

Entrepreneurial responses to uncertainty during COVID-19 recovery: A longitudinal study of B&Bs in Zhangjiajie, China¹

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Abstract

The COVID-19 pandemic has brought sweeping changes to global tourism alongside large-scale travel restrictions, posing complex challenges to entrepreneurs and firms seeking to find their footing in a turbulent climate. This study presents a theoretical framework linking uncertainty, capital, and innovation to analyse how bed-and-breakfast small and medium-sized enterprises have innovatively responded to unprecedented obstacles during COVID-19 recovery. Three-stage longitudinal interviews were conducted with more than 30 entrepreneurs between April and November 2020 to unpack their ongoing responses to the pandemic. The recovery process was found to be non-linear due to the shifting nature of sources of uncertainty and changes in entrepreneurs' capital. These alterations shaped interviewees' responses, especially in terms of product and marketing innovations, which ultimately generated new uncertainty.

Keywords: small and medium-sized enterprises, bed and breakfast, uncertainty, crisis management, capital, innovation, longitudinal study

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1 Introduction

COVID-19 changed tourism dramatically in 2020 and dealt major economic blows, especially to small and medium-sized enterprises (SMEs). Entrepreneurial decisions are consistently made under conditions of risk and uncertainty (Jalonen, 2012) and risk and uncertainty have become increasingly volatile during the ongoing global crisis. Entrepreneurs possess varying tolerance for such circumstances and different competencies in managing them. Entrepreneurs are not passive actors in responding to difficulties; instead, to survive and recover, entrepreneurs must re-evaluate and be innovative, and effectively utilise their resources—an array of competencies—while learning to grapple with uncertainty (Williams et al., 2021). Capturing these dynamic changes is challenging and has only been partially addressed in existing research.

For individual entrepreneurs, innovation in the face of uncertainty is vital to crisis recovery (Jalonen, 2012). The relationships among uncertainty, learning, resources (including a range of competencies), and innovation during such recovery must therefore be explored. Innovative responses to the evolving COVID-19 crisis are contingent on entrepreneurs' human, social, and financial capitals; each of these is dynamic (Dakhli & De Clercq, 2004; Fatoki, 2011) and shapes entrepreneurs' innovation processes and capabilities to navigate uncertainty. Despite the roles of these forms of capital, scholars have yet to explore how entrepreneurs access and use them to respond to crises. These notions are particularly important with respect to SMEs: although they tend to be relatively flexible in innovation, they face greater resource constraints than larger firms (Hall & Williams, 2019). Moreover, in comparison to other sectors, the tourism industry features lower productivity and higher turnover (Kim et al., 2021). This context intensifies the resource barriers to innovation facing tourism SMEs when innovating in response to crises, underlining the need to contemplate the dynamic nature of tourism SME entrepreneurs' capital.

To date, no research has systematically uncovered how tourism SME entrepreneurs engage with the fluid relationships among uncertainty, capital, and innovation throughout major crises such as the COVID-19 pandemic. This topic represents a research “black box,” despite obstacles looming over the tourism industry's recovery

(Uğur & Akbiyık, 2020). The present study helps to fill this knowledge gap conceptually and empirically. We address three main research questions: *What factors influence entrepreneurs' understanding of changes in uncertainty? How do entrepreneurs' types of innovation change in response to shifting uncertainty? How do changes in entrepreneurs' capital inform changes in innovation?* Most research in this area has been cross-sectional and based on retrospective interviews, which are subject to imperfect recall and post-rationalisation. We assumed a three-stage qualitative longitudinal approach. Notably, our work is among the first to adopt a longitudinal qualitative design to examine SME entrepreneurs' responses to crises (Dahles & Susilowati, 2015; de Vries & Hamilton, 2021), particularly the COVID-19 pandemic. This approach enables a granular exploration of responses (innovations) over time; such a detailed perspective is useful because the innovation process is non-linear, dynamic, and unpredictable (Rodríguez et al., 2019).

2 Literature review

2.1 Tourism SMEs and crises

Crisis management reflects organisations' ongoing, integrated, and comprehensive efforts to understand and prevent crises, manage crises when they occur, and respond by implementing planning and training activities (Santana, 1999). SMEs have strong networks, tacit knowledge, and proximity to local and regional markets (Nghah & Ibrahim, 2012). Even so, they are more vulnerable to crises than larger firms and consequently require effective crisis management (Caballero-Morales, 2021). Based on 106 studies published between 1985 and 2019, Ciampi et al. (2021) identified capital and innovation as critical determinants of SMEs' survival during crises. However, risk and uncertainty are dynamic, and little is known about how SMEs navigate innovation and capital changes during different stages of crisis management.

Given strong seasonality, high turnover, and low productivity (Kim et al., 2021), tourism SMEs are particularly susceptible to crises. Hystad and Keller (2008) pointed out that 72% of tourism SME entrepreneurs did not take action during previous crises; they lacked resources and considered their businesses too small to counter the far-reaching adverse effects of disasters. In line with the general literature on SMEs, tourism scholars have attempted to disentangle the relationships between uncertainty and SME innovation (Verreynne et al., 2019), between capital and uncertainty (Liu, 2017), and between SME capital and performance during crises (Chowdhury et al., 2019). Yet minimal light has been shed on the overarching interrelationships among uncertainty, innovation, and capital during crises. Although scholars have assessed tourism SMEs' evolution when recuperating from a disaster or crisis from an organisational standpoint (Faisal et al., 2020a, 2020b; Orchiston et al., 2016), most tourism researchers have failed to analyse the trajectory of crisis recovery (Dahles & Susilowati, 2015). Much of the related work has instead involved single-stage studies, largely ignoring the nuances of the associated changes described herein.

2.2 Innovation in response to uncertainty

The relationship between innovation and entrepreneurship can be traced back to Schumpeter (1934)'s work in the early 1900s (Śledzik, 2013). From an individual firm perspective, innovation and creativity are central to entrepreneurship, particularly in the start-up stage (Heunks, 1998). The OECD's Oslo Manual identifies several types of innovation: product, process, marketing, and organisational innovation. Organisational innovation is frequently divided into management innovation (within a firm) and institutional innovation (changes in external relationships) (OECD & Eurostat, 2005). Schumpeter (1934) deemed managing uncertainty a key role for entrepreneurs, whereas Knight (1921) believed that uncertainty drove innovation.

Researchers have combined Schumpeter's and Knight's ideas to examine the impacts of innovation and uncertainty on SMEs' performance (Bos-Brouwers, 2000). Knightian uncertainty includes the systematic uncertainty of the macroeconomy and the uncertain outcome of entrepreneurship per se (Knight, 2001). However, most SME innovation and uncertainty studies have revolved around individual uncertainty; the relationship between innovation and macro uncertainty, such as crises, warrants closer attention (Saunders et al., 2014). Different from larger firms' organisational strategies, an individual entrepreneur's knowledge is integral to innovation (Christensen et al., 2001). SMEs' main priority is to avoid collapse. Rapid and diverse innovative actions may be required to survive and normalise business activities during or after crisis (Naidoo, 2010). Eggers (2021) reviewed 69 studies pertaining to SMEs in previous crises and concluded that they are relatively more sensitive to crises but that innovation can diminish the negative consequences on their performance or survival.

The tourism industry is no stranger to uncertainty both during times of crisis and under normal market conditions; indeed, the future is inherently unknowable and calls for continuous adaptation (Williams & Baláž, 2015). Tourism is generally characterised more by incremental than by radical innovations (Hall & Williams, 2019). A crisis amplifies uncertainty and such an environment is likely to favour incremental rather than radical innovation, as the former usually requires fewer resources (Martínez-Ros & Orfila-Sintes, 2009). Williams et al. (2021) examined the dynamics of entrepreneurs' engagement with uncertainty and shifts in competence but neither considered a crisis context nor explored how changes in competencies related to fluctuating uncertainties. Therefore, *what* and *how* to innovate during a crisis remain open questions while

responding to (and simultaneously being shaped by) uncertainty. To the best of our knowledge, this study is the first to extend the tourism SME innovation literature by investigating how changing capital influences SMEs' focus on innovation in response to uncertainty during a pandemic.

