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DOI:

[10.1108/IJEER-11-2022-1025](https://doi.org/10.1108/IJEER-11-2022-1025)

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Document Version

Peer reviewed version

Citation for published version (Harvard):

Kromidha, E & Bachtiar, NK 2024, 'Developing entrepreneurial resilience from uncertainty as usual: a learning theory approach on readiness, response and opportunity', *International Journal of Entrepreneurial Behaviour and Research*. <https://doi.org/10.1108/IJEER-11-2022-1025>

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Developing entrepreneurial resilience from uncertainty as usual: A learning theory approach on readiness, response, and opportunity

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Funding and Acknowledgment:

This work was supported by The Indonesia Endowment Fund for Education (LPDP).

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Abstract

Purpose: This study explores resilience learning from uncertainty, taking a holistic view by considering individual, firm, and contextual factors. Resilience development is understood by focusing on how uncertainty is related to entrepreneurs and their environment, suggesting that developing resilience needs to be a continuous learning process.

Design/methodology/approach: This qualitative study explores factors related to entrepreneurial uncertainty, resilience, and learning. Evidence is drawn from interviews with rural entrepreneurs in two regions of Indonesia, and analyzed using a rigorous approach to generate codes, second-order themes, and aggregate dimensions for the theoretical contributions.

Findings: Uncertainty readiness, uncertainty response, and uncertainty opportunity for resilience emerge as the key learning areas from this study. They are related to resilience on a personal, community, and systemic level. The proposed framework relates learning from uncertainty to the process of developing resilience for entrepreneurs and their communities.

Originality: This study proposes a framework based on resilience motivation and learning from uncertainty as usual. It explores the relationships between uncertainty readiness, responses, and opportunities with personal, relational, and systemic resilience factors. This contributes to entrepreneurship behavior research at the intersection of organization studies and management in the socio-economic and often informal context of developing countries.

Keywords: uncertainty, resilience, learning, developing country, rural entrepreneurs.

1. Introduction

Resilience is an important topic in business and management (Linnenluecke, 2017) and more specifically in entrepreneurship research (Korber and McNaughton, 2018) because it is related to firm survival. Drawing from the fields of psychology, ecology, engineering, environment, and organization studies, resilience relates to business responses in chaotic, turbulent, and unpredictable environments (Kantur and Iseri-Say, 2012). Previous research has defined resilience as the firm's capability to survive, adapt and bounce back from traumatic events (Apostolopoulos *et al.*, 2019; Ates and Bititci, 2011; Burnard and Bhamra, 2011; Mithani *et al.*, 2021). Resilience is a process of growth to overcome crisis, catastrophic events, turbulent change, or even hostile competitive situations (Dahles and Susilowati, 2015; Demmer *et al.*, 2011; Linnenluecke, 2017). This is particularly important in developing countries where uncertainty from the frequency of such events is common, but how entrepreneurs learn to become resilient from uncertainty in such environments deserves more attention.

Uncertainty affects entrepreneurial action and judgment (McMullen and Shepherd, 2006). Responses to such situations can make a business more resilient. Uncertainty conditions such as crises, risk, and ambiguity emerge during the dynamic shifting of industries and world conditions, affecting the business resilience (McKelvie *et al.*, 2011). In response, firms use different forms of responses to the uncertainty (Packard *et al.*, 2017). For example, they can consider co-operatives and switchover strategies (Dahles and Susilowati, 2015), focus to entrepreneur's resilience (Chhatwani *et al.*, 2022), entrepreneurial orientation (Zighan *et al.*, 2021), deploy social capital (Herbane, 2019), apply business model innovation (Bordarodriguez *et al.*, 2016) or use creativity (Saebi *et al.*, 2017) to respond to uncertain conditions or crises and the dynamic entrepreneurial process. Because entrepreneurial actions always involve a degree of uncertainty (Packard *et al.*, 2017), understanding how to entrepreneurial resilience from uncertainty is central to entrepreneurial processes (McKelvie *et al.*, 2011),

While many of the above-mentioned studies address resilience through a contingency approach of responding to unexpected events, there is limited research on the learning from long exposure to uncertainty that allows small firms to become more resilient over time.

This study explores how entrepreneurs learn from uncertainty and build resilience as a result. Research on entrepreneurial resilience is commonly based on developed countries. For example, research on entrepreneurial resilience highlights the importance of human capital (Bishop, 2019), the role of regional development in economic resilience (Huggins and Thompson, 2019) the central role of entrepreneurship (Williams and Vorley, 2014) and the role of ambidexterity capability and strategic consistency (Iborra *et al.*, 2020). Research on resilience performance in developing countries considers more firm capabilities, for example, looking at the difference learning can make between surviving and thriving (Battisti *et al.*, 2019). However, the uncertain context in which small firms in developing operate is not to be ignored. Because uncertainty is common in developing countries, learning to be resilient in such environments could lead to important lessons for business survival and development.

This study makes several contributions. First, this study uses and advances entrepreneurial learning theory by considering uncertainty and resilience together. Entrepreneurial learning theory is expanded by showing how personal, relational and system drives influence resilience learning in building readiness, adapting responses, and creating opportunities. Second, most previous studies look at resilience as an inherent capability of the entrepreneur, or an involuntary outcome from challenges, but not focusing much on its development. This is partly due to the generally quantitative and cross-sectional nature of such studies (Korber and McNaughton, 2018), This research offers a nuanced qualitative analysis of entrepreneurial resilience development as learning based on a longitudinal qualitative approach. Finally, this study translates organization studies, management, and entrepreneurship resilience theory into practice by identifying areas where resilience learning

from uncertainty and development happens. This is important, especially in the uncertain context of developing countries. In practice, the study contributes by offering context-specific steps and strategies for SMEs to become more resilient, survive and sustain growth in the face of uncertainty.

This study is structured as follows. First, entrepreneurial uncertainty, resilience and learning are discussed in the light of existing literature. The methodology outlines the research context of two rural regions in Indonesia, the methods, data collection and the principles of research rigor applied to the analysis. Findings on uncertainty readiness, response and opportunity recognition are discussed in the light of resilience drives and entrepreneurial learning theory before concluding with contributions for research, policy and practice.

2. Literature review and theoretical approach

2.1. Entrepreneurial uncertainty

The amount of perceived uncertainty and the willingness to bear uncertainty are the two dimensions that have characterized entrepreneurship research around the topic on an individual or system level (McMullen & Shepherd, 2006). In transition environments, entrepreneurship is characterized by barriers and uncertainty (Smallbone & Welter, 2006). In response to such conditions, adaptive behavior and cultural change may emerge from experiences of external shocks, crises, and uncertainty which in turn can make a small business more resilient (Harries, McEwen, & Wragg, 2018). This finding confirms that psychological capabilities of resilience can positively affect firm performance in the creation context which is characterized by uncertainty (Hmieleski *et al.*, 2015). Such a dynamic process of adaptation that can be linked to entrepreneurial learning (Welter and Scrimshire, 2021). The uncertain environment and frequent crises experienced by small businesses in rural Indonesia in this study present a suitable context to advance our conceptual knowledge and contribute to practice.

