

## RESEARCH ARTICLE

# Building organisational resilience capability in small and medium-sized enterprises: The role of high-performance work systems

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## Abstract

Although organisational resilience is crucial to small and medium-sized enterprises (SMEs) in turbulent business environments, research has yet to establish whether and how human resource management (HRM) systems can help build an SME's organisational resilience to influence firm performance. Drawing on the perspective of HRM as an internal capability builder and human capital resource theory, we develop a model that depicts how high-performance work systems (HPWSs) build organisational resilience capabilities in the forms of bounce-back and bounce-forward resilience, leading to firm performance. We test our model using data from 1140 participants (including top management team members, middle-level managers, and entry-level employees) from 177 Nigerian SMEs. The structural equation modelling results show that HPWSs contribute to bounce-back resilience via human capital value but to bounce-forward resilience via both human capital value and heterogeneity. We also find that bounce-forward resilience is related to firm performance but bounce-back resilience is not.

**Abbreviations:** BB, bounce-back resilience capability; BF, bounce-forward resilience capability; HCH, human capital heterogeneity; HCV, human capital value; HPWSs, high-performance work systems; HR, human resources; HRM, human resource management; KSAOs, knowledge, skills, ability, and others; SMEs, small and medium-sized enterprises; TMT, top management team.

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**KEYWORDS**

high-performance work systems, human capital heterogeneity, human capital value, Organisational resilience, SMEs

**Practitioner notes****What is currently known about the subject matter?**

- Some human resource management practices can impact an organisation's ability to deal with and recover from disruptive events.
- High-performance work systems (HPWSs) have been conceptually linked to organisational resilience.

**What does this paper add?**

- This study proposes a theoretical explanation of the processes through which HPWSs influence organisational resilience capabilities, influencing firm performance in small and medium-sized enterprises (SMEs). The findings from our study suggest that SMEs can use HPWSs to build bounce-back resilience capability via cultivating human capital value and build bounce-forward resilience capability via accumulating human capital value and heterogeneity. In turn, bounce-forward resilience contributes to firm performance.
- This study differentiates between two types of organisational resilience capabilities (bounce-back and bounce-forward resilience) by examining their antecedents and consequences.

**Implications for practitioners:**

- Organisations should differentiate between bounce-back and bounce-forward when diagnosing their organisational resilience capabilities and develop interventions accordingly.
- Managers can maximise the benefits of HPWSs on organisational resilience capability and firm performance in SMEs by focussing on the variety as well as the value of employees' knowledge and skills.

Much research has sought to understand organisational survival in an increasingly competitive environment characterised by technology discontinuities, changing customer preferences, and natural catastrophes. Organisational resilience capability, or a firm's ability 'to cope with unanticipated dangers as they become manifest' (Wildavsky, 1988, p. 70), has emerged as a critical internal capability that organisations need to nurture if they are to survive and succeed in the changing environment (Hillmann & Guenther, 2020; Linnenluecke, 2017; Williams et al., 2017). Research has shown that organisations with higher resilience capability tend to refine and modify their resources and organisational processes (Christianson et al., 2009; Meyer, 1982), extend and modify existing products and services, identify new customers and/or markets (Brueller et al., 2019), and facilitate product innovativeness (Akgün & Keskin, 2014). In brief, resilient organisations can quickly recover from disruptive and adverse events and positively adjust to challenging business conditions (Roux-Dufort, 2007; Sutcliffe & Vogus, 2003; Williams et al., 2017). In tandem, in light of human resource management's (HRM) emerging status as a strategic partner and its central role in building internal capability for strategy implementation (Barney & Wright, 1998), many scholars propose that HRM is critical to building organisational resilience (Carvalho & Areal, 2016; Lengnick-Hall et al., 2011). Supporting this notion, empirical research, based mainly on case studies, has shown that HR practices such as job security, employment relations (Gittel et al., 2006), and staffing levels (Meyer, 1982) can contribute to organisational resilience.

