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From Disruption to Transformation: Exploring the Role of Digitalization in Enhancing Organizational Resilience during Crises

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ABSTRACT

This study intends to investigate and evaluate the theoretical relationship between organizational resilience (OR) and digital transformation (DT) and the effects of OR on businesses and people during tumultuous times. The study's sample includes the SME mid-level managers. Confirmatory factor analysis and structural equation modeling (SEM) using Smart PLS-4 were among the statistical methods used to evaluate the hypotheses. Investment in strategic technology aids in the development of systematic controls that enable operations during crises, but it may not immediately improve staff capacity for accurately understanding external unrest, aggressively searching out resources, and devising adapting solutions quickly. The OR dimensions affect organizations and employees differently.

Keywords: Organization Resilience, Digital Transformation, Digital Intensity, Digital Maturity, Driven Innovation

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1. INTRODUCTION

According to McKinsey and Company (2020), external disruptions like pandemics and economic recession are just a few examples that organizations frequently have to deal with (Acciarini et al., 2021). These interruptions may pose a significant risk to an organization's operations because of their unpredictability and lack of control. The growing number of natural and man-induced disasters has made companies more aware of their capacity to react (Pitanatri et al., 2022). Contemporary organizations are required to learn how to live in a climate that is not only extremely dynamic (Kyrdoda et al., 2023), but filled with key discontinuations that have large scale negative and disruptive effects (Pieper, 2020). Studies identified that the resilience varies reliant on the nature of change (Hillmann & Guenther, 2021), and the similar negative incident may have changed level of effect on firms (Hepfer & Lawrence, 2022), consequently, creating different responses (Shepherd & Williams, 2023), and bringing results differed by magnitude and substance (Su & Junge, 2023). Because of the special nature of services, service companies are particularly susceptible in times of crisis. For example, service organizations are vulnerable to sudden changes in

external surroundings because their operations are often labor-intensive, need a high degree of human engagement, and are greatly impacted by consumer views. Service firms are actively looking for ways to stay up to date as they realize how crucial organizational resilience (OR) is becoming to safeguarding their operations against shifting conditions. Organization attention has been attracted to their capacity for response by the rising instances of both man-made and natural crises (Ingram et al., 2023). Numerous instances and some existing studies have shown that service organization animations are capable of monitoring events, communicating information, obtaining resources, and adapting to changing circumstances thanks to digital efforts driven by investments and leadership.

OR can be interpreted from three distinct perspectives: receptive, versatile and extraordinary. Research on crisis management gave rise to the reactive perspective, which views OR as an organization's capacity to return to its previous state, or "normality," after encountering unexpected and adverse circumstances (Permatasari & Mahyuni, 2022). OR, according to the adaptive viewpoint, is the ability to not only endure the crisis but also bounce back from it by implementing a number of adaptive measures, such rescuing companies, restoring damaged infrastructure, and reviving the market. These procedures must be progressively changed to conform to the new market standard, which results in the development of creative business models distinct from those that were in place before to the catastrophic event. The transformational perspective concludes by describing OR as a conscious attempt to improve one's capacity to handle surprise (He et al., 2023). In this sense, OR entails being proactive and pushing oneself to innovate and evolve, allowing companies to flourish in the face of hardship. In conclusion, these three viewpoints acknowledge the various capacities of an organization to foresee, respond, and adjust to outside disturbances. Digital transformation gives businesses the technology and resources they need to react to changing conditions fast and efficiently. The fundamental elements of organizational resilience are this increased flexibility and agility.

Despite the urgency and significance of the topic, the role of digital transformation in establishing operational resilience is inadequately understood (Clemente-Almendros et al., 2024). This research used the ongoing COVID-19 pandemic as a scenario to experimentally assess the impact of digital transformation on operational resilience in the context of the present coronavirus crisis. This research focuses on the extent of digital transformation—specifically, digital maturity—and examines the impact of its two attributes, digital intensity and transformation management intensity, on operational resilience (Zhang et al., 2023). The research also assesses two outcomes, organizational performance and employee optimism, to demonstrate the empirical relevance of the issue. This first empirical research on the issue contributes to the OR literature by elucidating the development of OR and demonstrating its practical significance for organizational performance and positive employee sentiment (Lee, 2021). It also aims to examine and confirm the function of OR in facilitating organizational performance and ensuring the survival and prosperity of its stakeholders during digital crises. This research aims to further explore the link between organizational resilience and digital transformation, as well as the effects of the organization on organizational performance and its stakeholders amid a crisis. This study seeks to identify the elements

that affect digital transformation and the impact of operational research on organizational performance and its stakeholders during digital crises. The research questions how digital transformation improves organizational resilience.

