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Individual Entrepreneurial Orientation and Entrepreneurial Bricolage Behaviour among Managers: The Moderating Role of Occupational Embeddedness

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Abstract. This paper investigates a sample of operational managers in the clothing and textile (C&T) industry in Iran between December 2020 and March 2021, and their potential decisions to leave their job and consequently start entrepreneurial self-employment. This sector was severely harmed during the COVID-19 crisis. The concept of entrepreneurial bricolage is employed, as entrepreneurial bricolage skills are useful to succeed as an entrepreneur and hence may influence the potential decision to leave the firm and start one's own business. The paper focuses specifically on the roles of individual entrepreneurial orientation and occupational embeddedness as determinants of entrepreneurial bricolage behaviour, and indeed finds evidence for both variables to influence such behaviour and thus the potential decision to leave the job and start a new venture, particularly during a crisis in the C&T industry.

Keywords: COVID-19 Pandemic; Occupational Embeddedness; Individual Entrepreneurial Orientation; Entrepreneurial Bricolage; Resource-constrained environment; Clothing and textile industry.

1. Introduction

During the COVID-19 pandemic, businesses have had substantial experience of shutdown and bankruptcy since 2019 (Fairlie & Fossen, 2021). This phenomenon is also prevalent in the Clothing and Textile (C&T) industry and has provided several survival challenges for businesses in this industry. One of the major pieces of evidence of this crisis is the large number of job losses in the C&T industry due to a decrease in the number of customers (Zhao & Kim, 2021). The International Labour Organization (ILO) anticipated approximately 25 million global job losses due to the COVID-19 pandemic (ILO, 2020), a significant concern for the C&T industry (Sen et al., 2020). As such, fear of unemployment in different economies is reported among employees because of the COVID-19 pandemic (Godinic et al., 2020). Hence, most employees will be happy to keep their job and

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not leave their firm voluntarily. However, an exception may be formed by higher skilled employees or employees in higher positions (such as managers) who do not want to wait for the next reorganisation in their company to lose their job but instead start a business of their own. Hence, it is possible that employees make a decision to leave their job and become entrepreneurs. This may especially be the case for employees with entrepreneurial bricolage skills.

In a resource-constrained environment, individuals with entrepreneurial bricolage skills may be particularly inclined to believe they have a greater opportunity for success in managing their own business. The extant literature underscores a pivotal linkage between bricolage and entrepreneurial prosperity. The examination by Senyard et al. (2015) delves into the profound impact of bricolage on firm performance, underscoring its critical role within resource-strapped entrepreneurial ventures. Furthermore, Salunke et al. (2013) elaborate on the synergistic impact of combining bricolage and entrepreneurship, highlighting how this fusion enhances service innovation and contributes to maintaining competitiveness in projects. Employees' entrepreneurial bricolage skills may thus form an antecedent of leaving the company and start one's own business, making the determinants of entrepreneurial bricolage skills an important research topic. Thus, one of the main challenges for business owners is to keep their more talented employees motivated (e.g., by giving them an intrapreneurial role) particularly in a hard-hit industry such as the C&T industry (Van der Westhuizen, 2007) during the recent Covid-19 crisis.

This work aims to shed light on the conditions under which employees consider the possible decision of leaving their current job due to the massive displacements and to become entrepreneurs. In particular, this paper investigates entrepreneurial bricolage behaviour among a sample of operational managers in the Iranian C&T industry. Specifically, the roles of individual entrepreneurial orientation (IEO) and occupational embeddedness (OE) in determining entrepreneurial bricolage behaviour are investigated. This research is based on three assumptions: First, individuals should have a degree of entrepreneurial characteristics manifested by individual entrepreneurial orientation (IEO) (Bolton & Lane, 2012; Covin et al., 2020). Second, they should evaluate the possibility of displacement from their current job, which is manifested by occupational embeddedness (OE) (Adams et al., 2010). Finally, the fear of unemployment during the COVID-19 crisis is more perceivable in resource-scarce environments (Rusu & Roman, 2017). Within the C&T sector in Iran, a distinctive challenge arises as it navigates an environment characterized by limitations in accessing raw materials, power, labour, and advanced technology due to resource constraints. In the entrepreneurship literature, entrepreneurial activity in resource-constraint situations is called entrepreneurial bricolage (Baker & Nelson, 2005; Davidsson et al., 2017). Bricolage is "making do by applying combinations of the resources at hand to new problems and opportunities" (Baker & Nelson, 2005, p. 333).

Employees who decide to leave their job and start their own business are faced with resource scarce situations because of limitations such as "rules, boundaries, divisions of labour, or mental maps that prevent using resources other than how they have been used before" (Miller, 2021, p. 327). In the realm of the C&T sector, a noteworthy challenge emerges as it grapples with a resource-constrained environment, encountering restrictions in obtaining materials, energy, manpower, and advanced technology. In the specific context of our study focusing on the C&T industry in Iran during the challenges posed by Covid-19, it is essential to delve into a detailed discussion on how this resource-scarce situation uniquely applies. This exploration will shed light on the industry's responses, adaptations, and potential implications during these unprecedented circumstances. The benefit of the entrepreneurial bricolage approach is that it allows for conducting entrepreneurial practices in resource-constrained environments. Up to now, far too little attention has been paid to employees' entrepreneurial bricolage behaviour. Such behaviour is important because it can help individuals in running a business should they decide to start their own firm, especially in resource-scarce environments. Particularly in a sector hit by severe job losses such as the C&T sector in Iran during Covid-19, it is important for firms that they are able to keep their most important personnel, which arguably are operational managers with entrepreneurial bricolage skills. If such employees feel uncertain about their job, they may decide to start a business of their own. Therefore, it is important to know more about the determinants of entrepreneurial bricolage behaviour among managers, especially in a sector threatened by further decline in which jobs are far less secure compared to periods of high product demand (such as in a booming economy).

The C&T industry is one of the industries in Iran which provides more than three million jobs. However, in recent years and particularly during COVID-19 the rate of unemployment has increased in this industry (Association of Iran textile industries, 2021). Operating in an environment marked by constraints on resources, the C&T sector encounters a distinct challenge, facing limitations in accessing essential components, energy sources, skilled labour, and advanced technology infrastructure. As such, this research explores entrepreneurial bricolage behaviour among a specific group of employees, i.e., operational managers, the role of entrepreneurial characteristics (i.e., IEO) in determining entrepreneurial bricolage behaviour and if fear of displacement (captured by occupational embeddedness) plays a moderating role in the relationship between IEO and entrepreneurial bricolage behaviour.