Regardless of the context and environment in which they are based, there is a fundamental belief that entrepreneurs operate in uncertain environments (Townsend, Hunt, McMullen, & Sarasvathy, 2018). Such perspectives fall under entrepreneurial action theory suggesting that uncertainty, opportunities, and the willingness of entrepreneurs to take action are closely linked (McKelvie, Haynie, & Gustavsson, 2011). Entrepreneurs are known to make decisions, judge situations, and change them with time under constant conditions of uncertainty (Packard, Clark, & Klein, 2017). The underlying assumption in these and similar studies originating from developed countries is that entrepreneurship is a choice and alternative to employment rather than a necessity for survival and subsistence. Consequently, the uncertainty associated with entrepreneurship in developed countries could be logically part of the same choice, to take as much entrepreneurial risk, or pursue those opportunities one desires to, and not necessarily needs to.

In developing countries, unrelatedly, business uncertainty is most commonly linked to connectivity and inclusion. For example, research on Turkey suggest that information and communication technologies as means to alleviate it through IT-business strategic alignment (Yayla & Hu, 2012). Research on 73 developing countries presents digitalization for financial inclusion as a means to manage economic uncertainty (Law, Khair-Afham, & Trinugroho, 2023). In terms of opportunity, uncertainty as such in developing countries is reported for foreign direct investments (Heidenreich, Mohr, & Puck, 2015), not necessarily for local entrepreneurs and small firms. Collaboration as a way to manage uncertainty in the often informal context of small firms struggling for subsistence and survival in developing countries (Ratten, 2014) is fundamentally different compared to the individual choice of the uncertainty levels for pursuing different opportunities in developed countries. Therefore, feeling that there is limited research on uncertainty as a condition rather than as a choice, this study on the context

of rural entrepreneurs in Indonesia aims to contribute by providing a holistic approach that relates it to resilience and learning discussed in the following sections.

2.2. Entrepreneurial resilience

Resilience is summarized by Ayala and Manzano (2014) as a combination of resourcefulness, hardiness, and optimism that are related to entrepreneurial success. However, this three-dimensional definition used in quantitative studies is limited for a qualitative exploration of learning that goes on under resilience development. Gunasekaran, Rai, and Griffin (2011) explain that competition among SMEs is high, and resilience is important for survival so firms may exploit technologies to improve their position and gain a competitive advantage. Demmer, Vickery, and Calantone (2011) confirm that SMEs must develop resilience by reinventing themselves continuously and keeping up with current trends. Bachtiar (2022) also confirms that small firms need to innovate and maintain their resilience in order to survive. Debates on resilience development in this stream of literature supports either embedded robustness as a handling mechanism, or preparations to survive and thrive in volatile and uncertain circumstances, depending on the frequency and severity of crises (Ramezani and Camarinha-Matos, 2020). Systemic resilience results from changes and adaptations under uncertainty and crises, and learning from one's own and others' experiences (Ramezani and Camarinha-Matos, 2020). This approach is adapted in the context of resilience development as a learning process from crises, environment, and business ecosystem uncertainty.

Organizational research on resilience lacks conceptual and theoretical consistency in examining organizational responses, reliability, employee strengths, business model adaptation, principles, vulnerabilities, and disruptions (Linnenluecke, 2017). While large organizations rely on best practices to improve their resilience capabilities, small firms' resilience depends largely on the resilience of entrepreneurial individuals (Branicki *et al.*, 2018). Strategic players such as large multinational enterprises play an important role in resilience through new venture

spinouts and technological specialization and heterogeneity (Ryan *et al.*, 2021). However, in small rural business settings, resilience often emerges due to environment conditions of uncertainty. More research is needed to explore the resilience link between the entrepreneur and the context where the venture operates. This approach is contextualized here by studying rural entrepreneurs in an emerging economy where uncertainty is common, and resilience is a natural response.

Resilience is often connected with the personal characteristics of entrepreneurs, and most importantly, their self-efficacy. Bullough *et al.* (2014) identify a significant correlation between self-efficacy and thinking style, which enables individuals to cope with stressful events and ultimately develop resilience. Bullough, Renko, and Myatt's (2014) empirical study of Afghan entrepreneurs reveals that individuals' intentions to start ventures in dangerous areas relate negatively to their perceptions of danger in such areas, and that developing such intentions requires enhanced resilience and self-efficacy. This finding is strengthened by Mithani *et al.* (2021) that stated traumatic events shape organizational resilience in terms of increased perception of threat to boost adaptation. In addition, firms must innovate to improve their performance and survive in disrupted markets (Hallak *et al.*, 2018).

Psychological resilience can be considered a precondition for entrepreneurs' readiness to manage business survival and success because resilience factors cannot be separated from organizational factors (Chadwick and Raver, 2020). The concept of psychological capital characterized by hope, efficacy, resilience and optimism (Luthans *et al.* 2011) is of particular interest for this study to contextualize entrepreneurial resilience in a challenging environment. The resilience dimension of is related to risk, personal assets, and performance boundary which focuses on proactive assessments which affect individual outcomes (Luthans *et al.* 2006). For example, Ayala and Manzano's (2014) study of resilience dimensions in Spanish tourism confirms that resourcefulness is a predictor of entrepreneurial success for both men and women,

although their hardiness and optimism vary. Research on entrepreneurship in wartime shows how entrepreneurial intentions are affected by the ability to foster resilience and self-efficacy through adversity (Bullough *et al.*, 2014). Resilient individuals show more emotional stability, flexibility, and openness to new experiences that create a continuous learning habit (Luthans *et al.*, 2006; Luthans *et al.*, 2009). However, we agree with Schwarz (2018) that a contextualized understanding of resilience in psychology requires analysis of political, historical, and socioeconomic contexts beyond the individual to avoid ethnocentric and neoliberal bias. Hence, this study focuses on entrepreneurial learning as a never-ending and dynamic process (Franco and Haase, 2009), relating this to resilience developed from uncertainty. This is important to have a better understanding of environment, forces and context where resilience is developed.