Despite these efforts, there are two important limitations in the existing literature. First, prior research has predominantly used retrospective case analysis revealing how resilience unfolds in specific events or organisational contexts to identify influential factors. Notwithstanding that these findings are informative, the overreliance on the

case study approach has resulted in a collection of potentially impactful HR practices that are context-specific and thus limited in their generalisability to other contexts or future events (Linnenluecke, 2017). Moreover, such an approach does not lend itself well to a systematic HRM approach for organisational resilience capabilities that have long been proposed by scholars (Lengnick-Hall et al., 2011). Second, while studies examining organisational resilience capabilities in SMEs have been rare, even fewer have been done to understand how HRM contributes to organisational resilience capabilities in such contexts. Consequently, although much research has shown that the systematic HRM approach in SMEs can contribute to desirable organisational outcomes such as firm performance (Patel & Conklin, 2012; Patel et al., 2013; Sheehan, 2014) and innovation (Shahzad et al., 2019), there is a lack of development of a comprehensive understanding of how HRM systems can accumulate relevant resources for organisational resilience, resulting in optimal performance in the SME context. This is a surprising omission as many scholars have called for research that investigates organisational resilience capabilities among SMEs because, compared to large organisations, SMEs are more prone to disruptive and challenging situations (e.g., Aleksić et al., 2013; Allas et al., 2021; Bhamra et al., 2011). Furthermore, SMEs, having fewer employees, rely more on HRM practices to develop a unique and innovative knowledge pool that gives them a sustainable competitive advantage (Patel & Conklin, 2012). It is plausible that an HRM perspective holds the potential to understand organisational resilience capabilities. From a practical point of view, failing to address this knowledge gap might lead to missed opportunities in terms of designing appropriate HR interventions for organisational resilience and performance in SMEs.

Thus, the objective of this study is to examine how high-performance work systems (HPWSs) build organisational resilience and ultimately firm performance by cultivating relevant human capital in the SME context. Drawing on HRM as an internal capability builder perspective (Barney & Wright, 1998), and human capital resource theory (Barney, 1991, 2001; Ployhart et al., 2014; Ployhart & Moliterno, 2011), we propose that HPWS build bounce-back and bounce-forward organisational resilience capabilities by cultivating company-level human capital value and heterogeneity. In turn, both bounce-back and bounce-forward resilience contribute to firm performance. The proposed model is depicted in Figure 1.

Our study brings several contributions to the literature. First, it deviates from prior research, which has only focussed on identifying individual HRM practices in specific situations, and advances the literature by illustrating how HRM can systematically influence human capital contributing to organisational resilience and firm performance. Furthermore, in a departure from prior research, which has only focussed on the relationship between HPWSs and human capital in general (see Jiang et al., 2013, for a review), our study also contributes to the literature by distinguishing human capital value from heterogeneity and examining them as two resource pathways through which HPWSs build bounce-back and bounce-forward resilience capabilities. Human capital value refers to a combination of employee knowledge, skills, ability, and others (KSAOs) that has the 'potential to improve the efficiency and effectiveness of the firm, exploit market opportunities, and/or neutralise potential threats' (Lepak & Snell, 2002, p. 519), whereas human capital heterogeneity refers to the variety of or differences in the composition of employees' KSAOs that offer potential alternatives and skill flexibility for business needs (Beltrán-Martín et al., 2008; Bhattacharya et al., 2005; Ketkar & Sett, 2009; Way et al., 2015, 2018; Wright & Snell, 1998).

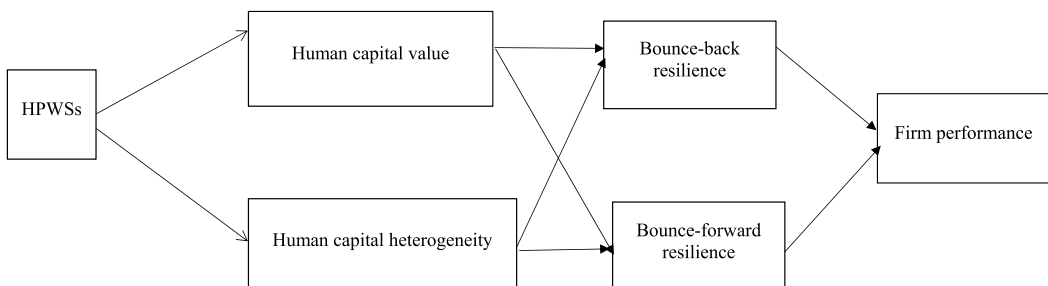


FIGURE 1 The hypothesised model.

Second, our research answers the call for research that investigates organisational resilience in SMEs by examining the role of HPWSs in promoting an important internal capability: organisational resilience capabilities to influence performance in SMEs. Thus, we also extend prior research, which has evidenced the impact of HPWSs on organisational performance (Patel & Conklin, 2012; Patel et al., 2013; Sheehan, 2014) and innovation (Haar et al., 2021; Shahzad et al., 2019) in SMEs by linking HPWSs to organisational resilience capabilities in such contexts. In sum, our study sheds light on the synergistic effects of HPWSs on human capital resources and the multiple resource pathways through which HPWSs can influence organisational resilience and ultimately firm performance in a much-needed but understudied context.