The outline of the paper is as follows. The next section discusses the theoretical background regarding COVID-19 and the C&T industry, bricolage behaviour, individual entrepreneurial orientation, and occupational embeddedness. Section three and section four describe the research model and research method. Section five presents the results. Section six and seven elaborate discussions, conclusion and some suggestions for future research.

2. Literature Review

2.1. COVID-19 and the Clothing and Textile Industry

The consequences of the COVID-19 crisis have been far-reaching, affecting various facets of human life, particularly the global economy (Zahra, 2021). This impact extends to business performances across industries, including the Clothing and Textile (C&T) industry (Liñán & Jaén, 2022; Zhao & Kim, 2021). Amidst the challenges faced by the C&T industry, such as disruptions in labour markets and the looming fear of unemployment (Godinic et al., 2020; Sen et al., 2020), individuals may turn to self-employment entrepreneurial ventures as a response to limited choices during the pandemic (Liñán & Jaén, 2022).

The primary objective of this paper is to thoroughly investigate the potential decision-making process by delving into the relationship between individual entrepreneurial orientation and entrepreneurial bricolage among employees. Additionally, the study aims to scrutinize the moderating role of occupational embeddedness in shaping this relationship. It is essential to recognize, however, that operational managers, possessing more opportunities than lower-level employees, might interpret and react to such circumstances in diverse ways. Given their elevated roles and broader perspectives, operational managers may exhibit a pronounced inclination towards entrepreneurial endeavours, especially in the context of resource scarcity. Their distinct responses in situations characterized by limited resources and heightened opportunities (relative to lower-level employees) merit particular attention. The study seeks to unravel the nuanced dynamics of how operational managers, equipped with enhanced opportunities, navigate and engage with entrepreneurial opportunities amidst the challenges of resource-constrained environments.

The Clothing and Textile industry, as the third-largest in Iran, holds a unique position with high job creation capacity and relatively fewer resources required for startups compared to other industries (Fathi et al., 2021). Operating in a resource-scarce environment, akin to many developing economies, the C&T sector grapples with constraints in accessing resources (Venkatesh et al., 2015). This scarcity-driven setting has cultivated a culture of resourceful adaptation, shaping the industry into a smaller-scale sector that maximizes the efficient utilization of available resources. The Iranian C&T industry has not only demonstrated innovation and high-quality textile production but has also become a model for sustainable, craft-focused production. Local artisans, independent designers, and family-owned textile mills play pivotal roles in this eco-conscious endeavour, emphasizing both the resource-efficient approach and the industry's commitment to sustainable, handcrafted textiles.

Because of economic and technological issues, the share of this industry in Iran has been decreasing and consequently causes unemployment, particularly

during COVID-19 (Statistical Center of Iran, 2021). For instance, according to the Iran National Carpet Centre (INCC), in the carpet and rug sector, the number of products and workers has severely decreased in recent years (Iran National Carpet Center, 2021). There are two sub-sections of the C&T industry in Iran. First, large industrial factories which are mostly capital intensive (e.g. mass producing, spinning, weaving, knitting, textile coating). Second, a range of small businesses which are a source of income for individuals, including home-based businesses and small industrial workshops (e.g., businesses in supplying, retailing, handmade producing, rug manufacturing, and so on). It is anticipated that in the face of a crisis, employees may choose to avoid displacement and, in response to resource constraints, initiate small businesses with the available resources. This inclination towards starting small businesses aligns with the reports from the Ministry of Industry, Mine, and Trade in Iran, indicating that 80% of businesses in the C&T industry in Iran are small-scale (Iran Ministry of Industry Mine and Trade, 2021). In a resource-constrained environment, the challenge of limited access to resources becomes more pronounced for small businesses. Therefore, the current context provides a unique opportunity to examine the feasibility and potential characteristics of employees starting bricolage businesses, considering the distinctive challenges posed by resource scarcity in the small business sector.

2.2. Entrepreneurial Bricolage

Individuals can choose a particular behaviour (or make a specific decision) according to the external environment. Entrepreneurial action may occur in resource-scarce environments (Davidsson et al., 2017), with very limited ownership or control of the resources. Such conditions have significant effects on individuals' behaviour and especially on the firm's performances and growth (Baker & Nelson, 2005; Fisher, 2012).

In their seminal paper, Baker & Nelson (2005) introduced entrepreneurial bricolage to evaluate entrepreneurial behaviour in such environment. Entrepreneurial bricolage emphasizes how entrepreneurs make inventive decisions in conditions with a shortfall of adequate resources. Making do refers to the refusal to enact limitations that leads to innovative behaviours (Davidsson et al., 2017; Fisher, 2012). Unlike opportunistic entrepreneurship, bricolage refers to seeking new resources which can predominantly be obtained cheap or cost-free (Phillips & Tracey, 2007). Finally, creating combinations of resources for new purposes refers to the degree that entrepreneurs utilize the resources other than the origins of intended, which causes innovation (Baker & Nelson, 2005). As such, entrepreneurs can show innovative behaviour in poor environments, which is known as frugality (Senyard et al., 2014). Moreover, established businesses can exploit opportunities in such environment under the notion of corporate bricolage

(Miller, 2021) and foster corporate entrepreneurial activities in relation to innovation. In particular, entrepreneurial bricolage is extensively used by entrepreneurs in less developed economies as an innovative approach to entrepreneurship (Witell et al., 2017).

Bricolage behaviour that was traditionally viewed as the domain of entrepreneurs is increasingly recognized as valuable at the employee level as well (Hou et al., 2022). In dynamic environments, employees are often faced with resource constraints and challenges requiring creative solutions. Bricolage enables them to adapt and innovate making use of existing resources in novel ways. Some studies have explored how employees engage in entrepreneurial bricolage behaviours and report on the outcomes of these behaviours. For example, Fuglsang and Sørensen (2011) found that municipal administration employees leveraged bricolage to work around constraints and develop new services. Duymedjian and Rüling's (2010) research revealed how organizational members blended their diverse knowledge to bricolage innovative solutions to problems. Additionally, Halme et al. (2012) indicate that when organisations are confronted with resource limitations, middle-manager innovators committed to inclusive innovation may adopt entrepreneurial behaviours within their organizations. They creatively combine limited resources to advance their innovation. Overall, these studies highlight how employees across contexts engage in bricolage behaviour with resources at hand to develop creative solutions, enhance services, and solve problems.

