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ENTREPRENEURIAL BRICOLAGE AND RESILIENCE: SURVIVING AND THRIVING OF MICRO AND SMALL BUSINESSES

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Abstract

Empirical research on the impact of entrepreneurial bricolage on business performance remains insufficiently grounded and often yields non-straightforward results. The objective of this study is to investigate how entrepreneurial bricolage relates to business performance, both directly and indirectly through entrepreneurial resilience. Structured survey data were collected from 640 owners and founders of micro and small businesses in the Republic of Croatia. PLS-SEM was used to examine the interplay among entrepreneurial bricolage, resilience and business performance. The results indicate a significant and positive relationship between entrepreneurial bricolage, business performance, and entrepreneurial resilience, as well as a significant and positive relationship between entrepreneurial resilience and business performance. Specifically, the results show that entrepreneurial resilience partially mediates the relationship between entrepreneurial bricolage and business performance. In addition, the study also shows a high predictive power of the analysed model, which confirms the generalizability of the findings and provides novel evidence that entrepreneurial bricolage not only supports problem-solving behavior but also enhances the capacity to effectively respond to changing circumstances, acting as a form of "pragmatic resilience". This contributes to the literature by offering a new theoretical lens on how entrepreneurial bricolage generates sustained competitiveness in micro and small enterprises and points to the broader need for future investigation of bricolage's role in fostering resilience, entrepreneurship and crisis management. Future research should further explore the boundary conditions of the entrepreneurial bricolage-resilience-performance relationship, particularly across different stages of firm development and in more diverse entrepreneurial ecosystems.

Implications for Central European audience: The research study strengthens the empirical evidence on the relationship between entrepreneurial bricolage and business performance in the context of micro and small businesses operating in a weak entrepreneurial ecosystem, suggesting its direct and indirect association through entrepreneurial resilience. Results can encourage micro and small entrepreneurs to adopt positive bricolage practices that promote the development of entrepreneurial agility. This study is also useful to policymakers in shaping the local entrepreneurial environment and designing adequate policies and

measures that address entrepreneurs' specific needs during certain phases of their growth process.

Keywords: bricolage; resilience; business performance; resource scarcity; entrepreneurship
JEL Classification: M21, M13

Introduction

Dealing with frequent challenges and adversity is inherent to entrepreneurship. The concept of resilience, understood as the ability to withstand, thrive and survive, helps explain how entrepreneurs and their ventures overcome adversity and achieve success. This is particularly relevant for nascent and young companies as well as micro and small enterprises due to their liabilities of newness and smallness and the challenges in gaining access to sufficient resources. Since the entrepreneurial landscape is the result of the interplay between entrepreneurs' characteristics and the entrepreneurial ecosystem (Chaudhary et al., 2024; Grčić Fabić, 2022; Huszák & Gittins, 2022), companies operating in less developed environments often encounter significant constraints, particularly in accessing financial and human resources. Entrepreneurship, through various forms of entrepreneurial initiatives and self-employment, is a crucial mechanism for economic revitalization, social cohesion, and regional development, particularly in neglected, less developed, and rural areas (Acs et al., 2008). Understanding the development trajectories and strategies that enable business survival and resilience in such settings is therefore essential. The capability of entrepreneurial resilience (ER) has become even more evident in light of recent economic and social crises, which have posed substantial environmental threats to the survival of economic entities (El-Sahli & Alsamara, 2023). The capacity to gather and utilize resources in boundary-crossing and innovative ways, that uncover unexpected sources of value (Williams et al., 2021) is likely to be crucial for navigating the unpredictable changes that occur during a crisis. The notion of resourcefulness (Bradley, 2015; Lange et al., 2024) explains the creative adaptation efforts of these ventures in mobilizing resources, which in previous literature was primarily emphasized in resource-constrained environments (Desa & Basu, 2013; Rahman et al., 2023), implying that through resourcefulness, entrepreneurial ventures can mobilize resources despite constraints (Welter et al., 2018; Zahra, 2021). Research shows that when individuals behave resourcefully, they can deal with a range of activities by using whatever they have to hand (Baker & Nelson, 2005). As such, resourcefulness is preferred over resource acquisition. Bricolage represents such resourceful behaviour (Lévi-Strauss, 1966), and actually demonstrates entrepreneurial agility and the capacity to innovate, by valuing adaptive problem-solving behaviour while emphasizing available resources, i.e. the "resources at hand" and "what I have" mindset. The concept of bricolage is especially empirically examined within entrepreneurship and innovation literature, and is referred to in this context as entrepreneurial bricolage (EB) (Mateus & Sarkar, 2024). According to Mateus and Sarkar's (2024) systematic review and research agenda on EB, the primary shift in research focus concerns the outcomes of bricolage. While earlier studies predominantly explored its role as a resource mobilization strategy for innovation and the development of new products and services (Senyard et al., 2014; Wu et al., 2017), and a mechanism for solving social problems and generating social value in resource-constrained environments

(Desa & Basu, 2013; Kwong et al., 2017), more recent research has increasingly examined its potential as a driver of sustainable firm growth and performance (Sivathanu & Pillai, 2020; Yu et al., 2020), both in the context of institutional voids and under complex, turbulent or crisis conditions (Baker & Nelson, 2005).