2.3. Entrepreneurial learning

Businesses that succeed are often those able to learn and adapt. Learning is essential to develop resilience over time, especially in developing countries where crises are part of firms' external and internal environments. Organizational learning is influenced by the entrepreneurial context, which affects behavior and leadership processes relating to the learning (Kempster and Cope, 2010). The entrepreneurial context also relates directly to strategic leadership in all types of ventures (Simsek *et al.*, 2015). The transmission of entrepreneurial values (Wyrwich, 2015) to innovation and personal resilience may foster entrepreneurial capabilities and self-efficacy (Moenkemeyer *et al.*, 2012). To survive, firms must constantly learn and adapt their ventures to challenging entrepreneurial contexts. Looking at the entrepreneur, the organization, and their environment in the following sections will help to contextualize resilience development as learning from uncertainty in this study.

To explore the relationship between resilience and learning, it is important to understand that resilience is strongly related to other social science disciplines such as

psychology (Schwarz, 2018; Chadwick and Raver, 2020), organization studies (Gary and Välikangas, 2003; Kantur and Iseri-Say, 2012) or economic psychology (Ayala and Manzano, 2014). The literature on business resilience focuses more on firm attributes (Demmer *et al.*, 2011), risk awareness, risk protection (Harries *et al.*, 2018), competitive advantage (Reinmoeller and Van Baardwijk, 2005), innovation and strategic management in supply chains (Sheffi and Rice, 2005; Pettit, Joseph Fiksel and Croxton, 2010). Although resilience concepts are applied to various fields, Korber and McNaughton (2018) identify an intersection between resilience and entrepreneurship across disciplines. This is important to justify the importance of this study, positioning it in the multidisciplinary research space where developing resilience in response to uncertainty is perceived as both a challenge and an opportunity.

Entrepreneurial learning in the organizational context can be understood from contingency event where contingency can be a trigger to quit, being an obstacle, and on the other hand can be a resource to be leveraged (Harmeling and Sarasvathy, 2013). Rapid changes and competition drive the increase in learning capabilities for survival and success (Dunphy *et al.*, 1997). To tackle these challenges, scholars suggested building organizational capability in terms of enhancing the innovation process within firms and improving the ability to learn (Collis, 1996; Glover, 2012). Furthermore, the organization learning concept could help us to better understand rural entrepreneurs and how they handle uncertainty by building resilience for their firms and in collaboration with others.

According to experiential learning theory (Kolb & Kolb, 2009) active experimentation, concrete experience, reflective observation and abstract conceptualization can all help to form understanding and knowledge. In entrepreneurship, experiential learning is associated with opportunity identification and exploitation (Corbett, 2005). This view from a developed country context assumes that the related uncertainty is chosen to pursue those opportunities.

However, entrepreneurs of small firms in the uncertain rural context of Indonesia do not choose the level of uncertainty they face as that is a given condition of their environment. Therefore, experiential learning for them could be more of a routine process, but research on experiential entrepreneurial learning in the context of developing countries is limited. This study aims to contribute in that direction by linking entrepreneurial learning to the context where uncertainty and resilience are everyday business.

3. Methodology

3.1. Research context and setting

Much research exists on developed countries where crises in the context of small businesses and entrepreneurship are often related to unique events that do not happen very often, for example, the London 2011 riots (Doern, 2016) or Covid-19 in the United Kingdom (Brown *et al.*, 2020). On the contrary, empirical evidence from rural Indonesian SMEs in this study shows that unlike in developed countries, crises are particularly frequent, causing constant conditions of uncertainty.

Indonesia has experienced four periods of high uncertainty due to a number of crises over the last two decades. The first was a monetary crisis in 1997–1998; Bali bombing in 2002, which impacted the country's tourism industry and economy; 2008 global economic crisis, which affected Indonesia owing to its high dependency on the global economy; and finally, the Covid-19 crisis affected all businesses, and especially MSMEs. During these crises, many businesses closed down and new businesses sprang up. Nevertheless, resilient MSMEs, can be found in all parts of Indonesia, although they are quite difficult to identify.

Rural entrepreneurs in this study live and run businesses in geographically remote areas, and research shows that they are often isolated from urban service centers (Ayala and Manzano, 2014), with limited human and physical resources and inadequate support for rural enterprise (Pato and Teixeira, 2016). Because of such hard conditions, they are expected to be hit harder

by crises but also learn quickly how to develop resilience from uncertainty, although research on resilience strategies in these cases is limited (Steiner and Cleary, 2014). From a broader perspective, research shows that in times of recession crises, recognizing opportunities and innovating is more important than turning towards entrepreneurship as a necessity (Devece *et al.*, 2016). These conditions present an excellent opportunity for studying resilience development from crises and uncertainty.

3.2. Research methods

A qualitative approach was adopted for this study owing to its advantages for observing the attitudes, feelings, opinions, and behavior of the sample for later use in planning and designing the analysis (Kothari, 2004; Easton, 2010). This approach is suitable for gaining appropriate information on respondents and their environment. With a holistic character of this study, this study utilized field study and participant observation design in order to develop model and setting from certain situation (Valerie, 2009). After deciding on the research design, data, theory, investigator and interdisciplinary triangulation was applied.

Two primary research methods, interviews and observations, were used to assure triangulation in this qualitative research and check the veracity of the information (Dominguez and Mayrhofer, 2017). In addition, secondary data taken from statistical sources (Bps, 2019). The interviewees were informed of the aims, requirements and confidentiality of the research, and most agreed to participate in semi-structured interviews. Table I summarizes the list of questions used in the structured interview phase.

Factors	Indicators	Questions	Reference
Organization	Competitive advantage of the business	<ul style="list-style-type: none"> - What is your business uniqueness? - What make your business different from your competitor? 	Reinmoeller and Van Baardwijk (2005), Gunasekaran, Rai, and Griffin (2011)
	Subjective and objective business performance criteria	<ul style="list-style-type: none"> - How can you tell your business profitable? - How can you measure it in subjective and objective perspective? 	Kraus et al (2012)
	Current and future-oriented business performance criteria	<ul style="list-style-type: none"> - What are the criteria of your current business performance? Is it income, business size or else? - How about your future business performance? 	Kantur and Izeri-Say (2012)
	Resources possessed and gained by the business	<ul style="list-style-type: none"> - What kind of resource do you have now? - What kind of resource do you need? - What resource you gain so far? 	Ayala and Manzano (2014), Chadwick and Raver (2018)
	Agility in running the business	<ul style="list-style-type: none"> - How many times you encounter crisis during your business operation? Do you still remember all? - What do you do every time crisis occur? - Have you ever thinking about closing down your business? - What make you agile? 	Demmer, Vickery, and Calantone (2011), Bullough, Renko, and Myatt's (2014), Branicki, Sullivan-Taylor, and Livschitz 2018
	Major determinants of potential to improve business performance	<ul style="list-style-type: none"> - What do you need the most to improve your business performance? Name and rank them 	Chadwick and Raver (2018)
Resilience strategy	Entrepreneur's resilience	<ul style="list-style-type: none"> - What character describe you most in running your business? - When you feel you can't go further with your business, what do you do? - What make you able to sustain your business until now? 	Bullough, Renko, and Myatt (2014), (Branicki, Sullivan-Taylor, and Livschitz 2018)
	Business strategy in times of crisis	<ul style="list-style-type: none"> - What strategies do you apply every time crisis occur? - What differ them to the strategies you apply in normal condition? 	Kantur and Izeri-Say (2012)
	Innovation in the business	<ul style="list-style-type: none"> - Have you implemented innovation in your business? - What examples of innovation have you performed before? - Can you tell us innovation process in your business from its invention to its implementation? 	Sheffi and Rice (2005) Pettit, Fiksel, and Croxton (2010), Bachtiar (2019), Hallak et al. 2018, Demmer, Vickery, and Calantone 2011