Due to the consideration that bricolage behaviour "requires detailed investigation of the creation of something from nothing" (Baker & Nelson, 2005, p. 358) as well as high levels of individual characteristics (Senyard et al., 2014) and the ability to provide innovative products based on local access to resources (Zahra et al., 2009), entrepreneurial orientation (EO) is a key driver of entrepreneurial bricolage (Salunke et al., 2013; Sivathanu & Pillai, 2019). EO outlines potential avenues for entrepreneurs to deal with external environmental challenges and uncertainty (Covin et al., 2020). In particular, the main constructs of EO (innovativeness, risk taking, and proactiveness) facilitate the initial steps for firms to exhibit entrepreneurial behaviour such as entrepreneurial bricolage (Salunke et al., 2013; Sivathanu & Pillai, 2019). Thus far, previous studies have attempted to evaluate the impact of EO on entrepreneurial bricolage in firm-level analysis. This study sets out to examine the relationship between the individual level version of EO — individual entrepreneurial orientation (IEO) — and entrepreneurial bricolage among employees. Recent studies explore the importance of IEO regarding the individual level of entrepreneurial behaviour (Covin et al., 2020), particularly among employees (Kraus et al., 2019). EO tends to be more concerned with the organizational level of entrepreneurial behaviour, whereas IEO is a better construct to explore the entrepreneurial behaviours at the individual level. IEO encourages individuals to apply their entrepreneurial skills, enabling them to identify and capitalize on viable opportunities. This, in turn,

serves as a precursor to shaping their attitudes towards self-employment (Santos et al., 2020). In particular, two extra constructs (i.e., passion and perseverance) proposed by Santos et al. (2020) provide more insight about employees' decisions to become entrepreneurs. In addition, this study aims to contribute both to the entrepreneurial bricolage and individual entrepreneurial orientation literatures by revealing the effect of the constructs of IEO including entrepreneurial passion and perseverance as the antecedents of bricolage behaviour. Finally, occupational embeddedness, which is a determinant of the intention to leave the current job, is also investigated as a prominent variable (see Section 2.4).

2.3. Individual Entrepreneurial Orientation

Entrepreneurial orientation (EO) is a pivotal aspect within the field of entrepreneurship and strategic management (Bolton & Lane, 2012; Rauch et al., 2009). In the literature, the EO term tends to be used to refer to the means for improving firm-level entrepreneurial behaviour and causes superior performances (Rauch et al., 2009). The term EO carries certain connotations in some types of entrepreneurial traits such as risk-taking, innovativeness, proactiveness, competitive aggressiveness, and autonomy. Table 1 exhibits the definitions of all the dimensions of EO.

Table 1. Entrepreneurial Orientation dimensions

Dimension	Definition
Risk-taking	"Taking bold actions by venturing into the unknown, borrowing heavily, and/ or committing significant resources to ventures in uncertain environments".
Innovativeness	"The predisposition to engage in creativity and experimentation through the introduction of new products/services as well as technological leadership via R&D in new processes".
Proactiveness	"An opportunity-seeking, forward-looking perspective characterized by the introduction of new products and services ahead of the competition and acting in anticipation of future demand".
Passion	"Intense positive feelings experienced by engagement in entrepreneurial activities".
Perseverance	"A necessary condition for being successful at starting and carrying out entrepreneurial ventures".

Sources: Bolton & Lane (2012); Rauch et al. (2009); Santos et al. (2020).

The origin of EO is a firm-level construct analysis to assess if a firm has a degree of EO (Covin & Miller, 2014). A considerable amount of literature has been published on EO, while some previous studies have explored a broader concept of EO including team and individual entrepreneurial orientation (Covin et al., 2020). In this vein, the individual level of analysis is investigated by

scholars (i.e. individual entrepreneurial orientation (IEO)) (Bolton & Lane, 2012; Covin et al., 2020).

IEO is a fundamental aspect of the propensity to show entrepreneurial action (Bolton & Lane, 2012; Covin et al., 2020). Similar to EO, the IEO construct contains risk-taking, innovativeness, and proactiveness (Bolton & Lane, 2012; Kraus et al., 2019). This construct encourages individuals to recognize opportunities, exhibit entrepreneurial action, and enhance organizational performances (Kraus et al., 2019). According to Bolton and Lane (2012), researching IEO emphasizes this proposal: "What are the personal characteristics or attitudes a person possesses that might increase the propensity to engage in and be successful at entrepreneurial activities?" (Bolton & Lane, 2012, p. 221). Hence, IEO is a determinant of individual behaviours to start a new venture (Howard, 2020). Recently, a considerable literature has grown up around the theme of IEO which have predominantly concentrated on firms' performances (Kraus et al., 2019), measuring issues (Bolton, 2012; Howard, 2020), entrepreneurial intention (Bolton & Lane, 2012), demographic changes (Hunt, 2016), geographical influence on IEO (Jelenc et al., 2016), and employees behaviours (Kyal et al., 2022). Most of these studies have typically focused on the three constructs of IEO (proactiveness, innovativeness, and risk-taking) (Covin et al., 2020).

As explained earlier, the main constructs of EO (innovativeness, risk taking, and proactiveness) facilitate the initial steps to exhibit entrepreneurial bricolage. To handle the risks from uncertainties, entrepreneurs refer to the essence of bricolage when starting innovative new ventures in resource-constrained environments while using the resources that are available to hand (Korsgaard et al., 2021; Senyard et al., 2014). Thus, the first set of hypotheses is associated with the relationship between each dimension of IEO and entrepreneurial bricolage among employees.

Risk taking is a driver for entrepreneurs to reduce the concerns regarding the reliability of the resources at hand in bricolage behaviour (Covin & Lumpkin, 2011; Kraus et al., 2019).

This study therefore proposes the following hypothesis:

Hypothesis 1a: *There is a positive relationship between risk-taking and bricolage behaviour among employees.*

The innovativeness capability is a vital driver for creating new services or products within the context of bricolage behaviour. This facilitates the adoption of novel approaches aimed at ensuring survival, which forms the core of entrepreneurial bricolage activities. (Baker & Nelson, 2005; Senyard et al., 2014). Hence, the following hypothesis is proposed:

Hypothesis 2a*: There is a positive relationship between innovativeness and bricolage behaviour among employees.*

Proactiveness is a response to the future opportunities to quickly adopt resources in the competitive environment (Baker & Nelson, 2005; Kraus et al., 2019). As such, this study proposes the following hypothesis:

Hypothesis 3a*: There is a positive relationship between proactiveness and bricolage behaviour among employees.*

Covin and Miller (2014) believed that the individual level of EO is required to better understand through the assessment of some latent elements of EO in which "new entry will be associated with unique drivers that vary by cultural context" (Covin & Miller, 2014, p. 31). As a result, Gerschewski et al. (2016) introduced passion and perseverance as two new dimensions for EO which was later suggested by Santos et al. (2020) for IEO constructs. This study sets out to investigate the usefulness of these new dimensions to IEO. These new dimensions of IEO indicate emotions and individual traits which explore entrepreneurial interactions and behaviours (Gerschewski et al., 2016) enabling employees to cope with environmental challenges and make flexible and adaptable decisions to become entrepreneurs (Bolton & Lane, 2012; Covin et al., 2020). One of the major challenges for entrepreneurs is the resource-scarce environments, particularly in developing countries. Entrepreneurial bricolage is a compelling theoretical framework to explain entrepreneurial action during the resource-constrained period (Baker & Nelson, 2005).

