

Fortune favours the digitally mature: the impact of digital maturity on the organisational resilience of SME retailers during COVID-19

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Abstract

Purpose – Organisational resilience and digital maturity both explain how some organisations are better able to cope with unexpected disruptions. However, research exploring the relationship between these two concepts, and their role in addressing exogenous shocks, remains sparse. This study first aimed to compare digitally mature SME retailers' organisational resilience with that of digitally less mature SME retailers and then investigate further how their digital maturity impacted their response to the COVID-19 pandemic.

Design/methodology/approach – The authors adopt an explanatory two-phase mixed-method research design, with online surveys from 79 SME retailers in South Africa, followed by interviews.

Findings – Digitally mature SMEs exhibited higher levels of organisational resilience, specifically with respect to situational awareness, management of keystone vulnerabilities and adaptive capacity. The authors also demonstrate that digital leadership is a greater driver of organisational resilience than digital capabilities.

Practical implications – The authors suggest ways for SME retailers to develop their digital maturity, particularly their digital leadership, to increase their organisational resilience.

Originality/value – This paper makes a case for SME retailers to focus on building their digital maturity to better cope with and learn from unexpected events. In particular, digital maturity is positively associated with SME retailers' innovation and creativity and their devolved and responsive decision-making.

Keywords Organisational resilience, Digital maturity, Digital capabilities, Digital leadership, Retail, Small and medium-sized enterprises, SME

Paper type Research paper

Introduction

The global coronavirus (COVID-19) pandemic has challenged retail enterprises unprecedentedly. From March 2020, consumer retail spending decreased significantly in traditional categories while, at the same time, consumers increasingly moved to online



shopping (Donthu and Gustafsson, 2020; Naeem, 2021; Pantano *et al.*, 2020; Roggeveen and Sethuraman, 2020). In response, some retailers made swift changes, adopting digital technologies at an increased pace (Guthrie *et al.*, 2021; Klein and Todesco, 2021). Shifts to digital business models provided retailers with alternative, synergised sales and distribution channels (Priyono *et al.*, 2020).

Small and medium-sized retail enterprises (SMEs) were particularly disrupted by COVID-19 (Becker and Schmid, 2020; Fletcher and Griffiths, 2020) as the pandemic exacerbated existing challenges, such as limited cash reserves and a smaller client base (Rajagopaul *et al.*, 2020). Recent literature, however, suggests that SME retailers who were able to adapt through digital responses were often able to outperform peers (Fletcher and Griffiths, 2020; Klein and Todesco, 2021) and had a greater chance of survival and growth (Close *et al.*, 2020) than those that stuck with traditional business approaches.

We propose that two constructs have potential relevance in explaining this phenomenon. The first is digital maturity (Westerman *et al.*, 2012, 2014a) – a capability that enables an organisation to align its “people, culture, structure and tasks to compete effectively by taking advantage of opportunities enabled by technological infrastructure” (Kane *et al.*, 2017, p. 29). The second construct is organisational resilience, which refers to an organisation’s ability to build and use “its capability endowments to interact with the environment in a way that positively adjusts and maintains functioning prior to, during, and following adversity” (Williams *et al.*, 2017, p. 742). Digitally mature organisations can more effectively affect and respond to change, and are therefore more likely to be agile, collaborative, experimental and risk-tolerant (Rader, 2019), while organisational resilience helps explain the ability of some organisations to better cope with, and rapidly learn from, unexpected disruptions (Hillmann and Guenther, 2021; Lee *et al.*, 2013; Linnenluecke, 2017). Although these constructs offer complementary perspectives on businesses’ responses to disruption, the relationship between digital maturity and organisational resilience has, to date, received limited attention in a retail context.

While the importance of digital maturity is recognised for retailers (Zouari *et al.*, 2021), research has primarily focused on large retail enterprises (Kane *et al.*, 2017; Valdez-de-Leon, 2016; Von Solms *et al.*, 2021), with little known about SMEs. Recent studies suggest, however, that during the pandemic, SME retailers with digitally adapted business models were better able to respond to the disruptions through the increased use of digital tools, technologies, and knowledge – thus demonstrating an adaptive capacity (Close *et al.*, 2020). The question, therefore, emerges – to what extent did SME retailers’ digital maturity contribute to their ability to demonstrate resilience during this time?

There is increasing recognition of the need for more empirical investigations to explore the relationship between digital maturity and organisational resilience (Amann and James, 2015; Bustinza *et al.*, 2019; Donthu and Gustafsson, 2020; Zouari *et al.*, 2021). Given the paucity of research on the topic (Bustinza *et al.*, 2019; Ivanov, 2021; Yao and Fabbe-Costes, 2018), the current study addresses the following question: *What was the impact of the digital maturity of SME retailers on their organisational resilience during COVID-19?*

We adopt a mixed-method research design with two research objectives to address this question. First, the primary focus of this study is on survey data used to compare digitally mature and less mature SME retailers’ organisational resilience. Second, we use supplementary interview data to further understand the differences between digitally mature SME retailers and less digitally mature SME retailers’ response to the COVID-19 pandemic.

In doing so, this paper contributes to the retailing literature in three ways. First, this paper makes a theoretical contribution by empirically testing the relationship between digital maturity and organisational resilience. Previous research on this relationship has been limited. Most research has focused either on the digitisation of supply chains and its influence

on supply chain resilience (for example, [Ivanov, 2021](#); [Zouari et al., 2021](#)). To the authors' knowledge, no studies to date have investigated the relationship between organisational resilience and digital maturity, where organisational resilience is distinct from other forms of resilience ([Lee et al., 2013](#)). Also, the resilience literature appears constrained in terms of sector focus, with an absence of research in the retail sector. In addition, extant research has frequently been conducted at a network or chain level (for example, [Ivanov, 2021](#); [Zouari et al., 2021](#)), which does not readily translate to the enterprise-level and the changing of business models. Finally, current research focusing on this relationship has only focused on larger organisations, exhibiting a corresponding absence of research focusing on smaller businesses (SMEs), which have different dynamics ([He et al., 2022](#)).

Therefore, the second contribution of this paper is due to its focus on the SME environment. We elucidate two key factors that influence the success of SME retailers when responding to crises. Given the importance of the retail sector in driving economic growth ([Rajagopaul et al., 2020](#); [Vasilescu, 2014](#)), our findings have important implications for research, practice, and policy. Specifically, our findings demonstrate that SME retailers can enhance organisational resilience, which is key to firm success ([Rader, 2019](#); [Zouari et al., 2021](#)), by building digital maturity.