Finally, our study clarifies the conceptual confusion regarding organisational resilience capabilities in the extant literature and offers empirical evidence for two distinct forms of organisational resilience capabilities. Specifically, by differentiating bounce-back resilience capabilities (i.e., capabilities to recover and resume normal operations after disruptive events) and bounce-forward resilience capabilities (i.e., capabilities to learn and develop new strategies or organisational operations through disruptive events), our study enables and motivates future research to understand the respective antecedents of different types of organisational resilience.

## 1 | CONCEPTUALISATION OF ORGANISATIONAL RESILIENCE CAPABILITIES

The study of resilience in organisational settings has predominantly focussed on employee resilience in the forms of personal strengths and capabilities (e.g., Cooper et al., 2014; Luthans, 2002). While employee resilience forms one of the building blocks of resilience that manifests at the organisational level (Meyer, 1982; Sutcliffe & Vogus, 2003), resilience at the organisational level is more than an additive composition of individual capabilities (Lengnick-Hall et al., 2011). Rather, organisational resilience is an organisational attribute that is 'derived from a set of specific organisational capabilities, routines, practices, and processes by which a firm conceptually orients itself, acts to move forward, and creates a setting of diversity and adjustable integration' (Lengnick-Hall et al., 2011, p. 245). Consequently, we focus on resilience at the organisation level and define organisational resilience capabilities as an organisation's ability to act and positively adjust in the face of unanticipated disruptive events.

Given its focus on positive responses and adjustment to unexpected disruptive events, organisational resilience can be seen as one type of dynamic capability (Teece & Pisano, 1994), a general term that describes a firm's capability to recognise and respond to opportunities and threats by extending and transforming their existing resources and competences (Eisenhardt & Martin, 2000). However, organisational resilience is conceptually different from other constructs such as flexibility and adaptability, which have often been associated with dynamic capabilities. Flexibility refers to the ability to change at relatively short notice and low cost (Ghemawat & del Sol, 1998), and adaptability refers to the ability to establish fit with the environment (Chakravarthy, 1982). While flexibility is concerned with the firm's ongoing configuration of organisational strategy (Parthasarathy & Sethi, 1993) that allows the organisation to maneuver in a changing environment, organisational resilience captures an organisation's ability to recover, renew, and transform in response to unexpected, disruptive events. Adaptability emphasises the externally determined change to achieve strategic fit, whereas organisational resilience focuses on an organisation's internal capability in its processes and skills pool to cope with the unexpected.

Organisational resilience capability, however, is not a singular concept. Previous research has suggested different forms of organisational resilience capabilities regarding how an organisation responds to a disruption, either by returning to routine (Gittell et al., 2006; Meyer, 1982) or by orienting towards a new direction (Christianson et al., 2009; Lengnick-Hall et al., 2011; Sutcliffe & Vogus, 2003). To recognise the need for different capabilities for the two different responses, we formally differentiate between bounce-back resilience capabilities and bounce-forward resilience capabilities. Bounce-back resilience capability is concerned with an organisation's ability to cope with unexpected disruptions, absorb the impact, and quickly reach normal levels of performance after a disruption (Horne & Orr, 1998; Wildavsky, 1988). In contrast, bounce-forward resilience capability focuses on an

organisation's ability to learn and develop new capabilities and to take advantage of unanticipated disruptions and challenges (Bhamra et al., 2011; Hamel & Valikangas, 2003; Lengnick-Hall et al., 2011). As such, bounce-forward resilience capability emphasises deriving the full benefits of the change by turning the disruption into an opportunity (Weick & Sutcliffe, 2001); in other words, it goes beyond the ability to maintain positive adjustments under challenging conditions and incorporates an organisation's ability to develop new capabilities and to continuously keep pace with change. In brief, bounce-back resilience capabilities are those that enable an organisation to return to routine after disruptions, whereas bounce-forward resilience capabilities are those that allow an organisation to move in a new direction for future survival when encountering a disruption.

As organisational resilience capabilities are considered the organisation's ability, we argue that organisational resilience capabilities can be built, especially via an HRM approach, a perspective that has been discussed by several scholars (Lengnick-Hall et al., 2011; Sutcliffe & Vogus, 2003; Wildavsky, 1988). Below, we introduce the HRM approach to organisational resilience capabilities and then propose why HPWSs can contribute to both bounce-back resilience and bounce-forward resilience capabilities, which in turn lead to better firm performance.

