

# How Entrepreneurial Ventures Use Bricolage Theory to Improve Competitiveness

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## Abstract

The rapid evolution of the social economy has generated novel opportunities for entrepreneurial ventures. However, these new ventures are increasingly challenged by issues arising from resource constraints—a common feature of most emerging economies. Consequently, the ability to acquire, utilize, and integrate resources becomes necessary for the competitiveness of new ventures. In recent years, bricolage theory has received extensive research attention worldwide. Much research has demonstrated the ability of bricolage theory to deal with entrepreneurial resource constraints. This paper provides a coherent picture of published papers in this field. To accomplish this, we perform a bibliometric analysis aided by visualization tools and collect pertinent scholarly works utilizing retrieval algorithms from the Web of Science Core Collection. Then, the leading intellectual landscape of publications in the entrepreneurial bricolage behavior field (e.g., influential authors, sources and countries/regions, direct historical citations, and thematic evolution) is presented. Lastly, we discuss the evolution of bricolage theory in entrepreneurship research. This paper accentuates the advantageous attributes of bricolage theory that create a significant competitive advantage for new ventures.

**Keywords:** *Entrepreneurial ventures, Bricolage theory, Resource constraints, Emerging economies, Competitiveness*

**JEL Classification:** M14, B00

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## 1 INTRODUCTION

As market competition intensifies, enterprises encounter progressively formidable tests and challenges. Emerging firms face more dynamic market changes than mature ventures (Guo et al., 2023). This is because most entrepreneurial ventures work under resource constraints, especially in development. They operate in a resource-constrained environment for various reasons: 1) entrepreneurial ventures commonly suffer from inadequate staffing or outdated capabilities within their internal resources (Lit et al., 2024); 2) customers are financially constrained and thus lack the means to pay for products or services (the external resources) (Ploeg et al., 2021); or 3) entrepreneurial ventures encounter difficulties in identifying suitable partners (the business environment) (Khanin et al., 2022). The need for more available resources is the main obstacle to the growth of entrepreneurial ventures (Sunley & Pinch, 2012), which also slows the process of social value creation and reduces the innovation ability of entrepreneurs (Razgallah et al., 2017). Thus, a growing number of scholars and entrepreneurs recognize the significance of resourcefulness. To overcome resource constraints and strengthen their competitiveness, entrepreneurial ventures are forced to improve the utilization of resources at hand and new ones and explore more opportunities to ensure financial sustainability (Razgallah et al., 2017).

In such a situation, the idea of bricolage might effectively ensure the enterprise's survival and maintenance (Baier-Fuentes et al., 2023). It is a process of integrating limited existing resources for a new purpose, making it possible for entrepreneurial ventures to become self-reinforcing (Fisher, 2012). Since the initial definition was introduced, bricolage has received extensive

attention, and some scholars have endeavored to enhance comprehension and elucidate the operational aspects of bricolage theory within the realm of entrepreneurship. An increasing number of studies have focused on issues in this field, such as the management strategy of enterprises based on bricolage theory (Lemaire et al., 2021, Scazziota et al., 2020, Xiabao et al., 2022), factors affecting the mission of social enterprises (Kwong et al., 2017), and the impact of bricolage (Shang et al., 2024). These studies contribute significantly to the advancement of research in entrepreneurial bricolage behavior. Few recent studies have conducted systematic analyses on bricolage in entrepreneurship and outlined new contributions. For example, Janssen et al. (2018) presented a literature review of articles on research areas at the intersection of bricolage and entrepreneurship. However, the existing literature lacks comprehensive guidance for discerning key themes, substantiating evidence, and addressing significant contradictions within this field. This underscores the need for further refinement and exploration.

This paper reveals the development trend in the literature concerning entrepreneurial bricolage behavior and investigates the subsequent research question: How do entrepreneurial ventures use bricolage theory to improve competitiveness? To achieve this, a bibliometrics analysis, capable of capturing, quantifying, and visualizing the dynamics of scientific research, is undertaken to portray the distinctive attributes of these publications.

This paper proceeds as follows. In Section 2, the background and related literature on entrepreneurship and bricolage are briefly reviewed. Section 3 elucidates the data source and delineates the bibliometric analysis methods employed in this paper. Section 4 reports the results of the bibliometric analysis in detail. Section 5 addresses the evolution of research about bricolage in entrepreneurship. Section 6 presents the conclusions of this paper.

## 2 THEORETICAL BACKGROUND

Although various enterprises have always aimed to solve social problems and create social value, ‘entrepreneurship,’ as an emerging field of research, has attracted wide attention only in the last few decades. The rapid increase in published papers on entrepreneurship has encouraged scholars to understand the actions and logic underlying entrepreneurial behavior. These studies discussed entrepreneurship’s definition, domains, forms, and boundaries. Following the meaning of (Welter et al., 2016), entrepreneurship is a process of pursuing opportunities and creating entrepreneurial models based on planning, prediction, and human rationality. Most traditional entrepreneurial models rely on economic thinking to explain how enterprises take action (Casson, 1982) to identify an entrepreneurial opportunity and assess whether it is worth pursuing (Shane and Venkataraman, 2000). When entrepreneurs start a business, they need to seek resources to establish an entity to generate returns from the company by delivering products or services. Some scholars have provided new theoretical perspectives for describing an entrepreneurial process, such as entrepreneurial bricolage (Baker & Nelson, 2005) and creation perspective (Alvarez & Barney, 2007).