Third, while the importance of an organisation's digital maturity has been established, the construct itself is multidimensional ([Zouari et al., 2021](#)). Little is known about the impact of specific digital maturity dimensions on the resilience of SMEs ([Priyono et al., 2020](#)). This study serves to unpack those dimensions and their influence.

The paper commences by discussing SME retailers and the impact of the COVID-19 pandemic on this sector. This is followed by a review of the extant literature on digital maturity and organisational resilience. Three hypotheses are proposed that assess how digital maturity impacts organisational resilience. The methodology and sample are discussed, following which the results of the study show that digitally mature SME retailers performed better on three key dimensions of organisational resilience. The paper concludes with a discussion of the study's implications for theory and practice. Limitations are noted and areas for future research are indicated.

SME retailers and COVID-19

While the long-term impact of the COVID-19 pandemic is yet to be determined, its immediate effect on retailing has been significant ([Roggeveen and Sethuraman, 2020](#)). Retailers of essential goods such as groceries, food and healthcare, experienced increased demand and consumers exhibited stockpiling behaviour ([Pantano et al., 2020](#)) – creating opportunities and challenges to serve customers at home ([Naeem, 2021](#)). In contrast, retailers of non-essential goods such as clothing and homeware, experienced a significant drop in sales and have had to find new ways to reach and engage housebound customers ([Roggeveen and Sethuraman, 2020](#)).

SMEs operating in the retail sector were especially vulnerable to these changes ([Klein and Todesco, 2021](#); [Lu et al., 2021](#)). Emerging research cites access to capital and adapting to changing customer behaviour patterns as some of the biggest challenges these SMEs faced during the pandemic ([Sandberg et al., 2020](#)). SMEs play a major role in most economies and account for close to 90 percent of businesses globally, making them vital to job creation and economic development ([World Bank, 2022](#)). With differing country perspectives and criteria on what constitutes an SME ([Van Scheers, 2018](#)), the consensus is that SMEs are “a separate and distinct business entity, together with its branches or subsidiaries, if any, including cooperative enterprises, managed by one owner or more predominantly carried on in any sector or subsector” ([Rajagopaul et al., 2020](#), p. 2). Considering that the global retail market is forecast to reach US \$27 trillion in 2022 ([Sabanoglu, 2022](#)), this sector is a particularly important one for SMEs.

Some suggest that the smaller size of SME retailers enables these firms to be more adaptable and flexible in rapidly responding to disruption (Kuckertz *et al.*, 2020). In practice, however, SMEs' response strategies to COVID-19 varied widely. While some opted for a retreat strategy, e.g. a distress sale of assets or taking on new debt, others adopted agile approaches, e.g. deploying digital technologies (Papadopoulos *et al.*, 2020) and moving to online sales channels (Thukral, 2021). These agile responses are regarded as a display of organisational resilience through seizing digital transformation opportunities (Klein and Todesco, 2021).

Digital maturity

As the call for organisations to digitally transform, or even just digitise their business models, increased in the past two decades, the need to measure firm-level technological capabilities emerged. Rader (2019) argues that digital maturity provides a clear lens to track an organisation's digital transformation. Authors have subsequently attempted to develop an approach to defining and measuring this construct (Colli *et al.*, 2019; Zouari *et al.*, 2021). At its core, digital maturity focuses on better serving customers and the market (Bonnet and Westerman, 2021) by applying digital technology to promote efficiency and innovation (Rader, 2019). Digitally mature organisations also invest significant time and resources in developing digital capabilities and digital leadership (Kane, 2019; Kane *et al.*, 2017).

Although the definitions and measurement of digital maturity vary (see Kane, 2019; Zouari *et al.*, 2021), the seminal work of Westerman *et al.* (2012) is most cited and widely accepted. From this perspective, a firm's digital maturity is a measure of both its *digital capabilities* (or its potential to derive business value from digital technologies) (Hagberg *et al.*, 2016; O'Hea, 2011) and its *digital leadership* (or the leadership culture within an organisation for supporting and initiating digital change and transformation) (Rossmann, 2019). The former focuses on digital capabilities and technology infrastructure; the latter focuses on a firm's digital strategy, leadership, and vision.

Westerman *et al.* (2014b) argue that building digital leadership capabilities is more critical than building digital capabilities. Zouari *et al.* (2021) echoed this, proposing that leadership and governance contribute most to an organisation's digital maturity. There are alternative views in these areas, though. Rader (2019), for example, gives priority to an organisation's ability to leverage technology to benefit in a fast-moving and continuously changing environment and suggests that digital maturity is one indicator of this. Beyond digital maturity, organisational resilience has also been identified as essential in responding to a rapidly changing, disruptive, complex and unpredictable business environment (Fletcher and Griffiths, 2020).

Organisational resilience

Organisational resilience entails a complex and collective set of adaptive capabilities that enable an organisation to cope with successfully, and learn from, unexpected events (Williams *et al.*, 2017; Yao and Fabbe-Costes, 2018). Those adaptive capabilities facilitate a process that allows an organisation to gain from experience to emerge stronger and more resourceful (Lee *et al.*, 2013; Vogus and Sutcliffe, 2007). This type of change can include dynamically reinventing an organisation and adapting business models (Bustinza *et al.*, 2019; Hamel and Valikangas, 2003; Linnenluecke, 2017).

Organisational resilience can be viewed in terms of two main elements: (a) planned or first-order capacity, involving pre-emptive planning, engineering resilience into systems and resources to respond to disruption; and (b) adaptive capacity or second-order resilience, which is enacted when organisations respond dynamically to situations (Burnard and Bhamra, 2019; Lee *et al.*, 2013). These dynamic, adaptive capabilities are increasingly

important in rapidly changing situations, characterised by the presence of multiple unforeseeable events (Pettit *et al.*, 2010).

SMEs' strength lies in their flexibility to adapt to change (Antony *et al.*, 2008). They are characteristically closely integrated with their customers, making them more responsive to changing customer needs and market demand (Burnard and Bharna, 2011). Considering the inherent organisational properties of SMEs, we align with McManus (2008, p. 82) in operationalising organisational resilience as "a function of an organisation's overall situational awareness, management of keystone vulnerabilities and adaptive capacity in a complex, dynamic and interconnected environment." Using the framework of McManus (2008) and Lee *et al.* (2013), organisational resilience is framed in terms of three dimensions: Situational awareness, management of keystone vulnerabilities, and adaptive capacity, with five indicators for each of these three dimensions (McManus, 2008). These three dimensions and their subsequent sub-dimensions are briefly summarised in Table 1.

