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Entrepreneurial orientation and firm performance in tourism and hospitality firms: A configurational approach across different market conditions

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ABSTRACT

This study explores the effect of market turbulence on the relationship between entrepreneurial orientation (EO) and business performance in the tourism and hospitality (T&H) industry, considering pre- and post-crisis landscapes. Using a longitudinal approach, the study draws on a sample of 35 small independent hotels. Each of these hotels was surveyed twice during and after the COVID-19 crisis, and fuzzy-set qualitative comparative analysis (fsQCA) was used to examine the changing dynamics of the relationship. The findings reveal that different combinations of EO dimensions increase firm competitiveness (FC) and growth (FG) under various market conditions. The in-depth analysis further shows that hotels reaching a high-performance level in both periods had changed their entrepreneurial behavior significantly. More specifically, combinations of EO dimensions that lead to a high level of FC differ from those that lead to a high level of FG. In contrast, combinations that lead to a low level of FC and FG are similar.

1. Introduction

The COVID-19 pandemic has profoundly impacted the T&H industry worldwide, leading to significant shifts and structural changes (Hall et al., 2020). With the COVID-19 pandemic, the T&H market experienced drastic disruptions, leading to discernible differences in demand dynamics, tourist behavioral changes, and technological innovations between its pre and post-pandemic landscapes. First, during the COVID-19 pandemic, the T&H market experienced a significant decline in tourist demand due to sudden travel restrictions, lockdowns, and fear of contracting the virus (Gössling et al., 2020). This led to a significant downturn in T&H businesses (e.g., declining hotel occupancy rates, revenue, and profits) and reduced investment and expansion in the industry (Wong et al., 2023). Previous studies suggest a noticeable shift toward domestic and local tourism as international travel became more challenging during this period (Li et al., 2021; Ren et al., 2022; Volgger et al., 2021). Second, tourist behavior and preferences also changed during the pandemic. Health and safety concerns became the top priority for travellers, leading to an increased demand for hygiene standards and contactless services (Bae and Chang, 2020; Hao et al., 2023). According to Huang et al. (2021), tourists prefer nature-based experiences and destinations with low population density. Furthermore, virtual tours and experiences surged in popularity as alternatives to physical travel (Verma et al., 2022). Third, the availability and accessibility of T&H services were significantly affected during the pandemic. Many hotels, restaurants, and tourist attractions were forcibly closed or operated at reduced capacity. This closure required rapidly adopting digital solutions in the T&H sector. Online reservations, contactless payments, and virtual experiences became prevalent, enabling T&H businesses to survive in an era of social distancing and reduced physical

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interactions (Sigala, 2020).

T&H literature underscores the vital role of EO, perceiving it as a catalyst that propels the success and performance of T&H firms, particularly amidst high environmental uncertainty (Kallmuenzer et al., 2019). Moreover, T&H businesses with high EO were seen as a source of sustained competitive advantage (Tajeddini et al., 2023). Although recent studies suggest that T&H firms with higher EO may have better performance outcomes during and after the COVID-19 pandemic (Tajeddini et al., 2020), several noticeable research gaps require attention. First, most prior research on the impact of EO in enhancing the performance of T&H firms predominantly concentrates on either the during-pandemic phase (e.g., Volgger et al., 2021) or the post-pandemic period (Hampton et al., 2023). However, studies exploring and comparing how specific market conditions triggered by the pandemic impacted the dynamic relationship between EO and the performance of T&H firms during and after the pandemic within a single study are scarce (Brilhante and Rocha, 2023). It is worth noting that the role of the external environment in shaping entrepreneurial performance has been discussed in the entrepreneurship literature since the concept of EO was proposed, and it still has not been clearly conceptualized (Gupta and Gupta, 2015; Wales et al., 2021; Suder et al., 2025). Therefore, new research is recommended, including longitudinal studies based on panel data, as well as configurational methods (Miller, 2011).

Second, despite numerous studies on the impact of EO on firm performance in general (e.g., Soares and Perin, 2020), there is limited evidence of how the different dimensions of EO influence specific types of performance of T&H firms (Bedi et al., 2023). This is particularly vital as EO and firm performance are typically operationalized using multidimensional scales in prior literature. Partially addressing this gap, Tajeddini et al. (2020) contribute to the field by defining and measuring hospitality business performance through two distinct dimensions: growth and financial return. However, there is still ample hiatus in investigating how the different components of EO can influence various performance dimensions differently, such as firm growth or competitiveness, particularly in varying market conditions.

Third, among the players operating in the T&H industry severely affected by the pandemic, the hotel sector has undeniably experienced the most brutal hit (Farmaki et al., 2020). Even within the hotel industry, small, independently owned hotels, such as one—and two-star hotels, face challenges comparable to those of their larger chain counterparts when managing business in a crisis such as COVID-19 (Hall and Williams, 2020). They must uphold stringent hygiene standards and embrace digital technologies, which can be particularly demanding given their limited resources, capacity constraints, and often less robust organizational structures (Zhong et al., 2021). While extensive research has been conducted on the EO and hotel business performance relationship, most of these studies have primarily focused on large hotel chains (e.g., Tajeddini, 2010; Tajeddini et al., 2020, 2023). However, there remains a significant gap in our understanding of how this relationship manifests within small-scale hotels. Therefore, one exciting area of study that has emerged from this hiatus is to examine how small, independently owned hotels manage their entrepreneurial activities to enhance performance amidst fluctuating pre- and post-crisis market conditions. Studying the dynamics of EO and how it influences hotel business performance within small-scale hotels is vital, as their capacity to offer a tailor-made, personalized tourist experience empowers them to compete with large chains.

Inspired primarily by these noticeable gaps in existing literature (Leta and Chan, 2021; Wut et al., 2021), this study aims to identify different patterns of changes in the entrepreneurial behavior of hotels under various market conditions and how these differences impact hotel performance. In particular, it examines the effect of the configuration of dimensions of EO on hotel performance in terms of hotel growth and competitiveness by comparing two time periods, namely during and after the crisis caused by the COVID-19 pandemic.

To achieve this goal, we design a conceptual framework that consists of the three dimensions of EO (i.e., innovativeness, proactiveness, and risk-taking) and two contextual factors (i.e., market conditions during and after the crisis triggered by the COVID-19 pandemic) that are essential for successful hotel growth and competitiveness. Subsequently, utilizing a matched dataset collected from hotel managers, we performed a fuzzy-set qualitative comparative analysis (fsQCA) to identify various configurations that result in both high and low levels of hotel growth and competitiveness by comparing two periods: during and after the crisis caused by the COVID-19 pandemic. Drawing from these findings, we have developed propositions that present multiple alternative strategies for configuring hotel EO to achieve high growth and competitiveness in response to changing market conditions. Additionally, we have formulated proposals that outline factors leading to lower hotel growth and competitiveness.

The study findings contribute to the existing literature on EO in the T&H industry by providing novel theoretical insights into the intricate nature of various combinations of EO dimensions in hotels that lead to high levels of growth and competitiveness during and after the COVID-19 pandemic. The comparison of configurations of EO dimensions during and after the crisis, tracking the changes in entrepreneurial behaviors of examined hotels accordingly, and analyzing their impact on two dimensions of performance (competitiveness and growth) make this study original and add value to the ongoing discussion on the role of external conditions in shaping entrepreneurial performance. Furthermore, implementing a matching configurational approach using fsQCA can serve as a guide for T&H EO researchers to explore the dynamic relationships among key EO components and performance from both a pandemic and post-pandemic perspective.

Our prescriptive propositions offer valuable guidelines for hotel managers when designing their EO strategies to achieve growth and competitiveness effectively in turbulent market conditions. Specifically, studying the changes in entrepreneurial behavior during and post-pandemic can provide industry practitioners with essential lessons to be prepared for future crises and adoption in a post-crisis world (Hall et al., 2023; Wut et al., 2021). By extrapolating the strategies and tactics employed by one and two-star hotels to other accommodation establishments, future research can develop more informed strategies and recommendations to improve overall hotel growth and competitiveness (Dryglas et al., 2024).