With the growing interest in the theory of entrepreneurial bricolage, several studies have emerged to explore the strategies of ventures in a resource-constrained environment. The anthropologist Levi-Strauss initially defined the concept of bricolage as “making do by using resources at hand,” which indicated the creative manipulation of limited resources (Lévi-Strauss, 1990, pp. 17). Since then, bricolage has been applied to different areas, such as teaching in a changing institutional environment (Rynes & Trank, 1999) and lawmaking (Bucholc, 2019). The scarcity of available resources brought the bricolage theory to entrepreneurship (Baker et al., 2003; Baker & Nelson, 2005). The base argument in their work is that entrepreneurs often have three options when facing a penurious environment: 1) to seek resources from external areas of the company; 2) to avoid new challenges by downsizing or disbanding; 3) or to solve

problems and find opportunities by using resources at hand. They proposed that bricolage can be enacted using five kinds of resources: materials, labor inputs, skills, customers, and regulatory and institutional environments. In this process, innovative discoveries often occur.

With this definition, many scholars have studied the issues of bricolage theory in entrepreneurship. However, there needs to be a systematic analysis of thematic evolution in this field. Therefore, this paper enriches the literature review on entrepreneurial bricolage behavior.

### 3 RESEARCH OBJECTIVE, METHODOLOGY AND DATA

#### 3.1 Research objective

This study explores bibliometric methods to achieve the following goals: 1) to reveal the central intellectual landscape of publications in entrepreneurial bricolage behavior research, including characteristics of publications by journal, author, and year; 2) to identify the changing trends of research topic in this field over time; 3) to determine the current issues in entrepreneurship literature and guide future research directions.

#### 3.2 Methodology

Bibliometric methods, based on mathematics and statistics, are used for quantitative literature analysis. In recent years, many studies across various disciplines have affirmed the effectiveness of utilizing bibliometric analyses to elucidate the developmental patterns of published papers. Bibliometrics can outline the frontiers of the broader field through a perception of its structure, networks, and most frequently studied topics (Wu et al., 2022). It enables rapid apprehension of publication trends within particular scientific domains and facilitates the identification of research gaps across the timeframe (Wang et al., 2020). In interdisciplinary research, bibliometrics can identify intersections and opportunities for collaboration. Moreover, they utilize software and algorithms to efficiently process large volumes of literature, outperforming traditional manual methods.

Thus, to study the application of the bricolage theory in entrepreneurship literature, this paper employs bibliometric analysis techniques, including co-occurrence, co-citation, and bibliographic coupling. We use VOSviewer and the R Bibliometrix package named Biblioshiny as the tools for bibliometric visualization.

Co-occurrence analysis is a bibliometric technique used to uncover the structure and trends within a body of literature by examining the relationships between keywords (Pan et al., 2022). It presents the relationships between keywords and their frequencies of occurrence. Additionally, the analysis tracks changes in keywords over time, providing insights into the research trends in this field.

Co-citation analysis is a technique to detect clusters of published papers that share similar content (Appio et al., 2017). It measures how frequently two papers are cited jointly, reflected by their co-occurrence in the same reference list. A higher co-citation count indicates a stronger correlation between the papers and suggests greater similarity in their research topics or content. Co-citation analysis helps identify influential works shaping the research discourse and assesses the impact of researchers through co-citation frequency.

Bibliographic coupling analysis is a technique employed to measure the frequency of shared references between two papers, thereby indicating the similarity between publications (Vogel and Guttel, 2013). Through the analysis, publications in this field can be grouped according to their reference patterns across various periods.

#### 3.3 Data source

Literature reviews commonly serve multiple objectives, engage in distinct processes, and manifest diverse structures. Nonetheless, they invariably demand precise steps, involving data collection, data purification, and data analysis (Linnenluecke, 2017). Hence, the subsequent processes are executed to guarantee the credibility of data sources.

Currently, numerous investigations have performed bibliometric analyses through the Web of Science (Wamba, 2020), EBSCO (Xu et al., 2018), and JSTOR (Kufenko & Geiger, 2016), among others. The selection of the Web of Science as the database for this study is predicated on its concentration on specialized research domains and its encompassment of an extensive array of journals and databases.

Given that this paper examines research trends across the entirety of the entrepreneurial bricolage behavior research field, we identify the keywords that refer to “entrepreneurship”, “entrepreneurial ventures”, “enterprises”, “new business formation”, and “bricolage”. According to previous literature research, bricolage theory has appeared in the entrepreneurship literature since 2003 (Baker et al., 2003), so the time span is set as 01/01/2003-02/10/2025. In addition, this study collects research data using three principles. First, the literature type is set to “journal article”. Second, the literature language is set to “English”. This is because English-language journal articles are more representative and relevant. Finally, this work adopts whether or not key terms appear in the paper’s titles, abstracts, and keywords as the statistical criterion. The chosen statistical criteria in this paper guarantee the targeted alignment of the bibliometric data with the bricolage theory in entrepreneurship, surpassing mere terminological references.

To enhance both the validity and reliability of the data source and reduce possible bias caused by the diversity of keywords, we screen the results of the search. The published papers on bricolage theory in entrepreneurship are identified as central themes. Due to the diversity of keywords, the search results include some publications with irrelevant content. Then, we excluded some irrelevant documents and finally selected a sample of 562 articles.

## 4 RESEARCH RESULTS

This study performs a bibliometric analysis on published papers pertaining to the bricolage theory within the domain of entrepreneurship literature, aiming to elucidate entrepreneurial bricolage behavior. Leveraging the data sources and bibliometric techniques outlined in Section 3, the findings of the analysis are presented in this section.