2.3 Capital in response to uncertainty

SMEs typically possess limited resources when facing challenging situations (Terziovski, 2010). Fatoki (2011) cited these organisations' key resources as human, social, and financial capital. Knowledge and skills, as a type of human capital, are major drivers of innovation. They shape the discovery, development, improvement, adoption, and commercialisation of new processes, products, and organisational structures and procedures (Petrou & Daskalopoulou, 2013). A more educated and skilled workforce is likely to generate and successfully implement fresh ideas (Divisekera & Nguyen, 2018). However, many tourism SME entrepreneurs have limited education and skills, which constrains their capacity to handle uncertainty during a crisis (Dewhurst et al., 2007). Yet their knowledge and skills are not static (Dias et al., 2021). This dynamic evolution during crises is of particular interest in our research.

Social capital is a non-financial resource involving social relations or networks (Bourdieu, 1986) and a major asset for SMEs (Hillman et al., 2009). Social capital is also essential to entrepreneurs' innovation in response to macro uncertainty; however, a crisis can stress network relationships (Novelli et al., 2006) with consequences for innovation and SMEs' survival during and after crises. Meanwhile, in the context of China, Inkpen and Tsang (2016) highlighted *guanxi* as a form of social capital with cultural characteristics based on interpersonal relationships. *Guanxi* is a pervasive aspect of Chinese businesses; the concept embodies a dynamic and mutually beneficial exchange mechanism for resource and opportunity distribution among SMEs. It therefore plays a core role in crisis management (Zhang et al., 2020) and is investigated here.

Financial capital comprises equity and debt (Van Praag, 2003). SMEs' financial capital is vulnerable during crises because a disaster can diminish entrepreneurs' savings and

property value (Li et al., 2010). At the same time, many innovative responses rely on access to financial capital. For example, the value of accommodation properties decisively affects innovation, such that high-end hotels are usually more innovative than low-end hotels (Orfila-Sintes et al., 2005). Crisis responses therefore vary with the availability of financial capital. Thus, the current study examines whether the limited but changing availability of financial capital in tourism SMEs influences innovation during a crisis.

2.4 Literature review summary

While crises are rife with uncertainty, there is little discussion of how tourism SMEs respond to a pandemic such as COVID-19. More exploration is needed to discern how entrepreneurs access and use different forms of capital and how this affects their innovative responses to crises. In a departure from prior work on SME crisis management and innovation, which lacks a longitudinal view overall, this study seeks to provide insight into innovation in response to changing uncertainties. The general relationships between uncertainty and innovation and between capital and innovation are well established (Hall & Williams, 2019). As a complement, this paper jointly addresses all three concepts—uncertainty, capital, and innovation—and scrutinises their evolution during crisis recovery. Figure 1 illustrates the conceptual framework.

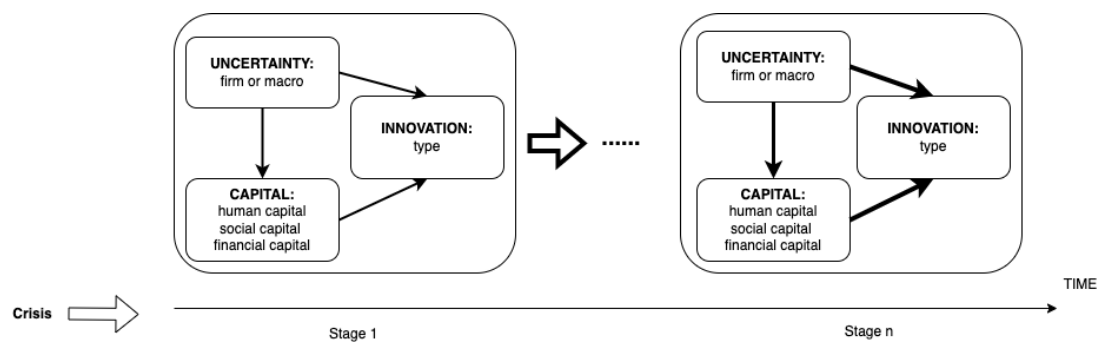


Figure 1 Theoretical framework

3 Methods

3.1 Longitudinal research

This research employed a qualitative longitudinal design to analyse temporal changes. Longitudinal qualitative research can distinguish enduring and transient aspects of social action while revealing social questions based on different stages of change (Holland et al., 2006). Longitudinal qualitative studies have recently emerged in tourism, namely around destination development transformation (Pavlovich, 2014) and firm-level (including SMEs') destination crises management (Thelen et al., 2020). Yet this approach has not been applied to pandemic crises despite offering a means to explore individuals' understanding of and responses to uncertainty. Uncertainty is a major consequence of COVID-19 given constantly moving infection rates as well as evolving health and social regulations on regional and global scales.

This research was conducted between April and November 2020 during the COVID-19 crisis. As Figure 2 shows, Stage 1 covered the early recovery period when businesses in China reopened in April and May 2020 (i.e., immediate recovery). Stage 2, in August, spanned the period during which bed-and-breakfast (B&B) entrepreneurs recognised growing uncertainty and responded accordingly (i.e., medium-term recovery). Stage 3 was conducted in late October and November, a time when entrepreneurs faced a relatively smooth domestic recovery while realising that the pandemic continued to generate global uncertainty that required re-evaluation and appropriate responses (i.e., longer-term recovery).

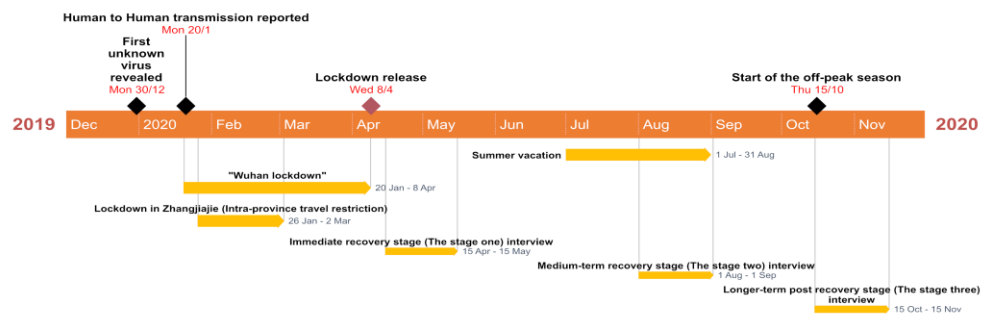


Figure 2 Key research points

3.2 Research context

Zhangjiajie is a city in north-western Hunan province, China, where tourism is a leading industry. Compared with restaurants and retailing, which serve both residents and visitors, the B&B sector caters exclusively to tourists and therefore better reflects the tourism industry's recovery during the pandemic. Furthermore, most B&Bs are run by individual entrepreneurs which is consistent with our focus on how SMEs responded to the crisis. According to the Department of Culture, Tourism and Broadcast, Television and Sport (DCTBTS) in Zhangjiajie, this city is home to more than 1,280 registered B&Bs.

Figure 3 depicts area tourist flows between 2019 and 2020 based on daily visitor arrivals to Tianmen Mountain, one of the most popular attractions in Zhangjiajie. These data show how our sampling period aligned with post-lockdown recovery: once the national lockdown was lifted, springtime tourist flows were only approximately half of those during the same period in 2019. Recovery remained positive after the traditional peak summer holiday as visitor numbers approached those of 2019. In sum, tourist arrivals in Zhangjiajie recovered slowly and steadily before summer and then underwent a swifter recovery up to November 2020.