However, despite growing attention from academics and practitioners, the performance implications of entrepreneurial bricolage remain empirically inconsistent (Mateus & Sarkar, 2024). While early studies emphasized its role in innovation and resource mobilization, more recent research has begun to explore its implications for firm growth and performance, often yielding mixed or context-dependent findings. In particular, the mechanism through which entrepreneurial bricolage translates into firm-level performance outcomes remains insufficiently clarified. Accordingly, the study is guided by the following research question: How does entrepreneurial bricolage relate to business performance, and what role does entrepreneurial resilience play in this relationship? In line with this research question and drawing from a resource-based framework (Wernerfelt, 1984), this study aims to explore the relationship of entrepreneurial bricolage to business performance. More specifically, it addresses how entrepreneurial bricolage relates to business performance directly and indirectly through entrepreneurial resilience. The interplay of entrepreneurial bricolage, resilience and business performance was examined by employing data from 640 micro and small businesses in the entrepreneurial setting of Croatia, generally characterized by a weak entrepreneurial ecosystem (Grčić Fabić, 2022). We posit that EB, as a behavioural response to innovative resource utilisation, is associated with building resilience and that resilience is in turn related to broader firm performance. Moreover, we want to determine how entrepreneurial resilience mediates the association between entrepreneurial bricolage and business performance. Croatia provides a particularly illustrative case for examining entrepreneurial bricolage and resilience. As a small post-transition economy with a comparatively weak entrepreneurial ecosystem, marked by limited access to finance and persistent bureaucratic hurdles, it exemplifies the structural constraints faced by many emerging economies in Central and Southeastern Europe. Such conditions often compel micro and small enterprises to rely on creative resource recombination and adaptive strategies to survive and grow, making bricolage a particularly relevant lens of analysis. Moreover, Croatia's relatively recent EU membership places it at the intersection of developed market integration and transitional institutional legacies, further highlighting the tensions and opportunities faced by entrepreneurs in similar settings.

Our study makes several key contributions to the literature on entrepreneurial bricolage and resilience. First, we provide new theoretical lenses on the entrepreneurial bricolage relationship to business performance by highlighting its indirect relationship realized through entrepreneurial resilience. Second, by testing our assumptions on a sample of micro and small companies in Croatia, we complement empirical studies on entrepreneurial bricolage. This is particularly important given the overconcentration of current empirical evidence on specific regions and the need for more diverse empirical contexts. According to Mateus and Sarkar's (2024) systematic literature review on EB, approximately one-third of the papers focused on one of three regions; China, India or the UK. Third, we enrich the discussion of conflicting findings regarding the conditions under which environmental threats promote bricolage to a greater or lesser extent (Adomako et al., 2025) and clarify the implications of the setting for the mechanism of entrepreneurial bricolage.

1 Literature review

1.1 Entrepreneurial bricolage, resilience and business performance

Entrepreneurial bricolage represents one manifestation of resourceful behaviour, among others, such as effectuation and causation (Fisher, 2012; Sarasvathy, 2001). The original definition and usage come from anthropology (Lévi-Strauss, 1966). It was later applied in other fields, including entrepreneurship, where it has gained increasing relevance in explaining agents' behavior in formulating strategies for survival and growth in the market. Baker and Nelson (2005) refer to it as "making do by applying combinations of the resources at hand to new problems and opportunities". Entrepreneurs are focused on finding workable solutions to new challenges relying on using most of the existing resources. The emphasis is on active involvement and entrepreneurial agility in using existing resources, especially within a resource-constrained environment, and drawing on the available context-specific resources. As such, it represents an effective way for businesses to survive and grow. Empirical research primarily focuses on the application of EB as a strategy for innovation and adaptability in the early stages of firm development. However, findings also confirm its relevance beyond the context of liabilities of newness and smallness, including its applicability in firms that are not constrained by limited resources (Mateus & Sarkar, 2024).

The concept of entrepreneurial bricolage can be viewed through the lens of the resource-based view (RBV) of the firm (Barney, 1991; Penrose, 1959), and within that dynamic capabilities perspective (Teece et al., 1997). In line with these approaches, EB puts the effective use of the firm's existing resources in focus in order for the firm to achieve and sustain competitive advantage and consequently survival and performance. By effectively "making do" with the available resources at hand, firms are responding to new opportunities and take on a variety of new challenges, which can ultimately contribute to greater differentiation, innovation and performance (Hashim et al., 2023; Yang, 2018). Moreover, this ability of innovatively configuring resources and capabilities can enhance adaptability, resilience, and a greater likelihood to succeed in the long term. Therefore, Mateus and Sarkar (2024) refer to it as "pragmatic resilience". In line with Bechky and Okhuysen (2011) bricolage facilitates flexible and spontaneous reactions to unforeseen circumstances by creatively leveraging available resources to ensure business continuity, which can result in greater entrepreneurial resilience thereby indicating the connection between EB and entrepreneurial resilience.