Factors	Indicators	Questions	Reference
	Challenges faced in running the business	<ul style="list-style-type: none"> - What are challenges in running your business so far? Name and rank them - How to adapt to the challenges? 	Harries, McEwan, and Wragg (2018), Ramezani and Camarinha-Matos (2020).
Entrepreneurs hip education	Educational background of the business owner	<ul style="list-style-type: none"> - What education level have you experienced? - How important is education level to business owner? 	Bullough, Renko, and Myatt's (2014), Dodd and Hynes 2012
	Business resilience	<ul style="list-style-type: none"> - Does entrepreneurs' resilience affect business resilience? If yes, In which way? - Can you define business resilience in your perspective? - How you achieve business resilience? 	Kantur and Izeri-Say (2012), Smallbone and Welter's (2006)
	Entrepreneur's characteristics	<ul style="list-style-type: none"> - Is there any specific character entrepreneurs need to have? - How far character affect business success and sustainability? 	Ayala and Manzano (2014), Bullough, Renko, and Myatt's (2014), (Branicki, Sullivan-Taylor, and Livschitz 2018)
	Entrepreneur's survival ability	<ul style="list-style-type: none"> - What character drive to survival ability? - Do entrepreneurs and non-entrepreneurs have different survival ability? Please elaborate 	Gunasekaran, Rai, and Griffin (2011), Bullough, Renko, and Myatt's (2014), (Branicki, Sullivan-Taylor, and Livschitz 2018)
	Innovatory character of the owner	<ul style="list-style-type: none"> - Do you think you're innovative? How can you tell? - How important innovation character to entrepreneurs? 	Bachtiar (2019), Bullough, Renko, and Myatt's (2014)
Business environment	How to manage the business in regular and crisis times	<ul style="list-style-type: none"> - Please tell us a bit how differently you handle/manage your business during crisis and non-crisis? - What changes do you do? 	Harries, McEwan, and Wragg (2018)
	Anticipation of crises	<ul style="list-style-type: none"> - Have you ever considered upcoming crisis in every step you take in your business? Why? 	Hallak et al. 2018).
	Business ecosystem	<ul style="list-style-type: none"> - How far business ecosystem can help your business? (Explain about business ecosystem first) - Who do you think should be included in business ecosystem? 	(Roundy, Brockman, and Bradshaw 2017).
	Role of local wisdom and culture	<ul style="list-style-type: none"> - Do you agree that your local wisdom and culture shape your local behavior? Why? 	Schwarz (2018)

Table I. Indicators and Questions

Interviewees came from different educational, cultural, and economic backgrounds, they were all rural entrepreneurs, and many had similar opinions on resilience. Some respondents were less educated, requiring leading questions to prompt relevant responses on personal, organizational and ecosystem levels.

3.3. Data collection and sampling

Snowball sampling was adapted to help find reliable, experienced, and expert respondents for the interviews because this technique was particularly appropriate for hard-to-reach populations (Cohen and Arieli, 2011; Handcock and Gile, 2011). This was appropriate for using their relationships in the informal business context of Indonesia.

Tual and Agats were the research locations for this study. Both are rural areas of Indonesia, representing all the characteristics of rural areas mentioned by Pato and Teixeira (2014) and Korsgaard, Müller, and Tanvig (2015), such as being geographically remote, isolated from urban service centers, with limited resources and inadequate support. The majority of them were food producers operated by a family with less than five employees. They have lack or no business growth ambition and tend to stay in their local market without expanding to the new market. However, they have a strong engagement with locality (Müller & Korsgaard, 2017). According to Indonesia's statistics office (Bps, 2019), the two areas are ranked 477th and 478th of 514 cities for regional GDP.

The data collection for this study was handled in two stages. Initial data for this study were collected in 2019, prior to the Covid-19 crisis, although all interviewees had gone through previous crises. Most experienced business collapse during the 1997–1998 crisis, and some had been affected by the 2008 crisis. During the Covid-19 crisis, extended and additional interviews were conducted by telephone to confirm the previous interview results.

The study started in Agats where 13 respondents were interviewed (1-13 in Table II). Crises and uncertainty are common for these entrepreneurs and being in a rural area is not the

only challenge business owner faced in Agats. After finishing the data collection in Agats, the study continued in Tual, which although considered a rural area, is more modern and developed. By using a snowball approach, 17 respondents (14-30 in Table II) with different businesses were found. Interviews were conducted in business sites which were advantageous to know to have a better understanding of the entrepreneur, the firm, and their environment. A summary of all participants from Agats and Tual can be seen in Table II.

Respondent	Type of business	Size of business	Established from	Type of interview	Side business	Number of interview
1	Livestock	Micro	Early 2000s	Face-to-face and telephone	-	2
2	Fishery	Small	Late 1990s	Face-to-face and telephone	-	2
3	Farming	Small	2007	Face-to-face and telephone	-	2
4	Plantation	Micro	Early 2000s	Face-to-face and telephone	-	2
5	Plantation	Small	Late 1990s	Face-to-face and telephone	-	2
6	Forestry	Small	Late 1990s	Face-to-face and telephone	-	2
7	Construction	Medium-sized	2001	Face to face and e-mail	-	2
8	Livestock	Small	Late 1990s	Face-to-face and telephone	-	2
9	Livestock	Small	Early 2000s	Face-to-face and telephone	Farming	2
10	Plantation	Micro	2005	Face-to-face and telephone	-	2
11	Fishery	Micro	Late 1990s	Face-to-face and telephone	Forestry	2
12	Forestry	Medium-sized	Late 1990s	Face-to-face and telephone	-	2
13	Construction	Medium-sized	2009	Face-to-face and telephone	-	2
14	Fishery	Small	Early 1990s	Face-to-face	-	1
15	Traditional food	Small	Early 2000s	Face-to-face and telephone	Vegetable seller	2