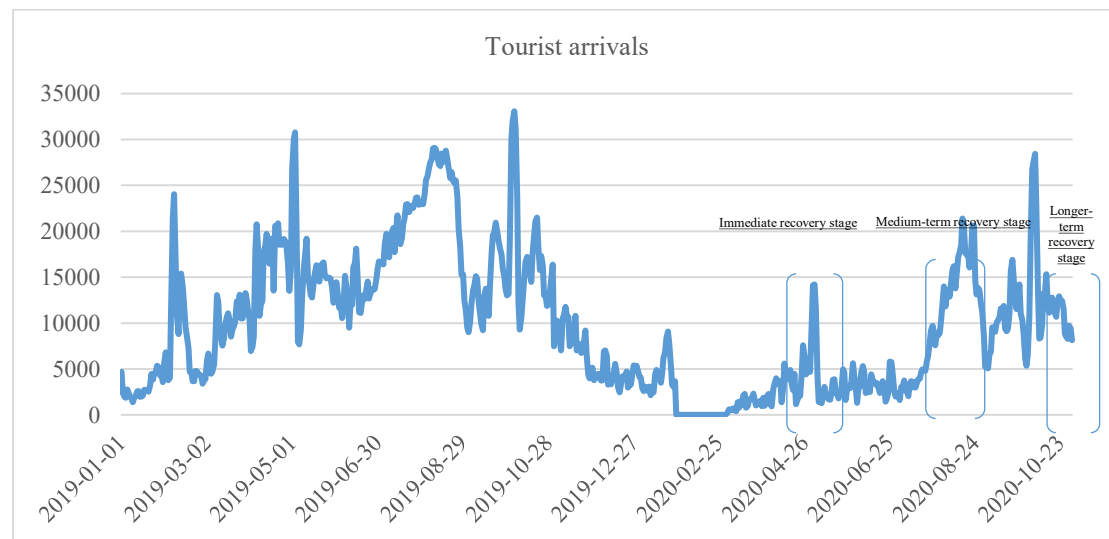


Figure 3 Daily tourist arrivals at Tianmen Mountain (January 2019–October 2020)

3.3 Research design

The interview protocol was inspired by the literature on uncertainty and competence in the face of uncertainty (Williams & Baláž, 2015), innovation (Hall & Williams, 2019),

and capital (Divisekera & Nguyen, 2018); all interview questions are listed in Appendix A. During interviews in Stage 1, participants were informed that two more interviews would be conducted, probably in summer and early autumn. Assuming that travel restrictions would be further relaxed by then, these time points were chosen deliberately: they respectively coincided with anticipated peak visitor numbers during the main summer season and with the post-peak shoulder season, when entrepreneurs would be able to reflect on a critical period of COVID-19 recovery since the early 2020 lockdown. No modifications were ultimately necessary, as projected changes in regulations and tourist flows occurred as anticipated.

The sample featured high retention rates: 37 and 34 out of the original 40 participants were respectively retained in second- and third-stage interviews. This study was centred on B&Bs, which mainly compose the accommodation sectors named *Minsu* and *Kezhan* in Chinese. These establishments generally have fewer than 60 rooms and are managed by entrepreneurs. Hotel accommodation was excluded.

To ensure the trustworthiness of findings and to build rapport with interviewees to promote retention, one member of the research team performed fieldwork in Zhangjiajie in the form of face-to-face interviews. The research team followed the local government's COVID-19-related travel guidelines during fieldwork. The semi-structured interviews were held in Chinese. All interviewees signed consent forms agreeing to participate and permitting interview recording. Corresponding audio recordings were transcribed verbatim and analysed using NVivo 12.

3.4 Sampling

Facilitated by support from the Zhangjiajie DCTBTS and Zhangjiajie *Minsu* and *Kezhan* Association, the research team accessed a list of 1,280 registered B&B entrepreneurs (updated in mid-2019). Convenience sampling was used to select informants for the three-stage longitudinal in-depth interviews. The demographics of the 40 respondents who participated in first-stage interviews are summarised in Appendix B.

3.5 Data analysis

Thematic analysis was performed in NVivo 12. The analysis began with transcription, followed by iterative reading and data coding in Chinese. To compare interview responses longitudinally, questions were kept largely the same in each interview stage; later-stage interview analysis therefore provided an in-depth understanding of the previous stages' interview results and unveiled new findings. The primary coding process was conducted in Chinese by the lead author, who is fluent in Chinese and English. Codes were subsequently translated into English and cross-checked by the other research team members, two of whom were bilingual; the fourth author is a native English speaker. This process promoted inter-coder reliability, enhanced common understanding, and avoided bias across the team. The analysis illuminated emerging concepts and enabled the research team to group the data into categories using open coding. The coding process related to uncertainty during Stage 1 interviews is presented as an example (see Appendix C and Appendix D). Interview transcripts were initially identified using open coding to generate first-stage concepts. Then, broader second-stage themes were uncovered to interpret categories from the first-stage concepts. Lastly, the three aggregate dimensions which formed the conceptual model were obtained from second-stage themes. A similar approach was used for the uncertainty and capital dimensions. All coding results and identified themes are available upon request.

4. Results and discussion

Data from the 34 participants were first analysed to assess the dynamics of uncertainty and capital changes across the three stages. Findings are reported sequentially for each stage. Describing longitudinal changes requires extensive space; for brevity, we have given an overview of changes reported by all interviewees across the interview stages accompanied by select interview excerpts. We then profile three B&B entrepreneurs (Nos. 22, 27, and 32) as exemplars to showcase changes across the three stages in greater detail: this approach is consistent with most qualitative longitudinal studies.

No. 22 was a 34-year-old entrepreneur who founded a B&B in 2018. The high-end B&B contained 16 rooms and was in the urban area of Zhangjiajie. Another entrepreneur (No. 27), a 35-year-old woman, founded her business in 2018 upon converting her urban apartment into a 10-room, low-end B&B. She had only one employee. No. 32 was a 32-year-old entrepreneur who had opened a four-room B&B in 2017, upgrading it in 2019 to a 13-room, high-end, rural B&B employing around 10 staff.

4.1 Immediate recovery

In the immediate recovery stage after the national lockdown, swift recovery caused entrepreneurs to maintain what several described as a “cool head” given partial resolution of pandemic-related uncertainty. Most entrepreneurs were concerned about general B&B business uncertainty—rather than COVID-19-induced uncertainty—and were confident they could cope in this environment. As No. 20 indicated, *“After experiencing lockdown and the quick recovery, my confidence has increased and we can come back quickly.”*

Product and service innovations were mainly driven by the need to upgrade B&Bs’ market segmentation or by entrepreneurs’ efforts to wield their limited resources to become more competitive; many entrepreneurs were focused on surviving and earning a profit. Although No. 2 argued that *“Generating new products and providing better service should drive the B&B’s innovation,”* most entrepreneurs concentrated on marketing innovations because markets had been constrained. These innovations mostly involved marketing channel changes because travel restrictions limited inter-provincial tourism; the importance of intra-provincial tourism and, by extension, word-of-mouth recommendations from friends and customers had increased. Some

entrepreneurs, such as No. 40, hoped to introduce product and service innovations once market restrictions were further relaxed: *“Product and service innovation are awaiting the reopening of inter-province tourism.”*

Capital changes were closely associated with innovation, especially of products. No 1 emphasised the need for *“new skills and sufficient knowledge to generate ideas about new and improved products and services.”* Entrepreneurs’ networks and firm financial stocks further helped their businesses stabilise and recover. However, at this stage, marketing innovations did not require substantial resources.