### 4.1 Characteristics of publications by year, journal, and author

By visualizing and analyzing the selected documents through R Bibliometrix, the progression of publications and citations within the realm of entrepreneurial bricolage behavior is depicted in Fig. 1(a). This figure indicates that the research on bricolage in entrepreneurship is still a developing field with a relatively small number of publications. The initial publication in this domain surfaced in 2003, followed by a period of minimal expansion until 2013. With the intensification of market competition in this period, entrepreneurial ventures have begun to realize the urgency of securing resources. Sahi and Agarwal (2020) argue that coping with resource constraints is critical to improving firm performance. Thus, there has been significant growth in research on entrepreneurial bricolage behavior since 2013. In 2024, the number of publications peaked (113 papers). The rapid growth in the number of articles in the last decade indicates that bricolage in entrepreneurship has attracted the attention of scholars due to increasing environmental concerns. Fig. 1(b) depicts the average number of citations in this field per year. Two higher peaks can be observed in 2005 and 2009, which means that more influential contributions were contained in the publications issued in those years. Average article citations reached 56.7 and 52.2 in 2005 and 2009 because two worthwhile papers were published in those years. Baker and Nelson (2005) reviewed bricolage-related literature and

identified three core elements of this concept and gave a broad definition of bricolage. Mair and Marti (2009) pointed out the importance of establishing bridges between institutional theory and entrepreneurship literature. Moreover, their work further explores bricolage theory in the entrepreneurship field and emphasizes the potentially negative consequences of bricolage.

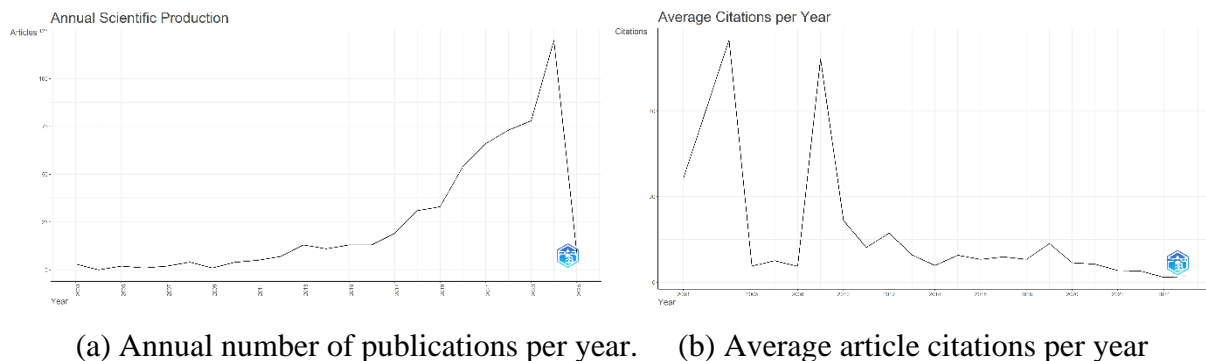


Fig. 1 –Characteristics of publications by year. Source: own research

Given that citations serve as a noteworthy measure of academic paper quality, Tab. 1 lists the top 10 papers with the highest number of citations. The two most cited papers, published in 2005 and 2019, signify the establishment of the foundational research on bricolage within the entrepreneurship literature during this timeframe. Furthermore, to explore the distribution of these academic publications, the preeminent journals and countries, in terms of the quantity of related papers, are discerned. As shown in Tab. 2, *Entrepreneurship and Regional Development* ranks first in the ten journals with 23 published papers. Concerning the geographical dispersion of published papers, China stands as the foremost contributor, producing the highest volume of papers. Furthermore, the United States and the United Kingdom have also made a significant impact on this domain. The statistical findings indicate that there persists a pronounced imbalance in the distribution of published papers at the regional level.

Cooperation between scholars is crucial to developing any discipline (Jiang & Ashworth, 2021). With bibliometric techniques, 1,415 authors out of 562 publications contributing to this field are identified. To better observe the most active authors in this field, a plot showing the top ten authors by the number of published papers is generated (see Fig. 2). Each author corresponds to a dot. The position of the dot indicates the number of documents published by that author. The further to the right a dot is located, the larger the number of published documents. As seen, Sarkar Soumodip from the University of Évora is the most relevant author in the entrepreneurial bricolage research field with eight high-quality papers, which have a profound impact on the entrepreneurial bricolage research field. Sarkar investigated entrepreneurial bricolage in emerging economies and argued that bricolage is effective in fostering the competitiveness of entrepreneurial enterprises (Mateus & Sarkar, 2024). Furthermore, the top ten authors' productions over time are given in Fig. 3. We can identify influential authors from 2003 to 2025. Ted Baker was dedicated to studying the strategies for the survival and development of entrepreneurial ventures in the early years. In addition, the number of active authors has significantly increased since 2017, suggesting that more scholars pay attention to bricolage in the entrepreneurship field due to limited resources. For instance, Yu et al. (2019) focused on the effect of different types of bricolage on online store performance, such as sales and market performance.

#### 4.2 Characteristics of publications by keywords

As keywords can directly reflect the core idea of academic work, in this section, we present the evolution trends in the literature by analyzing their keywords. By applying R Bibliometrix, the cumulate occurrences of the top ten keywords are depicted in Fig. 4. In addition to the keywords



“bricolage” and “entrepreneurship”, there are other keywords, including “business”, “causation”, “creation”, “effectuation”, “impact”, “innovation”, “management”, and “performance”. This implies that these issues are hot topics regarding entrepreneurial bricolage behavior. Thanks to this dynamic analysis, we find that these keywords continued to be frequently used in the entrepreneurship field throughout the research period. It is worth noting that “effectuation” also shows a high growth among those keywords. This growth indicates the increasing attention to this theory. Following the definition from Gregoire and Cherchem (2020), effectuation is explained by entrepreneurs as a process to create market artifacts in a dynamic and uncertain environment, often contrasting with bricolage in the entrepreneurship research field. Arend et al. (2015) emphasized the need to compare different theories’ effectiveness in dealing with resource-limited environments in entrepreneurship.