2. Theoretical background

2.1. Market turbulence

In entrepreneurial T&H literature, the business environment is characterized by constantly changing market conditions, tourist preferences, and technological advancements that necessitate a high level of EO among firms to adapt and thrive (Kallmuenzer et al., 2019; Tajeddini et al., 2020). The T&H market is complex, involving multiple stakeholders and influencers: competitors, customers, intermediaries, suppliers, other partners, economy, politics-laws, and technology. They all have a vital role in changing entrepreneurial behaviors (e.g., building resilience) in T&H firms (Melián-Alzola et al., 2020). Furthermore, the T&H market is also hostile, with competition intensifying and new entrants disrupting traditional business models (Dele-Ijagbulu et al., 2020; Jogaratnam, 2002). Therefore, the T&H market frequently experiences turbulence and unpredictability, with sudden disasters and crises impacting the industry at any given moment (Skokic et al., 2016). Much academic literature has examined how T&H firms demonstrate EO during (Breier et al., 2021), or after disasters and crises (Tajeddini et al., 2023). However, most studies in this field focus on these periods separately rather than comparing and contrasting the dynamics of the EO-performance relationship in both timeframes within a single study (Brilhante and Rocha, 2023). By analyzing the intricacies of EO in both periods simultaneously, this paper addresses the void in prior literature by offering valuable insights into the similarities and differences in their

approaches to innovativeness, risk-taking, and proactiveness in response to changing market conditions and their impact on performance.

2.2. Effect of market turbulence on EO-performance relationship

Research in the field of T&H entrepreneurship has long recognized the importance of EO in driving the performance of T&H firms (Kallmuenzer et al., 2019). In times of adversity, such as economic downturns, natural disasters, or global pandemics, the relevance of the EO-performance relationship becomes even more pronounced (Suder, 2023). Each dimension of EO, as well as their configurations with other entrepreneurial factors, has influenced various key performance indicators of T&H firms in the face of uncertainty and adversity. For example, Kallmuenzer et al. (2019) investigated the impact of EO, networking, resource availability, and environmental uncertainty on financial performance (i.e., market share and increase in sales and profits) and firm growth. Following the same thinking, some authors indicated a positive impact of EO and networking ties on growth and financial return (Tajeddini et al., 2020). Taking a different view, some other scholars suggest that EO influences non-financial performance indicators, such as service innovation (Tang et al., 2020). Furthermore, according to Tajeddini et al. (2023), EO positively affects T&H firms' competitiveness. A study by Lo et al. (2006) focused on the SARS epidemic highlighted that offering new services such as office cleaning, working with schools in running short-term courses, working with travel agents to provide accommodation and meals for residents, and exploring other potential business enable hotels to generate extra revenue and to keep their staff employed and explore new markets. However, in light of the findings of research by Jogaratnam (2002), it is evident that small, independent restaurants struggle with low performance in environmental hostility, regardless of their entrepreneurial approach compared to their large-scale counterparts. These mixed findings highlight that the relationship between EO and firm performance has not been sufficiently explored in T&H entrepreneurship literature, especially in comparing pre- and post-crisis market conditions.

Furthermore, while prior research suggests that individual dimensions of EO can play varying roles in enhancing performance depending on the context (Kallmuenzer et al., 2019; Tajeddini et al., 2023; Bedi et al., 2023; Clark et al., 2024), these roles have not been compared in a single study across pre- and post-crisis market conditions. Thus, this study aims to fill this gap in the literature by examining the specific dimensions of EO, their changes in response to varying market conditions, and their combined impact on enhancing the performance of small independent hotels. The dimensions considered to operationalize EO include innovativeness, risk-taking, and proactiveness.

Innovativeness reflects the ability to introduce new solutions into the market. This is a mechanism of seizing entrepreneurial opportunities and is perceived as a key dimension of EO (see, e.g., Miller, 1983; Lumpkin and Dess, 1996). Also, in the field of T&H, innovativeness has been recognized as a core dimension of EO (Kallmuenzer et al., 2019; Tajeddini, 2010). One of the manifestations of innovativeness in T&H is the adoption of digital technologies such as contactless check-in/check-out procedures, mobile apps for ordering services, virtual concierge services, chatbots, self-service kiosks, in-room technologies, digital payment systems, and robots. Their implementation enables T&H firms to mitigate the impact of hostile market conditions (Hao et al., 2020; Sigala, 2020).Some hotels, although they were adopted in response to the pandemic crisis, are expected to persist in the post-pandemic era, as they provide convenience, efficiency, and enhanced safety for both guests and hotel staff (Jiang and Wen, 2020; Breier et al., 2021). During turbulent periods, innovativeness becomes a crucial survival and growth strategy, as it allows firms to adapt rapidly to changing market conditions and leverage emerging opportunities to maintain or enhance competitiveness and long-term success (Bae and Chang, 2020; Dele-Ijagbulu et al., 2020). This is particularly true in environments marked by high uncertainty and dynamism, where traditional business models may fail to address new challenges (Bhaskara et al., 2023). Some hotels, having adopted technological innovations in response to the pandemic crisis, continue to thrive in the post-pandemic era, as these innovations offer convenience, efficiency, and enhanced safety for both guests and staff (Jiang and Wen, 2020; Breier et al., 2021). Prior literature suggests that the relationship between innovativeness and the performance of T&H firms is particularly pronounced in markets with high environmental uncertainty (Bhaskara et al., 2023; Kallmuenzer et al., 2019). The turbulent and dynamic environment requires T&H firms to develop innovative solutions to adapt to rapid market changes (Zhang et al., 2022). The relationship between innovativeness and performance plays a critical role in the success of tourist hotels, especially in markets with high environmental uncertainty (Bhaskara et al., 2023; Kallmuenzer et al., 2019). The turbulent and dynamic environment in which T&H firms operate demands they develop innovativeness to achieve expected profitability (Zhang et al., 2022). Eggers (2020) examined 69 studies focusing on SMEs (including T&H enterprises) in post-crisis and found that they are still particularly vulnerable to crises in the future. However, they further revealed that innovation can mitigate the adverse effects on their performance or longevity. Additionally, some other scholars highlighted the significance of timing: extended crises prompt tourism professionals to innovate promptly, whereas brief catastrophic events necessitate a more careful approach to innovation (Bhaskara et al., 2023; Leta and Chan, 2021; Wut et al., 2021). Innovativeness, therefore, serves as both a defensive mechanism and a growth enabler, helping firms to stay resilient and agile in volatile markets.

Risk-taking reflects the willingness and ability to take a risk. Risk is a characteristic of each entrepreneurial venture, so risk-taking is a fundamental dimension of EO (Lumpkin and Dess, 1996). Its role depends on the pursued opportunity and is associated with the industry and market dynamics. In T&H, the level of business risk is relatively high. It is a consequence of the nature of the business. For example, hotel guests need to travel to use hotel services. However, difficulties in travel due to travel restrictions imposed during the pandemic are the source of disruptions in hotel operations. In periods of turbulence, where uncertainty is heightened, risk-taking becomes increasingly significant (Gómez-Mejía et al., 2007). Firms that judiciously embrace risks are better positioned to capitalize on unforeseen opportunities and navigate through volatile market dynamics. For example, during the last pandemic crisis, risk-taking impacted firm performance positively, and it was also observed in the hospitality industry (see, e.g., Manishimwe et al., 2022; Suder, 2023). However, some other studies showed that the role of risk-taking is not so prominent (e.g., Giones et al., 2020), and it can also have a negative impact on performance (e.g., Amankwah-Amoah, 2020; Ighomereho et al., 2022). This contradictory evidence suggests that risk-taking in turbulent times must be carefully managed, balancing the pursuit of high-reward opportunities against potential downsides (Dele-Ijagbulu et al., 2020; Tajeddini et al., 2023). Giones et al. (2020) argue that firms with a calculated approach to risk-taking are better positioned to navigate crises. Risk-taking is not only a means of survival in unpredictable environments but also a driver of innovation and adaptation, enabling firms to identify and exploit new growth avenues under challenging conditions (Haddoud et al., 2022; Suder and Okręglicka, 2023). This ambiguity justifies the need to test the role of risk-taking and its influence on performance under different market conditions.