This research significantly contributes to the literature on organizational resilience (OR) by experimentally examining the effect of digital transformation in enhancing OR, especially under upheaval. By focusing on digital maturity and examining its two dimensions—digital intensity and transformation management intensity, the research provides novel insights into how these factors shape OR. Additionally, it evaluates the impact of OR on key outcomes, including organizational performance and employee optimism, thereby underscoring the practical significance of OR in navigating digital crises. This is the first empirical investigation of its kind, offering valuable implications for organizations seeking to enhance resilience and sustain performance during crises through effective digital transformation. Furthermore, the study identifies critical factors influencing digital transformation and demonstrates how OR supports organizational stakeholders in surviving and thriving amid digital disruptions.

2. Literature Review

2.1 Theoretical Framework

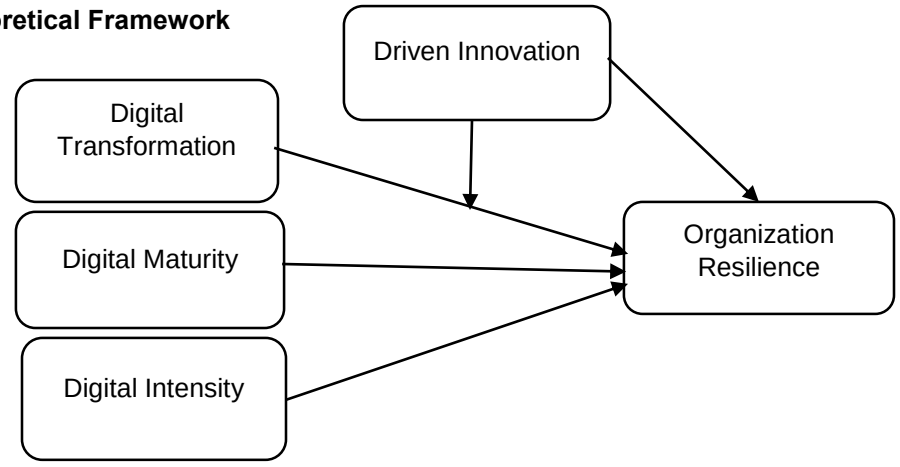

Figure 1 Theoretical framework

2.2 Organizational Resilience

The ability of an organization to anticipate, prepare for, respond, and adapt to incremental change and sudden disruptions in order to survive and prosper" is the definition of organizational resilience (Denyar, 2017). In a world that is rapidly changing, organizations may be affected by natural disasters, widespread and sustained disruptions of critical infrastructure, and the effects of international supply chain disruptions. An organization's preparedness for these threats may be inadequate. The organization's resilience capacity determines its capacity to survive and profit from these events. In preparation for adversity, an organization that wishes to survive and thrive could maximize its opportunity by strengthening its resilience. According to Williams and Vorley (2014), the objective of organizational risk response is to understand the many methods by which a company addresses external risks, including natural catastrophes, industrial conflicts,

and disease outbreaks, such as the COVID-19 pandemic (He et al., 2022). Organizational resilience helps the organizations in beating the deterrents coming from ecological dangers and dangers, improving the probability of undertaking a positive outcome, and permitting the association to proceed with its presentation during both predictability and emergencies (Fathi et al., 2021). Organizational resilience is link with driven innovation and Innovation is a key factor in organizational resilience (Morales et al., 2019).

2.3 Hypothesis development

2.3.1 Digital Transformation and Organizational Resilience

Businesses that undergo digital transformation are better equipped to handle crises and promote sustainable growth which effectively increases their resilience (D Wang, 2022). Digital transformation refers to the enhancement of an entity by significant modifications to its qualities, facilitated by information, computing, communication, and networking technology (Markus & Rowe, 2023). The phenomenon of digital transformation (DT) has become very popular in recent years (Chawla & Goyal, 2021). Product and service integration across organizational, functional, and geographic barriers is made possible by the use of digital technology. These digital technologies; therefore, accelerate development and cause major transformation in a variety of sectors (Kagermann, 2014). Both academics and business practice have extensively considered digital transformation as a means for organizations to enhance resilience. Digital transformation disrupts traditional business logic, generates new value propositions, facilitates innovation in business models, and enhances organizational capacity for restructuring and transition. The capacity of a firm to recognize, integrate, coordinate, and reconstruct itself is augmented by digital transformation (Butt, 2020). It is hypothesized as:

H1: Digital transformation has a positive and significant relationship with organization resilience.