4.1.1 Attitudes and competence changes in response to uncertainty during immediate recovery

Many entrepreneurs believed they maintained a “cool head” when their businesses first reopened; however, they demonstrated distinct attitudes and performed differently. Neither No. 22 nor No. 32 specified major concerns about COVID-19 because they quickly reopened their B&Bs and experienced a satisfyingly brisk recovery:

I think the risk and uncertainty side is fine now, even if there is no business in the first two months. I do not have much loss for the time being, so my ability to take risks is not bad. However, we hope to receive more guests in the next few months. (No. 22)

Calm down, we can find ways to face these risks. After all, I’m reopening and have a plan. We had a fantastic, quick recovery. (No. 32)

The Chinese government’s rapid response to the crisis facilitated tourism recovery with relatively few business failures, which diminished entrepreneurs’ concerns about pandemic-related uncertainty (Paraskevas & Altinay, 2013). This pattern also reflected why current policy uncertainty was most worrying rather than infection-related uncertainty. The situation mirrored a long-standing concern amongst entrepreneurs concerning the policy balance between negative social and environmental impacts and economic goals (e.g., Gu & Wong, 2006); however, entrepreneurs appeared to become increasingly concerned as policy uncertainty pervaded the industry.

Although the recovery was generally prompt, COVID-19 still greatly affected entrepreneurs as well as their staff:

... The competence to manage uncertainty in responding to a crisis is based on the total competence of our team. We need to unite now because [my staff members] need to trust me as a boss; I need to perform confidently. (No. 22)

I currently have abilities from my experience in business management and other work experience, such as the emergency management skills I gained in my previous insurance manager job. (No. 27)

No. 27 noted his history managing uncertainty, implying that entrepreneurs' competence in tackling difficulties can enhance survival prospects (e.g., Brouder & Eriksson, 2013). No. 22 believed that displaying leadership by strategically managing uncertainty could make his staff more confident and able to cope with the crisis more skilfully. This supposition echoed Freeman and Varey's (1997) findings on how entrepreneurs can influence staff. Overall, both entrepreneurs were active and drew on their unique competencies, which afforded them the confidence to confront uncertainty.

4.1.2 Tourism innovation as a response during immediate recovery

Product and service innovations are related to market uncertainty, with fierce competition and product similarity in the B&B sector propelling product innovation. No. 27 and No. 32 represented low- and high-end B&B entrepreneurs, respectively. Some B&Bs added new local products and services, such as No. 27's "Mei tea"-themed innovation:

I cannot change my property as it is limited by the number of rooms, but I can promote "tea" as a theme: every guest will have a cup of tea, and I will tell the story of the tea to them. (No. 27)

Furthermore, as No. 32 stated, entrepreneurs innovated to meet guests' shifting expectations amid growing uncertainty about the pandemic:

The crisis affects guests' preferences, and they require better places for leisure. The high-end B&B sector generally offers better choices and privacy. (No. 32)

Hong et al. (2020) similarly cited a demand for higher-quality service accommodation, which was thought to have better cleanliness standards and inclusive facilities after the COVID-19 lockdown in China. These changes were incremental rather than radical, as is typical of tourism (Martínez-Ros and Orfila-Sintes, 2009).

COVID-19 travel restrictions also limited the scope of marketing innovations at this stage:

At this stage, we are limited by the restrictions to marketing within Hunan province. (No. 22)

Yet important changes occurred amid, and partly because of, these constraints:

We focus mainly on intra-province markets due to the travel restrictions, and this is mainly based on recommendations from my networks. (No. 27)

Online travel agencies (OTAs) previously served as B&Bs' prime marketing channels (Zhu & Zhang, 2021); however, at the time of these interviews, entrepreneurs were intent on attracting local and intra-province visitors through friends and returning customers (e.g., Nos. 27 and 22). Changes in travel policies spurred these innovations (e.g., Rodríguez et al., 2014) but sparked incremental responses to strong travel restrictions. These innovations nevertheless coloured many entrepreneurs' customer interaction (Huang & Jahromi, 2021). In the early stage of reopening, intra-province marketing was the most common and fruitful way of doing business.

4.1.3 Capital changes during immediate recovery

Innovation, as expected, was highly related to individuals' resources (Hall & Williams, 2019). Entrepreneurs' capital changed during crisis recovery, with some acquiring new forms of capital. Most interviewees in this stage indicated they were learning to use social media for marketing purposes:

We tend to use TikTok for live-stream promotions, and this requires specific skills from me and my staff. (No. 22)

Other entrepreneurs had taken a different angle so as to understand guests' booking intentions:

I am good at communication and have recently been trying to find out what women, as family decision-makers, favour when booking B&Bs now. This is helping me with bookings and selling products in my B&B. (No. 27)

New human capital was required to cope with changes in social marketing and guests' new purchasing habits (Jiang et al., 2020). The views of both of the above entrepreneurs conveyed increasing uncertainty. Entrepreneurs were thus required to expand their innovation capabilities to meet demand-related changes (Gomezelj & Smolčić, 2016).

Social capital can substitute and complement human capital (Coleman, 1988). In the immediate recovery stage, many entrepreneurs (e.g., No. 27) had more time to connect with other entrepreneurs to devise recovery solutions. No. 32 believed that maintaining networks was important, even during this unprecedented crisis.

I think there are more conversations [going on] with our colleagues in the hospitality industry about recovery strategies. (No. 27)

I believe that social capital grows little by little, and I did not specialise in my network. But it is important to make preparations and contact our previous guests to let them know that we have survived and they are welcome. (No. 32)

Social capital, such as networks, can accommodate changing risk and uncertainty (Novelli et al., 2006). In different ways, Nos. 27 and 32 recognised the importance of long-term social capital accumulation (Ostrom, 2000). This strategic thinking especially helped No. 32 survive at this stage.

Immediately after the onset of the crisis, as tourism shut down in Zhangjiajie, most B&B entrepreneurs' cash flows declined sharply; meanwhile, savings and property values largely remained stable.

4.2 Medium-term recovery

Compared with the immediate post-lockdown recovery, most entrepreneurs were more concerned and less confident about the challenges accompanying COVID-19 uncertainty as the pandemic persisted. Interviewees exhibited considerable uncertainty about the future. Apart from generic uncertainty about competition and policies, entrepreneurs mentioned the possibility of an economic decline and an unstable international trade and tourism environment:

Unstable relationships with other countries are reducing the number of international travellers. (No. 8)

Despite omnipresent uncertainty, substantial innovations emerged in response to survival and competitive pressure. Entrepreneurs were willing to upgrade and developed more realistic expectations:

The high-end B&B market is attractive, but it does not mean the low-end B&B [market] is bad, as improving products and services can still result in success. (No. 6)

Furthermore, entrepreneurs generated products and services (e.g., new facilities) to expand the suite of activities available to customers. Marketing innovations also shifted in response to the reopening of inter-provincial tourism, with internet marketing becoming dominant at this stage—especially an increasing focus on “We media.” However, No. 18 stressed that it was important not to overlook “the continuing

potential of markets within the province.” No. 19 mentioned feeling *“hesitant [when] deciding between different marketing channels and seeking a long-term solution.”* Incremental innovations became imperative as B&B entrepreneurs responded to policy changes and shifting market preferences.

Entrepreneurs could take lessons from successful rivals but doing so depended on their learning capacity. No. 24 explained, *“We know who did well and how to do it, but whether the action could be conducted successfully depends on having skills, knowledge, and education.”* Social capital was generally steady, although entrepreneurs engaged in more frequent online communication with customers and adopted new social media marketing strategies. Financially, the entrepreneurs faced increased (but not significant) innovation cost barriers at this stage.