16	Farming	Medium-sized	Late 1980s	Face-to-face and telephone	-	2
17	Fishery	Micro	Early 2000s	Face-to-face and telephone	Street vendor	2
18	Plantation	Small	Late 1990s	Face-to-face and telephone	-	2
19	Livestock	Small	Early 1990s	Face-to-face and telephone	-	2
20	Fishery	Medium-sized	2010	Face-to-face and telephone	-	2
21	Forestry	Small	Early 1990s	Face-to-face	-	1
22	Farming	Micro	Early 2000s	Face-to-face and telephone	-	2
23	Fishery	Small	2001	Face-to-face and telephone	Street vendor	2
24	Traditional food	Medium-sized	Early 2000s	Face-to-face and telephone	-	2
25	Livestock	Small	1980s	Face-to-face and telephone	-	2
26	Construction	Medium-sized	Early 1990s	Face-to-face and telephone	-	2
27	Construction	Small	Late 1990s	Face-to-face and telephone	-	2
28	Plantation	Small	Late 1980s	Face-to-face and telephone	-	2
29	Forestry	Medium-sized	Early 2000s	Face-to-face and e-mail	-	2
30	Traditional food	Small	Early 2000s	Face-to-face and telephone	-	2

Table II. Summary of participants

The interviews in both areas were recorded and transcribed, amounting to a total of 1568 pages of transcription. Coding was conducted in the original language by one of the authors who also collected the interviews in order to preserve the meaning of what the respondents meant. Representing quotes were translated into English and discussed during the development of this paper.

3.4. Analysis

To aggregate the data, three layers of data analysis were conducted following the framework proposed by Gioia, Corley, and Hamilton (2013) for qualitative research rigor. First, we started coding with the initial concepts from the literature review on uncertainty, resilience and learning that helped us form the research questions for the interviews. New codes emerged during this process. Identifying first-order concepts in analysis may be overwhelming because categories tend to be particularly abundant at the front end of the study.

Secondly, we went through many iterations to group the first order constructs (codes) into second order themes that represented conceptual categories developed from the interview data. Re-reading or re-listening to the interview transcript helped find hidden messages conveyed by the interviewees in order not to miss any significant information. This step consisted of selecting characteristics and connecting points while excluding unnecessary or biased points until a saturation point was reached (Miles, Huberman, & Saldaña, 2020). Second-order themes revealed variables that would shape the aggregate dimensions of the final layer.

Finally, aggregate dimensions emerged after a qualitative synthesis (Sandelowski, Docherty, & Emden, 1997) of second order themes (Gioia, Corley, & Hamilton, 2013). To build theory from evidence-based entrepreneurship of two clusters of entrepreneurs in rural Indonesia, suggestions from Rauch, Van Doorn, and Hulsink (2014) to be mindful of the distinctive uncertainty, resilience and learning phenomena in the given context were followed. The discussion that follows the findings contrasts the second order themes and aggregate theoretical dimensions with existing literature to then propose a conceptual framework of entrepreneurial learning from common uncertainty and resilience.

4. Findings

4.1. Uncertainty readiness and the entrepreneurial personality

In the uncertain business context of rural Indonesia, uncertainty readiness is a necessity as businesses carry out their normal, routine activities. Results indicate that this is primarily shaped by the entrepreneurs' personality, their self-efficacy and optimism. Figure 1 summarizes how the small businesses and their entrepreneurs address uncertainty and prepare for it.

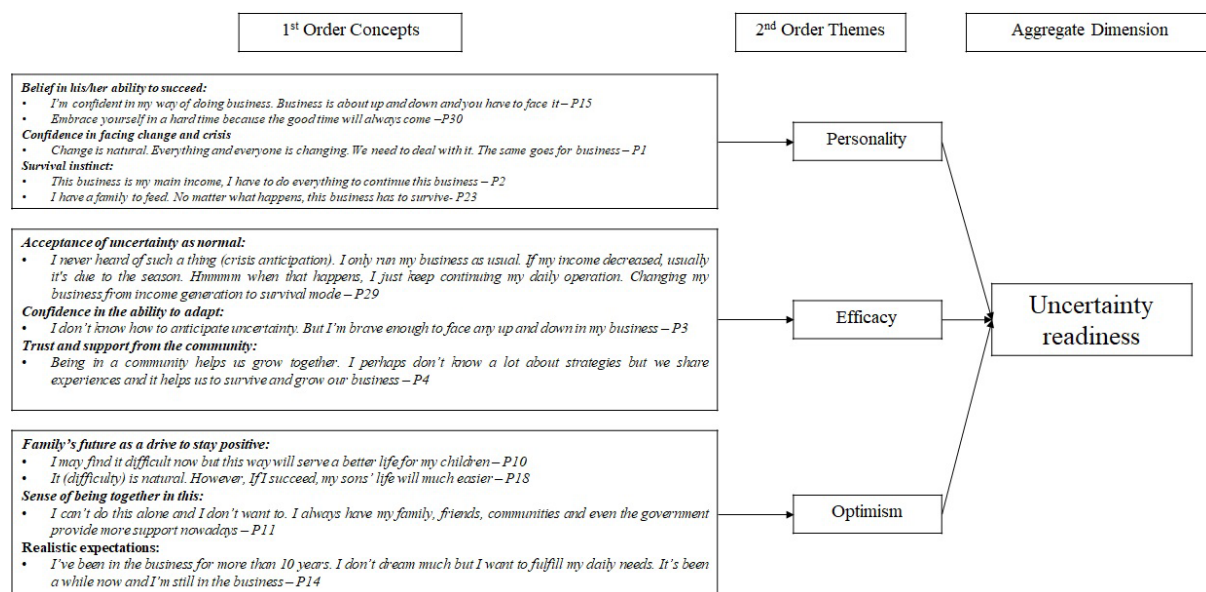


Figure 1. Uncertainty readiness

The attitude of entrepreneurs depends on their personality and character, and it conditions their approach to unanticipated events or crises. They often rely on their own confidence to be able to handle such situations without worrying about them. Adopting resilience measures prior to a crisis also requires spare resources and capabilities that may never be used if the crisis does not occur. Businesses in developing countries like Indonesia often do not have such resources, making it seem futile to be concerned during the pre-crisis stage.