2.3.2 Digital Maturity and Organizational Resilience

The capacity to swiftly react to or seize market possibilities based on existing tech stacks, personnel resources, and digital technologies is known as digital maturity. Degree of digital maturity and the skills linked to each level to support development made possible by digital means, helping to broaden the study of the connection between digitalization and dynamic capacities (Noth et al., 2019). A key factor in an organization's success is digital maturity. Some firms are better equipped to handle unforeseen shocks which may be explained by both digital maturity and organizational resilience. However, there is still a dearth of research examining how these two ideas relate to one another and how they may be used to mitigate external shocks (Robertson et al., 2022). Examine further how the organizational resilience of digitally advanced SME retailers affected their reaction to the COVID-19 pandemic by contrasting it with that of digitally less mature SME retailers. Digital maturity to better handle and learn from unforeseen circumstances. Specifically, innovation, creativity, and their responsive and decentralized decision-making are strongly correlated with digital maturity (Jeandri Robertson, 2022). It can be hypothesized as:

H2: Digital Maturity has a positive and significant relationship with organization resilience.

2.3.3 Digital Intensity and Organization Resilience

Emphasis is placed on the ways in which digital transformation—defined here as digital maturity, digital intensity, and digital orientation—affects the bottom line. As a negative mediator between digital orientation and financial success, digital intensity reduces the performance benefits of resilience (Nasiri et al., 2022). Organizational resilience is enhanced by digital intensity. People should actively keep an eye on the environment's changes and come up with creative solutions to improve OR's individual contribution (citation). DI may provide a business a revolutionary vision, culture, and governance. The basis of a digital vision is an understanding of both the organization's current status and external changes (Waterman et al., 2015). In order to make the digital vision a reality, employees must first understand why the change is important and then how to make it happen (Leodolter, 2017). Furthermore, high MI necessitates that companies control employee conduct to align with the goal (Lowe, 2010), guaranteeing that digital initiatives are progressing as intended. It may be hypothesized as:

H3: Digital Intensity has a positive and significant relationship with organization resilience.

2.3.4 Driven Innovation and Organizational Resilience

Based on the Latin word innovation, which means "renewal," or innovate, which means "to renew," the word "innovation" refers to the introduction of anything new, unique, or reform (Szymańska, 2017). Innovation play a major role and are crucial for the resilience and success of every organization. Innovation contributes to accomplish versatility as it empowers associations to reestablish after some time. Greater interest in technological developments has allowed administrative associations to more readily and flexibly organize internal assets (such as labor, information, expertise, etc.) in order to control critical vulnerabilities and maintain operations in the face of adversity. This became quite clear when the COVID-19 epidemic was underway. Organizations that had invested in cutting-edge technologies were able to keep working by interacting with clients in novel ways, even if many support organizations had to shut down due to quarantine-related measures (He et al., 2023). Furthermore, several service providers were able to provide alternate service plans because to digital information technology, which allowed them to accommodate a significant number of consumers and staff who were quarantined at home (Lau, 2020). Innovation has proved to be useful for top firms to assemble upper hand than those that are less imaginative. According to recent research, companies that are usually market pioneers are those that possess creative skills and use them to satisfy a wide range of customers with different needs, eliminating the possibility of customers switching brands while also attracting competitors' brands. Innovation is essential for achieving aggressive top-line growth and improving bottom-line outcomes; companies cannot expand just via cost reduction and reengineering (Davila et al., 2006). The relationship between organizational resilience and business model innovation is sometimes thorough. Innovation in business models is an essential component of organizational responsiveness, and it is comparable to adaptation as a component of resilience (Buliga et al., 2016). This is hypothesized as:

H4: There is a positive and significant relationship between Driven Innovation and Organizational Resilience.

2.3.5 Moderating Effects

Digital transformation introduces new technologies, processes, and business models to an organization, which enhances its ability to adapt to changing environments and recover from disruptions. However, the extent of this impact can vary based on additional factors. Driven innovation represents an organization's proactive efforts to explore and implement innovative practices. When an organization emphasizes driven innovation, it can maximize the benefits of digital transformation by fostering agility, creativity, and resourcefulness (Bahyan et al., 2024). The presence of driven innovation strengthens the positive impact of digital transformation on organizational resilience. In organizations with high driven innovation, digital transformation initiatives are more likely to result in robust systems, adaptive capacities, and a competitive edge. Conversely, in organizations with low driven innovation, the benefits of digital transformation may be limited or less impactful (Nambisan et al., 2019). Driven innovation amplifies the effectiveness of digital transformation in building organizational resilience, making it a critical element in achieving sustainable success in dynamic environments. It can be hypothesized as:

H5: Driven innovation moderate the effects between Digital Transformation and Organizational Resilience.