Entrepreneurial resilience research examines how entrepreneurs' resilience characteristics help explain the development of entrepreneurial activities (Fisher et al., 2016). These characteristics are expressed through affective, cognitive, and behavioural mechanisms (Hoegl & Hartmann, 2021; Shepherd & Williams, 2022), such as hardiness, resourcefulness, and optimism, which have been empirically validated through the three-factor structure of the entrepreneurial resilience construct (Elshaer, 2022; Manzano-García & Ayala Calvo, 2013). This suggests that there is a connection between EB and ER, but the empirical evidence is not yet sufficiently established and has only recently started to be observed and dominantly in the context of crisis management, mainly driven by the recent global COVID-19 crisis (Baier-Fuentes et al., 2023; Caspersz et al., 2025; Kuckertz et al., 2020; Park & Seo, 2024; Roloff, 2023). Kuckertz et al. (2020) found that entrepreneurs adopt a bricolage approach to

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adjust to emerging opportunities and alternative operating strategies. Also, in the context of the COVID-19 crisis, Caspersz et al. (2025) proved that CEO resilience within family firms reflects a "crisis bricolage" of "making do" with resources that are "in hand" and "within reach". Furthermore, Park and Seo (2024) showed in their study on the COVID-19 pandemic that SMEs utilizing bricolage strategies exhibit greater resilience than those that rely solely on conventional crisis responses, but state that the effectiveness of this bricolage-resilience mechanism is contingent upon external and internal measures undertaken by bricoleur firms. In this case, it is the received governmental financial and operational support. The research results confirm that receiving such external support will reduce the impact of the bricolage strategy on resilience, which can be explained by the consequent reduction in the need for self-reliant resilience strategies. In addition, Baier-Fuentes et al. (2023), in their study on the survival of owner-managed SMEs during crises, revealed that limited survival capacity is associated with lower levels of bricolage and weaker founders' ties.

Considering further the relationship between entrepreneurial resilience and business performance, previous literature indicates positive implications of ER on financial performance (Digan et al., 2019) and generally venture performance and growth (Agarwal et al., 2022). According to existing research, it is one of the key factors that ensure the survival of companies, especially during times of crisis (Grčić Fabić et al., 2025). Regarding the EB – business performance nexus, empirical evidence shows that EB has a positive effect on firm outcomes, such as product/service/business model development and innovation (Liao et al., 2021; Wang et al., 2023), venture performance and growth (Bojica et al., 2014; Chang et al., 2022) and social value creation or social performance (Di Domenico et al., 2010; Liu et al., 2021). However, the EB - business performance relationship is not straightforward. While bricolage can enhance performance, its application may also constitute a risky approach and, in certain contexts, result in harmful outcomes (Desa & Basu, 2013; Nelson & Lima, 2020; Sarkar, 2018; Stinchfield et al., 2013; Tasavori et al., 2018). Moreover, the results of the research studies confirmed the inverted-U relationship of EB with business performance and highlighted the potential negative implications of its excessive use (Sahi & Agarwal, 2020; Desa & Basu, 2013). Improvisation is often seen as an integral aspect of the bricolage process and as an experimental approach in which design and implementation occur simultaneously (Fisher, 2012; Senyard et al., 2014). Steffens et al. (2023) refer to the accumulation of compromises resulting from an intertwined "second-best solutions" and "tinkering trap", which leads to a path-dependent trajectory of providing substandard solutions, and state that its usefulness as an adaptive strategy in resource-limited and complex environments depends on the venture's development stage – whether it is in the nascent or operational phase - as well as the firm's growth expectations. Regarding this, the effectiveness of entrepreneurial bricolage is shaped by boundary conditions, and it is therefore meaningful to interpret the outcomes of bricolage practices as the net effects of their application. Steffens et al. (2023) suggest that, under certain conditions, entrepreneurial bricolage, and resourcefulness more broadly, can operate as mechanisms that not only facilitate coping but also enable the pursuit of competitive advantage. Using a sample of longitudinal data from early-stage ventures, they demonstrated positive effects in nascent organizations, where firms leverage their flexibility to maximize existing resources and exhibit the ability to selectively dismiss short-term fixes and inferior solutions, often associated with bricolage practices, as opposed to young ventures in the operational phase, where such practices are more likely to become counterproductive. However, Steffens et al. (2023) also

demonstrated positive effects in cases where young firms exhibit higher growth expectations, regardless of their stage of development. These findings indicate that even the application of high levels of bricolage can yield positive effects (Reypens et al., 2021), which may be attributed to firms' selective engagement in bricolage behaviours as part of their strategic efforts to grow and develop (Baker & Nelson, 2005). According to these empirical studies, it is not the overall level of bricolage that is critical, but rather the types of bricolage and the contexts in which these practices are applied. In this way, bricolage behaviour may yield benefits that extend to organizations of greater size and maturity (An et al., 2018; De Bernardi & Pedrini, 2020). Mrożewski and Dudziak (2025), using a sample of Polish high-growth SMEs and drawing on the dynamic capabilities perspective within the resource-based view, conceptualize bricolage as an initiating mechanism in the dynamic capability process, fostering the development of strategic learning capabilities and, more broadly, strategic flexibility. The most favourable effects of bricolage are observed when resource constraints are moderate, highlighting that the effectiveness of such practices depends not merely on resource scarcity but on the optimal alignment of resources and capabilities. When resources are severely constrained, bricolage primarily functions as a mechanism for survival rather than for learning, which is particularly critical for ventures undergoing intensive growth and operating in turbulent environments. Under these conditions, bricolage, contrary to prior evidence of an inverted U-shaped EB-performance relationship, can drive long-term strategic benefits for SMEs.

Furthermore, the results of the study also confirm the indirect impact of EB on business performance through variables such as the diversity of founding team members (Wang et al., 2023) and business model innovation (Wu et al., 2024), as well as moderating effects, namely, firm change and innovativeness (Senyard et al., 2010), supply chain knowledge (Sahi & Agarwal, 2020) and innovation capability (Hashim et al., 2023). In order to examine and further test the constellation of EB, ER and business performance, the following hypotheses are proposed based on the above discussion:

- **H1**: Entrepreneurial bricolage is positively associated with business performance.
- **H2**: Entrepreneurial bricolage is positively associated with entrepreneurial resilience.
- **H3**: Entrepreneurial resilience is positively associated with business performance.