As per Table 1, *situational awareness* relates to identifying weak signals, anticipating and understanding their implications, and acting on threats before they escalate (Lee *et al.*, 2013; Vogus and Sutcliffe, 2007). Situational awareness is measured by assessing organisational alignment regarding recovery priorities following a crisis and the perceptual vigilance to monitor and report on environmental elements that may impact the organisation. *Keystone*

Organisational resilience dimensions	Sub-dimension	Definition
Situational awareness	Recovery priorities	The organisation-wide awareness of key priorities following a crisis
	Monitoring and reporting	Internal and external vigilance about the organisation, its performance and potential problems
Keystone vulnerabilities	Planning strategies	Plans and strategies to manage vulnerabilities in relation to the business environment and its stakeholders
	Practised responses	Simulations or scenarios designed to practice response arrangements and validate plans
	Internal resource capabilities	An understanding of the internal resources necessary to ensure business-as-usual operations during times of crisis
	External resource capabilities	Knowledge of what external resources might need to be accessed from other organisations during a crisis
	Engaged and involved staff	The extent to which employees understand the link between their own work, the organisation's resilience, and the organisation's long-term success
Adaptive capacity	Ability to minimise silos	An organisation's ability to minimise the silos that result in disjointed, disconnected, and detrimental ways of working
	Information and knowledge	The storing and sharing of critical information and knowledge
	Leadership, management and governance structures	Strong crisis leadership, management and governance structures
	Innovation and creativity	Extent to which organisation rewards and encourages innovation and creativity
	Delegated and responsive decision-making	Clearly delegated authority to enable devolved and responsive decision-making

Table 1.
Organisational resilience and its sub-dimensions

Source(s): Adapted from Lee *et al.* (2013) and McManus (2008)

vulnerabilities refer to several organisational components that can cause exceptional effects if not managed well, for example, over-reliance on a resource or single source supplier (McManus, 2008). These components include planning strategies to manage vulnerabilities in one's business environment, practised responses to exogenous shocks, a cognisance of the internal and external resource capabilities needed to continue with business operations during a crisis, and staff engagement and involvement in the organisation's long-term resilience. Finally, *adaptive capacity* denotes the ability of an organisation to continuously design and develop solutions that match or exceed the needs of their environment (Lee *et al.*, 2013). This includes its ability to minimise internal silos, store and share critical information, possess strong organisational leadership, its management and governance structures, how the company encourages innovation and creativity, and exhibits delegated and responsive decision-making abilities.

In the management literature, there has been an increased emphasis on the importance of building organisational resilience into one's business model by being digitally prepared (Fletcher and Griffith, 2020; Hillmann and Guenther, 2021; Soluk *et al.*, 2021). This is of particular relevance to smaller businesses which are perceived to be more elastic and fluid in their business models (Fletcher and Griffiths, 2020).

Digital maturity and organisational resilience in SME retailers

The relationship between digitisation and organisational resilience has tended to focus predominantly on supply chain management (Brusset and Teller, 2017; Bustinza *et al.*, 2019; Hosseini *et al.*, 2019; Ivanov, 2021; Papadopoulos *et al.*, 2017; Zouari *et al.*, 2021). These studies use different terms to refer to the technology construct in the relationship; for example, technological capabilities (Bustinza *et al.*, 2019) or digital capabilities (Khlystova *et al.*, 2022), and address their influence on supply chain or organisational resilience. Only one study (Zouari *et al.*, 2021) investigates digital maturity directly. The majority of reported studies focus on large organisations. When narrowing the focus to the SME context, outside of supply chains, a smaller set of relevant studies emerges (summarised in Table 2).

Table 2 illustrates that limited empirical research has assessed the relationship between digital maturity and organisational resilience directly (e.g. Guo *et al.*, 2020; He *et al.*, 2022; Priyono *et al.*, 2020), with no studies investigating the retail sector specifically. Several authors suggest that digital maturity is a learned capability (Fletcher and Griffiths, 2020; Klein and Todesco, 2021) that serves to strengthen an SME's organisational resilience during uncertain times (Fletcher and Griffiths, 2020; Klein and Todesco, 2021; Papadopoulos *et al.*, 2020; Rajagopaul *et al.*, 2020; Van den Born *et al.*, 2020). More specifically, digital maturity is posited to positively impact SMEs' organisational performance (Guo *et al.*, 2020) by enabling operational continuity (Papadopoulos *et al.*, 2020) and business model agility when faced with disruption (He *et al.*, 2022; Rajagopaul *et al.*, 2020). From an organisational resilience perspective, only He *et al.* (2022) have examined the multidimensional nature of organisational resilience in relation to digital maturity. Their study focuses on SME employees' capabilities when faced with uncertainty, as experienced during the COVID-19 pandemic.

The capacity of SMEs to adapt and take advantage of changes in their external environment is key to the sustainability of local economies (Castro and Gomez-Zermeno, 2021). Despite the significance of understanding which capabilities related to resilience have enabled SME retailers to weather the disruptions and operational constraints provoked by COVID-19, the role of digital maturity in building organisational resilience, in particular, is relatively under-investigated in the literature (Pant and Jedrzejczak, 2022). Therefore, little is known about the interplay between the capabilities inherent in digital maturity and its impact on SME retailers' resilience.