3. METHODOLOGY

3.1 Research Philosophy

This study's deductive technique makes it possible to test hypotheses in an organized manner, which makes it the best option for research that aims to comprehend links within a certain industry. It encourages a systematic approach from theory development to empirical validation, guaranteeing that the findings reached are well-founded and supported. This research examines how digital transformation, digital maturity, digital intensity, and digital innovation interact and how these factors organization resilience as a whole. Utilizing a quantitative methodology, information from mid-level managers across small and Medium enterprises.

3.2 Measures of Study

The components of the model are measured using a questionnaire. A trustworthy and standardized resource was used to examine the questionnaire's validity (see Table 1). After revision, the questionnaires were dispersed throughout the statistical sample. All of the questionnaire's questions were on a five-point Likert scale, with 1 denoting strongly disagree, 3 denoting neutral, and 5 denoting strongly agree.

Table 1 Items and Scales

S.no	Constructs	Items	Sources
1	Digital Transformation	4	Bonnet and Westerman (2020)
2	Digital Maturity	4	Kane et al. (2017)

3	Digital Intensity	4	Kuhar and Merčun (2022)
4	Digital Innovation	4	Fan and Wang (2022)
5	Organization Resilience	5	Ruiz-Martin et al. (2018)

3.3 Data Collection

The survey instrument was used to gather data in order to assess the study's hypotheses. Two hundred eighty-nine SME's in Pakistan received the surveys. The mid-level managers of the firms are included in the study's sample. Middle-level managers were picked because they are better informants, serve as a bridge between lower-level and upper-level managers, and have a thorough understanding of the operations and procedures of the company. The respondents were given around 300 questionnaires. A week after the questionnaire was sent, follow-up emails were sent to the responders to remind them to complete it. Approximately 264 surveys were sent back. Of them, 270 were suitable for analysis.

3.4 Data analysis techniques

The statistical analyses of the surveys were conducted using the SMART-PLS (Partial Least Squares) 4.0 software tool. Large sample size and multivariate normality are two of the limiting assumptions that underlie covariance-based structural equation modeling approaches (SEM), however the PLS eliminates them. Additionally, the PLS makes it possible for the model to evaluate both formative and reflecting aspects simultaneously. Instead of using other statistical approaches, the PLS is used to analyze the data in this research, which incorporates formative constructs. When the connections between theoretical notions have not been thoroughly examined before, PLS is also helpful (Hair et al., 2017).

4. RESULTS

This section summarizes the outcomes from the Smart PLS software run, which encompasses structural modeling and measurement-based analysis.

4.1 Measurement Model

The Measurement model in PLS-SEM explains the connections between latent variables and their indicators. Convergent and discriminant validity are used to assess the measurement model, as recommended by (Hair et al., 2013). As shown in figure 2