Entrepreneurial passion is a recently coined phrase describing the strong, positive emotions felt during engagement in entrepreneurial activities (Cardon et al., 2013). As a motive of entrepreneurial behaviour, entrepreneurial passion pushes individuals to identify entrepreneurial opportunities (Stenholm & Renko, 2016). Entrepreneurial passion is a driver for individuals toward starting new ventures that encourages them to acquire resources (Cardon et al., 2013). According to Stenholm and Renko (2016), passionate individuals are more likely to 'making do' instead of giving up, and also show 'creative problem solving' as a result of resources at hand in the resource-constrained environment (Stenholm & Renko, 2016). Creating something from nothing (Baker & Nelson, 2005) generates a feeling of self-worth (Stenholm & Renko, 2016). Hence, it is claimed:

Hypothesis 4a*: There is a positive relationship between passion and bricolage behaviour among employees.*

The concept of perseverance has been employed to indicate a fundamental requirement for achieving success in initiating and executing entrepreneurial ventures (Gerschewski et al., 2016). When entrepreneurs face difficult situations

such as resource-scarce environments, perseverance enables them to enhance growth and leadership (Santos et al., 2020). According to Van Gelderen (2012), perseverance entails the act of persistently pursuing goals even in challenging circumstances, and it represents a fundamental competency for individuals. Perseverance appears to be positively related to bricolage because it stems from "refusal to enact environmental limitations" (Baker & Nelson, 2005, p. 356) and refers to the situation that individuals create or find another way to utilize resources at hand (Davidsson et al., 2017). Hence, this study proposes the following hypothesis:

Hypothesis 5a*: There is a positive relationship between perseverance and bricolage behaviour among employees.*

Scholars believe that bricolage is promoted by situational pressures (Duymedjian & Rüling, 2010; Korsgaard et al., 2021), and thus situational variables are pertinent to explore the antecedents of bricolage (Stenholm & Renko, 2016). This study therefore sets out to assess the role of occupational embeddedness as a situational variable (Holtschlag et al., 2019) which affect employees' decision to leave their job and become entrepreneurs. Particularly, it explores the influence of individual entrepreneurial orientation in a resource-constrained environment that causes bricolage behaviour when individuals decide to leave or stay in their current job.

2.4. Moderating Effect of Occupational Embeddedness

To clarify the grounds on which employees prefer to leave their job and work in other occupations, or even stay in their current job; occupational embeddedness addresses three main drivers of fit, link, and sacrifice; affect employees' intentions to stay in their job or leave (Ng & Feldman, 2009). Fit refers to the extent that individuals acknowledge themselves as an employee who is matched with organizations and fit in the job's conditions. Link is a sign of social capital and bonding ties within an organization. Sacrifice refers to the feeling that if individuals leave their job, they will give up the current benefits of that job (Mai & Zheng, 2013). If these factors are at a high level, then employees tend to stay at the current job which is not related to the job market's vacancies (Mai & Zheng, 2013; Ng & Feldman, 2009). Researchers have posited that the concept of occupation holds a distinct significance in the context of entrepreneurial endeavours. Occupation is defined as either a clearly identifiable and particular form of employment that individuals undertake for their livelihood (Adams et al., 2010) or as a set of activities primarily distinguished by the expertise, training, and aptitude required for their execution (Laffineur et al., 2020). Hence, occupational embeddedness is defined as "a set of forces that bind individuals to

their occupations" (Adams et al., 2010, p. 422). Therefore, to decide to leave the current occupation and become an entrepreneur is a big dilemma for employees (Mahto & McDowell, 2018). Moreover, in resource-constrained regions, making such a decision to leave the current occupation is a major point in the employees' life. Entrepreneurship scholarship introduces a set of personal attributes which represents the possibility of entrepreneurial action called individual entrepreneurial orientation (IEO).

Scholars have proposed that entrepreneurial bricolage is influenced by a range of situational pressures, both external and internal. For instance, external pressures, such as resource-constrained environments (Duymedjian & Rüling, 2010; Korsgaard et al., 2021), have been identified as catalysts for entrepreneurial bricolage. Simultaneously, internal factors, such as workplace situational constraints, can limit employees' ability to express themselves and utilize their capabilities (Holtschlag et al., 2019). This duality in situational pressures offers employees choices concerning their employment status. They can opt to remain in their current jobs, which is often influenced by their occupational embeddedness (Adams et al., 2010; Ng & Feldman, 2009) or pursue opportunities outside the workplace.

It is likely that the level of occupational embeddedness influences the strength of the relationship between employees' IEO and entrepreneurial bricolage behaviour. This moderation effect may suggest that employees with higher levels of occupational embeddedness may find it more challenging to engage in entrepreneurial bricolage, as the link between their actions and situational pressures might be weaker for them. This notion forms the basis for our hypotheses, where we propose that the relationship between IEO and bricolage behaviour among employees is moderated by their level of occupational embeddedness, with the relationship being weaker for those with higher levels of occupational embeddedness. Therefore, this study proposes the hypotheses as below:

Hypothesis 1b: The relationship between Risk-taking and bricolage behaviour among employees is moderated by Occupational Embeddedness so that the relationship is weaker for higher levels of Occupational Embeddedness.

Hypothesis 2b: The relationship between Innovativeness and bricolage behaviour among employees is moderated by Occupational Embeddedness so that the relationship is weaker for higher levels of Occupational Embeddedness.

Hypothesis 3b: The relationship between Proactiveness and bricolage behaviour among employees is moderated by Occupational Embeddedness so that the relationship is weaker for higher levels of Occupational Embeddedness.