1.2 Mediation effect of entrepreneurial resilience

While bricolage has been shown to have an impact on business performance, less is known about its potential indirect impact through entrepreneurial resilience. Research has already highlighted that resilience can play a key role in strengthening business performance by enabling companies to adapt more quickly to change and reduce the negative impact of uncertainty (Agarwal et al., 2022; Hayward et al., 2010). Likewise, entrepreneurs utilizing bricolage strategies are more likely to succeed in the long term as they develop resilience and the ability to adapt (Caspersz et al., 2025; Mateus & Sarkar, 2024; Park & Seo, 2024). However, to the best of the authors' knowledge, no research has yet examined how bricolage, as a strategy for the innovative utilisation of resources, contributes to building resilience and how this resilience subsequently relates to business performance. Given this knowledge gap and the highlighted potential of entrepreneurial resilience in explaining the contribution of entrepreneurial bricolage to business performance, this study investigates whether, and to

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what extent, entrepreneurial resilience transmits the linkage between entrepreneurial bricolage and business performance. Accordingly, the following hypothesis is proposed:

- **H4**: Entrepreneurial resilience mediates the relationship between entrepreneurial bricolage and business performance.

2 Methodology

2.1 Data collection, analysis and sample

The aim of this study was to explore the relationship between entrepreneurial bricolage and business performance, both directly and indirectly through entrepreneurial resilience. Data were collected using a survey developed on the basis of existing and valid measurement scales. The survey was conducted via Google Forms and administered in the Croatian language. To ensure the quality of the survey and response data, the survey was pretested for content validity, i.e., the measurement variables (items) and completion time by four entrepreneurs (i.e., founders and owners) and one native English speaker. Based on the pretesting, some item wordings were revised, and the average completion time was estimated at approximately five minutes. Furthermore, to prevent incomplete responses, all questions were set as mandatory, ensuring that only fully completed surveys were collected. The target respondents were founders and owners of micro and small enterprises in the Republic of Croatia. Croatia serves as an exemplary setting for exploring entrepreneurial bricolage and resilience, as it embodies many of the institutional voids and resource constraints characteristic of post-transition economies. Insights from this context extend beyond national boundaries, offering valuable implications for micro and small enterprises in other Central and Southeastern European countries facing comparable developmental challenges. Respondents were recruited using convenience and snowball sampling techniques (Bryman, 2012). Specifically, the survey was initially distributed to founders and owners of micro and small enterprises personally known to the researcher, who were then asked to forward the survey to others within their networks. An advantage of this approach was that some of these initial respondents also served as representatives of various associations of small and medium-sized enterprises in the Republic of Croatia. While aware of the limitations associated with these sampling methods, their use was justified by the absence of a reliable sampling frame for micro and small businesses in Croatia, particularly within the context of a weak entrepreneurial ecosystem. As such, this approach represented the most feasible way to ensure broader and higher-quality respondent coverage. Also, both techniques are commonly employed in entrepreneurship research (Alshebami, 2025; Alshebami et al., 2025; Tehseen et al., 2024). The data was collected in the period from January to February 2025.

A total of 640 valid surveys were collected. No responses were excluded, as no low-quality data (e.g., straightlining or missing responses) were identified. The collected data were analysed using partial least squares structural equation modelling (PLS-SEM) in SmartPLS 4. PLS-SEM is a widely used method that allows for the estimation of complex models with relatively small sample sizes and does not impose distributional assumptions. More importantly, it is well-suited for exploratory research and studies that emphasize prediction in estimating statistical models, making it valuable for generating managerial implications (Hair et al., 2019). Methodologically, the PLS-SEM approach includes two main stages: 1) evaluation of the measurement model – assesses the reliability and validity of the

constructs, and 2) evaluation of the structural model – examines collinearity among constructs, the significance and relevance of path coefficients, and the model's predictive ability and significance (Hair et al., 2017). According to the 10-times rule, which assumes that the sample size in PLS-SEM should be greater than 10 times the maximum number of inner or outer model links pointing at any latent variable in the model (Hair et al., 2017), the minimum sample size required for this study would be 20 responses. That is, according to Cohen (1992, in Hair et al., 2017), with a significance level of 1%, a minimum R^2 of 1% and 2 as the maximum number of arrows pointing to a construct, a minimum sample size of 130 responses would be required for this study. The sample of this study fulfils the required size.

The data was collected from entrepreneurs operating in various sectors of the economy. The majority of the sample, i.e. more than 60%, includes respondents working in enterprises providing services, professional, scientific and technical activities, wholesale and retail trade and construction activities. Most enterprises (34%) have been in existence for 1–5 years and more than 20 years (24%), while 60 enterprises (9%) have been in business for less than a year. More than half of the respondents were 35–49 years old (52%), followed by 50–64 years (31%), 22–34 years (14%) and 65–77 years (3%). The ratio between female and male respondents is almost equal, i.e. 49% to 51%. A total of 47% of respondents have a high school diploma, while 16% have a bachelor's degree and 28% have a master's degree. 22 of the respondents have a Master of Science degree, 20 have an MBA degree and even 20 have a PhD.