Rural entrepreneurs build their businesses to sustain their families and community. Such relationships and the sense of collectivism they develop are their primary goal is to survive. Facing difficulties is not a choice but something that happens constantly to everyone

around them, so in response, being prepared for uncertainties is a shared feeling that brings them together in the face of adversities. In this process of responding to uncertainty and crises, important learning processes take place about better ways of using resources, and adapting capabilities. It is therefore important to mention that they don't feel alone in this struggle, but maintain a sense of community struggle.

Respondents often justified their motivation based on the responsibilities they feel towards others. After all, whether or not they choose to prepare for a crisis, they are not alone in this situation, and others in their business community are doing exactly the same. This sense of belonging is not uncommon in rural business communities (Korsgaard and Tanvig, 2015). The answers also confirmed that looking at entrepreneurs and their psychological perspectives in business studies may contribute to understanding the learning process related to resilience and how they build their business resilience in terms of their intrinsic motivation, cognition and personality traits.

What was labeled as resilience readiness here is in fact a combination of the entrepreneurial personality, the sense of sharing the uncertainty with a collective, and the motivation to succeed by using the felt responsibilities to proactively learning what is needed when it is needed. It is rooted in a general perception that although their conditions are not favorable, no matter what happens, things will go well, and they will manage somehow together. As evidenced by the above quotes, these are not individual decisions but are consistent with the social and business environment in which they operate.

This section shows how entrepreneurs develop readiness to learn and adapt while maintaining a positive outlook in order to survive if crises happen. These findings are consistent with previous literature mentioned psychological resilience in the end may increase business survival chance (Chhatwani *et al.*, 2022) but they also explain how this happens in terms of readiness. Having and maintaining optimism is probably the most important strategy

and tool used by small businesses in developing countries like Indonesia to prepare during the pre-crisis stage. For these entrepreneurs, being or becoming resilient is not a special way of conducting their business, but rather what they experience in their daily lives. The results provide a better understanding of how these entrepreneurs prepare for a crisis, and how they handle it, as discussed in the next section.

4.2. Adaptive organizational response to uncertainty

While the uncertainty readiness discussion emphasizes the entrepreneur’s personality, in the face of a real challenging situation attitude plays an important role. In addition, the adaptive response to uncertainty depends, according to this study, on experience, motivation, innovation and support as outlined in Figure 2.

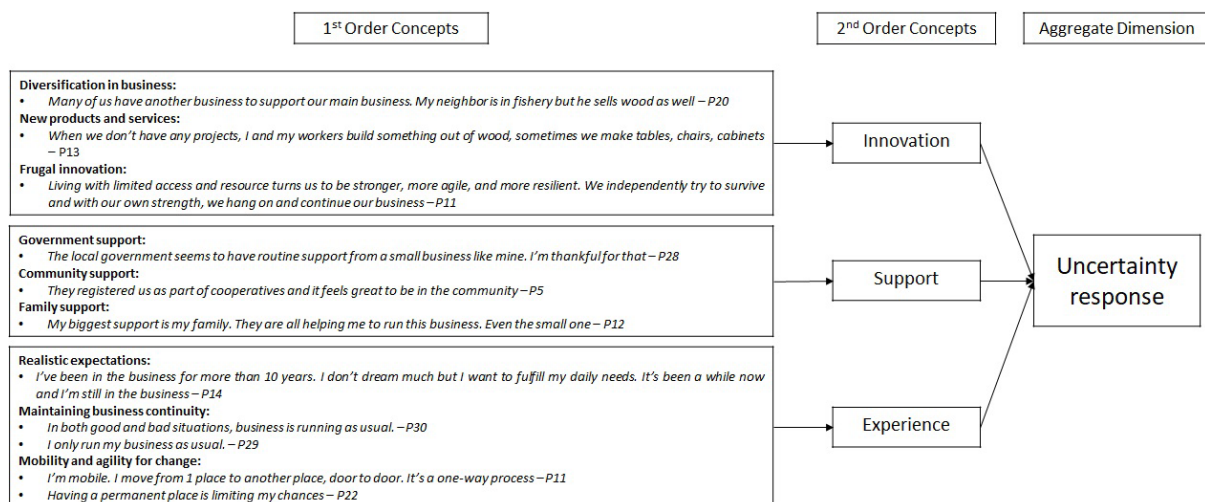


Figure 2. Uncertainty response

An essential element of learning and adapting crisis responses to uncertainty and crisis is innovation, which rural entrepreneurs consider business-as-usual and link it to business stability in the face of adversities. To do that in practice, they understand that diversification for competitiveness and developing new products and services to respond to market needs is important. However, they can only implement simple frugal innovation processes with the means at their disposal. Innovation and learning to innovate incrementally or radically are important responses to uncertainty for developing resilience. Rural entrepreneurs develop such

capabilities to face difficulties from within the business, but maintaining also a close social relationship with their customers.

Yet, innovations and the ability to adapt to uncertain situations would not be possible without the support from their families, friends, relatives, and the experience accumulated with crisis over the years, and the right attitude to welcome change as inevitable. Support from the government is desirable, but not always present compared to the support from families and the community. Observations revealed that although they face many limitations in running their businesses, the entrepreneurs' responses to crises are impressive in the way they orchestrated the limited resources, used their capabilities, and tried to innovate with little support from third parties such as local institutions and government.

Experience plays a very important role towards uncertainty responses. Having realistic expectations that uncertainty is challenging but temporary, helps them to maintain business continuity. Efficacy in handling uncertainty is related to their ability to be mobile, and agile towards change. It was interesting to notice that being in a rural area limits their potential and opportunities during normal times, but at the same time being disconnected from the rest of the world in their rural communities protected them during times of uncertainty. Uncertainty responses from many unexperienced rural entrepreneurs are almost instinctive.

This section shows that learning crisis response builds on the crisis readiness conditions by finding ways to adapt business processes, resources and capabilities quickly to changes (Nicholas-Davies *et al.*, 2021). That helps entrepreneurs to quickly respond to unexpected challenges, innovate, learn, adapt, deliver new products (Faherty and Stephens, 2016), recognize opportunity (Devece, Peris-Ortiz and Rueda-Armengot, 2016) to survive. This study shows that innovation, support and experience help to shape the response to uncertainty and increase their learning capacity. This contributes towards the creation of adaptive organizations which in turn can also create new opportunities discussed in the following section.

4.3. Opportunity recognition in an uncertain environment

Opportunity recognition focuses on the opportunities identified or created by entrepreneurs through various approaches and strategies in times of uncertainty, crises, and change. A resilient business in this case is one that does not dwell on failures, or spends a lot of energy to recover what is gone, but instead, constantly looks for new opportunities emerging from such situations. For this, they must resort to alternative strategies, such as creativity, alertness, be mindful of the support and changing needs of their community, and focus on restoration for the future as shown in Figure 3.