4.2.1 Attitudes and competence in response to uncertainty during medium-term recovery

Compared with the immediate recovery stage, most entrepreneurs became more anxious, more cautious, and less confident given the unforeseen longer-term impacts of COVID-19. The entrepreneurs generally experienced lower occupancy and reduced profits compared with the same period in 2019; this phenomenon substantiates Von Gelderen et al.’s (2000) view that poorer performance leads to more reactive behaviour, intensifying SMEs concerns about uncertainty. For example, No. 22 mused that this stage entailed greater uncertainty because his urban high-end property had comparatively fewer bookings due to intense market competition: *“I may be investing in catering services, rather than my current urban high-end B&B, as the pressure of competition after the crisis is increasing.”* By contrast, although No. 32 was concerned about being left behind and even losing business without investing further in innovation, uncertainty signalled the need for caution: *“We need to be more cautious about investing in the future B&B market because it’s too unpredictable.”*

Most entrepreneurs were highly concerned about competition. Despite gradually rebounding from the crisis, recovery was moderate in the face of a largely stable and even rising number of accommodation providers. No. 27 was especially concerned about new market entrants, particularly budget hotels:

I am worried about the chain budget hotel opening near my B&B. It has bigger rooms and marketing advantages.” No. 32 also mentioned competition and expressed concern

about the paucity of government strategies to support the low-end B&B market segment if some failed to survive: *“The market is obviously weak now for a lot of low-end B&Bs because the competition is so fierce. I’m also worried about the same problem with high-end B&Bs in the future.*

These concerns highlighted primary sources of uncertainty at this stage, namely competition and policy. Moreover, as No. 27’s commentary on market entrants suggested, one firm’s innovation strategy can create uncertainty for other entrepreneurs (Williams et al., 2021).

Despite—or perhaps because of—their growing concerns, entrepreneurs were required to manage uncertainty:

Currently, my ability is weaker than in the last stage because I lost money. But I need to be brave in the face of uncertainty to fight and find a solution. (No. 22)

At this stage, my ability to manage uncertainty comes from the skills and knowledge accumulated during the pandemic. ... I am learning to understand marketing changes to cope with the unstable situation by learning from it. (No. 27)

No. 27 exemplified how most entrepreneurs learned from the crisis recovery, acquiring stronger crisis management skills. This outcome reinforces Baumrind’s (1978) observation regarding the role of conscious learning in building competencies. Meanwhile, No. 22’s remark about remaining brave despite financial losses supports Inyang and Enuoh’s (2009) discovery that entrepreneurial competencies are based on financial capital. Financial support seemed critical for SMEs’ survival, as the entrepreneurs withstood many financial losses during this crisis.

4.2.2 Tourism innovation as a response during medium-term recovery

Compared with the immediate recovery stage, entrepreneurs in the high- and low-end segments became more cognisant about COVID-19-related uncertainty and more innovative over time.

They increasingly recognised the demand for high-end B&Bs, despite new product and service development being time- and resource-intensive (e.g., financially) (Zach et al., 2020). As No. 32 pointed out, *“You can see from the construction in the Zimugang region that investments in high-end segment B&Bs are increasing. They learned from us and knew that high-end B&Bs may be the future.”*

Yet No. 27 indicated that it is also possible to innovate in low-end B&Bs with limited resources:

There are a few product innovations that our low-end B&Bs can introduce, such as group activities. As I have a balcony, I recently bought some iconic chairs and art products ... for guests to take photos. (No. 27)

No. 27 also started to coordinate group activities and established a spot for social media check-ins. These incremental innovations were largely based on existing offerings and reflected how B&B entrepreneurs can enhance and set apart their products and services under disruptive conditions (Yu et al., 2020).

Marketing innovations can have fewer resource demands. These types of developments rose to prominence once the government reopened inter-provincial tourism: entrepreneurs tended to be more able or willing to draw on their resources in response to the policy shift. Most entrepreneurs intensified marketing innovations; for instance, some used popular social media platforms such as TikTok (e.g., Nos. 27 and 22) to expand customer communication (George, 2021). New and old forms of marketing were blended as entrepreneurs continued to use OTAs (No. 27), with some even preferring them to other advertising channels (No. 22).

My main focus is still on OTAs, but we use TikTok to post photos, and we encourage TikTok users to visit the Ctrip OTA to book our B&B, which strongly enhances our partnership with Ctrip. (No. 22)

We targeted broad markets and did promotions on TikTok and OTAs, which were useful. (No. 27)

Pandemic-related uncertainty spawned marketing concerns that inspired innovations as the hospitality industry adopted advertising channels such as TikTok (Altinay & Arici, 2021). However, most bookings were still completed via OTAs; tourism entrepreneurs and tourists alike deem these sites trustworthy and reliable (Wang et al., 2020). Available marketing channels also afforded entrepreneurs opportunities to choose the most appropriate platforms to raise awareness of their businesses, representing an incremental marketing innovation (Huang & Jahromi, 2021). These changes were further tied to social capital as discussed in the ensuing section.

4.2.3 Capital changes during medium-term recovery

Many entrepreneurs cited enhanced skills and knowledge as pivotal for product and service innovation. No. 22 described striving to gain knowledge and sharing it with his small set of employees during staff meetings. This objective paralleled the attitudes of most entrepreneurs in this stage:

I and my staff have learned from our group meetings, which were set up for reflection, on how we can improve our skills and knowledge in the future, mainly through service improvements. (No. 22)

In another example, No. 27 mentioned leveraging creative knowledge to implement design changes such as innovative use of the B&B's balcony: *"For me, knowing how to use limited resources to build new iconic products and services is the key, and I think I did it, as you can see from my balcony."*

Both these entrepreneurs showed that leadership effectiveness, teamwork, and decision making remained critical factors in responding effectively to a crisis (Alves et al., 2020).

In terms of social capital, entrepreneurs spent less time with each other than in the first stage. Networking shifted more to guests instead.

More business and more communication helped us in the current stage. We need to move our focus to having great relationships with guests. (No. 27)

I keep my network and have maintained many groups which came to my B&B ... which helps. I am not that worried about the competition because of my strong network. (No. 32)

Different from the previous stage, some entrepreneurs (e.g., No. 27) sought to maintain close relationships with customers to encourage bookings as travel restrictions eased. Others (e.g., No. 32) re-evaluated their networks to examine how they could improve their social capital, pointing to the key role of such capital in service sector competitiveness (Petrou & Daskalopoulou, 2013). With respect to financial capital, entrepreneurs primarily concentrated on re-evaluating it in anticipation of subsequent innovation.

4.3 Longer-term recovery

At this stage, although COVID-19's trajectory was still unclear, entrepreneurs could draw upon their earlier experiences with the peak summer season. Their re-evaluation of persistent and new uncertainties led entrepreneurs to be increasingly apprehensive

about the future B&B market, which informed their innovation and subsequent capital changes as they strove to elevate their competitiveness. Even a highly confident entrepreneur—No. 26, owner of one of Zhangjiajie’s most successful B&Bs—voiced deepening unease: *“COVID-19 affected the whole industry. We should stay cautious; we would be left behind if we did not innovate.”*

Entrepreneurs devised new or improved services and products in response to shifting demand in the B&B sector, ensuring that marketing innovations suited customers’ changing preferences. Substantial incremental innovations conveyed radical changes for individual entrepreneurs. No. 2 intended to upgrade a mid-segment B&B because a *“high-end B&B could bring more profits after COVID-19”* but acknowledged that this course of action came with uncertainty. Marketing innovations continued to be based on relatively minor incremental adjustments. No. 8 specifically commented that *“bigger changes in marketing innovation are impossible without technological innovation,”* as suggested by the enduring trend of internet and technology development driving tourism innovation (Hall & Williams, 2019).