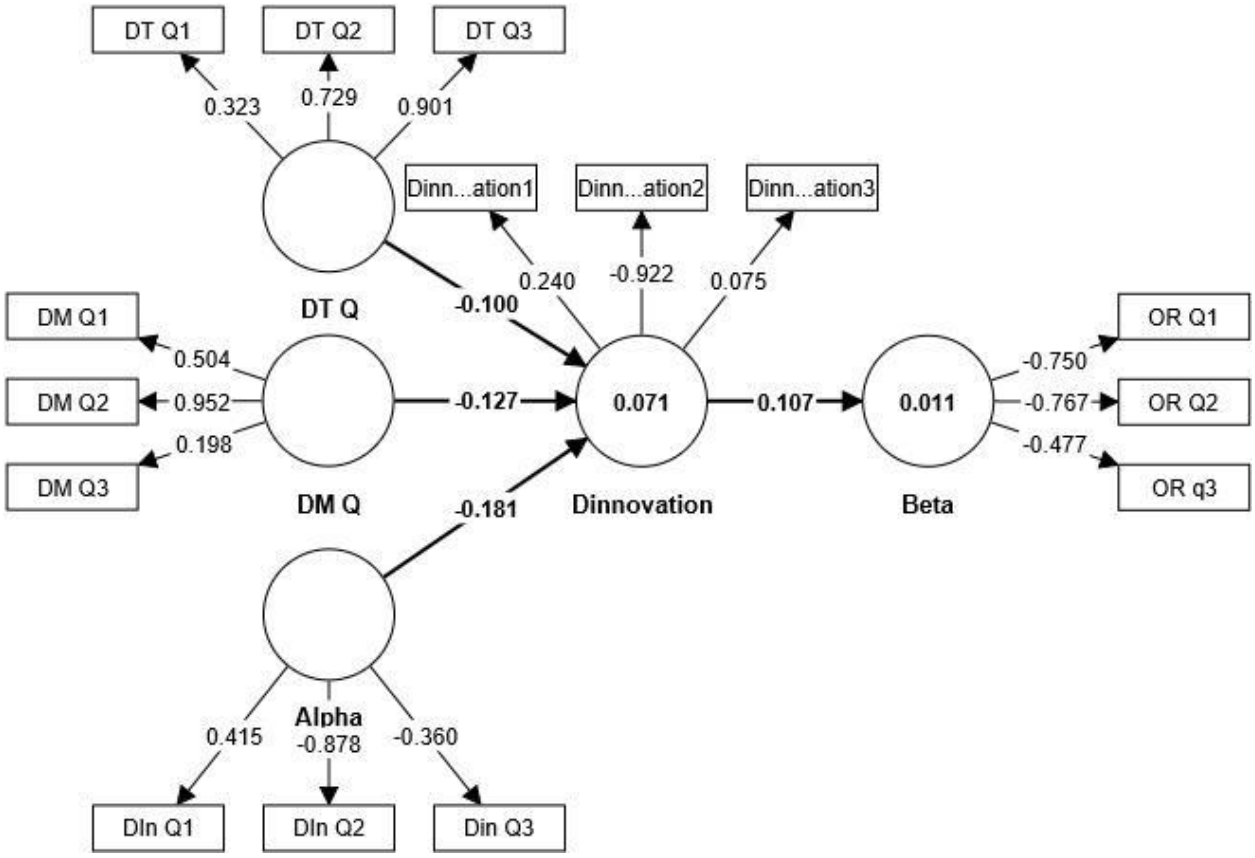

Figure 2 Measurement model

4.1.1 Confirmatory Factor Analysis (CFA)

Using Cronbach's alpha values, the present research established the constructs' internal consistency. Table 1 displays the findings of the study. The Cronbach's alpha values for DI (α = 0.109), DM (α = 0.499), DT (α = 0.481), Dinnovation (α = 0.160), and OR (α = 0.386) were all more than the 0.70 criterion established by (Gadermann, Guhn, & Zumbo, 2012).The results of the average variance extracted (AVE) and composite reliability (CR) are summarized in Table 4. (Hair, Hult, Ringle, Sarstedt, & Thiele, 2017) All of the following CR values were more than or equal to 0.7: DI (CR = 0.260), DM (CR = 0.603), DT (CR = 0.711), Dinnovation (CR = 0.150), and OR (CR = 0.710). Di (AVE = 0.358), DM (AVE = 0.400), DT (AVE = 0.483), Dinnovation (AVE = 0.304), and OR (AVE = 0.459) all had AVE values that were higher than the 0.50 criterion (Chin, 2010). There was statistical significance in the factor loadings, with t-values greater than the cutoff of 0.50 (Hair et al., 2017). Standard criteria for validity were met by the values of CR > 0.7 (Hair et al., 2017) and AVE > 0.5 (Chin, 2010), which were higher than the threshold values (Schuberth, Henseler, & Dijkstra, 2018).

Table 1 Reliability analysis and convergent validity

Construct Name	Items	Outer loadings	Cronbach's Alpha	CR	AVE
Digital Intensity	DI1	0.8154			
	DI2	0.878			
			0.809	0.760	0.658
	DI3	0.760			
Digital Maturity	DM1	0.704			
	DM2	0.952	0.899	0.603	0.600
	DM3	0.898			
Digital Transformation	DT1	0.823			
	DT2	0.729			
			0.881	0.711	0.783
	DT3	0.901			
Digital innovation	DIN1	0.740			
	DIN2	0.922			
			0.760	0.750	0.704
	DIN3	0.875			
Organizational Resilience	OR1	0.750			
	OR2	0.767	0.786	0.710	0.659
	OR3	0.67			

4.1.2 Discriminant Validity

Next, we use the Fornell-Larkers criteria to check the discriminant validity. As soon as discriminant validity is established, it captures the phenomena that no one else has noticed, indicating that the concept is unique. Based on the research conducted by Yusuf and Busalim (2018), it was discovered that the correlations between constructs did not exceed the square root of the variance extracted between each pair of components. The fact that the square root of AVE is greater than the correlation values (as seen in Table 2) implies that the constructs are separate and different.