Proactiveness is linked to recognizing opportunities and implementing actions to seize them, including competing (Dess and Lumpkin, 2005; Herlinawati et al., 2019). This ability is particularly essential when confronted with high market dynamics that can create new opportunities and threats. This was observed during the recent crisis caused by the COVID-19 pandemic, where the positive impact of proactiveness on performance was evident in manufacturing, trade, and service sectors (Ighomereho et al., 2022), including the T&H industry (Suder, 2023). However, the impact of proactiveness is not uniform

across all industry sectors and different types of businesses. While several studies on hotels indicate that proactiveness positively influences performance (Manishimwe et al., 2022), contrary to that some other studies highlight that proactiveness can result in resource overload and, consequently, a decrease in the performance of hotels (Lechler and Teichert, 2011). Nonetheless, proactiveness is critical in turbulent times for firms seeking first-mover advantages and adapting to rapidly changing environments (Zhang et al., 2022; Tajeddini et al., 2020). During the COVID-19 pandemic, proactive strategies, such as pivoting toward domestic tourism or leveraging digital platforms, allowed firms to sustain operations despite severe disruptions (Farmaki et al., 2020; Ren et al., 2022). Recent studies suggest that proactive firms are better equipped to transform uncertainty into opportunity, fostering resilience and driving performance improvements (Bedi et al., 2023; Wong et al., 2023). These inconclusive findings reflect the dire need to delve into the details of the changing role of proactiveness in enhancing hotel performance under different market dynamics.

Given the inconsistent and inconclusive findings regarding the impact of various dimensions of EO on the performance of T&H firms, particularly in different market dynamics, this study aims to investigate this issue in greater depth.

2.3. Theoretical framework

We adopt a configurational approach to effectively examine how components of hotel EO (innovativeness, proactiveness, and risk-taking) work in different configurations that lead to hotel growth and competitiveness under two different market turbulences (i.e., during and after the crisis caused by the COVID-19 pandemic) (Fig. 1). Our conceptual framework is built on the theoretical assumption that hotel entrepreneurial behaviors are composed of three EO attributes, and accordingly, combining these attributes is crucial for hotels to attain desired growth and competitiveness under different market conditions. Hence, this configurational perspective enables us to investigate the holistic, systemic impact of EO in enhancing the performance of hotels rather than the isolated effect of individual EO attributes (Suder, 2023). Additionally, we incorporate a comparative perspective into the framework to account for the differences in hotels' EO during and after the pandemic crisis. Understanding the differences in entrepreneurial behaviors of hotels during these two time periods is crucial for the future growth and competitiveness of the hotel sector.

3. Methodology

3.1. Sample and data collection

To explore how market turbulences affect entrepreneurial behavior and its effect on hotel performance, data were collected in two phases. The first stage of research lasted from November 2021 to January 2022 (i.e., during the COVID-19 crisis). It involved a random sample of 117 small independent hotels operating in Poland (selected out of 680 hotels listed in the Central Hotel Registry). In the second phase of the study, conducted in May and June 2023 (i.e., after the COVID-19 crisis), the same database identified 541 hotels meeting the established criteria. Utilizing random sampling, 120 properly completed survey questionnaires were obtained, with responses from 40 hotels that participated in the study's first wave. After a thorough analysis and verification of the data, it was confirmed that the same 35 hotels participated in the study during both periods. Their data were ultimately included in the final analysis, constituting approximately 5 % of the surveyed population.

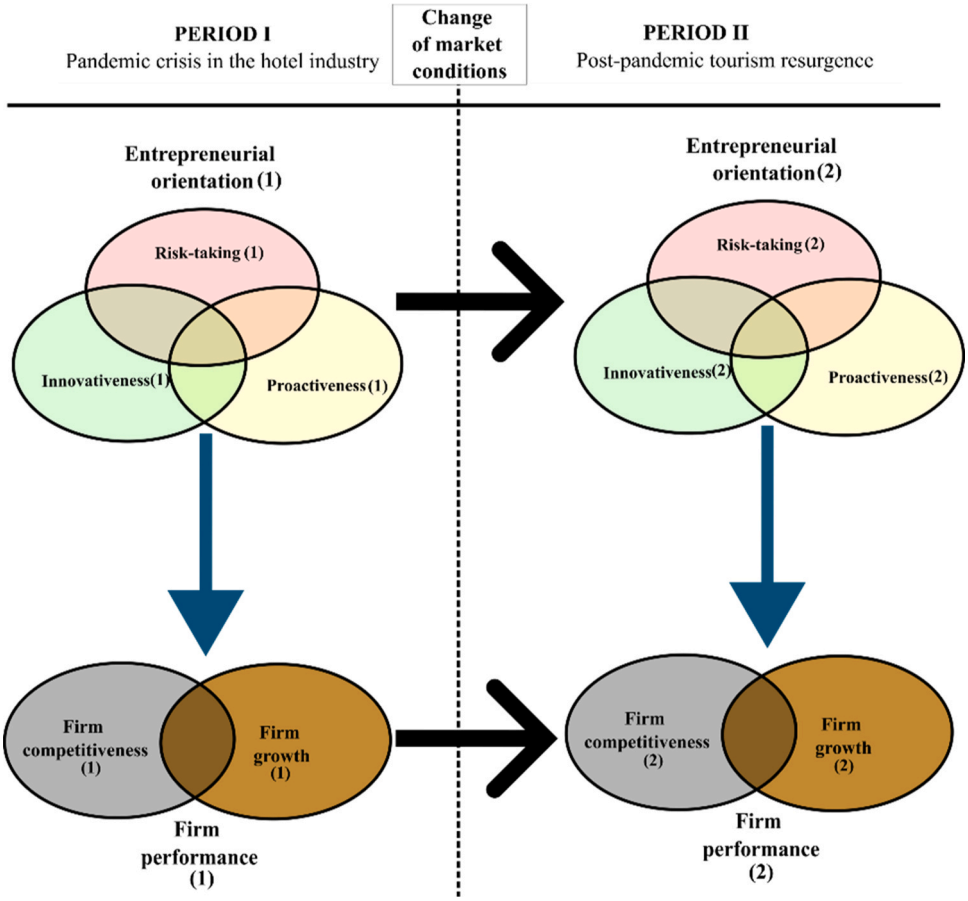

Fig. 1. Conceptual framework.

These hotels constituted the sample of the study. Both studies were conducted by the same research company using either the PAPI or CAPI method. A survey questionnaire used in this study underwent prior content and design verification by three entrepreneurship researchers and through discussions with several hotel managers. Their feedback was incorporated into the final version of the questionnaire design.

3.2. Characteristics of market conditions in examined periods

Market conditions were a significant factor in this research. Most of the previous research described market conditions based on entrepreneurs' subjective assessment (see, e.g., Covin and Slevin, 1989; Rosenbusch, 2013; Dele-Ijagbulu et al., 2020; Suder and Okręglica, 2023). This study describes market conditions based on objective characteristics of the situation concerning the hotel industry at the given moment. Table 2 provides characteristics of the market conditions prevailing during the periods covered by the study, i.e., the period including the end of 2021 (the last wave of the COVID-19 pandemic) and the period covering the beginning of 2023 (a year after the pandemic ended).

3.3. Measures and variables

The survey questionnaire in both studies included questions related to three dimensions of EO (e.g., risk-taking (R), innovativeness (IN), and proactiveness (PR)) and firm performance. A seven-point scale (1-strongly disagree to 7-strongly agree) was used in this regard. The variables were constructed as composites of the proposed indicators, with equal weights assigned to each indicator.

The questionnaire items were adapted from the works of Hughes and Morgan (2007) and Kusa et al. (2021). They are presented in Table 3.

The reliability of all constructs (both for dependent and independent variables) was verified using Cronbach's alpha measure. Additionally, basic statistics were calculated for the variables in two considered periods. They are presented in Table 4.

All examined constructs represent adequate reliability (for four measured constructs, Cronbach's alpha is above 0.7, and for R, above 0.6, which is also an acceptable value for a small data set (Hair et al., 1998). The average values of R in the two studied periods are similar, while the values of IN and PR in the Period II are higher than during Period I (for IN, by about 0.3, and for PR, by 0.2). Average values for outcome variables are significantly higher in the Period II as well: for FC, it is 0.4, and for FG, it is even higher, exceeding 0.6.