Entrepreneurs generally kept enhancing certain management skills, and their social networks remained solid. However, considerable changes manifested in financial capital through greater investment in product innovation: Nos. 2 and 29 both implemented radical changes to upgrade their facilities.

4.3.1 Attitudes and competence in response to uncertainty during longer-term recovery

Entrepreneurs became more cautious as crisis recovery progressed given realisation of COVID-19’s extensive impacts on health, the economy, and social stability beyond the immediate region. The tourism industry is fragile and highly vulnerable to diseases that restrict travel (Irvine and Anderson, 2006). B&B entrepreneurs were concerned as uncertainty continued to plague the market and became more globally significant, leading to negative expectations:

Compared with the previous period, I will be more careful with each of my bookings...because the pressure caused by a long-term pandemic will be lengthy. (No. 22)

Uncertainty had ballooned since the crisis began, and recovery was seen as exceedingly difficult due to the pandemic's persistence. Future competitiveness challenges were perceived as unpredictable:

We are more concerned about the future competitiveness of B&B products compared with traditional hotels, and you can see now that there are some obsolete B&B products out there. (No. 32)

Clear concern about pandemic-related consequences led resources to be a major focus at this stage. Many entrepreneurs were anxious about their businesses' survival:

I [am] worried about the increasing requirements evident from guests' review comments, and my resources to meet them are limited. (No. 27)

I'm worried about the development of the B&B sector and whether it will always look good. If we don't have more competitive products and services in the future, I am afraid [the business] won't last long. (No. 32)

Entrepreneurs recognised that their capacity to respond was limited and that they may not have the skills necessary to survive (Zhang et al., 2021). Some, such as Nos. 22 and 27, were nervous about the capital required to respond. They thus adopted a cautious approach to finance while investing in innovation:

I just cut the budget for my own expenses to balance the losses of previous months. The current recovery rate gives me hope, and my ability to manage uncertainty will be good if there is no second wave within our province. (No. 22)

I consider there are more and more risks and uncertainty. Our approach is to use our current resources for investment in the B&B and to be more careful about this investment and our profits. My capital, especially my financial capital, is okay. (No. 27)

4.3.2 Tourism innovation as a response during longer-term recovery

Entrepreneurs saw that long-term B&B survival called for innovative products and differentiated services. No. 32 opined that investing in product innovation, such as adding a spa, pools, and BBQ facilities, had become essential (vs. before the pandemic) to remain competitive in the high-end B&B sector. This course of action accorded with the need to accommodate guests' demands for more distinctive products (Zhang et al.,

2021). Associated products and services also mandated greater investment compared with previous stages:

We need to think about offering more products and services to our guests, such as spa and barbecue services, to make it a form of tourism, rather than just an accommodation. (No. 32)

No. 27 innovated slightly differently in comparison to the first two stages by adding products within budgetary bounds, aiming to limit expenses while enhancing service satisfaction by reconfiguring accommodation:

I am also considering changing the configuration of my B&B. There are 10 rooms now, and I am designing an upgrade with five family suites to suit the demand for family travel. (No. 27)

Budget B&Bs generally did not follow this reconfiguration path, but No. 27 considered it a tangible low-cost product innovation. Gibbs et al. (2020) showed that family tourists increasingly prefer to stay in suites. Despite their different strategies, Nos. 32 and 27 each displayed strong intentions to revamp their products and services, reflecting a far-reaching trend in Zhangjiajie.

Marketing channel modifications can influence entrepreneurial performance as well (Lee & Hallak, 2020), with Zhangjiajie being no exception:

Now, we have lots of cooperation with the nearest golf club, which can secure one-third of our rooms on weekends. OTAs are still as important as they were previously, but this collaboration is an extra bonus. (No. 22)

Using OTAs has become an issue because the commission fee is increasing. I don't only focus on one platform, and [I] recognise it is important to have various target markets through different channels. (No. 27)

Different from No. 27, who was concerned about rising commission fees (Hao et al., 2020), No. 22 was loyal to OTAs in the second and third stages because these agencies offered a trusted review system (George, 2021). Irrespective of entrepreneurs' views towards OTAs, most were seeking to expand to other booking channels to reduce reliance on specific platforms. For instance, No. 22 cooperated with a golf club; others mentioned collaborating (e.g., via a business partnership) with a company whose business travellers regularly stayed in B&Bs. These incremental innovations could directly affect individual businesses' competitiveness (Gupta et al., 2016).

4.3.3 Capital changes during longer-term recovery

At this stage, entrepreneurs were intent on cultivating knowledge and becoming better able to innovate in the future. They were also concerned about capital uncertainty as indicated in Section 4.3.1. However, most entrepreneurs possessed strategies to organise and enhance their resources at this stage. Knowledge of budgetary control is vital for SMEs—as No. 27 confirmed during the second- and third-stage interviews—and can inform innovation (Santra, 2018). Most entrepreneurs bolstered their innovative and managerial skills during this crisis despite applying distinct strategies, which enabled them to innovate (e.g., Eggers, 2020):

I am more thoughtful about the long-term human capital development in terms of what I can do in the future for the B&B, so I also let my staff try to improve their managerial skills, which has enhanced our capacity for future innovation. (No. 22)

Similar to the last interview, as a budget-level B&B, we still need to have innovative knowledge for our products. (No. 27)

Social capital was relatively stable in this stage. Most entrepreneurs shared sentiments similar to the following:

[Social capital] is a long-term thing. The guanxi with others has not seen obvious changes yet. We tried to maintain our network as normal. (No. 27)

Entrepreneurs prioritised social capital throughout the three stages, and it changed minimally over time. The most apparent shift in Stage 3 involved financial capital. Many entrepreneurs, especially those who had upgraded their properties, recounted that their cash flow improved due to recovering demand and successful innovation. Nevertheless, even as cash flows increased, entrepreneurs remained unclear about their B&Bs' future and were willing to diversify their investments to reduce risk:

The tourist flow steadily recovered, and the financial pressure was less than in the previous two stages. Cash flows are getting better. I considered an upgrade and used my savings and loans to further invest in my B&B. (No. 22)

I chose to use my money to invest in other industries, such as restaurants, rather than in the B&B sector, because I think it is better to diversify to protect against the uncertainty related to my financial capital. (No. 32)

Entrepreneurs remained mindful of their financial situations and were willing to invest in innovation because higher-standard products are often crucial for boosting entrepreneurial performance (Bakar & Ahmad, 2010). No. 22 and many other entrepreneurs used financial capital to upgrade and invest in their B&Bs by developing products, services, and marketing strategies. Nevertheless, entrepreneurs took different approaches to managing such capital during a time of heightened uncertainty. Investment diversification can reduce entrepreneurs' dependence on a single product, as evidenced by No. 32's strategy.

5 Conclusions

The Figure 4 summarises entrepreneurs' understanding of and responses to uncertainty and changing capital during the COVID-19 crisis. Uncertainty progressively affected B&B businesses, and the unknown trajectory of the pandemic dominated entrepreneurs' reactions. However, the three-stage research period between April and November 2020 indicated substantial shifts in entrepreneurs' responses over time. Alterations in these B&B SMEs may also reflect changes in other vulnerable businesses during crises (Li et al., 2010).