2.2 Measurement variables

This study adopted measurements from previous studies. A 5-point Likert scale was used for all constructs in the study. Entrepreneurial bricolage (EB) was measured with 8-eight items from Senyard et al. (2014), validated by Davidsson et al. (2017). Respondents rated the items from 1 (never) to 7 (always). Entrepreneurial resilience (ER) was measured by the Connor-Davidson 10-item resilience scale (CD-RISC-10) (Davidson, 2025), which was further refined by Campbell-Sills and Stein (2007). The respondents had to rate the items from 0 (not true at all) to 4 (true nearly all the time). Business performance (BP) was measured using an 8-item scale, abbreviated from Köseoglu et al. (2013), which includes financial and non-financial indicators. Respondents were asked to rate, on average, the performance of their enterprises in the last three years on a scale from 1 (has deteriorated significantly) to 5 (has improved significantly). All constructs were reflective.

3 Results and discussion

3.1 Measurement model

Measurement model evaluation includes the analysis of the reliability and validity of indicators (i.e. items) and constructs. Table 1 shows the results of the reliability and validity tests, which confirm that the model meets the standards for measurement quality. That is, almost all indicators meet the recommended threshold of 0.70 (Hair et al., 2017), except *EB8*, *ER3*, *ER5*, *BP6*, and *BP7*. However, the items were not deleted because the average variance extracted (AVE) met the established threshold of 0.50. According to Hair et al. (2017), if an indicator has a loading value between 0.40 and 0.70, but the AVE value of the construct is 0.5, no deletion of an item is necessary. In this model, only one indicator, namely *ER8*, was removed due to invalid loading, which significantly impaired the reliability and validity of the

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measurement model. Furthermore, Cronbach's alpha, composite reliability and *rho_A* confirm the internal consistency reliability of all constructs by reaching the threshold of 0.7 (Hair et al., 2017).

Table 1 | Measurement model reliability and validity results

Construct	Item	Loading	Cronbach's alpha	rho_a	CR	AVE	Deleted Item
Entrepreneurial bricolage (EB)	EB1	0.773	0.885	0.897	0.909	0.560	
	EB2	0.727					
	EB3	0.804					
	EB4	0.713					
	EB5	0.789					
	EB6	0.821					
	EB7	0.797					
	EB8	0.518					
Entrepreneurial resilience (ER)	ER1	0.782	0.885	0.900	0.908	0.525	ER8
	ER2	0.796					
	ER3	0.558					
	ER4	0.702					
	ER5	0.638					
	ER6	0.797					
	ER7	0.737					
	ER9	0.770					
	ER10	0.705					
Business performance (BP)	BP1	0.848	0.914	0.917	0.930	0.628	
	BP2	0.871					
	BP3	0.824					
	BP4	0.761					
	BP5	0.790					
	BP6	0.672					
	BP7	0.697					
	BP8	0.852					

Note: CR = composite reliability; AVE = average variance extracted
Source: Authors

The evaluation of the measurement model also includes testing the discriminant validity. Discriminant validity was tested using the Heterotrait-Monotrait (HTMT) criteria as recommended by Hair et al. (2017) and Henseler et al. (2015) in the PLS-SEM analysis. Table 2 shows that the model of this study fulfils the condition of discriminant validity. All HTMT criteria have values of less than 0.85 (Henseler et al., 2015), which confirms that discriminant validity was attained.

Table 2 | Heterotrait-Monotrait (HTMT) results

Construct	EB	BP	ER
EB			
BP	0,379		
ER	0.581	0.400	

Source: Authors

3.2 Structural model

The assessment of the structural model comprises collinearity analysis, hypotheses testing, and the evaluation of the model's predictive power.

The inner variance inflation factor (VIF) was used to assess lateral collinearity. All inner VIF values of the analysed model (*EB* → *ER* = 1.000; *EB* → *BP* = 1.398; ER → BP = 1.398) are within the desired threshold range of 0.2–5.0 (Hair et al., 2019). That is, the inner VIF values are below the ideal threshold of 3.0 (Hair et al., 2017) and therefore, it can be concluded that the problems of multicollinearity and common method bias are not present (Kock, 2015). To further mitigate potential common method bias, we also conducted a full collinearity assessment by employing the technique of a random dependent variable (Kock, 2017; Kock & Lynn, 2012). Specifically, a dummy variable with random values ranging from 0 to 1 was created and incorporated as an endogenous variable for all constructs within the model. The test yielded VIF values well below the threshold of 3.3 (Kock & Lynn, 2012) for all latent variables (*EB* = 1.249; *ER* = 1.267; *BP* = 1.119). Thus, these results also suggest that common method bias is not a concern.

Bias-corrected accelerated (BCa) bootstrapping (5,000 subsamples; two-tailed; $p \leq 0.05$) was used to test the hypotheses. As shown in Table 3 and Figure 1, all hypotheses of the research model are supported. That is, the results indicate that *EB* is positively and significantly related to *BP* (H1: $\beta = 0.212$, $t = 4.304$, $p = 0.000$) and *ER* (H2: $\beta = 0.534$, $t = 14.798$, $p = 0.000$) and that *ER* has a positive and significant relationship with *BP* (H3: $\beta = 0.251$, $t = 5.022$, $p = 0.000$). In addition to these direct effects, the results also indicate a positive and significant partial mediation between *EB* and *BP* through *ER* (H4: $\beta = 0.134$, $t = 4.761$, $p = 0.000$).