3.4. Data analysis techniques

To determine the combinational pathways of the dimensions of EO leading to high and low-performance outcomes, we applied a method called fsQCA. This technique aims to uncover causal relationships by comparing analyzed cases. Unlike traditional methods like regression analysis, fsQCA emphasizes asymmetric relationships, equifinality, and complex causation (Ragin, 2008; Woodside, 2013). This method is successfully employed by many researchers in entrepreneurship, including studies evaluating the role of EO in shaping performance outcomes (Kusa et al., 2024; Nikou et al., 2024). It is also utilized in T&H literature, particularly in studies concerning the hotel industry (e.g., Palacios-Marques et al., 2017; Kallmuenzer et al., 2021; Kumar et al., 2024; Kusa et al., 2023; Suder, 2023).

Although fsQCA is frequently used for large datasets, this method

Table 1
Sample characteristics.

Characteristic	Category	N	%
Founded	2014 and beyond	8	22.9
	from 2004 to 2013	11	31.4
	from1994 to 2003	13	37.1
	earlier than 1994	3	8.6
Type of enterprise	micro	24	68.6
	small	11	31.4
Number of beds	50 and less	24	68.6
	51–100	5	14.3
	more than 100	6	17.1
Localization	Rural areas	7	20.0
	Towns*	8	22.9
	Medium-sized cities**	16	45.7
	Large cities***	4	11.4
Family vs non-family	family	16	45.7
	Non-family	19	54.3

Table 2
Characteristics of market conditions during the study.

Period I **Pandemic crisis in the hotel industry** s wave of COVID – lockdown limitations in hospitality industry	**Period II** **Post-pandemic tourism resurgence** One year after loosened pandemic restrictions
- significant decline in demand - high level of uncertainty and unpredictability - decrease in hotel business (e.g. hotel occupancy rates, revenue for hotels) - reduced investment and expansion in the hotel industry - increased demand for hygiene standards and contactless services - adoption of digital solutions in the hospitality sector.	- surge in demand for hotel and tourism services - increase in prices, especially in popular destinations - rebuilding of employment in the hospitality industry - resumption of investments in the tourism sector - adoption of sustainable and responsible hotel practices - emphasis on health and safety protocols - development of advancements in technology - rise of contactless services and automation - shift towards experience-based and wellness tourism - growing preference for flexible booking policies and extended stays

Table 3
Measurement items for EO and firm performance constructs.

Conditions	
Risk-taking (R)	• When we see an attractive opportunity, we follow it regardless of the accompanying risk • The term 'risk taker' is considered a positive attribute for people in our business. • Relative to our competitors, we pursue high-risk opportunities more often. • We are ready to change our business plans to pursue an opportunity offering extraordinary profit.
Innovativeness (IN)	• Our hotel seeks out new ways to do things. • We actively introduce improvements and innovations in our hotel. • Innovation is the source of our success. • Relative to competing services, our services are more innovative.
Proactiveness (PR)	• We analyze our external environment. • We strive to identify future trends. • We initiate actions to which other organizations respond. • We always try to take the initiative in each situation.
Outcomes	
Firm competitiveness (FC)	• Relative to competing services, our services are more successful in terms of sales. • Relative to competing services, those of our hotel achieve and maintain a higher market share. • Relative to our competitors, our income is greater. • Relative to our competitors, our profit is greater. • We are among leaders in our market.
Firm growth (FG)	• The recognition of our hotel is significantly increasing. • Our sales revenues are significantly increasing. • The profitability of our operations is significantly rising. • We are growing faster than our competitors.

Table 4
Basic characteristics of constructs.

Name	Type	No. items	Period I					Period II				
			Abbr.	Cronbach's alpha	Ave-rage	Median	SD	Abbr.	Cronbach's alpha	Ave-rage	Median	SD
Risk-taking (R)	Condition	4	R1	0.684	3.99	4.3	1.16	R2	0.690	3.94	4.0	1.21
Innovativeness (IN)	Condition	4	IN1	0.808	4.11	4.3	1.35	IN2	0.800	4.40	4.8	1.36
Proactiveness (PR)	Condition	4	PR1	0.783	4.59	4.5	1.30	PR2	0.836	4.79	5.0	1.29
Firm competitiveness (FC)	Outcome	5	FC1	0.883	3.68	4.0	0.90	FC2	0.900	4.08	4.0	0.86
Firm growth (FG)	Outcome	4	FG1	0.846	3.76	3.8	1.18	FG2	0.830	4.39	4.5	1.30

was initially developed as a technique that integrates quantitative and qualitative approaches, typically applied to small samples (with fewer than 50 cases) (Ragin, 2008). The advantage of using this method for small datasets lies in obtaining all configurations leading to the outcome, delving into individual cases, and discovering which realize particular solution constellations. With this approach, if the study does not concern the entire population, the application of fsQCA is exploratory in nature (Rihoux and Ragin, 2009). It can be a starting point for analyses conducted using other methods, allowing for inferences about the entire population. Moreover, although it is not a commonly encountered approach, fsQCA can successfully be applied to longitude (panel) data, which refers to data concerning the same aspect conducted on the same sample but at different time periods. Verweij and Vis (2021) present three strategies to track configurations over time using fsQCA; in our study, we chose the one that involves conducting separate analyses for data from each period.

Our study followed the framework proposed by Pappas and Woodside (2021), comprising several phases. These included data calibration, identification of necessary conditions, truth table analysis, and logical minimization. Through these steps, we identified different combinations of EO sufficient to achieve the desired performance outcomes (FC and FG) at both high and low levels across two periods. The analytical process employed the fsQCA 4.0 software (Ragin and Davey, 2022).

3.5. Data calibration

Data calibration involves converting initial data into fuzzy sets using the logistic function (Ragin and Davey, 2022). Utilizing this function requires establishing cutoff thresholds. This study follows Ragin's (2008) and Pappas and Woodside's (2021) methodologies by setting thresholds at the 95th, 50th, and 5th percentiles. These cutoff points are supported by methodological considerations and prior research in T&H management (Kallmuenzer et al., 2019; Haddoud et al., 2022; Suder, 2023).[1]

3.6. Analysis of necessary conditions

Analyzing necessary conditions allows for identifying factors that ensure achieving a high or low-performance outcome is possible. If such a factor is identified, it is suggested that it be removed from further analysis and that the analysis be conducted without it. Ultimately, it becomes a component of every solution.

Table 5 presents the results of the analysis of necessary conditions. According to Schneider and Wagemann (2012), a condition with consistency exceeding 0.9 is deemed necessary. As none of the consistency values in Table 5 surpass 0.9, we conclude that none of the factors considered are essential for achieving either a high or low-performance outcome.

[1] However, to verify whether the choice of cutoff thresholds significantly affects the obtained results, an analysis was conducted for other cutoff thresholds used in calibrating the data, namely 0.9, 0.5, and 0.1. The obtained results did not differ from those applied in our study.

3.7. Truth table procedure

A truth table is the primary analytical tool in the fsQCA method, playing a crucial role in the minimization process that directly leads to the final analysis results. Key decisions made during the construction of the truth table involve determining criteria based on which out of 2^3 = 8 combinations will be considered significant for the outcome under consideration. Following the recommendations of Pappas and Woodside (2021), combinations selected from the truth table for subsequent stages were based on the number of cases, row consistency, and PRI consistency values. In particular, in our studies, the cut-off point for the number of cases was set at one. The threshold for PRI consistency was set at 0.5. While cut-off values for row consistency were not predetermined, they were established based on discernible breaks between their respective values in the truth table.[2] It was assumed, in accordance with the methodological indications, that the cut-off threshold cannot be less than 0.8.

3.8. Logical minimization and analysis of sufficiency

The fsQCA method relies on logical minimization to identify the simplest expression associated with the outcome being explained. This approach enables the identification of factor combinations leading to an expected outcome (Fiss, 2011). Using fsQCA 4.0 software, three types of solutions can be obtained: parsimonious, intermediate, and complex (Ragin, 2008). This study specifically focused on an intermediate solution, considered superior as it limits the remainders to the most plausible ones (Ragin, 2008; Fiss, 2011). In an intermediate solution, conditions can appear as both core and contributing causals.