Tab. 1 – The top 10 papers with the highest number of citations. Source: own research

Authors	Title	Journals	Citations
(Baker & Nelson, 2005)	Creating something from nothing: Resource construction through entrepreneurial bricolage	<i>Administrative Science Quarterly</i>	2205
(Nambisan et al., 2019)	The digital transformation of innovation and entrepreneurship: Progress, challenges and key themes	<i>Research Policy</i>	1094
(Garud & Karnoe, 2003)	Bricolage versus breakthrough: Distributed and embedded agency in technology entrepreneurship	<i>Research Policy</i>	1004
(Mair & Marti, 2009)	Entrepreneurship in and around institutional voids: A case study from Bangladesh	<i>Journal of Business Venturing</i>	888
(Di Domenico et al., 2010)	Social bricolage: Theorizing social value creation in social enterprises	<i>Entrepreneurship Theory and Practice</i>	657
(Baker et al., 2003)	Improvising firms: Bricolage, account giving, and improvisational competencies in the founding process	<i>Research Policy</i>	617
(Fisher, 2012)	Effectuation, causation, and bricolage: A behavioral comparison of emerging theories in entrepreneurship research	<i>Entrepreneurship Theory and Practice</i>	528
(Desa & Basu, 2013)	Optimization or bricolage? Overcoming resource constraints in global social entrepreneurship	<i>Strategic Entrepreneurship Journal</i>	332
(Desa, 2012)	Resource mobilization in international social entrepreneurship: Bricolage as a mechanism of institutional transformation	<i>Entrepreneurship Theory and Practice</i>	292
(Halme et al., 2012)	Innovation for inclusive business: Intrapreneurial bricolage in multinational corporations	<i>Journal of Management Studies</i>	268

Tab. 2 – The top 10 relevant journals and countries. Source: own research

Journal	Publications	Countries	Publications
<i>Entrepreneurship and Regional Development</i>	23	China	217
<i>Sustainability</i>	22	USA	197
<i>Journal of Business Research</i>	21	UK	147

<i>Journal of Business Venturing</i>	17	Australia	66
<i>Technological Forecasting and Social Change</i>	13	Germany	55
<i>Entrepreneurship Theory and Practice</i>	12	France	52
<i>International Journal of Entrepreneurial Behavior &amp; Research</i>	12	India	51
<i>Journal of Entrepreneurship in Emerging Economies</i>	12	Finland	43
<i>Journal of Social Entrepreneurship</i>	9	Spain	38
<i>Small Business Economics</i>	9	Italy	36