Table 3 | Hypothesis testing results for the structural model

H	Hypothesis	Effect	Beta	STDEV	t-value	p-value	LLCI	ULCI	Description
H1	EB → BP	Direct	0.212	0.049	4.304	0.000	0.114	0.306	Supported
H2	EB → ER	Direct	0.534	0.036	14.798	0.000	0.463	0.603	Supported
H3	ER → BP	Direct	0.251	0.050	5.022	0.000	0.153	0.352	Supported
H4	EB → ER → BP	Indirect	0.134	0.028	4.761	0.000	0.081	0.192	Supported-partial mediation

Note: STDEV = standard deviation; LLCI = lower-level confidence interval; ULCI = upper-level confidence interval

Source: Authors

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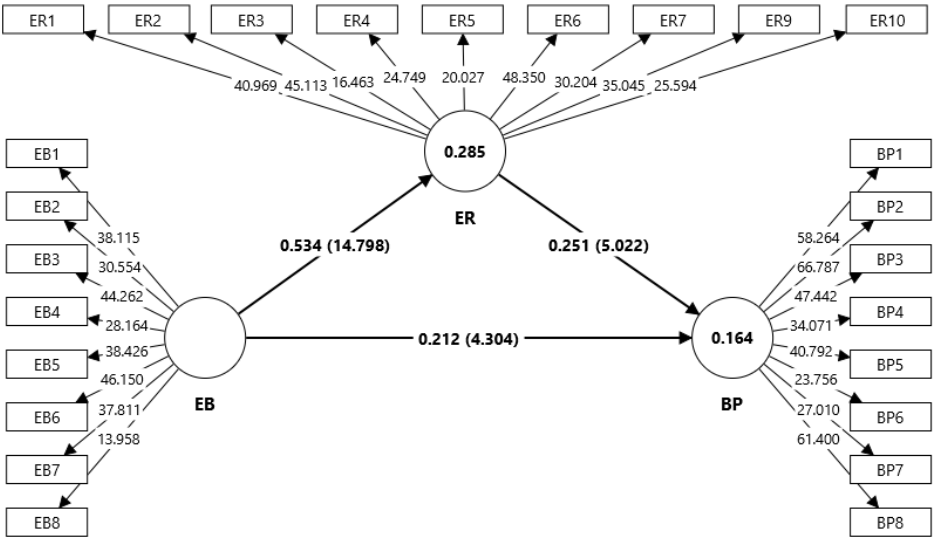
Figure 1 | Structural model results



Note: Structural model shows beta and t-values; measurement model shows t-values; constructs show R^2 values

Source: Authors

The final part of the evaluation of the structural model is the testing of predictive power of the model, i.e. in-sample and out-of-sample predictive power. In this study, the coefficient of variation (R^2) and effect size (f^2) were used for in-sample prediction, while PLSpredict was used to assess out-of-sample predictive power.

According to Hair et al. (2017), R^2 values of 0.25, 0.50 and 0.75 consider weak, moderate, or considerable effect sizes. In this case, one could conclude that there is weak (*ER,* R^2 = 0.285), i.e., that the model has no in-sample predictive power (*BP,* R^2 = 0.164). However, according to Cohen (1988), R^2 values of 0.02, 0.13 and 0.26 and f^2 values 0.02, 0.15 and 0.35 indicate weak, moderate and strong effect sizes. Thus, it can be concluded that the model of this study has a moderate (*BP,* R^2 = 0.164) to strong (*ER*, R^2 = 0.285), i.e. week (*EB* → *BP,* f^2 = 0.038; *ER* → *BP,* f^2= 0.054) to strong (*EB* → *ER*, f^2 = 0.398) in-sample predicative power. Also, when interpreting R^2, it is important to consider that R^2 is a function of the number of predictor constructs – the greater the number of predictor constructs, the higher the R^2 value (Hair et al., 2017).

While the in-sample test estimates the predictive power of the model for the data collected in the study, the out-of-sample assessment confirms the application of the model to other data sets that were not included in the estimation process. That is, PLSpredict confirms whether the research model produces generalizable findings (Hair & Sarstedt, 2021). Before implementing the PLSpredict procedure (no. of folds = 10, no. of repetitions = 10) (Shmueli et al., 2016, 2019), it is necessary to select the key target endogenous construct for which the predictive power of the model is to be assessed. In this study, *BP* was selected as the key target. Hereafter, the first step of the PLSpredict procedure is to evaluate the PLS-SEM Q^2predict value of all items of the key target. If the values are greater than zero, which is the case in this instance (Table 4), the further comparison of PLS-SEM with the obtained naïve

linear regression model (LM) benchmark is evaluated. Depending on the normality of the particle distribution of the endogenous key construct, a comparison of the mean absolute error (MAE) or root mean square error (RMSE) is performed (Shmueli et al., 2019). In this study, the comparison is assessed using the MAE, as all items of the key target construct have a non-normal data distribution. Otherwise, the RMSE would be used. The strength of the predictive power depends on the number of items whose PLS-SEM values are greater than their naïve LM values.

Table 4 | PLS predict results

Item	Q^2predict	PLS-SEM		LM		PLS-SEM - LM	
		MAE	RMSE	MAE	RMSE	MAE	RMSE
BP1	0.083	0.819	1.015	0.822	1.022	-0.003	-0.007
BP2	0.085	0.817	1.025	0.821	1.033	-0.004	-0.008
BP3	0.062	0.835	1.013	0.839	1.021	-0.004	-0.008
BP4	0.059	0.619	0.843	0.626	0.852	-0.007	-0.009
BP5	0.068	0.666	0.861	0.674	0.868	-0.008	-0.007
BP6	0.058	0.725	0.864	0.733	0.872	-0.008	-0.008
BP7	0.059	0.800	0.960	0.805	0.968	-0.005	-0.008
BP8	0.096	0.696	0.894	0.709	0.901	-0.013	-0.007

Note: MAE = mean absolute error; RSME = root mean square error; LM = linear regression model
Source: Authors

The result in Table 4 shows that all items of the key target construct have lower MAE values for PLS-SEM than the LM reference value, which indicates a high predictive power of the model (Hair et al., 2017; Shmueli et al., 2019). As the RMSE is also frequently used as a default option, these results were also taken into account (Table 4). The results also confirm the high predictive power of the model. From all results of the assessment of the predictive power of the model, it can be concluded that the model has a weak to moderate and strong explanatory power, but a strong predictive power.