The procedure did not stop at identifying combinations leading to high and low levels of FC and FG separately but also considered their combinations, namely FC&FG, FC&~FG, ~FC&FG, and ~FC&~FG. The analysis was conducted separately for Period I and Period II.

When constructing the outcome variables as combinations of FC and FG, the assigned calibrated value was determined using the minimum principle, following the standard approach in fsQCA (Ragin, 2008). This approach ensures that an outcome is fully present only when both of its components reach a sufficiently high membership score. A threshold of 0.5 was applied to determine set membership, maintaining consistency with established practices in fsQCA.

4. Results

Study findings are presented and discussed separately for high-level and low-level performance outcomes. Table 6 presents the results of configurations of EO dimensions leading to a high level of FC and FG, depending on the period considered (the COVID-19 crisis and the post-COVID-19 crisis). The results for low-level performance outcomes are included in Table 7.

The results of fsQCA are assessed based on two measures: consistency and coverage level (Ragin, 2023). Solutions are considered significant

[2] The cut-off thresholds for raw consistency are given in Tables 6–8

Table 5
Results of analysis of necessary conditions.

Period	Condition	FC		~FC		FG		~FG	
		Cons.	Cov.	Cons.	Cov.	Cons.	Cov.	Cons.	Cov.
Period I	R	0.698	0.796	0.613	0.602	0.645	0.720	0.626	0.629
	~R	0.651	0.661	0.792	0.693	0.668	0.665	0.722	0.647
	IN	0.791	0.808	0.569	0.500	0.796	0.795	0.584	0.526
	~IN	0.510	0.578	0.781	0.764	0.526	0.584	0.773	0.773
	PR	0.806	0.805	0.577	0.496	0.798	0.781	0.608	0.536
	~PR	0.496	0.576	0.773	0.774	0.526	0.598	0.752	0.771
Period II	R	0.688	0.758	0.557	0.584	0.719	0.777	0.524	0.56
	~R	0.622	0.596	0.769	0.701	0.593	0.558	0.791	0.736
	IN	0.699	0.724	0.634	0.626	0.713	0.724	0.608	0.611
	~IN	0.639	0.647	0.72	0.695	0.618	0.614	0.726	0.714
	PR	0.781	0.743	0.625	0.566	0.783	0.731	0.595	0.549
	~PR	0.544	0.604	0.716	0.757	0.518	0.564	0.709	0.764

when consistency exceeds 0.75 and coverage exceeds 0.25 (Rihoux and Ragin, 2009; Greckhamer et al., 2013). All obtained solutions meet these criteria (compare Tables 6–8), so they should be considered significant.

Table 6 shows one pathway leading to a high level of FC based on one core causal condition, which is PR; this condition can be supported by a low level of R (solution FC_I_H1a) or a high level of IN (FC_I_H1b). Somewhat different configurations were obtained for FC in the post-pandemic period. Two solutions were obtained for this period. The first is based on a high level of PR combined with the absence of IN (FC_II_H1), with both factors being core causal conditions. The second solution, FC_II_H2, configures R as the core causal condition and IN as the contributing causal condition.

Comparing the results for both periods, it can be noticed that the pathways leading to high FC differ significantly. A high PR level also appears as a core causal condition in solutions during and post-COVID-19 periods.

Data presented in Table 6 showed that there is one sufficient solution for achieving a high level of FG in both considered periods. During the pandemic, the core causal condition leading to a high level of FG is IN, which occurs in a configuration with PR as a supporting condition. Conversely, after the crisis, the simultaneous presence of R and PR as core causal conditions is necessary to achieve a high level of FG. A significant difference is observed when comparing the results for both periods, where FG is considered the outcome variable. In the first period, the solution is based on a high level of IN, while in the second period, it is based on the other two dimensions of EO (i.e., R and PR).

Analyzing the results of both performance outcomes (i.e., FC and FG), a significant difference is noticeable, especially during the

Table 6
Causal configurations that sufficiently lead to high levels of FC and lead to high levels of FG in the two periods.

Condition	Solution for **presence of FC**				Solution for **presence of FG**	
	Period I		Period II		Period I	Period II
	FC_I_H1a	FC_I_H1b	FC_II_H1	FC_II_H2	FG_I_H1	FG_II_H1
R	○			■		■
IN		●	□	■	●	
PR	●	●	■		•	■
No. of cases	5	13	4	7	13	10
Consistency	0.89	0.84	0.88	0.80	0.84	0.86
Raw coverage	0.53	0.72	0.49	0.56	0.73	0.63
Solution consistency	0.82		0.80		0.84	0.86
Solution coverage	0.79		0.75		0.73	0.63
Consistency cutoff	0.89		0.84		0.87	0.85

Note for Tables from 6 to 8: ● or ■■ = core causal condition (present); ○ or □□ = core causal condition (absent); ● or ■ = contributing causal condition (present); ○ or □ = contributing causal condition (absent); the blank represents the "don't care" condition.

Table 7
Causal configurations that sufficiently lead to low levels of FC and lead to low levels of FG in the two periods.

Condition	Solution for **absence of FC**			Solution for **absence of FG**			
	Period I	Period II		Period I		Period II	
	FC_COV_L1	FC_II_L1a	FC_II_L1b	FG_I_L1a	FG_I_L1b	FG_II_L1a	FG_II_L1b
R		□	□	○		□	□
IN	○		■	●	●	□	
PR	●	□			○		□
No. of cases	13	10	5	11	13	11	10
Consistency	0.85	0.82	0.85	0.79	0.83	0.82	0.30
Raw coverage	0.71	0.61	0.48	0.61	0.69	0.65	0.60
Solution consistency	0.85	0.79		0.80		0.82	
Solution coverage	0.71	0.73		0.78		0.69	
Consistency cutoff	0.90	0.81		0.83		0.82	

pandemic period. PR is the key factor for achieving a high level of FC, whereas, for FG, the key factor is IN. Different solutions were also obtained in the post-crisis period, but they are based on the same main factors, namely, PR and R, with one configuration where the absence of IN is a core causal condition (for FC).

Using fsQCA to analyze small samples enables viewing individual cases. Fig. 2 shows Venn diagrams that illustrate which cases from the hotels studied achieved a high-performance outcome and under what configuration of factors this was accomplished. Analyzing these diagrams allows one to determine whether a hotel used the same or a different strategy to increase its performance in both examined periods.

Diagrams for the FC showed that some of the examined hotels achieved a high level after the pandemic, employing strategies similar to those used during the crisis. In contrast, there was a change for other hotels in this regard. For example, hotels H09, H11, and H26 achieved a high level of FC due to a high PR level during and after the pandemic. However, the vast majority of examined hotels with a high level of FC during and after the pandemic achieved it by employing different strategies during both these periods. Hotels such as H01, H05, H06, H31, H33, and H35 were characterized by a high PR level during the pandemic, while R was the main factor after that. Detailed conclusions were drawn based on the results presented in Table 5.

When considering the second dimension of the performance outcome, namely FG, it was observed that six hotels achieved a high level during and after the pandemic crisis. Interestingly, these hotels achieved results using different entrepreneurial strategies (or combinations) in both investigated periods. In particular, the main determining factor for achieving a high level of FG has changed from IN to a combination of R and PR in hotels H01, H05, H06, H11, H31, and H33. This finding confirms that the role of individual dimensions of EO in determining hotel performance depends on various environmental conditions.

As said, the fsQCA method is characterized by an asymmetric approach to results, which means that solutions leading to a low-performance outcome level are not contradictory to solutions leading to a high-performance outcome level. As seen from the data in Table 7, the obtained results exhibit quite a high degree of symmetry. Specifically, during the pandemic, the absence of FC as a main condition is associated with a low level of PR, supported by a low level of IN (solution FC_I_L1). However, for the post-pandemic period, low levels of FC are characterized by hotels that exhibited a low level of R, with two intermediate paths identified: the first one with a low level of PR as a supporting factor (FC_II_L1a) and the second one with a high level of IN as a contributing causal condition.