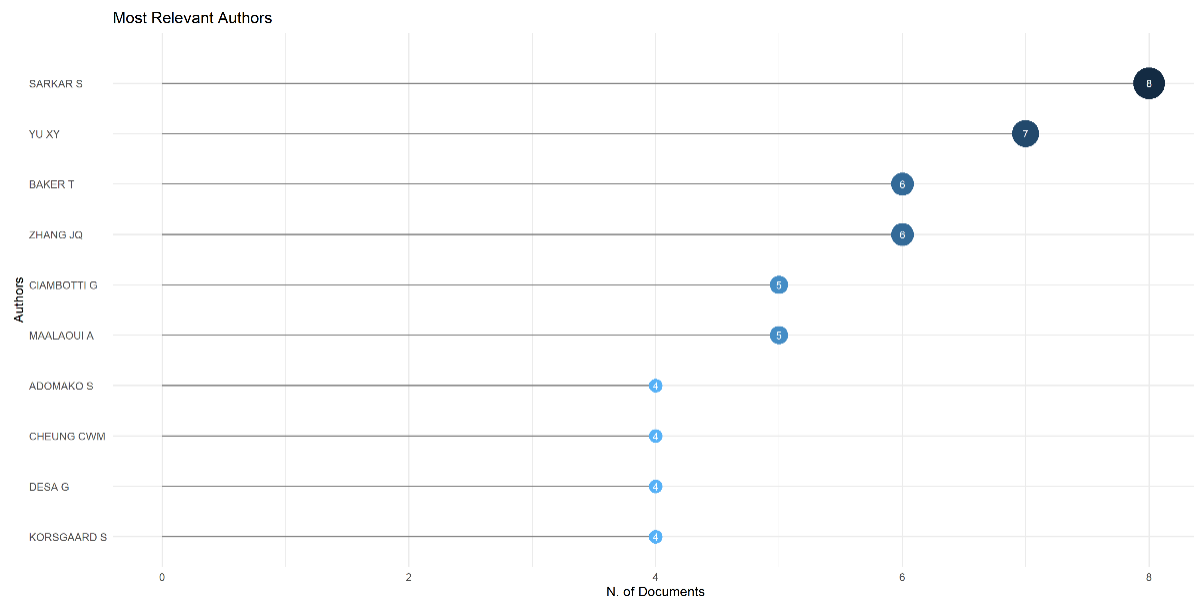


Fig. 2 –Top ten authors by the number of published papers. Source: own research

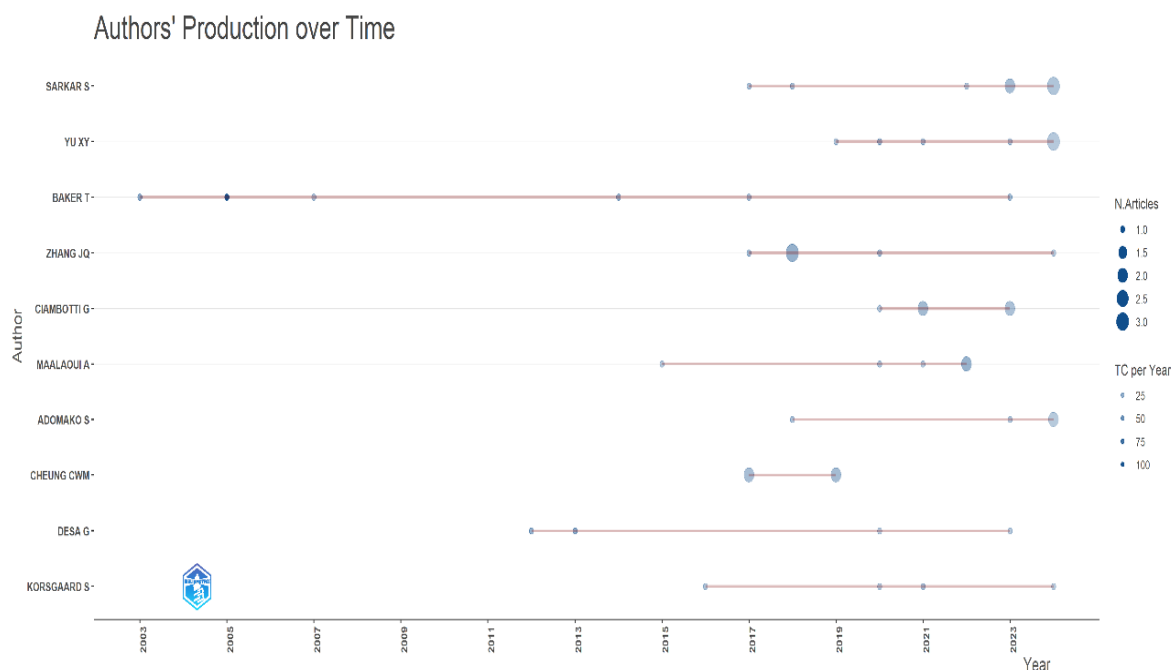


Fig. 3 –Top ten authors' production over the time. Source: own research

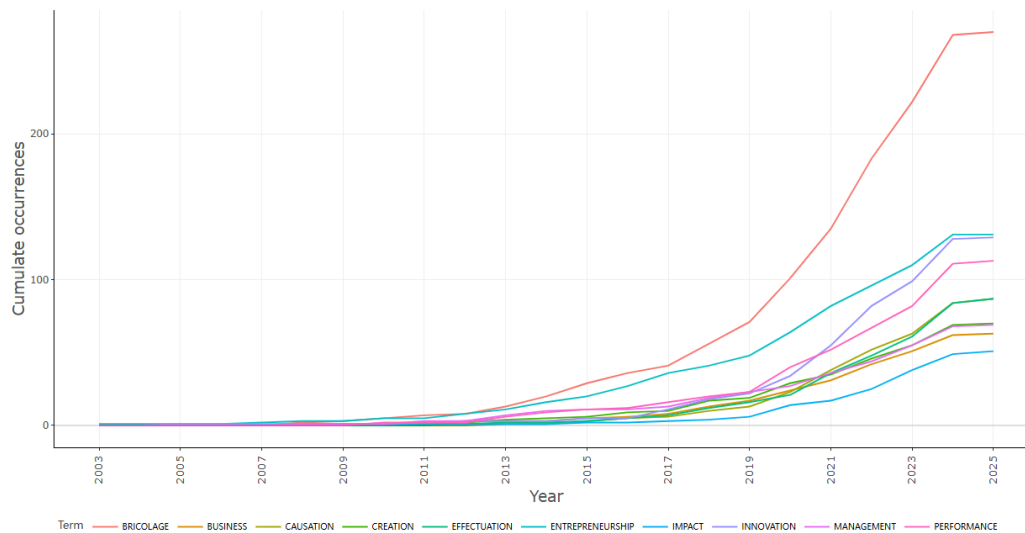


Fig. 4 –Top 10 keywords growth. Source: own research

Then, a co-occurrence analysis was undertaken by R Bibliometrix to investigate the interrelation among keywords. The minimum threshold for keyword occurrences was established at 15, resulting in the identification of 46 keywords. Those keywords are divided into four clusters. The largest cluster has 16 items, including the keywords “bricolage”, “performance”, “behavior”, “orientation”, etc. It mainly investigated the impact of bricolage on the performance of enterprises. The second cluster consists of 15 items; the keywords “evolution”, “improvisation”, and “opportunity” stand out. It focuses on studying the application strategies of enterprises and exploring the improvisation in the entrepreneurial stage. The third cluster contains 10 keywords, such as “challenges”, “legitimacy”, etc., which discuss the obstacles to the development of entrepreneurial ventures. The other 5 items are grouped in the fourth cluster. The two main keywords are “effectuation” and “causation”. It refers to other theories that apply to resource-constrained environments.

To exhibit proportionality among the contents (Mumu et al., 2021), we generated a three-field plot (see Fig. 5). The influential authors are listed in the left field, the potential journals are listed in the center field, and the keywords related to the research theme are listed in the right area. This graph visualizes the connection between authors, journals, and keywords by connecting lines. Then, the hot research topic, the authors, and the distribution of journals are clarified by conducting this work. As we expected, among the primary keywords, “bricolage”, “entrepreneurship”, “effectuation”, and “causation” are active directions in literature in this field. This offers a novel spectrum of activities for future trends. Finally, we can summarize the research fields concerned by mainstream journals. For example, *Entrepreneurship and Regional Development* pays more attention to the scientific research on “effectuation” and “innovation” in entrepreneurial bricolage research. To clearly illustrate the changing trend of keywords from 2003 to 2025, we set the minimum frequency of keywords to 10. The keywords that met the criteria appeared from 2011 to 2023. The results show that researchers have recently paid more attention to several aspects, such as “bricolage”, “causation”, “innovation”, and “effectuation”. Significantly, “resource mobilization” became a popular topic in 2023.