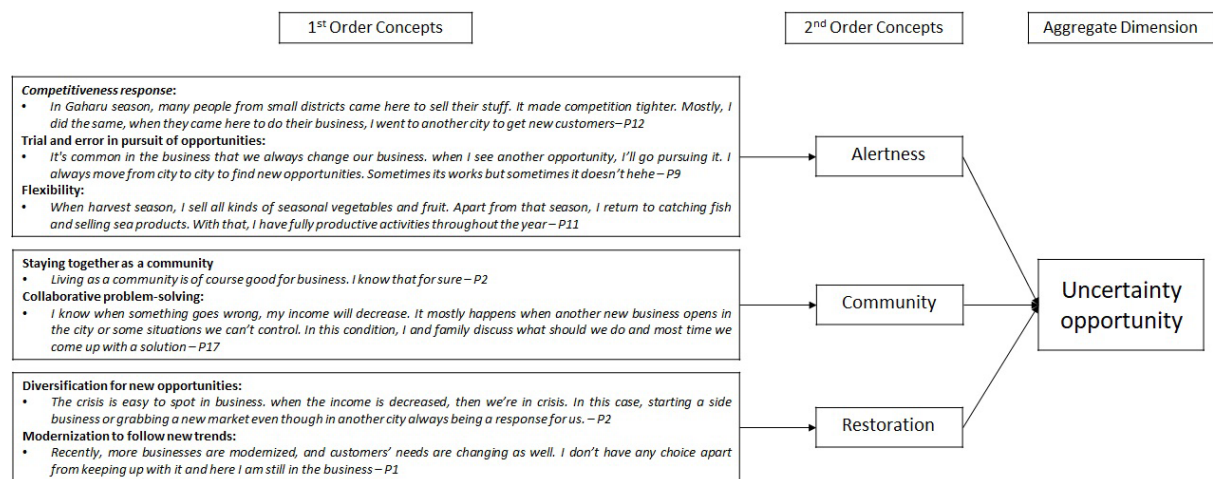


Figure 3. Uncertainty opportunity

Alertness in this study is first understood as awareness towards competition and the environment in general. However, instead of copying what others are doing, entrepreneurs under uncertainty conditions opt for a trial-and-error process instead. This is a reflection of their mature understanding of uncertainty and change where there are no single solutions that can be learned and adapted from others. Instead, combining alertness with a flexible creative and innovative mindset can be a powerful tool to develop and pursue opportunities. Despite challenges and changes, flexibility and adaptation are important in enabling businesses to keep up with customer behavior and preferences.

This, however, is not achieved by entrepreneurs using creativity on their own, but by being strongly embedded in their communities, reading their changing needs emerging from

uncertainty and change, and responding to them. Empowering their communities and the ecosystem in which they live is what makes them able to learn, innovate and adapt together. Most entrepreneurs in Indonesia, especially rural entrepreneurs, have experienced rock bottom in terms of creating and sustaining their businesses, but they did not survive alone. Being in a community helps them to discover creative ideas and build collaborative businesses with others, kept in motion also by a sense of duty.

Restoration is an important drive to pursue opportunities from uncertainty and build resilience in the process. It comes with the recognition that while there are things that become obsolete after constant change and uncertainty, there are also things that continue to be important, and they need to be preserved, although often they are not material and business-related. That explains why diversification is considered important as a risk management strategy. Modernization and following new trends align what consumers want, and what businesses can offer in the society of a developing country. This pushes businesses to keep up.

This study thus helps to explain how rural entrepreneurs build resilience opportunities by overcoming crises and getting used to uncertainty. It shows that difficulties create resilience to remain in business, not necessarily to increase profits, but simply to survive with the others around, and make the most of changes and opportunities being created. In this process, entrepreneurs realize that uncertainty factors develop their learning to create opportunities that prepare them to face further crises, since uncertainty is ever-present in their environment. Many rural entrepreneurs had experienced such difficulties, and in order to remain in business they needed a creative touch to adapt their businesses to changing trends after crises. At the same time we should not forget that common challenges faced by SMEs include limited access to capital, insufficient entrepreneurship education, and lack of reserve funds (Keuschnigg and Nielsen, 2003; Morris and Bowen, 2020). These issues, which were present in the context of this study, are difficult to solve, thus limiting the capability of SMEs to create opportunities.

Findings here explain the role of resilience in the business environment as an opportunity generating process characterized by alertness that is reliant on a sense of community, and uses restoration to preserve what matters as a drive to look forward by learning to be better at facing uncertainty.

5. Discussion

Entrepreneurs, and particularly owners of micro and small firms, encounter more complex obstacles than large organizations, in terms of access to reserve funds (Keuschnigg and Nielsen, 2003), competitive advantage (Salavou *et al.*, 2004), innovation (Faherty and Stephens, 2016; McAdam *et al.*, 2004) and knowledge (Martinelli *et al.*, 2018). Despite experiencing the usual obstacles of SMEs, rural entrepreneurs must also deal with remote locations, isolation from urban service centers and inadequate assistance (Ayala and Manzano, 2014; Pato and Teixeira, 2016). This study focuses on rural entrepreneurs under uncertainty, with the aim of contributing to entrepreneurship resilience theory. The in-depth analysis rural entrepreneurs in Indonesia enriches resilience theory by revealing how learning from uncertainty and resilience on a personal, relational and systemic level are related.

Psychological capital helps to understand entrepreneurship as a process (Mcmullen and Dimov, 2013). This study confirms that psychological capital is related to entrepreneurial learning where personality characteristics, well-being, and decision processes play an important role (Welter and Scrimshire, 2021). Uncertainty, as this study confirms, is a constant condition in the entrepreneurial context of developing countries like Indonesia. Resilience on the other hand, and the need to survive, are interdependent, so respondents' high levels of resilience and learning are closely related to their desire for survival.

Reflecting on the findings of this study, we propose an uncertainty resilience framework based on learning and drives. As shown in the previous sections, learning happens to create uncertainty readiness, respond to uncertainty conditions, and create opportunities

from uncertainty. However, for this to work, resilience needs to be manifested as a personal drive of the entrepreneurs, a relational drive and obligation towards their close community, and as a social duty to engage with the systemic forces that create uncertainty. This framework is shown in Figure 4.