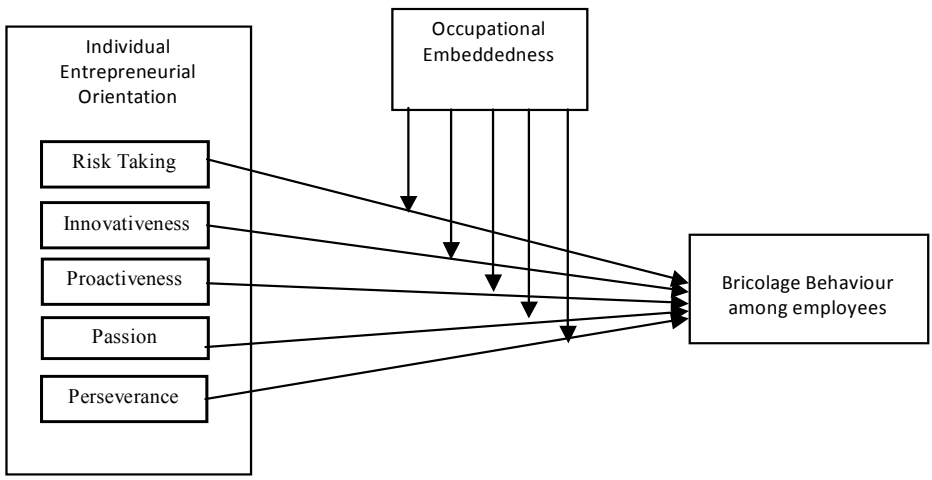
Hypothesis 4b: The relationship between Passion and bricolage behaviour among employees is moderated by Occupational Embeddedness so that the relationship is weaker for higher levels of Occupational Embeddedness.

Hypothesis 5b: The relationship between Perseverance and bricolage behaviour among employees is moderated by Occupational Embeddedness so that the relationship is weaker for higher levels of Occupational Embeddedness.

3. Research Model

Based on the literature, a research model was developed (Figure 1). In this model, occupational embeddedness moderates the relationships between the five factors of individual entrepreneurial orientation and bricolage behaviour among employees.

Figure 1. Research Model



4. Method

4.1. Participants and Procedures

In this study, the research population is formed by all listed manufacturing companies at the Iranian textile exporters and manufacturers associations. A sample of 233 respondents, all of whom were operational managers, was chosen using a simple random sampling technique from different businesses in the C&T industry in Iran. In resource-scarce sectors like C&T with job losses, retaining operational managers is crucial. Understanding factors influencing their behaviour is vital for insights into uncertain times. Exploring these determinants provides valuable insights for firms. According to Hair et al. (2014), for the desired sample size for moderated hierarchical regression, a general rule is that

the ratio of participants to independent variables should be between 15 to 20 participants for each independent variable (Hair et al., 2014). In the present research, five independent variables (five dimensions of IEO), one moderator variable, two control variables, and five interaction terms; a total of thirteen independent variables were used for sampling. Therefore, a range of 195-260 participants is required. Returned surveys from 233 participants yielded a 89% response rate, which is an adequate sample size from employees in the C&T industry in Tehran, Iran. Data were collected from December 2020 to March 2021.

4.2. Measures

Following Senyard et al. (2014) and adapted by Davidsson et al. (2017), entrepreneurial bricolage was measured in reference to the behaviours of employees. This scale has eight items which was "designed to align with the elements of the Baker and Nelson (2005) definition of bricolage" (Steffens et al., 2023, p. 1291). Example items are: "We usually find workable solutions to new challenges by using our existing resources", and, "When dealing with new problems or opportunities we immediately take action by assuming that we will find a workable solution". Given that this scale prompts participants to report their behaviours in the face of resource scarcity and how they innovate and problem-solve with available resources, it is ideally suited for assessing entrepreneurial behaviour among employees.

IEO was measured using a modification of the ten-items scale developed by Bolton and Lane (2012) for the three constructs of risk taking (3 items), innovativeness (4 items), and proactiveness (3 items). In addition, inspired by Santos et al. (2020), the study has added a nine-item scale for the passion (4 items) and perseverance (5 items) as two new constructs for IEO. These two new dimensions "influence individuals' capacity to delineate the future, set goals and achieve results" (Santos et al., 2020, p. 197). Example items include, "I am passionate about finding good business opportunities, developing new products or services, exploring business applications or creating new solutions to existing problems and needs" (passion), and, "I would rather get up and put projects in motion than sit around waiting for someone else to do it" (perseverance).

This paper used the occupational embeddedness measurement scale proposed by Adams et al. (2010). This scale consists of 13 items which consider internal and external occupational embeddedness and comprise fit, link, and sacrifice. Example items are: "I feel like I have a good fit with my occupation" (fit), "I have many strong ties to my occupation" (link), and, "Leaving this occupation would require substantial personal sacrifice" (sacrifice).

Table 2 shows the definitions and measures of the variables in the model.

Table 2: Definitions and measures of the variables

Variable	Definition	Measure
Entrepreneurial Bricolage	Making do by applying combinations of the resources at hand to new problems and opportunities (Baker & Nelson, 2005).	9-items scale in reference to the behaviors of entrepreneurs developed by Senyard et al. (2014) and further validated by Davidsson et al. (2017).
Individual Entrepreneurial Orientation	Tendency held by individual employees of the organization towards innovative, proactive, and risk-taking behaviors (Covin et al., 2020).	10-items scale developed by Bolton and Lane (2012) for the three constructs of risk taking (3 items), innovativeness (4 items), and proactiveness (3 items), in addition of the nine-item scale for the passion (4 items) and perseverance (5 items) developed by Santos et al. (2020).
Occupational Embeddedness	Forces that keep people in their present occupations (Ng & Feldman, 2009).	13-items scale proposed by Adams et al. (2010) which considered internal and external occupational embeddedness and comprise fit, link, and sacrifice.
Age	The age of respondents was asked.	Age is measured by years.
Gender	The gender of respondents was asked.	Gender is indicated by a binary coding index (1 = male; 0 = female).
Education	Participants were asked if they have university degree (Steffens et al., 2023).	Education is indicated by a binary coding index (1 = have university degree; 0 = without university degree).
Start-up Experience	Participants were asked if they had experience of running a start-up.	Start-up experience was indicated by a binary variable of 1 if the participants had experience to run a start-up and 0 if they did not have such experiences.
Work Experience	The number of years that participants were working.	Work experience is measured by years.

Participants indicated the extent of their agreement with each statement on seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree) which are translated to Persian Language. Cronbach's for all variables are presented in Table 3. This study also included five control variables: demographic variables of age and gender (coded as 0=female; 1=male) as well as three control variables of the human capital of participants including education, work experience, and start-up experience. Data were obtained from the first part of the questionnaire (demographic questions).