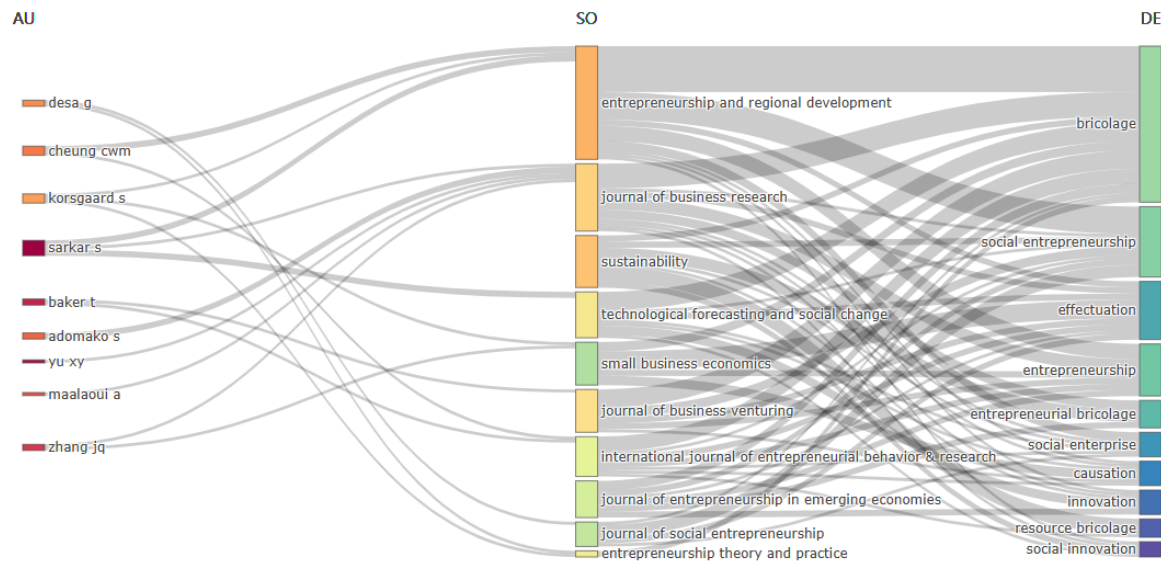


Fig. 5 –Three-field plot of top 10 authors-author keywords-sources using a Sankey diagram.  
Source: own research

### 4.3 Characteristics of publications by reference

In this section, we perform a reference co-citation analysis by VOSviewer to discern citations that exhibit thematic similarity among publications related to entrepreneurial bricolage behavior. The size of the node refers to the frequency of citations, and the link between two nodes denotes how often they are co-cited. Thus, with reference to the co-citation network visualization figure (see Fig. 6), we can summarize several research themes in this field. By establishing a minimum threshold of 30 citations for each referenced source, three clusters are formed. Cluster 1 comprises 30 items, cluster 2 includes 29 items, and cluster 3 contains 13 items. The publications with the highest frequency of co-citation in each of the three clusters are Di Domenico et al. (2010), Baker and Nelson (2005), and Fisher (2012). This signifies that these three papers laid the cornerstone for research in the realm of bricolage within entrepreneurship.

We observed the three clusters and found that works from the same cluster investigate similar research topics. For example, Cluster 1 includes studies considering social features. It is vital to involve relevant actors to obtain resources. Considering the importance of social entrepreneurship in solving social problems and enriching community and social aspects, Zahra et al. (2009) discussed its contribution to creating social wealth. Some scholars stressed the need to consider every stakeholder's views in the entrepreneurial process, primarily regarding the stakeholder's social value creation (Di Domenico et al., 2010). Desa and Basu (2013) realized the resource mobilization process is essential to a social mission. They tested the hypotheses that using bricolage is U-shaped in terms of environmental margin and organizational prominence. Bacq et al. (2015) also found a positive correlation between entrepreneurial bricolage and social impact. Based on resource dependency and transaction cost theories, Kwong et al. (2017) studied the influence of power asymmetry and the nature of participation on the outcomes of bricolage.

Cluster 2 addresses issues related to entrepreneurial practices and resource allocation. Owing to a scarcity of accessible resources, entrepreneurial endeavors encounter difficulties in constructing their resource foundation. After the concept of bricolage was introduced, scholars have tried to explore how ventures adapt limited resources using bricolage to overcome challenges that arise in an uncertain environment (Baker et al., 2003, Baker & Nelson, 2005).

Considering that entrepreneurial ventures tend to innovate more effectively, Senyard et al. (2014) proved that bricolage plays a critical role in helping firms to realize innovation in a resource-constrained environment. Based on an analysis of an extensive longitudinal dataset, the findings disclose that variations in the degree to which firms participate in bricolage behavior can offer a widely applicable elucidation for firm innovation amidst resource constraints. Furthermore, Busch and Barkema (2021) put forward an innovative conceptual model for the scaling of bricolage. It is considered a cost-effective replication mechanism of heuristics. This mechanism allows for adaptation to a wide range of local environments and also facilitates cross-unit learning.

The research theme of work from cluster 3 is business action driven by competing for resources in entrepreneurial initiatives. With the escalation of market competition, many fresh theoretical viewpoints have been proposed to elucidate the logic behind entrepreneurial behavior. Experienced entrepreneurs used theories of effectuation, causation, and bricolage to seek resources and create opportunities. Fisher (2012) conducted a comprehensive analysis to illustrate differences and similarities in behavior among diverse theoretical viewpoints within entrepreneurship research. Their work provided a deep understanding of how these theories are compared and complemented and gave some ideas for integrating them into future research. Drawing on previous studies in different social science disciplines, Shane and Venkataraman (2000) creatively put forward a conceptual framework for the entrepreneurship research field and explained a series of empirical phenomena. To study how the concepts of opportunity creation, effectuation, and bricolage complement and relate to each other, Welter et al. (2016) examined their underlying assumption and organized them in a framework. Their research provides a framework for empirical investigations in entrepreneurship and contributes to the enhanced comprehension of value creation within management. Sarasvathy (2001) argued that the concept of effectuation is necessary to explain creating resources. Based on business cases and realistic experiments, this work illustrated the connection between effectuation and some existing theories. Furthermore, research by some scholars demonstrates that entrepreneurs' rationality and actions are limited when dealing with asymmetric and uncertain information (Shane, 2000; Shane & Venkataraman, 2000).