## 2 | AN HRM APPROACH TO ORGANISATIONAL RESILIENCE CAPABILITIES

Much research on strategic HRM has focussed on how organisations build internal capabilities to create sustained competitive advantage through the use of human resource bundles or HR systems (e.g., Chowhan, 2016; Huselid, 1995; Takeuchi et al., 2007; Wright & McMahan, 1992). Among these efforts, considerable attention has been paid to human capital as a critical resource that HR systems help build to influence organisational outcomes (see Jiang et al., 2013, for a review; McMahan et al., 1999; Takeuchi et al., 2007; Youndt & Snell, 2004). Grounded in the resource-based view (Barney, 1991, 2001), it is argued that HRM systems, as an internal capability builder, foster the accumulation of employees' knowledge, skills, abilities, and others (KSAOs) that are uniquely valuable to business strategy and enable the business to sustain competitive advantage in a changing environment (Barney & Wright, 1998; Nyberg et al., 2014; Ployhart & Moliterno, 2011). Given that organisational resilience is central to a company's sustainability, it is plausible that HRM systems can help build organisational resilience via nurturing human capital resources. As Lengnick-Hall et al. (2011) note, 'strategic human resource management systems are instrumental in developing the requisite knowledge, skills, abilities, and other attributes (KSAOs) ... to generate resilience outcomes' (p. 244).

Although research has examined the role of human capital in general as the underlying mechanism that underpins the influence Pal et al. (2014) of HPWSs on organisational outcomes (e.g., Takeuchi et al., 2007), many human capital theorists have called for research that examines how HRM systems build different human capital attributes to meet different strategic needs (Barney et al., 2011; Lepak & Snell, 1999; Ployhart & Moliterno, 2011; Wright & Snell, 1998). It has been recognised that, when aggregated and emerged at the collective level, human capital resources may vary not only in terms of their strategic value but also in heterogeneity because of varied acquisition and development processes (Barney et al., 2011; Kraaijenbrink et al., 2010; Ployhart et al., 2014). Thus, human capital value captures the extent to which employees' KSAOs can collectively contribute to the effectiveness and/or efficiency of the company (Lepak & Snell, 1999, 2002). To build this aspect of human capital, HRM systems focus on investing in the KSAOs specifically demanded by and valuable to the current business (Wright & Snell, 1998). In contrast, human capital heterogeneity indicates the versatility and variety of employee KSAOs that a company can deploy to meet various and emerging business needs (Barney et al., 2011; Beltrán-Martín et al., 2008; Way et al., 2015; Wright & Snell, 1998). Both human capital value and heterogeneity have implications for an organisation's ability to obtain sustainable competitive advantages (Barney et al., 2011; Ployhart et al., 2014) and, by extension, its ability to create resilience capabilities (Lengnick-Hall et al., 2011).

Building on and extending the existing literature, we propose that HPWSs can build two important attributes of human capital: value and heterogeneity, leading to both bounce-back and bounce-forward resilience. Regarding the

research context, we seek to examine our proposed model in the SME context. Although some scholars suggest that SMEs may differ from large organisations in terms of how they adopt HPWSs based on factors such as resource scarcity, informality, and flexibility (Harney & Alkhalaf, 2021; Sheehan, 2014; Wu et al., 2015), there is emerging evidence for the relevance and importance of HPWSs in contributing to enhanced performance and innovation in SMEs (e.g., Haar et al., 2021; Patel et al., 2013; Shahzad et al., 2019; Way, 2002). SMEs, being limited in resources, tend to be careful in investing in HRM practices (Messersmith & Guthrie, 2010; Patel & Conklin, 2012; Sheehan, 2014). We propose that, in such contexts, the use of HPWSs may be particularly critical to ensure SMEs effectively build human capital value and heterogeneity, contributing to organisational resilience capabilities and performance. Below, we provide more elaboration to underpin our hypotheses in the SME context.

### 3 | HYPOTHESIS DEVELOPMENT

#### 3.1 | HPWSs and human capital

HPWSs or systems of HR practices are designed to enhance employees' knowledge and skills, commitment, and behaviours in such a way that employees become a source of competitive advantage (Datta et al., 2005; Takeuchi et al., 2007). HPWSs include a bundle of HR practices such as selective staffing, investment in training and development, performance-related reward systems, employee involvement, teamwork, and job design to facilitate flexible work arrangement and skill variety (see Jiang et al., 2012, for a review).