Table 2.
Key articles on SME digital maturity as a strategic response to market disruption during COVID-19

Authors	Objective	Main contribution
Fletcher and Griffiths (2020)	Approaches the disruption caused by COVID-19 through a VUCA lens to reflect on how the pandemic exposed the resilience of less digitally mature organisations, both large and small Empirical study examining the relationship between the digitalization efforts of 518 Chinese SMEs and their public crisis responses during COVID-19 Empirical examination of the theoretical relationship between digital transformation and organizational resilience for organizations and employees during turbulent times such as COVID-19 Focused on SMEs' use of digital technology to ensure business continuity amidst the COVID-19 pandemic and provides research gaps and future areas for research	<ul style="list-style-type: none"> - Digital maturity is a continuous process and a long-term strategic goal - Less digitally mature organisations exhibit higher levels of fragility and less resilience - Digitally mature organisations are generally more flexible than less digitally mature organisations <p>SMEs with a high degree of digital technology adoption had more effective COVID-19 responses and recorded superior performance</p> <ul style="list-style-type: none"> - Digital transformation develops systems to sustain operations in crises - Digital maturity does not directly contribute to employees' capabilities to accurately understand external uncertainty or to actively or develop adaptive solutions <p>Suggests that SMEs should take a proactive, integrated digital development approach to strengthen their resilience and weather the impact of disruptions</p>
Guo <i>et al.</i> (2020)		Three digital transformation paths are identified
He <i>et al.</i> (2022)		<ol style="list-style-type: none"> (1) Accelerated digital transformation (2) Digitally immature SMEs that experienced liquidity challenges digitized their sales function only (3) SMEs with limited digital literacy and a high level of social capital connected with partners who possessed superior digital capabilities <ul style="list-style-type: none"> - Leverage technology to reach new customers and provide a distinctive value propositions - Develop resilience strategies that would reimagine their existing business models to be more agile in a digital future
Papadopoulos <i>et al.</i> (2020)		
Priyono <i>et al.</i> (2020)	Qualitative analysis of seven manufacturing SMEs in Indonesia to SMEs who digitally transformed their businesses during COVID-19	
Rajagopaul <i>et al.</i> (2020)	Best practice study on how South African SMEs can address challenges brought on by COVID-19	

(continued)

Authors	Objective	Main contribution
Van den Born <i>et al.</i> (2020)	Longitudinal experimental study (ongoing) with 200 Dutch SMEs to assess the effect of their digital maturity on digital innovation and organisational success during COVID-19	Testing two opposing hypotheses (1) Digitally mature SMEs would only need to implement incremental digital innovation to ensure the necessary turnaround strategies under extreme adversity (2) SMEs' degree of digital maturity is irrelevant to their survival or success during the pandemic
Klein and Todesco (2021)	Analyses the strengths, weaknesses, challenges and opportunities of SMEs adopting a digital transformation strategy during COVID-19 using organisational resilience theory	Proposes a conceptual model that charts how a knowledge management strategy, using organisational resilience, can assist SMEs to capitalise on digital transformation opportunities

Table 2.

As a multidimensional construct, distinction should be made between resilient organisations' situational awareness, how they manage keystone vulnerabilities, and their adaptive capacity (Lee *et al.*, 2013). Situational awareness represents an organisation's ability to accurately understand and pre-empt an external crisis (e.g. COVID-19) and its potential impact on the organisation (McManus, 2008). At the same time, digital maturity enables a superior ability or readiness to respond to operational disruption (He *et al.*, 2022). Consequently, we hypothesise that:

- H1. Digitally mature SME retailers exhibit a higher level of situational awareness than digitally immature SME retailers.

The organisational components that support SMEs' management of keystone vulnerabilities may include increased investment in digital technologies, internal resources (e.g. labour, information, knowledge), as well as tangible components and supplies (e.g. equipment, experts, decision-makers) that may serve to buttress the organisation against shocks (McManus, 2008). Digital maturity is argued to represent the organisation's digital capability and technology infrastructure, as well as its strategy, leadership and vision around the digital future of the organisation (Westerman *et al.*, 2012), therefore we argue that digitally mature SMEs would readily be able to manage keystone vulnerabilities to continue operating against adversity. As such, we hypothesise:

- H2. Digitally mature SME retailers are better at managing keystone vulnerabilities than digitally immature SME retailers.

Resilient organisations demonstrate their adaptive capacity by investing in strong leadership, developing their management capabilities, and creating and communicating knowledge to enable autonomous decision-making (Soluk *et al.*, 2021). Their adaptive capacities enable a "positive trajectory of entrepreneurial functioning after a crisis, disturbance, or challenge" (Sun *et al.*, 2011, p. 185). Additionally, SMEs that take advantage of opportunities presented by digital technologies and proactively employ their digital capabilities to respond to market insight with innovative solutions have outperformed their less digitally oriented peers (Quinton *et al.*, 2018). Therefore, we hypothesise that:

- H3. Digitally mature SME retailers have a greater degree of adaptive capacity than digitally immature SME retailers.

Methodology

Research design and method

This study followed an explanatory two-phase mixed-method research design, sometimes known as explanatory sequential design (Creswell, 2014). This design entails collecting and analysing quantitative data as part of the first phase, which is then subsequently followed by the collection and analysis of qualitative data. We utilise the qualitative data from phase two to help explain the initial quantitative results (Creswell *et al.*, 2003).

Data were collected during August and October 2020. First, an online survey was distributed to the participating SMEs. Following the surveys, semi-structured interviews with all participating SMEs were conducted, using open-ended questions to explore the impact of COVID-19 on SME retailers' businesses. The interviews were conducted via online video conferencing platforms or mobile phone and with the permission of the respective respondents, recorded for ease of transcription. The interviews used a consistent interview protocol, and a pre-defined, semi-structured script was followed as this was deemed most appropriate to explore the participants' perspectives of their lived experiences (Nunan *et al.*, 2020).

Context of the study

South Africa was a valuable context for this study for two reasons. First, as an emerging country, the South African population exceeds that of many developed countries, making the region “particularly attractive for mature market-based retailers and retailing innovations that are responsive to the distinctive characteristics of these markets” (Reinartz *et al.*, 2011, p. S55). South Africa also has the second-largest GDP in Africa, and has been argued to be the largest modern retail market in sub-Saharan Africa (Nazir, 2021). This increases the generalisability of the findings. In South Africa, SMEs represent more than 98 percent of businesses. They account for almost 60 percent of the country’s workforce (Rajagopaul *et al.*, 2020), constituting a critical engine of the economy (Van Scheers, 2018).

Second, the South African COVID-19 context involved an extended and particularly adverse disruption for SME retailers due to the lack of government support, the impact of COVID-19 on the retail sector, and the extended lockdown period (Small Business Institute, 2020). The first lockdown (alert level 5) lasted five weeks (27 March to 30 April 2020), and only essential services were allowed to operate. South Africans were only allowed to leave their homes during level five to purchase (or produce) essential goods. All South Africans were instructed to work from home, and people were not allowed to travel or exercise outside their homes, as enforced by the police and military defence force. The sale of alcohol and tobacco were banned in both level 5 and level 4 of the South African lockdown (Greyling *et al.*, 2021). Over time, these more stringent measures were eased, and different retailers were gradually allowed to reopen for business, subject to various restrictions. On 01 June 2020, South Africa moved to level three, and the restricted sale of alcohol (Mondays to Thursdays) and the re-opening of certain businesses was permitted. However, many SMEs in the services industry, especially in beauty and tourism, remained closed (Greyling *et al.*, 2021). Therefore, while businesses across the globe, and especially SME retailers, were negatively affected by the COVID-19 pandemic, South African SME retailers were particularly hard hit. At the time of data collection, it was considered that South Africa had imposed some of the most stringent lockdown measures globally (Greyling *et al.*, 2021).