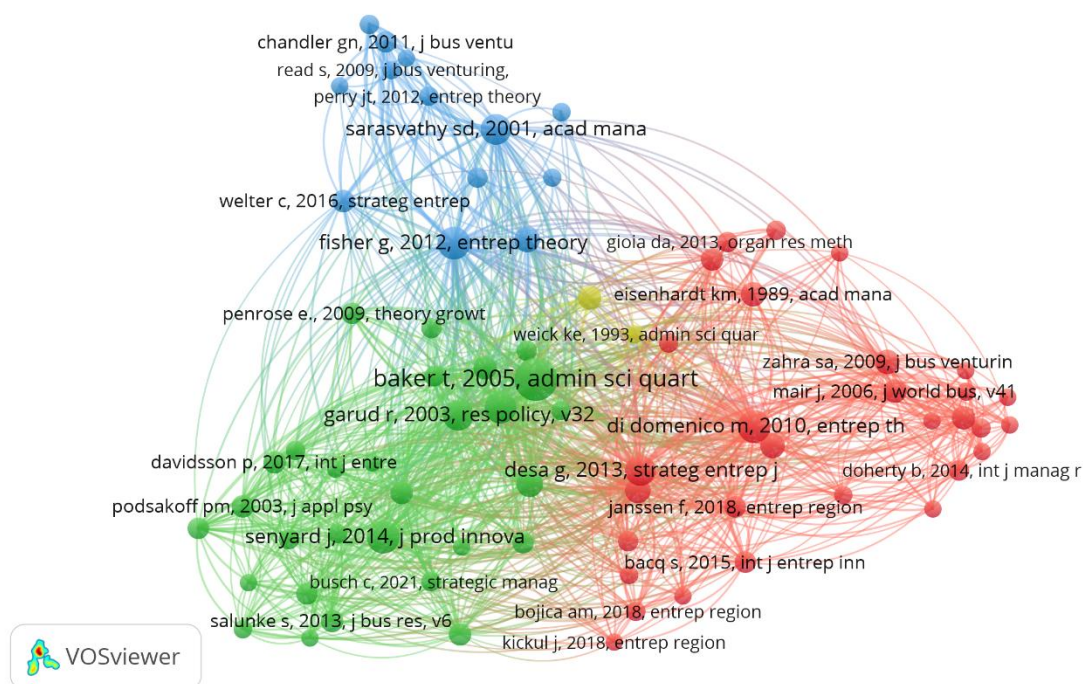


Fig. 6 –The reference co-citation network of publications

As published papers that share the exact references often focus on similar topics, we conduct a bibliographic coupling analysis in this section. By setting the number of units to 250, the minimum cluster frequency to 5, and the labels per cluster to 5, three clusters are ultimately formed by R Bibliometrix, constituting different research trends in the entrepreneurial bricolage field. Through an in-depth analysis of the papers' themes, each cluster's research foci are summarized.

#### Cluster 1: Entrepreneurial actions of enterprises

The keywords of Cluster 1 are “innovation”, “creation”, and “organizations”. Research in this cluster suggests that the creation of social enterprises requires resources. This fact motivates entrepreneurial ventures to use different strategies to allocate resources. Scholars employ bricolage to seek unexpected resources, including creation, perpetual improvisation, imagination, and innovation. Top-cited paper in the entrepreneurship field by Busch & Barkema (2021), explored an innovative conceptual model for the scaling of bricolage. Although the behavior and actions of entrepreneurial ventures are regarded as a vital source of creativity and innovation, there still needs to be more research in the entrepreneurship field on this issue. Resource mobilization poses a fundamental challenge for entrepreneurs. Korsgaard et al. (2021) illustrated how spatial bricolage, operating as a unique and separate logical approach, is capable of assisting entrepreneurs in surmounting resource limitations. Besides, Ghalwash and Ismail (2024) investigated the resource-mobilization processes over time in the resource-scarce environments of developing countries. This study enhances the academic comprehension of social bricolage. To understand the constraints, driving forces, and results of frugal entrepreneurship, Hossain and Sarkar (2023) developed a framework by employing an inductive research method with multiple cases. Janssen et al. (2018) argued that bricolage is at the heart of the field of entrepreneurship research. Their work illustrated that bricolage is the most appropriate approach for enterprises operating in environments with institutional constraints, regulation or political support.

#### Cluster 2: Bricolage and related constructs

The two most representative keywords of Cluster 2 are “effectuation” and “causation”. With the deepening of research in entrepreneurship, different theories, such as bricolage, causation, and effectuation, are proposed to overcome the problem of limited resources. This cluster shows that researchers have paid more attention to investigating the behavioral similarities and differences between those concepts in recent years. For example, effectuation is highlighted as an effective theory of entrepreneurship. Arend et al. (2015) introduced the first formal test of effectuation and presented its advantages and limitations. This work also contributes to guiding the evaluation of other existing theories in entrepreneurship research. Moreover, integrating these theories is of great significance to the development of enterprises. According to case study data of six entrepreneurial ventures, the top-cited study (Fisher, 2012) evaluated the behaviors underlying the theories of bricolage, effectuation, and causation. They further explored how to integrate those theories for enterprises to overcome the lack of resources.

#### Cluster 3: Firm performance

The most prominent keyword in Cluster 3 is “firm performance,” which serves as a pivotal metric for assessing a company's progress. The quantity and quality of resources significantly impact the performance, survival, and advancement of entrepreneurial enterprises (Xiaobao et al., 2022). Thus, a growing number of studies are proposed to investigate the impact of bricolage behavior on firm performance. For example, Yu et al. (2021) studied fractal characteristics of digital firms by applying fractal theory from an entrepreneurial bricolage perspective. According to the analysis results, the similarity between the existing core business and new business is a driving force for the successful growth of digital companies. Moreover,

bricolage is a necessary strategy to ensure this similarity. The market is progressively acknowledging the growing significance of service innovation for establishing and sustaining a competitive advantage (Salunke et al., 2013). Data from project-oriented firms in the United States and Australia were collected. Then a multi-stage multi-method was applied to explore how social ventures strategically integrate existing resources (bricolage).