In addition to assessing predictive power, we analysed the model fit using the standardized root mean square residual (SRMR). The results show an SRMR of 0.06, indicating a good model fit, as the value is below the recommended threshold of 0.08 (Henseler et al., 2014; Hu & Bentler, 1999). Furthermore, since some item loadings fall below the ideal threshold but were retained due to satisfactory AVE values (Hair et al., 2017; also see Section 3.1), an additional assessment was conducted by removing those items (*EB8*, *ER3*, and *ER5*). The results reveal almost identical measurement and structural model results. That is, both models support all the set hypotheses and exhibit the same in-sample and out-of-sample predictive power. The SRMR value increases slightly i.e., takes a value of 0.063.

Our findings indicate and further strengthen the empirical evidence on *EB-BP* relationship, suggesting a positive association in the context of micro and small businesses (Bojica et al., 2014; Chang et al., 2022). In addition, research results confirmed its positive implications in the practice of entrepreneurs whose adaptive strategy has pronounced features of the bricolage approach, and who operate in an environment characterized as a weak entrepreneurial ecosystem. The above implies that such companies face many more

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restrictions in accessing resources than those operating in a developed entrepreneurial ecosystem, and that such an environment gives them an incentive to develop entrepreneurial agility and directs them towards self-reliance and a "what I have" mindset in gaining and managing primarily "resources at hand". Therefore, our findings contribute to further discussion and clarification of the setting implications on the mechanism of entrepreneurial bricolage (Adomako et al., 2025), suggesting that environmental threats promote bricolage behaviour of micro and small businesses. Moreover, these findings are supported by a sample of micro and small companies in Croatia, thus complementing previous empirical studies, which have been overconcentrated on a few specific regions, and contributing to a diversification of empirical contexts (Mateus & Sarkar, 2024).

We found a positive association between entrepreneurial bricolage and firm performance in a sample composed of micro and small established ventures, although 42% of the firms were young ventures (up to five years in operation), suggesting that these results should be interpreted with caution given the sample composition and its potential influence on the findings. While prior research has mainly demonstrated this effect in young ventures, our findings suggest that such a relationship may also be relevant in contexts where established firms represent the majority of cases which is also in line with the previous findings (An et al., 2018; De Bernardi & Pedrini, 2020). These results further underscore the importance of boundary conditions, indicating that the effectiveness of entrepreneurial bricolage depends less on its overall intensity and more on the specific forms it takes and the contextual factors shaping its application (Steffens et al., 2023). However, given the use of a convenience sample, these results should be interpreted with caution and warrant further validation.

The study further provides evidence of a positive relationship between *EB* and *ER*, which is in line with previous research that are only recent (Baier-Fuentes et al., 2023; Caspersz et al., 2025; Kuckertz et al., 2020; Park & Seo, 2024) and contributes to further enhancing the role of *EB* toward *ER*, in order to better understand the action mechanism of *EB*. The study also indicates that this *EB*-*ER* mechanism can be observed in the practice of companies that cannot be characterized as a crisis situation, as was the case in most previous research (Baier-Fuentes et al., 2023; Park & Seo, 2024). Accordingly, *EB* also acts as a factor in the development of positive adaptive skills and behavioural entrepreneurial traits that enhance the ability of firms to anticipate and adapt quickly to market changes, which is also supported by recent empirical research done by Mrożewski and Dudziak (2025), conceptualizing bricolage as an antecedent of dynamic capabilities, yielding insights for organizations striving to improve adaptability in uncertain and turbulent environments.

This positive and significant association of *EB* with *ER* is further illustrated through the indirect relationship between *EB* and *BP*, which entrepreneurial resilience transmits to *BP*. The above implies that the relationship between *EB* and business success can be seen through the development of positive adaptive skills of entrepreneurs to bounce back, recover and make a new start, which confirms that *EB* can be perceived in a way as "pragmatic resilience" (Mateus & Sarkar, 2024). Bricolage therefore fosters ongoing adaptation to changing circumstances, which is essential for both survival and long-term success (Salunke et al., 2013). These perspectives suggest that adopting a bricolage strategy could create an environment that enables micro and small businesses to strengthen their resilience. These findings provide new theoretical insights into the relationship between *EB* and *BP*, particularly in light of findings confirming its non-straightforward link (Steffens et al., 2023).