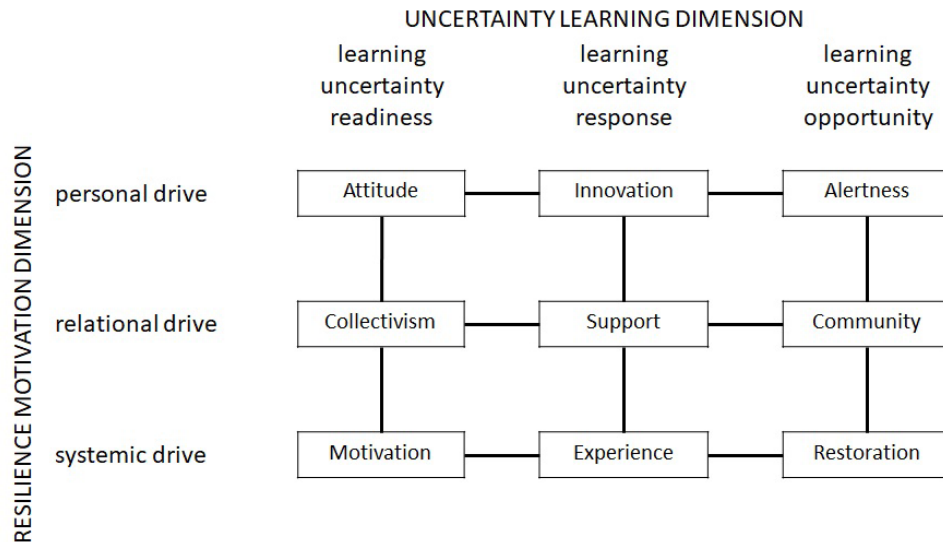


Figure 4: Resilience motivation and uncertainty learning framework

Discussing first the learning from uncertainty dimension, all emerging themes from this study explain embedded learning as readiness towards uncertainty, response and opportunity. What is more important, rural entrepreneurs in poor or remote areas of Indonesia do that at an affordable cost, starting with their optimistic approach, so developing resilience capabilities is not seen as an unnecessary and costly option. The approach towards uncertainty encourages entrepreneurs to find new ways while still remaining connected to their environment. Such constant change and adjustments may have a negative impacts on profits, or shortage of staff, but being able the remain in business and provide for themselves and their families is the main goal behind their learning to address uncertainty. At the same time, the study reconfirms that the emotional and psychological effects cannot be denied (Brünjes & Revilla-Diez, 2013). What this study reveals about preparing for, addressing, and taking advantage of uncertainty differs from what the literature on developed countries suggests in terms of readiness, response

and opportunity learning because of the common presence of uncertainty in emerging economies.

The resilience development dimension in this study considers personal, relational and systemic drives, responsibilities towards relatives, and alertness towards systemic changes related to uncertainty. What we know about psychological capital on resilience, and how it may lead to a return to normal or even higher performance after an adverse event (Luthans *et al.* 2006) is explained in this study through the relationships between learning from uncertainty and the motivation to become resilient at different levels. Besides the individual entrepreneur's approach towards uncertainty, a central driving force evidenced in this study is the role and responsibilities towards the community. Mindfulness towards the system that creates uncertainty, but where through learning, opportunities can also emerge, is also important. Many small rural entrepreneurs explained their resilience strategies in response to the difficulties they encountered in sustaining their businesses and market positions. They had to face both internal difficulties, such as limited resources, capabilities, and knowledge, and external difficulties relating to factors such as limited support and global conditions.

This study contributes to theory development by relating resilience to learning in the uncertain rural entrepreneurship context of a developing country, a topic that has received little previous research attention (Steiner and Cleary, 2014). Findings from this research challenge Branicki *et al.* (2018) that built a linear conceptual model of business resilience where resilience is separated into individual resilience and organizational resilience to shape business resilience. In response, this study proposes a framework that combines resilience drives with learning from uncertainty. Rural entrepreneurs in this study display high levels of resilience through learning by relying on their personal attributes, their community, and the ability to adjust to changes in the system. These three domains act as the source of their drive for learning to prepare, address and take advantage of uncertainty.

6. Conclusions

6.1. Contribution to knowledge

This study draws on previous entrepreneurship literature on behavior (Autio *et al.*, 2013), organizational culture, experience, knowledge (Nanda and Sorensen, 2011), social context (Autio *et al.*, 2014), entrepreneurial barriers in developing countries (Eijdenberg *et al.*, 2019; Rahman and Mendy, 2019) education (Leitch and Harrison, 2005; Dodd and Hynes, 2012) self-efficacy (Moenkemeyer, Hoegl and Weiss, 2012; Wyrwich, 2015), psychological capital (Luthans *et al.*, 2004; Luthans *et al.*, 2006; Luthans *et al.*, 2011) and leadership (Kempster and Cope, 2010; Simsek *et al.*, 2015). These concepts were applied to examine the relationship between learning and resilience under uncertainty.

This study contributes to learning theory perspectives in entrepreneurship by positioning learning from uncertainty as readiness, response and opportunity development influenced by personal, relational and systemic drives. These need to be understood as a dynamic process of contingency response in a challenging and uncertain environment rather than as a linear process. In view of the volatility of entrepreneurial contexts in developing countries and emerging economies like Indonesia where uncertainty is common, becoming resilient through learning is also a common process. This is achieved personal development, caring about the community and considering systemic changes in the environment.

6.2. Implications for policy and practice

Most previous studies on entrepreneurial resilience are quantitative and cross-sectional, looking at resilience as an inherent capability or response, but not focusing much on its development. Hence, this study makes a process-oriented and context-related contribution to the theory that sets the evolution of entrepreneurial resilience strategies alongside developments within the socio-economic context in which small firms operate.

The research reveals that resilience cannot be easily achieved over time, but a positive attitude to survival may help small firms to develop crisis readiness, responses and opportunities towards entrepreneurial resilience. They can do so by learning to develop a strong entrepreneurial character, to innovate on the use of resources and capabilities, contingency event and to take advantage of changes. Hence, this study contextualizes the uncertain entrepreneurial environment in developing countries.

As a policy contribution, findings from this study suggest that creating and sustaining a community support system helps to share knowledge, experiences and support while at the same time shielding local rural ecosystems from major shocks and crisis originating in larger and more globalized urban centers.

6.3. Limitations and further research opportunities

Yet this study is not without limitations as it was conducted in only two rural areas in Indonesia. Comparative studies of more than one country or cultural perspective are needed to confirm the validity of the proposed model. In addition, although the study sought to take a longitudinal perspective on crises, the events and contingencies faced by entrepreneurs always differ, requiring different business responses. To minimize these limitations, theoretical conceptualization could be generalized according to the persistent trends among small businesses in a developing country context.

Future research might expand the scope of this study by comparing businesses across multiple countries and entrepreneurial contexts and considering in greater depth the social and cultural dimensions that affect resilience strategies in local and global contexts. In this context of this research and beyond, practitioners, and especially rural entrepreneurs in developing countries can benefit by learning to adapt their responses to crisis and their resilience strategies over time.

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