Consequently, the South African context presents an extreme example of the impact of the COVID-19 pandemic, one where SMEs were forced to rely on their resources, networks and adaptive capabilities for a prolonged period in response to an exogenous shock.

Target population and sampling

Due to a lack of sampling framework, a non-probability sampling technique was employed (Zikmund *et al.*, 2013). Quota sampling was used to increase the generalisability of the findings (Malhotra, 2010), where two quotas (management level and retail SME) were used to ensure that both senior managers or the owner of the SME participated and that the retailers could indeed be classified as SMEs. To be classified as an SME retailers had to adhere to one or more of the characteristics of an SME as stipulated by Erasmus *et al.* (2017). These criteria included having a workforce of fewer than 200 employees, an annual turnover of less than ZAR 64 million (the equivalent of approximately US\$ 4 million), capital assets of less than ZAR 10 million (the equivalent of approximately US\$ 660,000), and direct managerial involvement by owners.

Ninety retailers were approached, eighty-two participated in the study, and three SMEs were removed due to incomplete data. Therefore, a final sample size of seventy-nine ($n = 79$) SME retailers was realised. Although limited, the sample size aligned to other SME retailer research (Wagner *et al.*, 2005) and represented a number of different retail categories, with the five most represented being health and beauty, clothing and apparel, consumer electronics and appliances, automotive vehicles and parts, and restaurant and food retailers. Seventy-one percent of the SMEs surveyed had between one and ten employees, followed by 16 percent

with 11 to 20 employees, and 12 percent with 21 to 50 employees. The average years of existence for the participating SMEs were 2.6 years. Close to a quarter (23 percent) of the SME retailers surveyed had been in business for between six and ten years, with 42 percent having been in business for less than five years. Fourteen of the SMEs had been in business for between 11 and 15 years (18 percent), with 13 percent having been in business for less than a year. The longest existing SME had been in business for 22 years and the youngest four months.

Measures

[Westerman et al.'s \(2014a\)](#) scale was used to measure digital maturity. Their approach frames digital maturity as comprised of an organisation's digital capabilities and digital leadership skills ([Westerman et al., 2014b](#)). While other, often more complex, measures of digital maturity have been suggested (e.g. [Colli et al., 2019](#); [Zouari et al., 2021](#)), [Westerman et al.'s \(2014a\)](#) explicit focus on leadership, its acceptance within the broader digital transformation literature, as well as the simplicity of the scale, led to its use in this study. Cronbach's alpha for this measure was 0.90 (see [Table 3](#)).

Organisational resilience was measured using the scale developed by [Lee et al. \(2013\)](#), based on the work of [McManus \(2008\)](#), consisting of 43 items for the indicators of situational awareness, management of keystone vulnerabilities and adaptive capacity. This was selected as it is widely recognised and used, and unlike sector-specific scales in fields such as supply chain management, it applies to a broad range of industries, as well as having more of an

Organisational resilience dimension	Mean (standard deviation)	Organisational resilience		Mean (standard deviation)	Cronbach's alpha (nr of items)	
		Cronbach's alpha	Organisational resilience construct			
Mindfulness/ Situational Awareness (4-point scale)	3.25 (0.46)	0.66	Recovery priorities	3.15 (0.56)	0.68 (3 items)	
			Situation monitoring and reporting	3.35 (0.53)	0.72 (3 items)	
Management of keystone vulnerabilities (4-point scale)	2.96 (0.46)	0.69	Planning strategies	3.15 (0.76)	*(1 item)	
			Practiced response	2.72 (0.66)	0.70 (3 items)	
			Internal resources	3.21 (0.61)	0.59 (2 items)	
			External resources	2.48 (0.84)	0.63 (2 items)	
Adaptive Capacity (4-point scale)	3.31 (0.47)	0.85	Staff engagement and involvement	3.25 (0.60)	0.56 (2 items)	
			Minimisation of silos	3.48 (0.55)	0.68 (2 items)	
			Information and knowledge	3.31 (0.61)	0.76 (3 items)	
			Leadership, management and governance structures	3.36 (0.53)	0.82 (3 items)	
			Innovation and creativity	3.30 (0.60)	0.79 (3 items)	
			Devolved and responsive decision-making	3.26 (0.56)	0.60 (3 items)	
Descriptive statistics and scale internal consistency reliability	<i>Digital Maturity</i> Digital Capabilities (7-point scale)	5.11 (1.22)	0.90 (10 items)	Digital Leadership (7-point scale)	4.89 (1.08)	0.88 (10 items)

enterprise-level focus. To minimise collinearity, we used a seven-point scale to measure digital maturity (ranging from 1 = strongly disagree and 7 = strongly agree), and a four-point scale to measure organisational resilience (ranging from 1 = strongly disagree and 4 = strongly agree). All items in the measurement instrument were positively worded.

The internal consistency reliability of most of the scales was confirmed within an acceptable range of between 0.6 and 0.9 (Hair *et al.*, 2017), with the *capabilities of internal resources* scale (CA = 0.59) and *staff engagement and involvement* scales (CA = 0.56) approaching the lower boundary.

Data analysis

In order to calculate retailers' digital maturity, Westerman *et al.*'s (2014a) prescribed approach was used, and SMEs were classified as either having high (summated score >41) or low (summated score ≤ 41) digital capabilities, and high (summated score >42) or low (summated score ≤ 42) digital leadership. This resulted in $n = 52$ digitally mature (SMEs who had both high digital capabilities and high digital leadership), and $n = 24$ digitally immature SME retailers (SMEs who scored "low" on either digital capabilities, digital leadership, or both). Independent sample *t*-tests were used to test the difference between these two groups' organisational resilience dimensions.

For the quantitative phase of the research, independent sample *t*-tests were used to compare digitally mature SMEs to digitally less mature SMEs on the organisational resilience dimensions. This was deemed the most appropriate test as independent *t*-tests compare two unrelated groups on the same continuous dependent variable (Malhotra, 2010; Zikmund *et al.*, 2013). The assumptions of homogeneity of variance and an approximately normally distributed dependent variable (Malhotra, 2010) were met.