4.3. Assessing Common Method Bias and Reliability

Based on Podsakoff et al. (2003), to decrease the common method bias, this research dealt with some procedures. First, Harman's one-factor test was employed, and it was acceptable to all items (Podsakoff et al., 2003). All variables were entered into exploratory factor analysis and examined the unrotated factor solution. The first factor explains 3.43 percent of variance; thus, common method variance is not a significant issue in the study. Second, confirmatory factor analysis was conducted with AMOS to test the distinction between the model loading all items onto one factor and a model loading the items onto pairwise tests with five items per latent variable. All cases showed a two-factor model fit (at 0.001). These procedures suggested no common method bias in the data. For testing the reliability, according to Pallant (2013), the satisfaction of data has acceptable internal consistency in which the Cronbach alpha coefficient was 0.86.

4.4. Statistical Procedures

Because the relationships between the dimensions of IEO (as independent variables) and entrepreneurial bricolage (dependent variable) is moderated by occupational embeddedness, then moderated hierarchical multiple regression analysis was the suitable quantitative method for testing the proposed hypotheses. According to Aiken and West (1991), independent variables need to be mean-cantered before conducting the regression analysis. Moreover, all assumptions for multiple regression were tested to assess if the modelling was satisfied (Hair et al., 2014).

As explained above, the suitability of sample size was considered by the range suggested by Hair et al. (2014). Moreover, the scatterplot and the normal probability plot (P-P) are suitable for checking the normality, independence of residuals, homoscedasticity, and linearity (Pallant, 2013). In the normal P-P, points were a roughly straight diagonal line from bottom left to top right. This shows that there is no deviation from normality. Additionally, the Kolmogorov-Smirnov test was conducted, which supported the normality assumption.

In the scatterplot (of the standardized residuals) for bricolage, the residuals were roughly rectangularly distributed and concentrated at the centre. Almost all cases lie within the ± 3.3 limits; it showed the assumptions of linearity, homoscedasticity, independence of residuals, multicollinearity were met (Pituch & Stevens, 2015). Also, Cook's distance is computed, which was far less than 1.00 (CD= 0.61). These indicated the absence of outliers. The variance inflation factor (VIF) was computed by SPSS and found no significant multicollinearity problems (VIF < 2.5) (Pallant, 2013).

5. Results

Of the 233 participants who completed the questionnaire (89% response rate), just over half were female (51%). In addition, the average age of participants were almost 31 years old, and almost 86% of participants have higher education. These results show respondents are not necessarily the same as workers and they have capabilities to start their own businesses. Despite the working experience was around 13 years, 40% of participants have startup experience. These result expresses that participants have relevant experience and knowledge to start their own venture. Table 3 gives the correlation between the variables and Cronbach's alphas. Overall, low and positive correlations between bricolage behaviour and IEO dimensions have been observed.

Table 3: Correlation matrix and descriptive statistics

		Min	Max	Means	Standard Deviations	Cronbach's	1	2	3	4	5	6	7	8	9	10	11
1	Age	22	45	31.24	4.6	-											
2	Gender	0	1	.49	.50	-	-.02										
3	Education	0	1	.86	.35	-	.04	.00									
4	Start-up Experience	0	1	.40	.49	-	.5	-.02	.03								
5	Work Experience	1	32	12.76	5.92	-	.04	-.08	-.03	-.10							
6	Risk-Taking	3.33	6.78	5.08	.68	.71	.02	-.02	-.09	-.08	.00						
7	Innovativeness	3.67	6.67	5.18	.75	.77	-.17**	.02	-.12*	.07	-.02	.11*					
8	Proactiveness	3	6.67	5.15	.76	.81	-.13*	.04	-.10	.01	-.01	.22**	.34**				
9	Passion	4	6.80	5.41	.65	.92	-.10	-.11*	-.08	-.06	.05	.26**	.08	.29**			
10	Perseverance	3.33	6.80	5.31	.61	.87	-.26**	.016	-.11*	-.01	-.03	.16**	.20**	.20**	.25**		
11	Occupational Embeddedness	2	6.67	5.17	.74	.86	.00	-.016	-06	-.05	-.04	.08	.03	.07	-.014	-.10	
12	Bricolage Behaviour	3.33	6	5.13	.45	.88	-.14*	-.12*	-.08	-.03	-.01	.25**	.13*	.27**	.31**	.25**	.11*

*p < 0.05. **p < 0.01.

In order to test the hypotheses, moderated hierarchical multiple regression analyses were conducted (see Table 4). The hierarchical multiple regression shows that at stage one the control variables are entered. Introducing the main effects of individual entrepreneurial orientation and occupational embeddedness as independent variables in Model 2, explained an additional 17% of the variance by risk-taking, innovativeness, proactiveness, passion, perseverance, and occupational embeddedness and this change in R^2 was significant $F(6, 224)=7.8$; $p=0.000<0.05$.

In Model 2, except innovativeness, risk-taking ($\beta=0.13$; $p<0.01$), proactiveness ($\beta=0.144$; $p<0.01$), passion ($\beta=0.183$; $p<0.01$) and perseverance ($\beta=0.147$; $p<0.01$) are statistically positive significant predictors, which means that hypotheses 1a, 3a, 4a, and 5a are supported.

In Model 3, adding the interaction effect to the regression model explained an additional 21% of the variation in bricolage behaviour and this change in R^2 was

significant, F(5, 219) = 3.65; p = 0.003 < 0.05. In Model 3, occupational embeddedness had negative significant interactions between risk-taking (β=-0.126; p<0.05), innovativeness (β=-0.139; p<0.05), passion (β=-0.125; p=<0.05) and bricolage behaviour. Furthermore, this interaction is positive for perseverance (β=0.172; p<0.05), which is not the expected sign though (as Hypothesis 5b predicts a negative sign for this interaction term). Finally, the interaction is non-significant for proactiveness (β=0.014; p>=0.05).