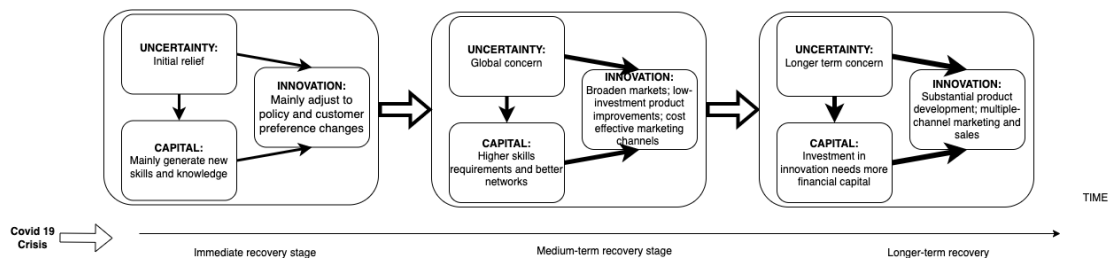


Figure 4 Summary of key findings

(Note: An arrow's thickness implies the relative strength of the corresponding relationship)

Our findings address the three research questions presented in the introduction as captured in the initial framework (Figure 1): factors shaping entrepreneurs' understanding of uncertainty, capital-related changes, and resultant innovation. The main aspects influencing entrepreneurs' grasp of fluctuating uncertainty centred on external shifts in demand; associated changes were closely tied to policies and competition. Entrepreneurs also attended, albeit to a lesser extent, to internal uncertainty. Such firm-related concerns generally revolved around capital, particularly financial capital. Innovation (i.e., in products/services and marketing) dominated B&Bs'

responses to evolving uncertainty. Increasing emphasis was placed on product innovation in the latter two stages as entrepreneurs recognised COVID-19's persistence and global scope. More substantial product development was anticipated during longer-term recovery. Shifts in marketing innovation also came in response to policy-driven uncertainty. Following the sheer relief of having survived the early 2020 lockdown, entrepreneurs generally became more proactive in the face of uncertainty.

Among different forms of capital, human capital was especially important during early recovery and continued to play a key role in the innovation process throughout all stages. Social capital represented the most important resource when seeking marketing opportunities. Financial capital was needed in all three stages, especially when entrepreneurs pursued product innovations such as refurbishing a B&B, which required considerable additional investment. Entrepreneurs' attitudes towards and competence in managing uncertainty also developed throughout these recovery stages, which influenced product, service, and marketing innovations. Attitudes towards uncertainty initially focused on surviving the crisis to then responding to it and finally to re-evaluating uncertainty. However, individual entrepreneurs reacted differently based on their unique resources and SMEs' vulnerabilities (Buhalis & Peters, 2006). We further investigated how SMEs harnessed human, social, and financial capital to implement various innovations in response to this crisis. Entrepreneurs' approaches were framed by their attitudes and competence in navigating risk and uncertainty during the recovery stages.

The narrative underlying the three-stage longitudinal interviews is as follows. In the immediate recovery stage, entrepreneurs were relatively calm and managed recovery fairly simply thanks to relief about reopening. Then, during medium-term recovery, entrepreneurs came under more pressure and faced amplified uncertainty. Their innovations, especially in marketing, reflected opportunities related to less stringent travel restrictions. Human capital (e.g., knowledge and skills) and social capital (e.g., networks) increased in response to service and marketing innovations. In the final stage, uncertainty and innovations were simultaneously changed. Many entrepreneurs applied their resources to develop products (e.g., in upgrading or reconfiguring their properties) if they possessed sufficient financial capital and a clear sense of shifts occurring in the tourism market.

This research makes a number of contributions. To the best of our knowledge, it represents the first longitudinal qualitative study of SME entrepreneurs during a pandemic, and one of the few such studies of any crises. The findings map changes in entrepreneurs' perceptions during a tumultuous period, from a time when entrepreneurs merely endeavoured to survive the lockdown to the rapid initial response to recovery and finally to a point when they became more aware (than they had been prior to the crisis) of the industry's uncertainty. Our results related to uncertainty, capital, and innovation conceptualise SME crisis recovery across several stages. This framework can potentially be generalised to other crises but would require further empirical validation.

Our work has practical implications for crisis response innovation. As Zhangjiajie was at the forefront of recovery progress, several aspects of the analysed innovation experiences may apply to other regions and countries. First, innovation via social media played a core part in crisis recovery. Second, entrepreneurs are flexible, continually learning and enhancing their competencies to manage risk and uncertainty during different crisis recovery stages. Their human, social, and financial capital played important roles in recovery. Forms of capital were further developed based on entrepreneurs' crisis responses. However, entrepreneurs' ability to manage uncertainty was generally low, and they were concerned that they might struggle to address future innovation challenges as discussed in final interviews. These findings underscore the need for governments to help tourism SMEs cultivate innovation skills along with providing knowledge training and support. Third, tourists in Zhangjiajie preferred high-end B&Bs and family suites, affirming the post-pandemic potential of the high-end B&B market—certainly in China and presumably worldwide. Finally, the government should offer SMEs tourism planning and environmental policy guidance; numerous policy obscurities puzzled entrepreneurs. The same recommendations could apply in other crisis contexts as well, such as circumstances involving non-physical damage (e.g., financial crises or epidemics). Policymakers should acknowledge the need for greater clarity around the dynamic framework of uncertainty, capital, and innovation.

Some study limitations should be noted, as they leave room for future work. First, our research period only spanned eight months; this timeframe, despite covering three critical stages, was relatively short in light of the pandemic's enduring impacts. Second, we solely focused on the accommodation industry in Zhangjiajie and did not consider

other tourism sectors or destinations. Finally, scholars should expand upon this longitudinal study by addressing the post-COVID-19 period. Subsequent shifts in uncertainty are nearly inevitable, such as those following from vaccination protocols in many countries.

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Appendix

Appendix A List of interview questions

Aspect	Interview questions R1	Interview questions R2	Interview questions R3
Demographic	Gender, Age, size of the B&B etc.		
Uncertainty	What's your attitude towards uncertainties now?	What's your attitude towards uncertainties now? Do you feel it changed over time since the last interview until now? How did it change?	
	What do you think of your ability to manage uncertainties now?	What do you think of your ability to manage uncertainties now? Do you feel it changed over time since the last interview until now? How did it change?	
	What are the main uncertainties you are worried about? Why?	What are the main uncertainties you often worried about since the last interview until now? Why?	
	What were the biggest challenges that you had not anticipated at the start? Why?	Looking back over the past months of Covid19 crisis recovery, what were the biggest challenges that you had not anticipated at the start? What are the main uncertainties you often worried about since the last interview until now? Why?	
	Do you want to talk about anything else about the crisis challenges apart from the questions I already asked you?	Reflecting on the past months experiences regarding uncertainties, do you want to talk about something other than the questions I already asked you?	
	What's your opinion about uncertainties over the next few months?	What's your opinion about uncertainties over the next few months?	
Capitals	What are your views on your human capital (such as knowledge, skills changes) in the time since the end of the lockdown ?	What are your views on your human capital (such as knowledge, skills changes) since the last interview until now?	
	Are there any specialised knowledge and skills you have gained or lost in this period?	Are there any specialised knowledge and skills you have gained or lost in this period?	
	What are the reasons that these changed over time?	What are the reasons that these changed over time?	

	What are your views on your social capital (eg: your relationships with your relatives, close friends, other hostels, association, government bodies) in the time since the end of lockdown?	What are your views on your social capital (eg: your relationships with your relatives, close friends, other hostels, association, government bodies) in the time since the first interview?
	What are the reasons that these changed over time?	What are the reasons that these changed over time?
	How have you worked with your relatives, close friends, other hostels, associations, and government bodies throughout these stages?	How have you worked with your relatives, close friends, other hostels, associations, and government bodies throughout these stages?
	What are your views on (financial capital) your remittances and total property values changes in the time since the end of lockdown?	What are your views on (financial capital) your remittances and total property values changes since the last interview?
	What are the reasons that these (Financial capital) changed over time?	What are the reasons that these (Financial capital) changed over time?
	How did changes in your capitals impact on your crisis management?	How did changes in your capital impact on your crisis management at this stage?
Innovation	Do you have any plans for innovation in the current situation?	Do you have any plans for innovation in the current situation?
	If you do have a plan to innovate, how will you implement this ?	If you do have a plan to innovate, how will you implement this ?
	What does your innovation focus on?	What does your innovation focus on?
	Why do you focus on this?	Why do you focus on this?
	Please assess your capitals in relation to your innovation.	Please assess your capitals in relation to your innovation.
	Rethinking the impact of Covid-19, what is your opinion on the future development of the B&B industry?	Rethinking the impact of Covid-19 and reflecting the past months experiences, what is your opinion on the future development of the B&B industry?