For the second, qualitative phase of the research, thematic analysis was used to identify the key themes discussed in the results section. Nowell *et al.*'s (2017) process for thematic analysis was used to increase the trustworthiness of the findings. First, the researchers familiarised themselves with the data, followed by the generation of initial codes. Third, initial themes were identified, then vetted by the team. Finally, the themes were named and defined (Nowell *et al.*, 2017).

Results

Descriptive statistics and scale reliability

Table 4 provides a summary of the key descriptive statistics of the study. SME retailers within this study exhibited relatively high levels of situational awareness ($M = 3.25$, $SD = 0.46$), implying they could identify, anticipate and shape responses to potential threats before matters escalated. The mean for management of keystone vulnerabilities ($M = 2.96$, $SD = 0.46$) was lower than both situational awareness and adaptive capacity while maintaining more or less the same standard deviation. This implies that the SME retailers surveyed had a slightly higher than neutral ability to identify and manage keystone threats. Finally, with a mean adaptive capacity of 3.31, the SMEs surveyed displayed the ability to adapt to changing situations and crises.

Regarding the indicators of situational awareness, the SME retailers surveyed had on average, high awareness of recovery priorities ($M = 3.15$). In addition, the organisations generally had well-developed mechanisms for identifying and reporting early warning signals both within and outside of the organisation (situation monitoring and reporting $M = 3.35$). The keystone vulnerability management indicators suggested that respondents had relatively well-developed plans and strategies to manage vulnerabilities (planning strategies' $M = 3.15$), high staff engagement and involvement ($M = 3.25$), and a clear

Organisational resilience dimension	Group means	<i>t</i> -stat (sign.)	Organisational resilience construct	Group means	<i>t</i> -stat (sign.)
H1: Mindfulness/Situational Awareness	DM = 3.38	-4.17 (0.00)**	Recovery priorities	DM = 3.23	-2.13 (0.02)*
	Rest = 2.94		Situation monitoring and reporting	DIM = 2.93	-3.06 (0.00)**
H2 Management of keystone vulnerabilities	DM = 3.02 Rest = 2.79	-2.03 (0.023)	Planning strategies	DIM = 3.46	-3.17 (0.00)**
			Practiced response	DIM = 3.07	0.06 (0.48)
			Internal resources	DM = 3.30	-1.62 (0.05)*
			External resources	DIM = 2.71	-0.50 (0.31)
			Staff engagement and involvement	DM = 2.69	-1.89 (0.03)*
			Minimisation of silos	DIM = 2.70	-3.05 (0.00)**
H3: Adaptive Capacity	DM = 3.46 Rest = 2.95	-4.94 (0.00)**	Information and knowledge	DM = 3.62	-2.73 (0.00)**
			Leadership, management and governance structures	DIM = 3.17	-2.63 (0.01)**
			Innovation and creativity	DM = 3.42	-5.32 (0.00)**
			Devolved and responsive decision-making	DIM = 3.03	-4.63 (0.00)**
				DM = 3.45	
				DIM = 3.11	

Table 4. Difference between digitally mature and immature SME retailers on organisational resilience measures

Note(s): DM = Digitally mature SME retailers (Digital Masters), DIM = Digitally immature SME retailers (Beginners, Conservatives and Fashionistas); *Significant at a 5% level (one-tailed); **Significant at a 1% level (one-tailed)

understanding of the internal resources necessary to operate during times of crisis ($M = 3.21$). However, they had, on average, low awareness of the external resources or companies that they might need to depend on during the crisis ($M = 2.48$) and low practised responses in the form of experiences in simulations or similar scenarios ($M = 2.72$). The surveyed SME retailers displayed, on average, high levels of adaptive capacity ($M = 3.31$).

Digital maturity and organisational resilience

Table 4 reports the results of the *t*-test between digitally mature and digitally immature SME retailers.

Digitally mature SME retailers (those with both high digital capability and high digital leadership), have higher levels of organisational resilience along all dimensions compared to less digitally mature SME retailers, providing evidence to support hypotheses H1, H2 and H3. In particular, the null hypothesis of H1 and H3 were rejected at a one percent level of significance, supporting the argument that digitally mature SME retailers have greater situational awareness and adaptive capacity than SME retailers with lower levels of digital maturity. Similarly, the null hypothesis of H2 was rejected at a five percent level of significance ($t = -2.03$, $p < 0.05$) suggesting that digitally mature SME retailers are better prepared to manage keystone vulnerabilities than the digitally immature.

When considering the sub-dimensions of each of these constructs, the differences between digitally mature and immature SME retailers become more nuanced. Within *adaptive capacity*, there was a clear difference between digitally mature and digitally immature SME retailers: Digitally mature SME retailers had less of a silo mentality ($t = -3.05$; $p < 0.01$), and more information and knowledge ($t = -2.73$; $p < 0.01$), leadership and management ($t = -2.63$; $p < 0.01$), innovation and creativity ($t = -5.32$; $p < 0.01$), and devolved and responsive decision-making ($t = -4.63$; $p < 0.01$). The difference between digitally mature and digitally immature SME retailers' innovation and creativity is noteworthy, with the greatest mean difference between the groups for this construct (mean difference = -0.69).

Similarly, with regards to *situational awareness* dimensions, digitally mature SMEs performed significantly better than others in terms of their recovery priorities ($t = -2.13$; $p < 0.05$) as well as their situation monitoring and reporting ($t = -3.06$; $p < 0.01$). However, when *managing keystone vulnerabilities*, a difference between digitally mature and digitally immature SME retailers could only be found in three of the dimensions. Digitally mature SME retailers had greater planning strategies ($t = -3.17$; $p < 0.01$), better capabilities and capacity with regard to their internal resources ($t = -1.62$; $p < 0.05$), as well as greater staff engagement and involvement ($t = -1.89$; $p < 0.05$). However, they did not have greater practised response capabilities or awareness of external resource capabilities. This could be a result of the relatively young average age of the SMEs.

In summary, SME retailers who had higher digital capabilities and higher digital leadership skills exhibited higher levels of organisational resilience than those who displayed lower levels of digital capabilities and digital leadership.

