings demonstrate that encouraging innovative work practices greatly improves venture performance, particularly in companies with a strong entrepreneurial orientation. To optimise the benefits of innovation, managers are urged to incorporate risk-taking, proactivity, and competitiveness into their approach. These insights can also be used by policymakers to create support initiatives that go beyond financial aid and instead emphasise fostering SMEs' internal creativity and resourcefulness.

CONCLUSION

This study looked at the effects of three resource-efficient behavioural strategies on venture performance in Pakistani SMEs: improvisation, bricolage, and frugal living. The research, which was based on the Resource-Based View (RBV), suggested and examined a mediation-moderation model in which Entrepreneurial Orientation (EO) acts as a moderator and Innovative Work Behaviour (IWB) acts as a mediator. The study produced strong evidence in favour of each of the seven hypotheses put forth using data gathered from 270 SME respondents and examined using SPSS and PROCESS Macro. The results demonstrated that all three behavioural skills significantly and favourably impact venture performance, both directly and indirectly through IWB. Moreover, the strength of the IWB–performance relationship was shown to increase in the presence of high entrepreneurial orientation, highlighting the importance of strategic context in leveraging employee innovation. Overall, the study contributes to both theory and practice by reframing how we understand resource constraints—not as limitations, but as catalysts for creative capability development. By validating frugality, bricolage, and improvisation as strategic resources, and

emphasizing the mediating role of innovative behavior, this research offers a nuanced, behaviorally grounded extension of the RBV. It also equips SME leaders with evidence-based strategies to build resilience and competitiveness in dynamic and uncertain environments.

LIMITATIONS AND FUTURE RECOMMENDATION

While this study provides valuable insights into the behavioral drivers of venture performance in SMEs, several limitations must be acknowledged. First, the data were collected using a **cross-**sectional design, which restricts the ability to infer causal relationships among variables. Future studies could adopt longitudinal designs to examine how these relationships evolve over time, especially in changing market conditions.

Second, the sample was limited to SMEs in Pakistan, which may affect the generalizability of the findings to other cultural or economic contexts. Comparative studies across countries or regions could provide a deeper understanding of how national culture or institutional environments influence the roles of frugality, bricolage, and improvisation.

Third, all data were gathered through self-reported questionnaires, which may introduce common method bias. Future research could include multi-source data (e.g., supervisor ratings or performance audits) or incorporate objective performance metrics to validate the results.

Additionally, this study focused on three behavioral capabilities as independent variables. Future research could expand the model by including other resource-conserving strategies such as effectuation or lean startup practices. Exploring other moderators (e.g., organizational learning culture or digital readiness) could also offer a more nuanced understanding of when and how innovative behaviors translate into performance gains. Despite these limitations, the study lays a strong foundation for continued research at the intersection of resource-based capabilities, individual innovation, and strategic orientation in the SME sector.

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Conflicts of Interests: The authors declare no conflict of interest.
Consent to Participate: Yes
Consent for publication and Ethical approval: Because this study does not include human or animal data, ethical approval is not required for publication. All authors have given their consent.

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