## 5 DISCUSSIONS

Intense market competition has heightened the complexity of developing entrepreneurial ventures, primarily due to various factors, including an uncertain environment and resource limitations. The expansion of the social economy has brought more opportunities in entrepreneurship. The increasing number of publications implies this emerging research direction. The purpose of this paper is to understand how entrepreneurial ventures use bricolage theory. Through the bibliometric analysis, the evolutions of bricolage theory in entrepreneurship research can be concluded.

Characteristics of publications by year, journal, and author in Subsection 4.1 have illustrated a sustained increase in entrepreneurial bricolage behavior studies. Especially researchers from China, the United States, and the United Kingdom have significantly contributed to this field. Then, popular topics in current research are identified through the co-occurrence analysis, co-citation analysis and bibliographic coupling analysis. From Subsections 4.2 and 4.3, the research trends have experienced some changes in three stages. In early times, firms were beginning to face the risk of resource constraints. They had to utilize the available resources to address challenges and cultivate novel opportunities. Bricolage is essential for enterprises to obtain available resources by exerting their initiative. In this period, scholars studied applying the bricolage theory to entrepreneurship. To adapt to fierce market competition, entrepreneurs must develop new strategies to overcome the need for more available resources (Garud & Karnoe, 2003; Desa & Basu, 2013; Bacq et al., 2015). In the second stage, more resource mobilization processes were studied extensively. Relying on the different theoretical perspectives, research on effectuation, causation, and improvisation in entrepreneurship showed a growing trend (Arend et al., 2015; Welter et al., 2016; An et al., 2020). The comparison and fusion of these other theories attracted significant attention from researchers worldwide. In the third stage, entrepreneurs are concerned about whether the actions can bring good performance to the enterprise in the entrepreneurial process. Many scholars have recognized the correlation between bricolage and firm performance through empirical studies, reflecting entrepreneurial ventures' innovation and risk-taking ability (Yu et al., 2019; Santoro et al., 2020; Guo et al., 2023). Also, it has been proven that excessive bricolage harms a firm's performance.

In conclusion, the results of this paper present the evolutions of bricolage theory in entrepreneurship research. However, this work still has two defects: (1) focusing solely on the bricolage behavior of entrepreneurial ventures in emerging economies lacks the breadth of research. (2) The data sources utilized in this paper are exclusively sourced from the Web of Science platform. This implies that certain publications within other databases might not have been included, thus leading to a partial degree of incompleteness in the analysis.

## 6 CONCLUSIONS

The main idea of this paper is to advance the comprehension of the bricolage behaviors and actions of entrepreneurial ventures. Additionally, it elucidates how these ventures leverage bricolage theory to augment their competitive edge. To do so, we conduct an exhaustive analysis by employing bibliometric methodologies, which encompass the utilization of



VOSviewer and R Bibliometrix. The findings of this paper illustrate the developments and progressions of the bricolage theory within the realm of entrepreneurship research.

Despite the marked increase in entrepreneurial bricolage behavior research in recent years, some possible future trends can be predicted through bibliometric analysis. Although the existing research on bricolage has revealed many essential patterns in entrepreneurship, the process that constitutes “bricolage” is still worth studying. For example, the value creation process of entrepreneurial ventures with bricolage still needs to be clarified and improved. As innovation plays a critical role in the era of a knowledge economy, it is a promising research direction to study the extent to which bricolage can influence the dissemination of innovations (Desa, 2012). Investigating different combinations of bricolage and other related constructs can also enrich research. For instance, scholars can try to organize resources by bricolage and optimization simultaneously in innovative ways (An et al., 2020). On the other hand, some scholars do not support using bricolage as a long-term strategy for entrepreneurs (Bacq et al., 2015). They suggested that entrepreneurial enterprises participate in resource mobilization rather than bricolage. Thus, there are emerging ways to consider the social impact measurement of bricolage according to the life stage of enterprises. Furthermore, the bricolage theory in entrepreneurship should be investigated in other environments. As mentioned before, there are different types of resource constraints. Future research is encouraged to explore bricolage behaviors in environments with varying restrictions on a resource. The bricolage theory can also be enriched by investigating it in diverse business contexts, such as commercial ventures, large public enterprises with limited resources, or non-profit enterprises. In recent years, the COVID-19 pandemic led to a global lockdown, which resulted in a global economic recession. As enterprises suffer from an unprecedented shortage of resources, they must overcome obstacles in such a situation. To adapt to the current environment, scholars must further study ways to seek resources to help enterprises survive.

The contributions of this study are shown in three aspects: (1) it makes an up-to-date evaluation of the published papers in entrepreneurial bricolage research and reveals the increasing trend of the number of articles in this field. The leading journals and countries or regions organized by the volume of publications are also identified. (2) it provides a broader mapping of this field and a comprehensive view of the efforts of scholars in the past. Specifically, the changing trends of the research topic are explained through a co-occurrence analysis towards keywords, and several popular themes in this field are identified by a co-citation analysis and a bibliographic coupling analysis. (3) current issues that need to be studied are further discussed. Subsequently, the corresponding future trends, bearing noteworthy implications for both academia and enterprises, are delineated.

In summary, this paper delineates the evolution, characteristics, and prevalent themes concerning bricolage behaviors of entrepreneurial ventures through multiple bibliometric methods. Considering the limitations of this paper, we need to employ more advanced techniques, such as text mining and machine learning, to analyze academic publications selected from multiple databases.

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