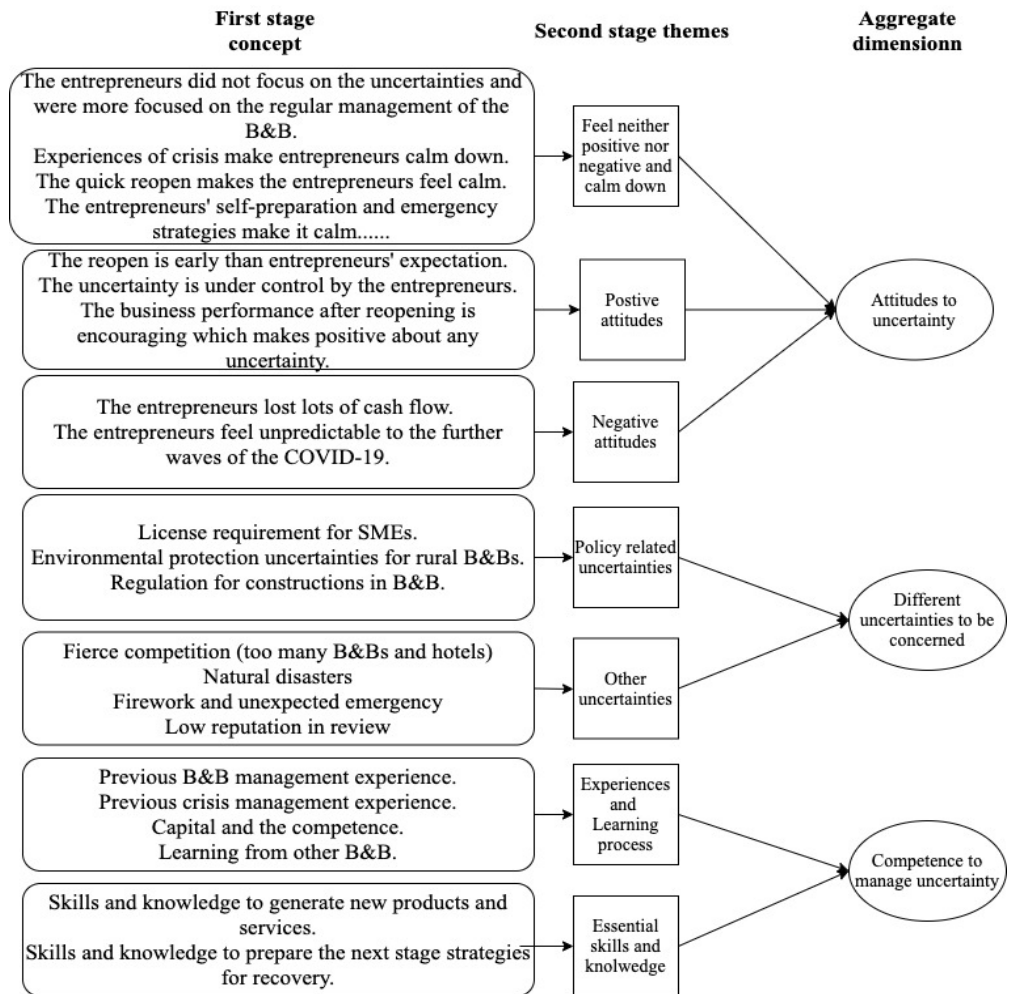
Appendix B: Respondents' demographic information

No.	Gender	Years since the B&B opened	Room numbers	Average daily rate (CNY)	Stage 1	Stage 2	Stage 3
1	F	2	5	Over 600	★	★	★
2	F	3	35	100–200	★	★	★
3	M	4	15	100–200	★	★	☆

4	M	6	33	100–200	★	★	★
5	F	1	12	Over 600	★	☆	☆
6	M	4	50	200–300	★	★	★
7	F	3	30	100–200	★	★	★
8	M	5	18	100–200	★	★	★
9	F	5	25	300–400	★	★	★
10	F	4	13	200–300	★	★	☆
11	M	3	16	200–300	★	☆	☆
12	F	3	15	Over 600	★	★	★
13	M	2	17	Over 600	★	★	★
14	M	6	32	100–200	★	★	★
15	F	3	24	300–400	★	★	★
16	M	3	15	200–300	★	★	★
17	F	2	8	300–400	★	★	★
18	M	6	18	100–200	★	★	★
19	M	2	20	200–300	★	★	★
20	M	2	18	200–300	★	★	★
21	M	6	24	100–200	★	★	★
22	<i>M</i>	<i>2</i>	<i>16</i>	<i>Over 600</i>	★	★	★
23	M	4	19	100–200	★	★	★
24	F	4	25	300–400	★	★	★
25	M	2	18	Over 600	★	★	★
26	M	10	7	100–200	★	★	★
27	<i>F</i>	<i>2</i>	<i>10</i>	<i>100–200</i>	★	★	★
28	M	2	55	200–300	★	☆	☆
29	M	2	20	100–200	★	★	★
30	M	2	16	100–200	★	★	★
31	M	3	30	100–200	★	★	★
32	<i>M</i>	<i>2</i>	<i>13</i>	<i>Over 600</i>	★	★	★
33	F	3	11	300–400	★	★	★
34	M	7	40	Over 600	★	★	★
35	M	5	10	100–200	★	★	★
36	F	3	23	300–400	★	★	★
37	M	5	50	200–300	★	★	★
38	F	3	8	400–500	★	★	★
39	M	1	12	Over 600	★	★	☆
40	M	3	20	Over 600	★	★	★

Note. ★ indicates the respondent participated in the interview whereas ☆ did not. Quotations from the italicized participants were mainly selected to illustrate the following analysis.

Appendix C: Example data structure for uncertainty from the immediate-post-lockdown stage interviews



Appendix D: Examples of categorisation of themes into aggregate uncertainty dimensions from the immediate-post-lockdown stage interviews

Aggregate dimension	Attitude	Major concern	Competence
Theme	Feel neither positive nor negative and 'calm down'	Policy related uncertainty	Experiences and learning process
Example	'I think it is just like normal life as we experienced many uncertainties before and we have all gone through if we calm down, keeping the business' (No. 15)	'I think many B&Bs are concerned about policies. So am I. The higher segment is facing environmental protection conflicts, but we mostly face different policy uncertainties such as irregular fire policy changes, license update, etc.' (No. 27)	'I currently have skills from my experiences of business management and other work experience, such as the emergency management skills I gained in my previous insurance manager job.' (No. 27)
Theme	Positive in attitudes	Other uncertainty	Essential skills and knowledges
Example	'I am positive about it because if uncertainty makes you negative, you cannot succeed especially as an entrepreneur.' (No. 31)	'There are uncertainties about the price competition as there is too much accommodation in Zhangjiajie and I am not sure whether to further invest or exit from the industry in the future.' (No. 4)	'I have the skills such as being able to provide the room service by myself in order to cut down the cost which is essential during the crisis.' (No. 8)
Theme	Negative in attitudes	\	\
Example	'I am negative as my B&B is out of fashion and it needs to be refurbished especially after COVID-19 because the higher segment B&Bs are more popular.' (No. 13)	\	\

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