Regarding FG, a combination of IN as the core causal condition and R or PR as contributing causal conditions leads to its low level (see Table 7). After the pandemic, the situation in the surveyed group changed, and the main factor determining the absence of FG is R, which occurs in a configuration with a low level of PR or a low level of IN as supporting factors.

When analyzing the solutions presented in Table 7, their diversity is noticeable both at the level of individual outcomes (FC *versus* FG) and when comparing different periods (crisis *versus* post-crisis periods).

Causal configurations that sufficiently lead to high levels of FC and high levels of FG in the two Periods

Diagrams in Fig. 3 present hotels achieving a low FC and FG level in both periods. It can be observed that there are hotels that attained a low performance level in both periods, but there are also those that achieved a low performance level only in one period. Some hotels obtained a low FC during the pandemic due to low PR. The rest of the hotels attained a low FC after the crisis mainly due to the absence of R. For instance, in the case of hotel H08, the absence of IN was a supporting factor during the pandemic. In contrast, after the pandemic, IN was present. Therefore, the same entities exhibit different pathways leading to low FC in different periods and under various external conditions. A similar situation occurs for the FG variable: eight hotels achieved a low score in both periods. In period I, this resulted from a low level of IN, while in period II, it resulted from a low level of R. For some hotels, there was a switch between core and supportive conditions depending on the changes in external market conditions. The comparison of results

Table 8
Causal configurations that sufficiently lead to different outcome configurations of FC and FG.

Condition	Solution for **presence of both FC and FG**		Solution for **absence of FC and presence of FG**		Solution for **presence of FC and absence of FG**			Solution for **absence of both FC and FG**		
	Period I	Period II	Period I	Period II	Period I		Period II	Period I	Period II	
	FC&FG_I	FC&FG_II	~FC&FG_I	~FC&FG_II	FC&~FG_Ia	FC&~FG_Ib	FC&~FG_II	~FC&~FG_I	~FC&~FG_IIa	~FC&~FG_IIb
R		■	○	□	●	○	□		□	□
IN	●		○	■	○	○	□	○	■	□
PR	•	■	●	□	○	●	■	○	□	■
No. of cases	13	10	3	1	5	3	1	12	1	1
Consistency	0.76	0.77	0.79	0.77	0.75	0.77	.0.85	0.75	0.86	0.81
Raw coverage	0.78	0.67	0.52	0.40	0.51	0.48	0.49	0.80	0.41	0.45
Solution consistency	0.76	0.77	0.79	0.77	0.75		.0.85	0.75	0.81	
Solution coverage	0.78	0.67	0.52	0.40	0.69		0.49	0.80	0.54	
Consistency cutoff	0.84	0.79	0.8	0.77	0.75		.0.85	0.79	0.80	

depicted in Figs. 2 and 3 confirmed that the impact of individual dimensions of EO on performance outcomes (FG and FC) varies depending on different environmental conditions.

The final section of the presentation of the results in the table refers to the identification of EO configurations leading to different combinations of outcomes, specifically FC and FG. The analysis was conducted for four combinations in each period. The obtained results confirm that the configurations leading to a given outcome may vary depending on prevailing market conditions.

In the first period, the core causal condition for success was IN, while PR served as a contributing causal condition (solution FC&FG_I). In the second period, a notable change occurred as IN was no longer a core causal condition, and the key success factors became PR and R.

Similar differences appeared in the configurations leading to low FC but high FG (~FC&FG). In the first period, FG in firms with low FC was possible due to the presence of PR as the core causal condition, while a low level of IN was also a core condition, and a low level of R served as a contributing factor. In the second period, the situation changed, and achieving this type of result in the analyzed firms was possible through a high level of IN along with low PR and R.

Such differences, though perhaps not as pronounced, also appeared between periods in the case of configurations leading to high FC but low FG (FC&~FG). In the first period, this scenario was associated with a high level of R as a core causal condition, while low PR and low IN served as contributing causal conditions, or alternatively, high PR, low IN, and low R acted as contributing causal conditions. In the second period, the only solution identified was based on three core causal conditions: high PR, low IN, and low R.

The final set of results concerned firms that achieved both low FC and low FG (~FC&~FG). In the first period, the primary factor leading to low performance was a low level of PR as the core causal condition, supported by a low level of IN. In the post-pandemic period, the key factor turned out to be the absence of R, which formed a configuration with either a low level of IN and high PR or a high level of IN and low PR.

For all the analyzed outcome configurations, different patterns were observed across the two examined periods, providing additional confirmation of the crucial role of market conditions in determining which configurations lead to firm performance outcomes. In this analysis, consistency and coverage parameters are acceptable; however, the consistency values are at the threshold of acceptability.

4.1. Robustness check

To ensure the robustness of our findings, several additional analyses were conducted. One of the key aspects tested was whether the choice of cutoff thresholds in the calibration process significantly affected the obtained results. For this purpose, we recalibrated the data using alternative thresholds of 0.9, 0.5, and 0.1 instead of those applied in the main analysis. The results remained consistent across all tested thresholds, confirming that the choice of calibration parameters did not influence the main configurations.

Additionally, we examined the impact of including sociodemographic variables, which are often tested as control variables in regression-based studies. Specifically, firm size (measured by the number of employees) and firm age were introduced into the analysis to verify whether they appeared as core conditions in the identified configurations. The results indicated that firm size did not appear in any configuration, while firm age was identified as a contributing causal condition. These findings suggest that while firm age may influence performance in some cases, it does not play a decisive role in shaping the main causal configurations. The absence of firm size in any configuration indicates that performance outcomes are not strongly dependent on the scale of operations in this context.

Beyond testing calibration thresholds and additional conditions, we also examined different levels of solution reduction to ensure the robustness of our findings. Specifically, we compared the parsimonious, intermediate, and complex solutions to assess whether different levels of reduction influenced the stability of the identified core conditions. The findings demonstrated that the core conditions remained stable across all three solution types, reinforcing the robustness of the configurations obtained in our study.