Besides its theoretical contribution, this study offers practical perspectives and implications. The research results obtained can encourage micro and small entrepreneurs, who typically use bricolage in their attempts to develop and grow, by guiding them towards the positive practice of relying on their own abilities and making the most of the resources available. Furthermore, the findings demonstrate that success is possible despite adversity. The ability to innovatively configure resources and capabilities through bricolage promotes entrepreneurial agility in leveraging existing resources, which can enhance business operations and increase the likelihood of long-term success. Furthermore, study results can empower entrepreneurs to engage and strengthen their network ties while practicing bricolage, since recent literature goes beyond centering on individual bricolage (Lévi-Strauss, 1966) and emphasizes the essential role of utilizing networks and alliances in the bricolage process (Wang et al., 2023; Witell et al., 2017). Likewise, these findings underscore the strategic importance of developing internal adaptive capacities rather than relying solely on external support mechanisms (Baier-Fuentes et al., 2023; Park & Seo, 2024). Managers are encouraged to actively cultivate partnerships within their local ecosystems, participate in peer-learning initiatives, and systematically reflect on which bricolage practices contribute to sustainable growth (Baker & Nelson, 2005), especially regarding the boundary conditions of the bricolage-performance relationship. This may encompass activities such as systematically identifying and leveraging underutilized internal and local resources; building and maintaining networks with other entrepreneurs, suppliers, and local institutions to facilitate knowledge and resource exchange; fostering a culture of experimentation and continuous learning within the organization; and regularly assessing bricolage practices to prevent reliance on short-term solutions that could impede sustainable growth.

This study is also useful to policymakers in planning the local entrepreneurial environment and adopting appropriate policies and measures, taking into account entrepreneurs' specific needs during certain phases of their growth and development. While policy support is essential, previous research indicates that excessive reliance on external governmental financial support can reduce the impact of bricolage on resilience by diminishing the need for self-reliant coping strategies (Park & Seo, 2024), thereby calling for a more nuanced policy approach. Therefore, policy interventions should strike a balance between providing necessary financial relief and fostering entrepreneurial self-sufficiency. While financial assistance remains crucial in mitigating immediate resource constraints, overly generous or unconditional support risks fostering dependency and weakening firms' adaptive capacities. Policymakers should therefore design hybrid interventions that combine targeted, conditional financial aid with initiatives aimed at strengthening firms' internal resilience mechanisms. Such measures could include training programs in adaptive resource utilization, incentives for inter-firm collaboration, and performance-based funding schemes that reward innovative problem-solving. Policies should prioritize 'soft' measures that cultivate long-term adaptive capacities. Encouraging experimentation, peer learning, and networking among entrepreneurs can foster knowledge exchange and the diffusion of best practices, particularly valuable in settings where public financial resources are limited. Given that entrepreneurial bricolage relies on active engagement and agility in utilizing available context-specific resources, local governments have a crucial role in not only identifying and mobilizing local assets but also in fostering collaboration and knowledge sharing within the community. Supporting micro and small firms that are deeply embedded in their local environments can generate spillover benefits for the resilience of local economies (Korsgaard et al., 2020;

Wigren-Kristoferson et al., 2022), while simultaneously promoting inclusivity and environmental sustainability through diversified, locally rooted entrepreneurial activity.

Conclusion

Research on entrepreneurial bricolage is gaining increasing attention in the entrepreneurship and innovation literature, especially in valorising its contribution to explaining the survival and performance of nascent, micro, and small businesses operating in resource-constrained environments. However, its contribution in explaining business performance remains somewhat unclear. This study reflects on this knowledge gap and tests the interplay among entrepreneurial bricolage, resilience and business performance of micro and small businesses in the entrepreneurial setting of Croatia, characterized by a weak entrepreneurial ecosystem. Building on a resource-based framework, we propose a new theoretical perspective on the entrepreneurial bricolage relationship with business performance, through valuing its indirect association realized through entrepreneurial resilience. Firstly, our findings provide robust empirical support for the positive relationship between EB and BP in the context of micro and small enterprises. The study further demonstrates a positive association of EB and ER, thereby offering deeper insights into the underlying mechanisms through which EB operates. A positive and significant relationship between EB and ER is further substantiated by the indirect association of EB and BP, mediated through entrepreneurial resilience. Importantly, this EB-ER link is evident even outside crisis contexts, underscoring EB's role in fostering adaptive capabilities and entrepreneurial behaviours that enhance firms' ability to anticipate and respond effectively to market changes. These results suggest that EB not only supports problem-solving behaviour but also builds long-term strategic adaptability, offering a form of "pragmatic resilience" that indirectly drives business performance. This provides a novel theoretical perspective on the value of EB for the sustained competitiveness of micro and small enterprises. As such, this research enriches the growing field of entrepreneurial bricolage and contributes to a deeper understanding of the entrepreneurial bricolage mechanism.

The study has several limitations that need to be addressed, which also present opportunities for future research. While our findings indicate a positive association between entrepreneurial bricolage and firm performance in a sample predominantly composed of micro and small established ventures, the use of a convenience sample requires cautious interpretation. Another limitation lies in its cross-sectional research design, which restricts the ability to capture the causal pathways, and dynamic and potentially evolving relationships among entrepreneurial bricolage, entrepreneurial resilience, and firm performance. Given that previous literature has shown contingent EB-ER and EB-BP relationships, as well as potential negative effects of excessive EB use, these findings further highlight the critical role of bricolage boundary conditions in realizing performance benefits. The effectiveness of bricolage appears to depend less on its overall intensity and more on the specific forms it assumes and the contextual factors shaping its application, suggesting that future studies should explicitly examine how venture characteristics such as age, growth orientation, and stage of development influence the impact of bricolage. Employing stratified sampling, longitudinal designs, or multi-group analyses would allow for a more nuanced understanding of these contingencies and provide stronger evidence regarding bricolage and performance benefits. It would also be valuable to examine more closely the contextual implications,

specifically how varying environmental threats promote bricolage to a greater or lesser extent.

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