We propose that HPWSs can contribute to human capital value in SMEs. By selective staffing and investing in training and development, HPWSs ensure that employees are equipped with the knowledge and skills required by and critical to the current business needs. Reward and performance management practices such as performance-related systems also encourage employees to heighten their skill profile to maximise their performance and reward. For SMEs, given their flatter organisational structure (Do & Shipton, 2019) and the smaller number of employees, organisations with high levels of HPWS can target and select superior employees and further develop them through training, reward, and performance management, resulting in high levels of human capital value. Prior research has provided empirical support for the positive impact of HPWSs on human capital value in SMEs (Haar et al., 2021; Messersmith & Guthrie, 2010; Shahzad et al., 2019).

HPWSs can also foster human capital heterogeneity in SMEs. Through teamwork and flexible work arrangements such as job rotation, employees are encouraged to develop teamworking skills, resulting in diverse skill pools (Lepak et al., 2003). The frequent social interactions facilitated by teamwork and employee participation enable employees to share different expertise and information, as well as to actively generate a diverse skill repertoire that allows employees to work effectively as a collective (Lengnick-Hall et al., 2011; Ployhart & Moliterno, 2011). Furthermore, by encouraging employee participation and information sharing, HPWSs nurture a supportive and trusting work context in which employees feel safe and motivated to experiment with new ideas and explore different ways of doing things. For SMEs, there is a need for their employees to play multiple roles and to adapt to the organisation's demands due to resource constraints (Messersmith & Guthrie, 2010). SMEs with high levels of HPWS can create work structure, processes, and work contexts that encourage and support employees to develop multiple skill sets and to share and create new knowledge in teams. All these, in turn, allow a high level of human capital heterogeneity to emerge at the company level.

Although we discuss above that certain HR practices in HPWSs are more conducive to human capital value, while others are more oriented towards human capital heterogeneity, there is an overlap between these practices in terms of contributing to human capital value and heterogeneity. They can coexist and complement each other. For example, performance-based reward practices that encourage work efficiency could motivate employees to learn new skills and develop better methods. Thus, by combining various HR practices in a synergetic way, HPWSs can simultaneously promote human capital value and heterogeneity.

**H 1** *HPWS is positively related to (a) human capital value, and (b) human capital heterogeneity.*

### 3.2 | Human capital and organisational resilience capabilities

We expect that human capital value will contribute to bounce-back resilience capability in SMEs because it offers 'well-learned' and dominant knowledge, skills, and well-practiced routines that a firm can effectively use to recover and preserve the efficiency of the existing business model. Specifically, a high level of human capital value provides knowledge and skills that firms can deploy to keep the business functioning while coping with a disruptive event (Starr et al., 2003), leading to a quick recovery. A high level of human capital value also offers surplus human resources that enable an organisation to absorb the impact of the disruptive events (Meyer, 1982), and thus a fast return to the pre-event state, resulting in a high level of bounce-back resilience. In the SME context, given the constant resource constraints, companies tend to rely on their existing employees' knowledge and skills in dealing with disruptions (Pal et al., 2014; Patel & Conklin, 2012). When their employees have high levels of the requisite skills, SMEs can utilise the existing human capital without resorting to extra or external resources and thus can deal with the disruption with lower operational cost and high efficiency, resulting in a quick resumption of operation after a disruption.

We also expect human capital heterogeneity to contribute to bounce-back resilience capability among SMEs. This is because the alternatives and skill flexibility offered by human capital heterogeneity present the potential for dealing with the various demands of disruptive events. When confronted with disruptive events, companies with high levels of human capital heterogeneity can develop a collective action repertoire that is 'varied and unconventional' (Lengnick-Hall et al., 2011, p. 250). Consequently, they are more likely to generate a greater number of options to counteract and to create more complex approaches by incorporating a variety of different routines, leading to enhanced bounce-back resilience. In the SME context, the flexibility offered by human capital heterogeneity can compensate for the limited resources and the smaller number of employees because the current employees will be able to perform new or different work activities when needed (Way et al., 2015). This in turn will enable the company to rapidly adjust its strategy and operations (Allas et al., 2021; Sullivan-Taylor & Branicki, 2011), thus leading to bounce-back resilience capability.