Table 2 Discriminant validity

	Digital Intensity	Organizational Resilience	Digital Maturity	Digital Transformation	Dinnovation
Digital Intensity	0.598				
Organizational Resilience	0.403	0.678			
Digital Maturity	0.351	0.370	0.632		
Digital Transformation	0.418	0.290	0.529	0.695	
Dinnovation	0.477	0.407	0.471	0.471	0.552

Note: The square root of the VE is shown on the diagonal, the correlations between the constructs under shown under the diagonal.

4.2 Structural Model

The research produced a structural model based on bootstrapping 5,000 subsets. The structural model is introduced, and the findings and hypotheses are shown in the following sections (refer to Figure 3).

4.2.1 Common Bias Method

This research examined the typical technique bias of the data obtained, which might be caused by social desirability and consistency incentives. The sample used in this study has no serious concerns regarding common method bias because Harman's 1-factor test was performed using the multiple constructs in the current research model. As shown in Table 3.

Table 3 VIF

Constructs	**VIF**
Digital Intensity DI 1	1.035
Digital Intensity DI2	1.019
Digital Intensity DI3	1.030
Digital Maturity DM1	1.119
Digital Maturity DM2	1.095
Digital Maturity DM3	1.122
Digital Transformation DT1	1.048
Digital Transformation DT2	1.172
Digital Transformation DT3	1.210
Dinnovation1	1.027
Dinnovation2	1.025
Dinnovation3	1.003
Organizational Resilience OR1	1.136

Organizational Resilience OR2	1.157

4.2.2 Predictability of the model

In this research, the predictability of the model was determined using R square values. The adjusted r square values over 0.10 (see Table 4) demonstrate that the model has adequate predictive power. This model seems to account for about 64.5% of the variation in Firm Performance, according to the R-squared value of 0.645. Even after taking into consideration all of the variables, the adjusted R-squared value of 0.640 shows that this model is still quite robust.

Table 4 Productivity of the Model

	R-Square	R-Square Adjusted
Organizational Resilience	0.611	0.605
D.innovation	0.671	0.652

4.2.3 Direct and Indirect Effects of Path Analysis

The study's route analysis aids in examining how relationships affect constructs. The values between the arrows in the above-mentioned estimated model are the path coefficient values, which are determined using algorithmic approaches. The bootstrapping methodology in PLS-SEM is used to determine the link between the constructs. Using a two-tailed approach, PLS-SEM separates the data into sub-samples in order to compute pragmatic T-values and P-values for classifying at the 5% level of significance. T-values, according to standard measurement, must be larger than 1.96 at the 5% level of significance in order to be considered significant, and P-values must be less than 0.05 in order for the null hypothesis to be rejected and the alternative hypothesis to be accepted, and vice versa. Table 9 provides a summary of the route analysis results.

Table 5 Hypothesis testing

Hypothesis	**Structural relation**	**Std. deviation (STDEV)**	**T-Values**	**P-Values**	**Beta**	**Result**
H1	Digital Transformation-> Organizational Resilience	0.198	0.507	0.612	0.048	Accept
H2	Digital Maturity -> Organizational Resilience	0.172	0.737	0.461	0.061	Accept

H3	Digital intensity-> Organizational Resilience	0.191	0.950	0.342	0.051	Accept
H4	Dinnovation-> Organizational Resilience	0.152	0.701	0.484	0.042	Accept
	Indirect Effects					
H5	Dinnovation x Digital transformation -> Organizational Resilience	0.131	0.243	0.002	-0.056	Rejected

Based on the results shown in Table 5, nine out of twelve hypotheses were determined to be supported. Digital Intensity use (H1) has does not significantly impact on organization resilience with t values 0.950 (p=0.342). Digital maturity (H2) does not impact on organization resilience with t value 0.737 (p=0.461). Digital transformation (H3) does not impact on organization resilience with t value 0.507 (p=0.612). Digital innovation (H4) does not impact on organization resilience with t value 0.701 (p=0.484). All the hypothesis are accepted.