Overall, the robustness check confirmed that our results are not

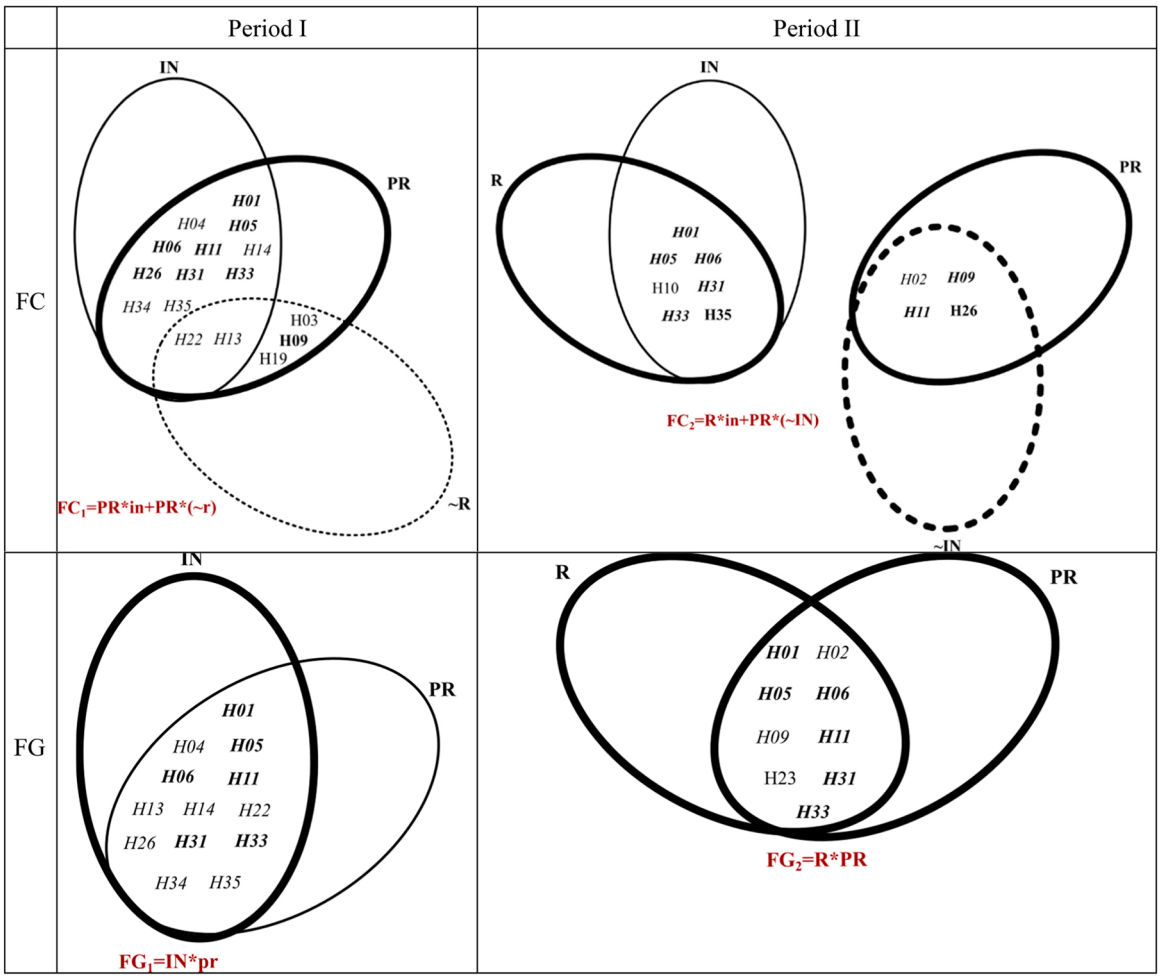

Fig. 2. Causal configurations leading to high firm performance (FC or FG) in the two periods. **Note for** Figs. 2 and 3**:** 1. An ellipse with a black-line border represents the presence of the condition, while an ellipse with a dotted-line border represents the absence of the condition 2. A thick line denotes that the condition is the core causal condition, while a thin line indicates that the condition is contributing causal condition.3 If a condition is irrelevant to the configuration, no ellipse is displayed. 4 Cases achieving a high level of the same outcome (FC or FG) in both period I and period II are highlighted in bold.5 Cases achieving a high level in the same period for both outcomes (FC and FG) are italicized. 6 Cases fulfilling both of the above conditions are highlighted in bold and italic.

sensitive to changes in calibration thresholds, the inclusion of additional sociodemographic variables, or the selection of solution types. These findings provide strong support for the validity and reliability of the presented configurations.

5. Discussion

The findings of our empirical study correspond with several lines of T&H entrepreneurship research, namely those focusing on the roles of different dimensions of EO in strengthening firm performance, the impact of EO on different performance outcomes, and the relationships between EO and performance under various market conditions.

In more detail, the results confirm that EO and its dimensions (risk-taking, innovativeness, and proactiveness) contribute to firm performance also in uncertain market conditions (Kallmuenzer et al., 2019; Tajeddini et al., 2020; Suder, 2023). Our findings also support study findings by Breier et al. (2021) and Verma et al. (2022), who indicated that innovativeness, particularly in digital technologies, was crucial for the survival of tourism firms during the pandemic. Additionally, we complement studies by Eggers (2020) and Manishimwe et al. (2022), which showed that risk-taking positively impacted firm performance in crisis conditions. Apart from confirming the role of EO, this study provided specific configurations of how different combinations of EO dimensions lead to increased and decreased performance.

Moreover, the findings indicated how different configurations of EO dimensions lead to changes in hotel performance outcomes measured as firm competitiveness and growth. This distinction corresponds with previous studies that focused on specific performance outcomes instead of approaching business performance as a whole, for example, on growth and financial return (Tajeddini et al., 2020), competitiveness (Tajeddini et al., 2023), or service innovation performance (Tang et al., 2020). This study revealed differences in configurations of dimensions of EO leading to an increase (or decrease) in firm competitiveness and growth. This finding underscores the importance of delineating performance dimensions when investigating how EO influences it under various market conditions. Accordingly, we posit the following proposition regarding future studies:

Proposition 1. The impact of dimensions of EO should be measured separately regarding FC and FG.

The study results correspond with prior literature on the role of external market conditions in shaping the relationships between EO and performance. In particular, the results showed how different combinations of RT, IN, and PR leading to FC and FG during the crisis differ from those observed after the crisis. This confirms the vital role of the external environment in the context of entrepreneurial performance and is in line with previous research in this field, which examines the role of market conditions in a crisis (see, e.g., Breier et al., 2021) or after crisis (e.g.,

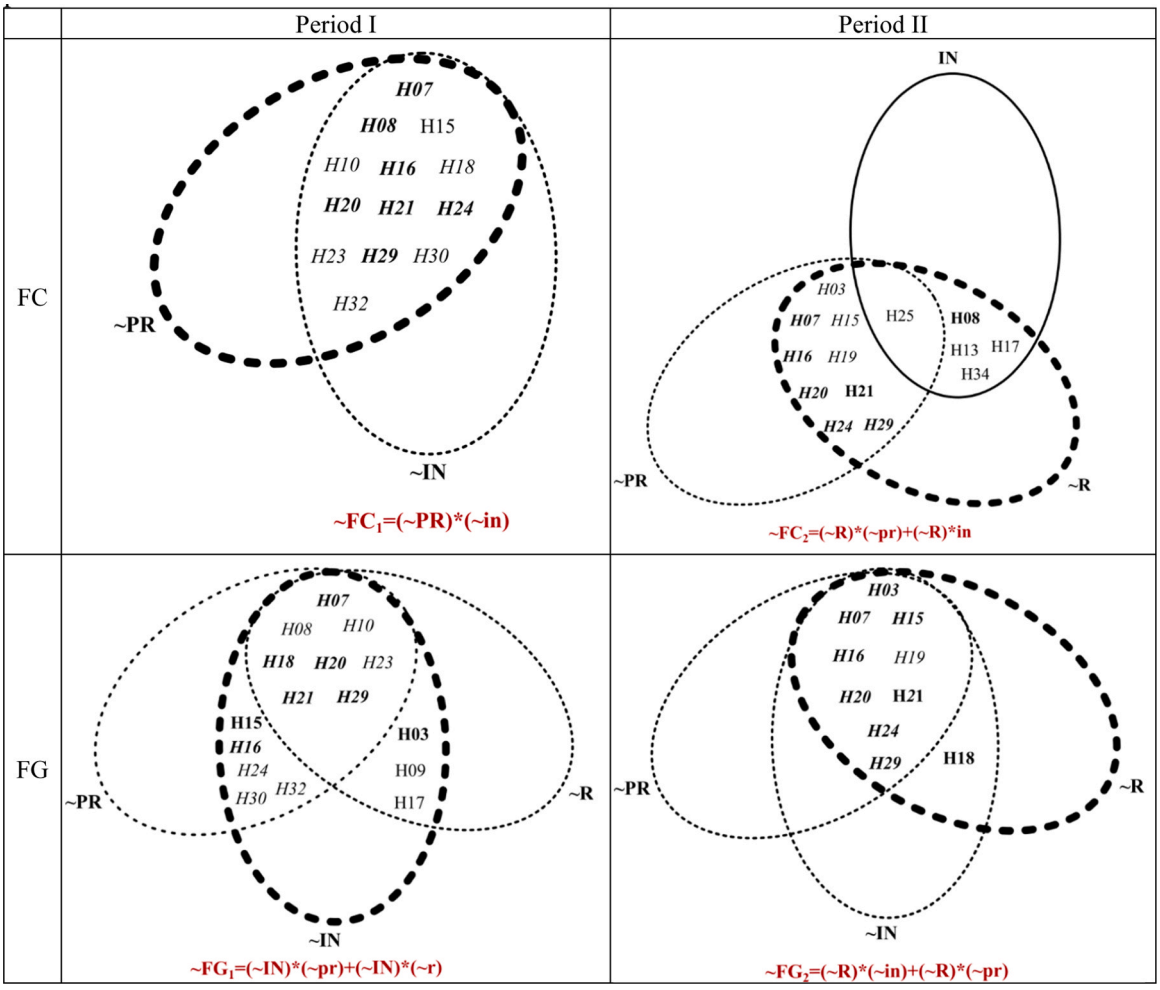

Fig. 3. Causal configurations leading to low firm performance (FC or FG) in the two periods.