**H 2a** *Human capital value is positively related to bounce-back resilience capability.*

**H 2b** *Human capital heterogeneity is positively related to bounce-back resilience capability.*

We expect that both human capital value and heterogeneity can contribute to bounce-forward resilience capability among SMEs. A high level of human capital and the inherent accumulated expertise allows an organisation to create embedded routines that can be deployed to absorb the initial shocks (Lengnick-Hall et al., 2011). Instead of being debilitated by the disruptions, SMEs with high levels of human capital value can ensure the efficiency of existing operations while exploring, learning, and growing new strategies, resulting in bounce-forward resilience capability. Thus, SMEs that have high levels of the requisite KSAOs among employees are more likely to feel confident in their ability to improve their operational routines for future disruptions (Sutcliffe & Vogus, 2003). Although so far there has been no direct test of the link between human capital value and bounce-forward resilience, the literature suggests that SMEs that invest in employees' knowledge and skill development are more likely to be adaptive and flexible in dealing with challenges (Nolan & Garavan, 2016). This indirectly supports our proposition that human capital value fosters an SME's ability to learn and develop from disruptions, leading to bounce-forward resilience.

Human capital heterogeneity benefits bounce-forward resilience because the change- and future-oriented focus of this type of resilience requires diverse perspectives that can help interpret new information emerging in the process and identify alternative growth paths and solutions. The diverse knowledge base inherent in high human capital heterogeneity facilitates the organisation's collective sense-making process in disruptive situations (Weick, 1995) and helps it absorb and integrate diverse information (Cohen & Levinthal, 1990). Moreover, organisations charac-

terised by heterogeneous human capital are more likely to produce new ideas and better problem-solving skills that drive innovative solutions and new products/services (Lengnick-Hall & Beck, 2005), and broaden their knowledge base (Reinmoeller & Van Baardwijk, 2005), resulting in high bounce-forward resilience. In the SME context, indirect evidence can be drawn from the HR flexibility literature to support the link between human capital heterogeneity and bounce-forward resilience. For example, research has shown that employees having the ability to learn and develop different skills and techniques for different work activities (one dimension of HR flexibility) contributes to a firm's ability to adapt to the market (Way et al., 2015) and to develop new services (Beltrán-Martín et al., 2021; Swart & Kinnie, 2013). Arguably, such abilities in turn can help SMEs develop new knowledge and become innovative (Salavou et al., 2004), ultimately creating resilience capabilities (Demmer et al., 2011). Accordingly, we hypothesise:

**H 3a** *Human capital value is positively related to bounce-forward resilience capability.*

**H 3b** *Human capital heterogeneity is positively related to bounce-forward resilience capability.*

### 3.3 | Organisational resilience capabilities and firm performance

As noted above, bounce-back resilience draws on existing knowledge and skills to resume what has been disrupted. It has the benefit of high efficiency in deploying resources because this capability focuses on minor improvements and extensions from the current offerings of the organisation, aligning its activities with prevailing environmental circumstances (Lengnick-Hall & Beck, 2005). SMEs, unlike large organisations, are characterised by resource limitations and informal resource structures (Hudson et al., 2001; Sheehan, 2014). Being able to deploy their limited resources efficiently would put SMEs in a competitive position. In other words, SMEs high in bounce-back resilience will perform better than those low in bounce-back resilience because of their efficiency and promptness in recovering from disruptions, leading to better performance.

Bounce-forward resilience can also benefit firm performance among SMEs because it emphasises identifying and capitalising on emerging opportunities when experiencing disruptive events, such as meeting the needs of a new market or new growth paths, generating new methods of operations, and developing new products to deal with future disruptions. As such, bounce-forward resilience is premised on the notion that disruptive events can bring about opportunities that can be leveraged to achieve superior performance. Such new opportunities are critical for the long-term business growth and competitiveness of SMEs. In a case study of eight Swedish textile and clothing SMEs during the economic crisis, Pal et al. (2014) found that a firm's ability to develop new products and identify new markets or customer base is one of the critical contributors to a firm's long-term financial performance. Thus, we propose:

**H 4a** *Bounce-back resilience will be positively related to firm performance.*

**H 4b** *Bounce-forward resilience will be positively related to firm performance.*

## 4 | METHOD

### 4.1 | Sample and procedures

Data were obtained from SMEs operating in Lagos State, Nigeria. As the commercial and economic centre of the country, Lagos State has the highest concentration of business organisations of all sizes. However, the SME sector in developing economies such as Nigeria is the main contributor to the nation's employment, economic development, and poverty reduction (Ayyagari et al., 2011), thus providing an important and relevant research context for the investigation of organisational resilience in SMEs.