Digital maturity and SME retailers' response to COVID-19 lockdowns

The second research objective involved the findings from the interviews, where digitally mature SME retailers' responses to the COVID-19 pandemic were compared to those of digitally less mature SME retailers. The qualitative data corroborate and offer additional depth to the central statistical results. Given space constraints in this paper, we only provide an overview of key themes that emerged from the qualitative study. These findings provide additional insight into the COVID-19 context and help explain the differing responses of SME retailers depending on their degree of digital maturity.

SME retailers reported being negatively impacted by the pandemic, citing struggles to pay salaries, overall loss of revenue, issues around staffing, and shrinking customer demand as common factors. However, digitally mature SME retailers could better leverage existing digital channels. In addition, the SME retailers who reported increased sales and growth were all classified as digitally mature. Organisational resilience, however, is not about whether negative events can be avoided. Instead it is about an organisation's response to these events. Three clear themes emerged in the data. [Table 5](#) summarises the key themes, compares digitally mature versus immature SME responses using exemplary interview excerpts, and links these themes to the organisational resilience literature.

The first theme that emerged related to optimism about future prospects. The responses of less digitally mature SME retailers were characterised by greater negative sentiment about their current situation and often about the future. In contrast, digitally mature SMEs often qualified negative statements with an upside, for example, describing how the pandemic allowed them to better examine their customer analytics generated through their digital platforms and created a clearer understanding of their customers and customer loyalty. This provides evidence of the organisational resilience dimensions of adaptive capacity and its sub-dimensions of leadership, management and governance structures, as well as information and knowledge.

Table 5.
Summary of thematic
analysis of interviews

Theme	Explanation	Digitally mature SME retailer example	Less digitally mature SME retailer example	Organisational resilience dimensions and sub-dimensions exhibited
1 Optimism about future prospects	Digitally immature SME retailers used a higher frequency of negative sentiment words to describe their current situation and their future than digitally mature SME retailers	<i>"We have also delayed the launch of certain products due to COVID. It has however given us time to improve our operational performance and further understand our customer."</i>	<i>"It has influenced our business negatively. Our supply chain has been disrupted resulting in limited or no stock. Secondly, the demand for our products has gone down."</i>	<i>Adaptive capacity</i> - Leadership, management and governance structures - Information and knowledge
2 Purposeful strategies in place	Less digitally mature SME retailers reported a "things will get better" attitude, while digitally mature SME retailers already had clear strategies and plans in place	<i>"... this was a totally unique crisis. We were better prepared than most businesses, including our local competition. We acted immediately ... We retrained staff, changed our business model to more of a retail focus, and immediately started on improving our e-commerce capability. Generally, we were decently well prepared."</i>	<i>"For the 6 weeks, everything was kept on hold, and staff had half pay, after the 6 weeks, when the dealerships opened we started over and built again."</i>	<i>Situational awareness</i> - Monitoring and reporting <i>Management of keystone vulnerabilities</i> - Planning strategies - Internal resource capabilities <i>Adaptive capacity</i> - Leadership, management and governance structures
3 Digitally innovative solutions	Digitally mature SMEs offered more innovative solutions to the challenges posed by the pandemic	<i>"Revenue streams initially came to a grinding halt ... However, we managed to innovate our processes and became an essential services provider through the manufacturing of denim masks."</i>	<i>"Our business struggled initially but came out alright in the end, with some hard work to ensure consumers the cleanliness of our bakery."</i>	<i>Adaptive capacity</i> - Innovation and creativity

The second identified theme focused on the development of explicit strategies. Digitally mature SME retailers had more purposive strategies of how they plan to address the challenges (and opportunities) posed by the pandemic. Their responses exhibited more agency and they clearly outlined specific actions they were going to take, or had taken, during the crisis. In addition to the use of data and digital platforms, they also extended more broadly to other proactive moves, including aspects such as introducing new products by bringing forward product and platform launches, or augmenting their product line-up, as well as increasing the operational capabilities such as their back-end capacity. Other adaptations included day-to-day operations and team functioning changes, such as regular team meetings throughout the day. When collated, the solutions offered by digitally mature interview participants ran the gambit of situational awareness, management of keystone vulnerabilities and adaptive capacity strategies. In addition, digitally mature SMEs appeared to adopt these strategies faster than the digitally immature SMEs, with one SME retailer explicitly stating that they anticipated that a lockdown was imminent and acted fast to ensure that they could keep their business running.

The third theme that emerged revolves around digitally innovative solutions. Digitally mature SME retailers were more innovative about the challenges and opportunities presented by the pandemic than the less mature. Those who had to close their stores during the level five lockdown periods mentioned taking the time to research, adapting their business models, or applying for licences to sell COVID-19-related products (like cleaning materials or masks). While digitally immature SME retailers often looked forward to getting back to “business as usual”, digitally mature SME retailers spoke about new markets, products and business models that they had developed. This provides further evidence of digitally mature retail SMEs displaying greater adaptive capacity, notably greater innovation and creativity amidst a crisis.

Conclusion

This study aimed to assess the impact of SME retailers’ digital maturity on their organisational resilience during COVID-19. First, survey data were used to compare digitally mature and less mature SMEs’ organisational resilience to address this purpose. The quantitative results suggest that digitally mature SME retailers differed in their organisational resilience and response to the crisis. Specifically, digitally mature SME retailers performed better on three key dimensions of organisational resilience, namely situational awareness of the changing environment, the management of keystone vulnerabilities, and adaptive capacity to adjust during a crisis. The difference was most marked with regard to the adaptive capacity dimension, and within this, the extent to which digitally mature SME retailers were innovative and creative in their responses to the COVID-19 pandemic.

The second component, which entailed qualitative data from interviews, provided further insight regarding the differences between digitally mature SME retailers and less digitally mature SME retailers’ response to the COVID-19 pandemic. These findings suggest that digitally mature SME retailers perceived the negative impact of lockdowns on their business as temporary and not an end-state in itself. These organisations reported clear strategies, often informed by data, and reported a solution-oriented approach to address the changing market needs or trends. Digitally mature SME retailers were also more aware of and attuned to environmental scanning to internally prepare for external shocks. Their strategies involved using digital tools, e.g. observing the market sentiment via digital platforms and adjusting their responses based on market intelligence, and extended to new products, operational capacities, and staff-related functioning.