Tajeddini et al., 2023; Hampton et al., 2023). Different from most previous studies, this study analyses the entrepreneurial behaviors of small independent hotels under both crisis and post-crisis market conditions in the same study. The results show that different configurations of EO dimensions are necessary to achieve high performance in varying market conditions. For example. The results indicate that the configurations leading to simultaneous high levels of FC and FG differed between the crisis and post-crisis periods. IN played a dominant role during the crisis, while PR and R became key success factors post-crisis. Conversely, configurations leading to low levels of both FC and FG evolved across the two periods, with PR and IN playing a primary role during the crisis and the absence of R being the main determinant post-crisis.

These findings provide further confirmation that the role of specific EO dimensions in shaping hotel performance is context-dependent. Identifying multiple pathways to high and low performance further highlights the complexity of strategic decision-making in hospitality entrepreneurship and underscores the need for future research to explore the interplay between EO dimensions and external market dynamics.

Based on this evidence, we posit the following proposition regarding future studies:

Proposition 2. When examining the impact of EO on firm performance, the external environment should be considered.

6. Conclusion

This study examined how different combinations of EO dimensions influence hotel performance (i.e., FG and FC) in different turbulent market environments resulting from crises. Using a longitudinal survey and fsQCA, this study compared the entrepreneurial behaviors of 35 small independent hotels during and after the pandemic. The results revealed that several combinations of EO dimensions led to a high and low level of FC and FG. Their comparison showed that combinations of EO dimensions that lead to a high level of FC differ from those that lead to a high level of FG, while combinations that lead to a low level of FC and FG are similar.

Additionally, this study explored the combined effect of FC and FG, identifying configurations of EO dimensions that lead to the simultaneous presence or absence of both outcomes. The findings highlight that pathways leading to high FC&FG differ significantly across the two examined periods. During the crisis, innovation (IN) played a crucial role in achieving high performance, whereas post-crisis, proactiveness (PR) and risk-taking (R) became the dominant success factors. Similarly, the absence of both FC and FG was driven by low proactiveness and low innovativeness during the crisis, while post-crisis, the lack of risk-taking was the main determinant.

Furthermore, the analysis of changes in the entrepreneurial behaviors of hotels revealed that the hotels reaching a high level of performance outcomes under different market conditions had changed their entrepreneurial behaviors in response to the market turbulences they experienced. This indicates that entrepreneurial strategies must be adjusted dynamically to align with evolving external conditions. While innovation was critical during the crisis, post-crisis success depended on a balance between exploring new opportunities and continuing past

innovations while taking calculated risks.

Overall, the findings emphasized the vitality of flexibility in responding to changes in external market conditions when formulating entrepreneurial strategies to enhance hotel performance. By considering not only individual performance dimensions (FC or FG) but also their combinations, this study contributes to a more nuanced understanding of how EO influences firm success under different market conditions, reinforcing the need for future research on strategic adaptability in the hospitality sector.

6.1. Theoretical contributions

This study contributes to T&H entrepreneurship literature in three vital ways. First, while most prior research on the impact of EO in enhancing the performance of T&H firms predominantly concentrates on either the during-pandemic phase (e.g., Volgger et al., 2021) or the post-pandemic period (Hampton et al., 2023), this study introduces a more holistic perspective. By responding to the scholarly call of Brilhante and Rocha (2023), this study delves into the effects of the pandemic-induced market conditions on the intricate interplay between EO and hotel performance. It does so by examining data collected from two distinct periods marked by varying market dynamics: the crisis period and the subsequent post-crisis phase.

Second, there has recently been an argument on the necessity of how the different dimensions of EO influence specific types of performance of T&H firms, as most numerous studies evaluate the holistic impact of EO on firm performance in general (Bedi et al., 2023; Tajeddini et al., 2020). This is particularly crucial given that prior literature often operationalizes EO and firm performance using multidimensional scales. We contribute to the existing literature by addressing this vacuum by investigating how the different components of EO can influence various hotel performance outcomes differently, such as firm growth or competitiveness. This investigation is particularly pertinent in fluctuating market conditions induced by crises.

Third, studies about the effect of EO on firm performance in T&H literature have predominantly focused on large hotel chains. We bridge this noticeable gap in prior literature by examining the dynamic nature of this relationship in detail at the individual hotel level. We focus on elucidating how small, independently owned hotels reconfigure their entrepreneurial behaviors and strategies to enhance performance amidst fluctuating pre and post-crisis market conditions.

6.2. Practical implications

The results of this study provide several valuable insights for hoteliers and T&H industry practitioners when managing the entrepreneurial behavior of their businesses to enhance performance amidst different market turbulences created by crises. To reiterate, the findings clearly demonstrate the need for hoteliers and T&H industry practitioners to react actively to changes in the external business environment. This is particularly crucial in crises, where reconfiguring entrepreneurial behaviors in response to market conditions is not just a choice but a mandate (Dryglas et al., 2024).

Concerning this, in particular, this study identified several possible modes of configurations of EO dimensions that proved efficient during the crisis and several other modes after the crisis. Hoteliers and T&H industry practitioners can consider these findings essential lessons for understanding how entrepreneurial behaviors and strategies should be reconfigured to enhance performance outcomes in preparation for future crises (Hall et al., 2023).

Although this study exclusively focuses on changes in the entrepreneurial behavior of small independent hotels in Poland during and after COVID-19, most of these findings can be considered benchmarks. Thus, hoteliers and T&H industry practitioners can extrapolate and adapt these findings when formulating tailored entrepreneurial strategies to improve performance across various accommodation settings and crisis environments.

6.3. Limitations and future research directions

When interpreting the findings of this study, its limitations should be considered. They are primarily sourced from the sample and methodology used in the study. The sample focuses on the entrepreneurial behavior of only small and independent Polish hotels during and after the COVID-19 crisis. Thus, it is recommended that similar studies be replicated with different samples representing other types of hotels and accommodation establishments operating in different pre- and post-crisis circumstances in various economies. Additionally, future researchers should consider the operationalization of variables and the research procedure when generalizing the results of this study by considering other constructs that may lead to different configurations of EO other than those presented in this study. Further research could also explore how past levels of EO dimensions influence future firm performance, allowing for a deeper understanding of the temporal effects of entrepreneurial behavior. Additionally, studies could investigate how different levels of past and present EO dimensions combine to create new strategic variables, offering alternative perspectives on firm adaptation in dynamic environments. Another potential avenue for research is examining additional entrepreneurial behaviors beyond EO and testing them in conjunction with EO dimensions or EO as a unidimensional construct. Furthermore, future studies could analyze how changes in individual EO dimensions between Period I and Period II influence changes in firm performance across these periods.

Further, similar studies are recommended to focus on the characteristics of various crises as the market turbulences resulting from the COVID-19 pandemic can differ from those of other types of crises (Leta and Chan, 2021; Wut et al., 2021). Finally, our conceptual model and prescriptive propositions could be expanded further to include other explanatory variables that might strengthen the effect of market turbulences on the EO-performance relationship. For instance, future researchers could consider investigating other potential moderators, such as competitive intensity or hotel owner/manager characteristics, to better understand the evolving dynamics within the EO-performance relationship in pre- and post-crisis landscapes.

CRediT authorship contribution statement

Kayhan Tajeddini: Writing – review & editing, Writing – original draft, Validation, Conceptualization. **Andreas Kallmuenzer:** Writing – review & editing, Writing – original draft, Validation, Supervision, Conceptualization. **Diana Dryglas:** Writing – review & editing, Visualization, Validation, Conceptualization, Writing – original draft. **Thilini Gamage:** Writing – original draft, Visualization, Formal analysis, Conceptualization, Writing – review & editing. **Marcin Suder:** Visualization, Software, Writing – review & editing, Data curation, Conceptualization, Validation, Methodology, Funding acquisition, Supervision, Writing – original draft, Project administration. **Rafał Kusa:** Methodology, Project administration, Conceptualization, Writing – review & editing, Writing – original draft, Validation, Supervision.

Declaration of Competing Interest

The authors have no competing interests to declare that are relevant to the content of this article.

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