The sample frame was a Lagos State Ministry of Commerce and Industry listing of 2670 SMEs, of which 350 were randomly selected and invited to participate in the study. To reduce common method variance, as well as to ensure that participants were knowledgeable about the issues investigated in the survey, we asked the CEO of each company to select three employees from each of three hierarchical levels (TMT members, middle-level managers, and entry-level employees) to participate in the study. In cases where there were no TMT members, we asked senior managers to answer the questionnaire instead. The CEO of each company contacted the nine subjects to solicit their voluntary participation in the survey, assuring them that their responses would be used for academic research only and that no one in the company would have access to the data. To assure confidentiality, there was no further contact made by the CEOs and all subsequent correspondence was with the research team, particularly the survey assistants. Two survey assistants were hired and trained by one of the coauthors to coordinate the delivery and collection of the questionnaires. The survey assistants delivered the questionnaires in a sealable envelope to participants in each of the participating SMEs. The cover letter to the survey included the purpose of the research, the voluntary nature of participation, and the anonymity of participants' responses.

We asked TMT members to rate the measures for HPWSs and firm performance. This is consistent with prior research, which has often used SME owners, CEOs, or general managers to rate such variables (Haar et al., 2021; Patel et al., 2013). We asked entry-level employees to rate human capital value and heterogeneity because they were familiar with the profile of employees' KSAOs through their day-to-day interactions. Finally, we asked middle-level managers to rate their organisation's bounce-back and bounce-forward resilience capabilities given their unique position in leading and coordinating the responses to disruptions at the operational level. We also collected from TMT members or senior managers data on a set of control variables, including firm age, firm size, and industry. Based on the above design, we developed three different questionnaires for the participants. On average, participants responded within 3 weeks of receiving the questionnaires.

We only included in the final sample SMEs that had returned valid responses from all the three levels, with at least one rater at each level—necessary to ensure multiple data sources for each SME. This resulted in a sample of 177 companies (50.57% response rate), consisting of 1140 responses with an average of 7.1 participants of the nine initially contacted in each SME providing data for the study. The participating SMEs can be broadly grouped into services (including hotel and restaurants, banking, information technology) (136, 76.8%), manufacturing (25, 14.1%), and trade (16, 9%). The final sample consisted of 363 TMT members (69% response rate), 383 middle-level managers (72% response rate), and 394 entry-level employees (73% response rate). One hundred and two (58%) of 177 organisations provided at least two raters in each of the three levels, and 57 (32%) provided at least one rater for each level. Of the 1140 participants, 66% were men (73%, 62%, and 63% by level: TMT members, middle-level managers, and entry-level employees, respectively), the mean age was 33 years (37.2, 33.0, 29.5 years by level), the average tenure in the current position was 4.4 years (6.5, 4.2, and 2.5 years by level), and on average 50% held a minimum of an undergraduate degree (45%, 52%, and 53%, by level). Unless otherwise noted, response options ranged from 1 ('strongly disagree') to 5 ('strongly agree').

## 4.2 | Measures

### 4.2.1 | Bounce-back and bounce-forward resilience capability

Given the absence of measurement of organisational resilience capabilities in the extant literature, we developed and validated measures of bounce-back and bounce-forward resilience capability. Following the procedures proposed by Hinkin (1998) and adopted by recent studies (e.g., Djurdjevic et al., 2017), we first generated a 40-item pool to measure bounce-forward and bounce-back resilience capability based on an extensive literature review. We then assessed the extent to which the items were consistent with the definitions of the two forms of organisational resilience. Specifically, we conducted a content validity assessment of the initial pool of 40 candidate items with 10 subject

matter experts (management doctoral students from a management school in the UK). Participants were provided with the definition of bounce-back and bounce-forward resilience capability on a separate page, with all 40 proposed items being listed. The subject matter experts were asked to assess and comment on the extent to which each of the 40 items matched the specific definition on the page. In total, 27 items were removed because of misclassifications or comments suggesting vagueness. Finally, three SME owner-managers were invited to comment thoroughly on the items. This was done to check their understanding of the items, as well as how easy it was for them to answer the questions. This step resulted in the rewording of a few items that were considered unclear. Overall, 13 initial items were retained for the proposed organisational resilience scale: seven items for bounce-back resilience capability and six for bounce-forward resilience capability.