Table 4: Results of hierarchical regression analysis explaining entrepreneurial bricolage

Variables	β	p-value	R^2	R^2
Model 1		.000 **	.042	.020
Age	-.141	.031 *		
Gender	-.126	.054		
Education	-.072	.271		
Start-up Experience	-.025	.700		
Work Experience	-.024	.719		
Model 2		.000**	.205	.163
Age	-.072	.257		
Gender	-.107	.079		
Education	-.009	.888		
Start-up Experience	-.003	.960		
Work Experience	-.021	.726		
Risk Taking	.132	.039*		
Innovativeness	.007	.911		
Proactiveness	.143	.035*		
Passion	.184	.006**		
Perseverance	.146	.028*		
Occupational Embeddedness	.105	.086		
Model3		.000**	.416	.211
Age	-.060	.330		
Gender	-.136	.025*		
Education	.011	.852		
Start-up Experience	.025	.671		
Work Experience	-.019	.760		
Risk Taking	.162	.012*		
Innovativeness	.019	.772		
Proactiveness	.184	.007**		
Passion	.187	.004**		
Perseverance	.092	.168		

Occupational Embeddedness	.085	.160
Occupational Embeddedness * Risk Taking	-.130	.037*
Occupational Embeddedness * Innovativeness	-.143	.040*
Occupational Embeddedness * Proactiveness	.013	.844
Occupational Embeddedness * Passion	-.125	.048*
Occupational Embeddedness * Perseverance	.171	.011*

Note: * p< 0.05. ** p< 0.01.

The next step to advance further interpretation is plotted simple slope analyses. This graphing method is based on Aiken and West's (1991) and Dawson and Richter's (2006) approach for significant interactions. Figure 2 shows the result of simple slope analyses.

Figure 2. Simple slope analyses.

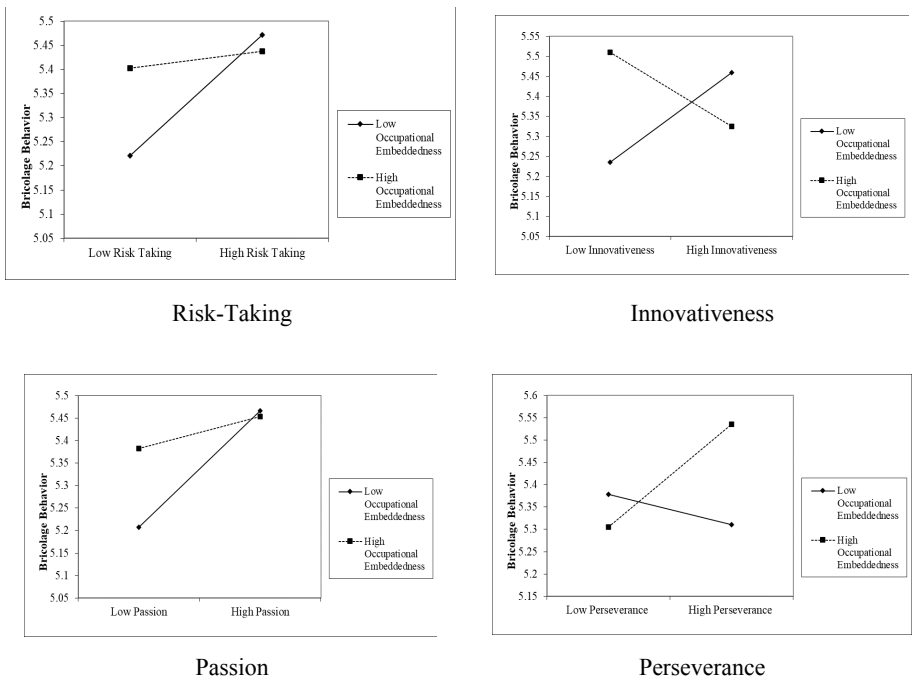


Figure 2 shows the simple slope analyses of significant interactions. In part a, the negative interaction between risk-taking and bricolage when occupational embeddedness moderates this relationship. Employees with a high level of OE

have a little difference if they take a low level or high level of risk. On the other hand, for employees with a low level of OE, if they have a high level of risk-taking, they shift a huge move to leave their job and do entrepreneurial bricolage. In part b, an employee with a high level of OE and a high level of innovativeness, has little possibility to start an entrepreneurial bricolage. In contrast, employees with a low level of OE attract to entrepreneurial bricolage if they have a high level of innovativeness. In part c, an employee with a low level of entrepreneurial passion and a low level of OE has less tendency to show bricolage. However, with more passion, it seems OE is not an important factor. Finally, in part d, employees with a low level of OE with a high level of perseverance have not a great tendency to show entrepreneurial bricolage. However, a high level of perseverance for an employee with a high level of OE provides an option to leave their job and start an entrepreneurial bricolage business. Hence, Hypotheses 1b, 2b, and 4b, were supported.

6. Discussion and Implications

This study explores the influences of the five dimensions of individual entrepreneurial orientation (IEO) on entrepreneurial bricolage among employees and the moderating effects of occupational embeddedness. The results of this study as shown in Table 4 and also explained above indicated that seven hypotheses are accepted and three hypotheses are rejected. The results also showed that except for innovativeness, increases in the four other elements of IEO are directly associated with increases in entrepreneurial bricolage among employees. In addition, the results show that occupational embeddedness influences the relationships between several IEO constructs and bricolage behaviour among employees.

These results corroborate the ideas of Stenholm and Renko (2016), who suggested the importance of research on the individual-level antecedents of bricolage. However, Stenholm and Renko (2016) just focused on entrepreneurial passion and its impact on the way of starting entrepreneurial bricolage. This study provides new and updated results that explores individual entrepreneurial orientation with new constructs, including entrepreneurial passion and perseverance as the individual-level antecedents of bricolage behaviour among employees. Though limited research has explored the individual-level processes that drive engagement in bricolage (Stenholm & Renko, 2016) and the examination of entrepreneurial bricolage behaviour among employees, our findings should be approached with care.

The results from the current study are contrary to those of Senyard et al. (2014) who found bricolage and innovativeness are directly related to each other. Our findings suggest that for employees with a low level of occupational embeddedness, innovativeness can play an important role to show bricolage

behaviour, while without considering the moderating role of occupational embeddedness, this does not appear to be the case. However, for proactiveness, the pattern of direct and moderation effects on bricolage are reversed to the pattern found for innovativeness. In particular, results of this study are in line with those of previous research that indicated a direct relationship between proactiveness and bricolage (Salunke et al., 2013). We did not find evidence for a moderating role of occupational embeddedness in the relationship between proactiveness and bricolage.

The present study makes several noteworthy contributions to existing knowledge about entrepreneurial bricolage. First, the antecedents of bricolage investigated by IEO constructs are extended with the two proposed factors of passion and perseverance. Second, the findings of this study enhance our understanding of the role of IEO constructs in influencing bricolage behaviour in resource-constrained environments. Third, we investigate the role of occupational embeddedness as the moderating variable between IEO and bricolage. Fourth, this research has offered a framework for exploring bricolage behaviour among employees. The combination of findings provides support for the conceptual premise that entrepreneurs require a combination of push and pull factors to initiate their own businesses. The framework illuminates the interplay of these factors in the context of employee-driven entrepreneurial activities.

