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How could firm resilience benefit from the coupling effects of digital strategy and environmental turbulence? Configuration analysis based on fsQCA

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1. INTRODUCTION AND RESEARCH QUESTIONS

Today the problem of firm survival in the era of VUCA (volatility, uncertainty, complexity, and ambiguity) is becoming increasingly apparent. The emergence of digital infrastructures (e.g., cloud computing, Internet of Things, and 5G networks) and digital technologies (e.g., artificial intelligence, machine learning, and computer vision) can have a disruptive impact on the business model and operations of a firm[1, 2]. Meanwhile, some firms rely on successful management in the past, showing organizational inertia and rigidity in the face of external changes, thus missing the opportunity and accelerating firm death. In a word, strategic failure in allocating organizational resources can explain a significant portion of new ventures' death[3].

Firm resilience (FR) attracts the attention of scholars in the field of operational and strategic management. It helps firms maintain stable growth in the face of external shocks, such as the COVID-19 pandemic. To remain successful and survive in today's disruptive market environment, scholars now agree that firms must tackle the challenges of digital transformation and other rapidly emerging new technologies[3]. Nevertheless, many organizations fail to transform because they begin business or technology changes without developing holistic plans and a coherent digital strategy[4].

In light of this, this study aims to explore the following question: How could firm resilience benefit from the coupling effects of digital strategy and environmental turbulence? To answer the question, we use a fuzzy-set qualitative comparative analysis of 32 case studies of the shared accommodation industry. This analysis allows us to develop an overarching understanding of how digital strategy affects firm resilience. Additionally, we clarify the conceptual relationships between exploration and exploitation in implementing digital strategy from the perspective of organizational ambidexterity.

2. THEORY AND RESEARCH FRAMEWORK

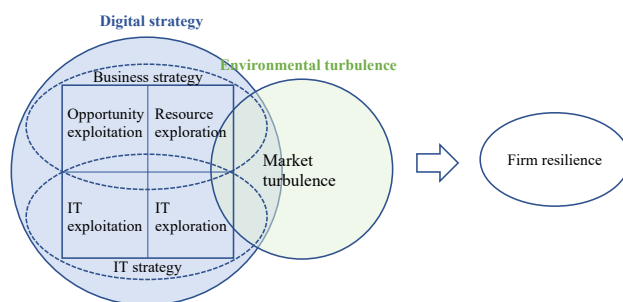


Fig. 1. A configuration framework model

Scholars agree that resilient companies continually orchestrate a dynamic balance of strategies, research is generally limited to exploring individual conditions, ignoring the important role of organized complexity in digital strategy. In this study, we explore the mechanism that influences firm resilience from a holistic perspective to understand the nonlinear interdependencies of organized complexity in digital business strategy. Due to the complex combinations of antecedents, multiple pathways to firm resilience are difficult to study using traditional methods. Thus, we introduce a configurational

framework and argue that firm resilience does not depend on a single condition, but on the interactions between digital strategy and environmental turbulence. The external turbulence of market uncertainty, and the internal digital strategy of business strategy and IT strategy should be considered for enterprises to achieve firm resilience (Fig. 1).

3. RESULTS AND MAJOR FINDINGS

This study observed some valuable and interesting findings: (1) IT strategy and environmental turbulence alone cannot provide the necessary conditions for firm resilience. (2) We found a synergy between environmental turbulence and digital strategy when comparing antecedent conditions horizontally. (3) we observed a synergy between exploitation and exploration. Compared the configurations between high levels of resilience and non-high levels of resilience, we find that only by finding the proper way to balance exploitation and exploration can we achieve firm resilience.

Table 1. Configurations strongly related to resilience

Antecedent Condition	High levels of resilience				Non-high levels of resilience		
	1a	1b	2a	2b	3	4	5
Opportunity exploitation (OI)		●	⊗	⊗	●	●	●
Resource exploration (RR)			●	●	●	⊗	●
IT exploitation (ITI)	●	●	●				⊗
IT exploration (ITR)	⊗		⊗	⊗	●	⊗	●
Market turbulence (MT)	●	●		●	⊗	⊗	
Consistency	0.990	0.950	1.000	1.000	0.412	0.145	0.112
Raw coverage	0.422	0.495	0.120	0.128	0.342	0.046	0.028
Unique coverage	0.328	0.202	0.024	0.031	0.912	0.985	0.980
Overall solution coverage		0.680				0.515	
Overall solution consistency		0.962				0.929	

Note: ● = core casual condition (present). ● = peripheral casual condition (present). ⊗ = core casual condition (absent). ⊗ = peripheral casual condition (absent). Blank spaces indicate “do not care”.

4. CONTRIBUTIONS

From the theoretical perspective, we had three major contributions. First, based on the perspectives of digital strategy and environmental turbulence, we conducted a configurational analysis, thus interpreting the complex mechanism for achieving firm resilience. Second, by applying the QCA method, we have contributed to the existing literature on digital strategy and broadened the choice of research methods for studies of Strategic Alignment Model. Third, we contribute to organizational ambidexterity theory, by highlighting the importance of exploration and exploitation in digital strategy (i.e., business strategy and IT strategy). From a management perspective, managers need to ensure a balanced distribution of attention to avoid “too much is as bad as too little”. At the same time, entrepreneurs must recognize that environmental turbulence is the trend of the times. In addition, we only study the shared accommodation industry, and the empirical results may be limited.

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REFERENCES

1. Amankwah-Amoah, J., Khan, Z., Wood, G., Knight, G.: COVID-19 and digitalization: The great acceleration. *Journal of Business Research*. 136, 602–611 (2021).
2. Ambulkar, S., Blackhurst, J., Grawe, S.: Firm’s resilience to supply chain disruptions: Scale development and empirical examination. *Journal of Operations Management*. 33–34, 111–122 (2015).
3. Proksch, D., Rosin, A.F., Stubner, S., Pinkwart, A.: The influence of a digital strategy on the digitalization of new ventures: The mediating effect of digital capabilities and a digital culture. *Journal of Small Business Management*. ahead-of-print, 1–29 (2021). <https://doi.org/10.1080/00472778.2021.1883036>.
4. AlNuaimi, B.K., Kumar Singh, S., Ren, S., Budhwar, P., Vorobyev, D.: Mastering digital transformation: The nexus between leadership, agility, and digital strategy. *Journal of Business Research*. 145, 636–648 (2022).