5. DISCUSSION

Hypotheses 1: The adoption of digital transformation has a favorable effect on organizational resilience, according to hypothesis 1. Digital transformation has a favorable impact on organizational resilience, according to the present research. The effect size is (Beta = 0.048). The present findings have corroborated results from earlier investigations. For example, to utilize digitalization devices successfully, representatives in different nations ought to have the ability, information, and capacity to utilize these advancements (Hanna, 2010). Martínez-Caro et al. (2020) state that the organizational culture of the company plays a critical role in the adoption of digital technology. Because they are not as constrained by a leaner organizational structure, small enterprises may also gain more from digital developments. Furthermore, unlike larger corporations, smaller and rapidly expanding businesses may design their infrastructure with cutting-edge ICT in mind. to contend with overlapping IT infrastructure and older systems.

Hypothesis 2: state that Digital Maturity positively influences on Organizational resilience. The current study results show that Digital Maturity not significantly positive influence on Organizational resilience with the effect size (Beta = 0.061). The current results have validated the results of previous studies. Kane et al. (2015) argue that the company's strategy, culture, and vision of a more digital future are the most significant distinctions between digitally mature and less mature businesses. In essence, businesses that embrace

digital transformation and adapt their operations appropriately rank well in their respective industries. Significant competitive advantages result from the methodical fusion of computing power with knowledge of human judgment, or the human mind (Lieder & Griffiths, 2020). Though many businesses are interested in embracing digital technology, few really have a firm grasp on how to make the most of these tools.

Hypothesis 3: state that Digital Intensity positively influences Organizational Resilience 1. The current study results show that Digital Intensity has a significant positive influence on Organizational Resilience with the effect size (β= 0.051)2. The current results have been validate with the results of previous studies 3. Using digital technologies is just a single piece of going computerized. Data and analytics won't have much of an influence on a firm if it doesn't know how to understand the data or what it is specifically searching for. Modern digital business strategies are especially necessary for physical sectors to adapt (Ensmenger, 2012).

Hypothesis 4: asserts that cyber innovation has a beneficial effect on the resilience of organizations. The impact size of digital innovation on organizational resilience is not positively significant, according to the present data (0.042). The current results have not been validated with the results of previous studies. Luo et al. (2005) explained that businesses, particularly those involved in online commerce, encounter a number of challenges and dangers when they attempt to expand internationally. The ever-shifting landscape of e-commerce, the prevalence of inaccurate data, the lack of digital protection for private information, the unique dynamics of individual markets, and the computation of financial risk and reward are but a few examples. These problems become much more serious and risky when businesses do not have the necessary information and skills (Hadlock & James, 2002). Moreover, the digital risks identified in local markets may not be generally applicable, so complicating the management of digital transformation.

Hypothesis 5: states that Digital Innovation moderate the effects between digital transformation and organization resilience. The current results show that Digital Innovation not significantly positive influence on Organizational Resilience with the effect size of (-0.056). Digital innovation contributes to the process but does not change the fundamental relationship between digital transformation and organizational resilience. The study concluded that digital transformation directly improves organizational resilience by enhancing learning capacity and stimulating innovation, which in turn improves adaptability and flexibility (Zhang et al., 2021).

5.1 Theoretical Implications

This study is the first effort to both theoretically suggest and empirically assess the relationship between the dimensions of digital maturity and organizational resilience, therefore addressing a theoretical need in organizational research. This study is the first to examine the impact of digital capital on organizational resilience, in the context of the digital economy and prior research that mostly focused on the effects of human and social capital on organizational resilience. The findings of the study suggest that digital investments are essential for providing companies with rapid access to tools and resources that might increase resilience. Consistent with the research of Dagar and Sisodia (2023), our results underscore the

vital role of leadership in facilitating digitalization, empowering skilled individuals, and providing enough systemic crisis assistance. This study examined the downstream consequences of OR from both the organizational and employee perspectives, in contrast to previous studies that only focused on the organizational viewpoint. The performance of the organization is specifically influenced favorably by the SC of OR. Most importantly, each employee's commitment to OR positively affects both the effectiveness of the organization and the SO of its members. The results offer an understanding of how people and groups might support and profit from OR during trying times. Together, these studies created a theoretical framework that links organizational results with digital capabilities and resources using empirical data.