Our findings have several theoretical and practical implications. Employees gradually decrease their proclivity to stay in their jobs in risky firms and industries during a crisis such as the COVID-19 pandemic (Godinic et al., 2020). The research presented here confirms that this contemplation, which is considered as occupational embeddedness, is an applicable tool to examine their entrepreneurial behaviour. In particular, when a set of characteristics exist to push them to start necessity entrepreneurship, IEO is the trigger to show such behaviour (Covin et al., 2020). In a resource-constrained environment, this entrepreneurial action is called bricolage (Baker & Nelson, 2005; Davidsson et al., 2017).

The findings of this study suggest that, apart from innovativeness, the other constructs of IEO exhibit direct and positive relationships with bricolage behaviour. It's noteworthy that our non-significant result concerning innovativeness may seem counterintuitive in the context of bricolage. Traditionally, innovation is considered a primary outcome of bricolage in businesses. However, the unexpected nature of this relationship prompts further investigation. Despite innovativeness being an orientation toward entrepreneurship, and by extension, entrepreneurial bricolage, our results do not show a positive and direct correlation. This apparent deviation from the anticipated pattern underscores the need for a nuanced exploration of the dynamics between innovativeness and bricolage within the context of this study.

Considering the moderating role of occupational embeddedness (OE), with the exception of proactiveness, interaction effects on entrepreneurial bricolage were found for all other IEO constructs, although the interaction between OE and

perseverance was in the unexpected direction (i.e. contradicting H5b). Similar to direct relationships, employees with necessity type of entrepreneurial behaviour, have less tendency to be proactive and propose themselves as the pioneer person within the market (Vivarelli, 2013). However, the other factors have interesting interactions with bricolage behaviour. Concerning risk-taking, based on a simple slope analysis, a *low* level of occupational embeddedness combined with high risk-taking can lead to the employees' instant decision to leave the job and start a bricolage business. Whereas an employee with *high* occupational embeddedness combined with high risk-taking may have less tendency to leave its job and conduct entrepreneurial bricolage. This striking finding represents the importance of occupational embeddedness and emphasizes that emotional attachment to the current business may prevent employees from starting a new venture, even if their personal traits facilitate entrepreneurship (Kreiser et al., 2013).

When exploring the dynamic interplay between entrepreneurial passion and OE in shaping the bricolage behavior of operational managers, a noteworthy revelation emerges. The influence of passion on bricolage is markedly more robust among employees with a lower level of OE compared to those with a higher level of OE. This discovery resonates with prior research, affirming that entrepreneurial bricolage thrives on entrepreneurial passion, serving as a catalyst propelling individuals toward initiating new ventures. Importantly, our research contributes a unique perspective by highlighting the distinctive moderating role of OE in this intricate relationship (Cardon et al., 2013; Stenholm & Renko, 2016).

Finally, perseverance plays a distinctive role in the current context, where high perseverance, in conjunction with a high level of occupational embeddedness (OE), contributes to an increase in entrepreneurial bricolage behaviour among managers (Gerschewski et al., 2016). This result takes on particular significance in the context of the COVID-19 pandemic and similar crises, where employees demonstrate heightened perseverance within their organizations (Lamine et al., 2014). The unique circumstances presented by COVID-19 underscore the relevance and impact of perseverance in fostering entrepreneurial bricolage behaviour among managers. It is remarkable though that this role of perseverance seems to be stronger for managers with high OE, which contradicted Hypothesis 5b. Future research should look deeper into the interplay between perseverance and OE in influencing entrepreneurial bricolage behaviour.

7. Conclusion

The results of this research suggest that a low level of occupational embeddedness (OE) can reinforce the positive impact of several dimensions of individual entrepreneurial orientation (IEO) on entrepreneurial bricolage behaviour among employees. In this way, low OE can contribute to employees leaving their job and

starting new ventures with bricolage behaviour. This study has been one of the first attempts to provide quantitative evidence on the relationship between (dimensions of) IEO and bricolage behaviour, particularly among employees. Our interaction results suggest that strong OE of employees, especially of employees with high levels of risk-taking, innovativeness and passion, is vital for keeping them in the firm, as employees with these traits are most likely to engage in entrepreneurial bricolage behaviour and hence, are well equipped to start their own ventures. However, strong OE can prevent these employees from actually considering to leave the company. Keeping one's employees is particularly important for industries during periods of economic devastation. Firms should enhance their environments to retain their valuable employees and make efforts to keep them motivated. Individuals with prior knowledge in the C&T industry are valuable employees. They may have specific entrepreneurial traits manifested as IEO and they may act as agents of change and innovation within firms. Moreover, occupational embeddedness is a crucial concept within an organization that can enhance the human capital and entrepreneurial activities in firms. Leaving the current job and start a new venture in the C&T industry could be beneficial for the industry as a whole when providing superior achievements for all actors within the industry through increased competition, while it can decrease the performance of individual firms as firms face tougher competition.

The strengths of the study included the in-depth analysis of the decision-making process by employees based on their entrepreneurial mindset which is shaped by IEO and their job circumstances in terms of OE. Within this process, leaving the current job and becoming an entrepreneur in the C&T industry could be constructive for the whole industry but provide some challenges for the firms they leave, as they will need to invest in other employees for improving their human capital. This bilateral complexion derives from considering OE and combine entrepreneurial characteristics of IEO as well as entrepreneurial action (e.g., entrepreneurial bricolage). The main contribution of this study has been to confirm that several entrepreneurial traits influence bricolage behaviour in the C&T industry, which is further reinforced by low levels of OE. Thus, when individual firms are confronted with a low level of occupational embeddedness, they are at risk of losing their more 'entrepreneurial' employees, i.e. those with high IEO levels. To reduce this risk, firms should increase the occupational embeddedness of their employees.

A limitation of the present study is that the results are not necessarily valid for other industries and locations. The present research has only considered the context of the C&T industry which is severely damaged by the COVID-19 pandemic. A further study could assess and employ comparative studies in different industries and locations. Another interesting future study would be related to identifying individuals who actually did leave a job and started a new venture within the C&T industry to explore their process of becoming entrepreneurs and their performances. There is abundant room for further

progress in investigating different types of entrepreneurial behaviour and action, while in the present study only bricolage behaviour was examined.

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