Implications for theory

This paper adds to theory in several ways. First, we provide empirical support for the proposed positive relationship between digital maturity and organisational resilience in SMEs (Klein and Todesco, 2021). This study extends the current understanding that supply chain resilience is influenced by digitisation (Ivanov, 2021) and digital maturity (Zouari *et al.*, 2021) towards a broader understanding of organisational resilience. We show that this relationship holds, not only in an SME context but also in a retail context. In the retail context, this is particularly important as this sector is often more vulnerable to business model disruptions due to the general burden of fixed physical retail locations (Fletcher and Griffiths, 2020). The findings highlight that digital maturity influences SME retailers' adaptive capacity, a core dimension of organisational resilience. In particular, we show how digital maturity influences important organisational outcomes, key to its resilience, like innovativeness and creativity, and devolved decision-making.

Building on the conceptual foundation offered by Klein and Todesco (2021), the study provides empirical evidence to suggest that digitally mature SME retailers have a greater solution-oriented ability to continuously match or exceed their environment's needs than digitally immature SME retailers. Aligned to emerging research on digital maturity as a driver for proactive skill development (Ostmeier and Strobel, 2022), the findings highlight the vital role of digitally mature businesses' leadership and management capabilities when faced with disruption. The study's findings provide empirical support for the role that digital leadership capabilities play in driving and adapting to change, building on the conceptual work of Westerman *et al.* (2014b) that emphasise the role of digital maturity in business transformation.

The work builds on previous research within organisational management (He *et al.*, 2022), but extends that body of knowledge by empirically measuring the relationship between organisational resilience and digital maturity, in the retail and SME context. This study therefore addresses a gap in the retail literature by providing empirical support regarding digitally mature SME retailers' superior abilities in areas such as collaborating, storing and sharing of critical knowledge, rewarding and encouraging innovation and creativity, and having delegated authority to make key decisions in times of crisis. This highlights the importance of dynamic capabilities that promote the flexibility to adapt during crises rather than planned or predetermined approaches. These elements are also illustrated in the interview responses of the digitally mature SME retailers.

The second contribution of this research builds on the first, by highlighting the duality of organisational resilience as a concept. Our analysis suggests that digital maturity assists an organisation to not only use their organisational resilience to "respond and rebound" but also to "reimagine and reinvent" when faced with disruption. Unlike previous conceptions of organisational resilience that regard the construct as a process or outcome that enables organisations to respond and recover when faced with adversity (Burnard and Bhamra, 2019), this research asserts that such a perspective provides a limited view of resilience, focusing mostly on survival – most prevalent among the responses of digitally immature SME retailers. Our results showed that these SMEs detailed losses, supply chain disruption and decreased consumer demand when describing their challenges. In contrast, the digitally mature SME retailers exhibited organisational resilience that was associated with innovation and learning during COVID-19. These SMEs presented as forward-thinking and less reactive, illustrating a more regenerative approach to resilience, looking beyond the boundaries of the immediate pandemic. They focused on creatively developing new distribution channels and a renewed supply chain to fulfil their customers' immediate needs and influence their future behaviour. This provides a first and necessary step towards a better understanding of the role of digital maturity in the growing area of organisational resilience maturity as well (e.g. Jones *et al.*, 2021; Zouari *et al.*, 2021).

Finally, organisations with limited adaptive capacity tend to “search for solutions to problems in terms of the competencies they already possess and can therefore understand” (Staber and Sydow, 2002, p. 411). In contrast, digitally mature SME retailers with higher adaptive capacity look outward, scanning the external environment to equip the organisation to address any changes, displaying high levels of situational awareness. From a theory elaboration perspective, this approach is also congruent with an outside-in strategic approach (Day, 2011, 2020; Day and Moorman, 2013), which proposes that market-oriented organisations should step outside the immediate constraints of the organisation to look to the market for guidance. The digital capability dimension of digital maturity underscores this thinking as digital capabilities are embedded in the firm’s strategy, people and skills, highlighting the importance of developing and leveraging existing internal capabilities to address external challenges.

Implications for practice

The findings from this study highlight specific priority areas for developing digital maturity and increasing SME retailers’ organisational resilience. Digital maturity has two dimensions: digital leadership and digital capabilities. Focusing on building digital leadership is likely to produce significant gains in adaptive capacity, while growing digital capabilities could provide a competitive advantage. We argue that digital capability is a necessary trait to have not because it exempts an organisation from disruptive exogenous shocks, but because it enhances organisational resilience and thereby equips the organisation to deal with these shocks better. It encourages digitally driven value creation, for example, digital innovation. Digital maturity thus develops the organisational capabilities necessary to recover from and deal with extreme disruptions, such as COVID-19. Those capabilities not only allow SME retailers to digitalise their products and business processes but to also revise their business models and use technology more effectively.

Leadership is highlighted as a common thread, running across both organisational resilience and digital maturity. This commonality emphasises how critical leadership is and the need for it to be intentionally developed (Vogus and Sutcliffe, 2007). SME leaders need to recognise their role in functions such as creating a clear vision of their digital future and ensuring the vision is shared by all leaders and members. SME leaders must also strategically invest in gaining the necessary digital skills (Westerman *et al.*, 2014b). Acquiring new skills, mastering new situations, and improving competencies are all key for both adaptation and higher performance in the long term (Hamel and Valikangas, 2003; Vogus and Sutcliffe, 2007).

To enhance digital maturity and increase the organisational resilience of an organisation, capabilities for building awareness, sensing, and rapid, collective learning should be fostered. SME retailers have to collaboratively develop these capabilities within the enterprise, where they need to reassess the purposes and effectiveness of practices and systems continuously. Within the limited resources of an SME, clearly defined governance structures and strategies around the development and deployment of digital initiatives are needed to guide performance. As Louis Pasteur so fittingly remarked in 1854, fortune favours the prepared.

Limitations and research agenda

As with all research, this study is not without its limitations. First, the researchers acknowledge the challenge of fully accounting for psychometric equivalence regarding measurement invariance as constructs were assessed across groups and time (Putnick and Bornstein, 2016). Second, within-group differences are not accounted for, as such, a more detailed exploration and comparison of the four quadrants of digital maturity could offer additional insights. Third, the scope of the research and research design limits the results to be validated within the specific context of SME retailers in South Africa, and we acknowledge

that retailing is a diverse industry with different retail sectors and results might differ depending on the sector and geographic context. This provides an opportunity for future research to validate and compare the results within different retail sectors, those in other industries, or larger organisations in other countries. Finally, organisational resilience and digital maturity are evolving concepts with conceptual heterogeneity and terminological inconsistencies. Future research could further develop the respective concepts and validate the measures.

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