5.2 Practical Implications

Technological determinism is refuted by acknowledging that a company may undergo different digital transformations based on its chosen business goals and strategies. This acknowledges that complementarities and unexpected interactions among adopted technologies can lead to heterogeneous firm behaviors. The denial of technological determinism suggests that, in the context of digital transformations, technological maturity is determined by the ability to select the organizational and technological tool combination that maximizes the probability of overcoming the specific competitive challenges, rather than by the range or intensity of technologies adopted (Hitt et al., 1998). Organization should priorities investing in the bolstering and alignment of resilience components because they should be aware of how resilience capacity influences the methods available to deal with external complexity. This could aid businesses in better comprehending external challenges and creating the ideal blend of technology and non-technological tools to raise the likelihood that the digital transitions they are undertaking will be successful.

5.3 Managerial Implication

This study has multiple managerial implications which show the inside view of how managers and tourism agencies perform functions. Firstly, because managers may utilize DT to develop OR to survive and grow through challenges, our results can be used as a guidance. Given the frequency and significant impact of external threats, service organizations need to be nimble, flexible, and adaptive to react to these demanding and sometimes hazardous circumstances. Products, services, procedures, and organizational structures have all been impacted by DT, which has also been utilized to change business operating models. It is becoming a more crucial and vital part of service firms. Our results serve as a reminder to service managers that, in the face of unforeseen emergencies, digitalization is essential to service companies' performance and survival. This study provides useful advice for service practitioners to create resilient organizations by demonstrating the connection between these two aspects of digital maturity and OR. According to this report, service companies may improve their SC over the situation and continue to operate by investing in digital technology to assist them develop physical infrastructure and support systems. Furthermore, our research shows that TMI improves the organization's resilience on both a systemic and human level by

providing it with a transformational vision, governance, and culture. The information lends credence to the idea that transformational leadership is just as important to digital transformation as technology.

Additionally, service managers need to be aware of the beneficial effects of OR on both the productivity of the company and the morale of its workforce. Our results indicate that dependence on labor yields more benefits during such situations. Typically, when companies undertake digital transformation, they engage external consultants. Consequently, amid a crisis, leaders should really appreciate the perspectives of their employees. Employees provide the business with innovative solutions to address unexpected challenges in daily operations because to their comprehensive understanding of customers, the firm, and their colleagues. Employees have increased optimism and a sense of agency toward their future, despite present challenges, when given the opportunity to use their talents and creativity in addressing a crisis. As a result, we advise service organizations to foster an environment where workers feel free to express themselves, confident that their ideas will be heard, and hopeful that their perspectives are appreciated. Additionally, this study demonstrates that while the SC of building organizational resilience OR can assure the functioning of the organization during a crisis, it may not always be advantageous to particular people.

5.4 Conclusion

The main objective of this research was to address a significant information deficit about the impact of digital transformation on ambidextrous innovation (i.e., exploitative and exploratory innovation), which ultimately influences organizational resilience. We elucidated how digital transformation might augment a firm's ambidextrous innovation skills, hence bolstering organizational resilience, via the lens of the dynamic capability perspective. This research enhances the theoretical understanding of the relationship between digital transformation, exploitative innovation, exploratory innovation, and organizational resilience, while providing relevant guidance for companies aiming to achieve resilience through digital transformation. Practical guidance for enterprises aiming to digitally transform and enhance resilience, with an emphasis on liberating IT resources and generating business value using cloud-based technologies instead of on-premise solutions. Transitioning to the cloud may assist organizations in mitigating the risk of interruption from several factors.

5.5 Limitations

This study has a number of drawbacks and paves the way for various more research avenues. First, cross-sectional data analysis forms the foundation of the research findings. This study used a deductive approach and just demonstrated the linear relationships among the components owing to the constraints of the technique. Furthermore, this study emphasizes that the relationships between the notions in real-world situations are far more nuanced than what was initially suggested. For instance, the mediators or independent variables (such as IC and SC) at later time points may be influenced by and interact with the consequential variables (such as OP and SO) at early time points. The data gathered for this study cannot

be used to analyses the reciprocal and non-linear interactions among variables due to the current research's scope and methodology design.

Future research may collect longitudinal data to substantiate the asserted causal relationships and using latent growth modeling to investigate any non-linear or reciprocal interactions among the variables. The study sample was confined to workers from service organizations. Future research should integrate the viewpoints of other stakeholders, like as managers, board members, and consumers, to examine and evaluate the proposed theoretical connections. Third, while the data for this study were only collected during the COVID-19 pandemic, further research might investigate and validate the role of organizational resilience in an organization's capacity to thrive under other external crises (such as economic downturns, political instability, etc.).

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