To ascertain the validity of our measurement we conducted two scale validation studies to establish its factorial, convergent, discriminant, and criterion validities (see the appendix for more information). In Scale Study 1, we used data collected from a sample of 101 SME owners based in a science park of a university in the UK. We first conducted a principal axis factoring exploratory factor analysis (EFA) on the 13 retained items. Three items were dropped due to cross-loading or misloading, leaving 10 items in total, with five items for bounce-back resilience capability and another five items for bounce-forward resilience capability. The hypothesised two-factor model fit the data well ( $\chi^2 = 65.62$ ,  $df = 33$ ,  $CFI = 0.94$ ,  $RMSEA = 0.099$ ,  $SRMR = 0.055$ ) and had a better fit than the one-factor model ( $\Delta\chi^2 = 42.35$ ,  $\Delta df = 1$ ). Furthermore, in Scale Study 1, bounce-back and bounce-forward resilience capability were found to have sound convergent and discriminant validity, when compared with adaptability orientation (captured by exploration and exploitation orientation). In Scale Study 2, we used data from a sample of 222 SME owners and managers recruited through Prolific, a third-party online survey administration company. The hypothesised two-factor model again showed a good fit to the data ( $\chi^2 = 92.82$ ,  $df = 33$ ,  $CFI = 0.95$ ,  $RMSEA = 0.089$ ,  $SRMR = 0.037$ ) and a better fit than the one-factor model ( $\Delta\chi^2 = 91.32$ ,  $\Delta df = 1$ ). Scale study 2 provided further evidence for the convergent and discriminant validity of the scale when bounce-back and bounce-forward resilience capability were compared with adaptability (i.e., exploration and exploitation orientation) and flexibility. Finally, the results of the hierarchical linear regression in Scale Study 2 showed that bounce-forward organisational resilience capability explained a significant amount of incremental variance (1.2%,  $\Delta F = 4.152$ ,  $p < 0.05$ ) in firm performance after flexibility, adaptability, and bounce-back were controlled for, supporting its criterion validity.

Thus, we measured bounce-back and bounce-forward organisational resilience capability with the scale that we newly developed and validated for this research. The alpha reliability for bounce-back resilience capability was 0.86 and that for bounce-forward resilience capability was 0.89. The mean ratings of middle-level manager participants within each firm were used to obtain a score for bounce-back capability ( $r_{wg} = 0.90$ ;  $F[176, 382] = 6.75$ ,  $p < 0.001$ ;  $ICC1 = 0.73$ ;  $ICC2 = 0.85$ ) and bounce-forward resilience capability ( $r_{wg} = 0.93$ ;  $F[176, 382] = 5.61$ ,  $p < 0.001$ ;  $ICC1 = 0.68$ ;  $ICC2 = 0.82$ ).

#### 4.2.2 | HPWSs

A 22-item scale adapted from Prieto and Santana (2012) and Patel et al. (2013) was used to measure HPWSs in SMEs. Sample items include 'great effort is taken to select the right person for every position,' 'employees will normally go through training programs every few years,' 'employees receive monetary rewards based on their individual performance,' and 'our company emphasises employees' teamwork and network collaboration.' Following prior research that examines systems of HR practices rather than single, isolated practices, we used an additive index to capture a single comprehensive measure of an HR system (Becker & Huselid, 1998; Huselid, 1995; Patel et al., 2013; Sun et al., 2007). The scale's alpha reliability was 0.92. The averaged ratings of TMT members in each firm were used to obtain a score for HPWS ( $r_{wg} = 0.97$ ;  $F[176, 362] = 9.45$ ,  $p < 0.001$ ;  $ICC1 = 0.80$ ;  $ICC2 = 0.89$ ).

### 4.2.3 | Human capital value and heterogeneity

An eight-item scale developed by Lepak and Snell (2002) was used to measure human capital value. A sample item is 'employees in our organisation have skills that directly affect organisational efficiency and productivity.' For human capital heterogeneity, we adapted Lepak and Snell's (2002) human capital value scale, mentioned above, to assess the extent to which organisational members differ in their human capital—knowledge, skills, and abilities—to ensure consistency with the theoretical nature of the construct. A sample item is 'employees in our organisation differ in skills that develop products/services that are considered the best in our industry.' The rating options ranged from 1 ('to a very small extent') to 5 ('to a very large extent'). The averaged ratings of entry-level employees of each firm were used for these two variables. The alpha reliability for the scale of human capital value was 0.80 ( $r_{wg} = 0.95$ ;  $F[176, 393] = 5.58$ ,  $p < 0.001$ ; ICC1 = 0.67; ICC2 = 0.82), and that for the scale of human capital heterogeneity was 0.86 ( $r_{wg} = 0.90$ ;  $F[176, 393] = 4.39$ ,  $p < 0.001$ ; ICC1 = 0.60; ICC2 = 0.77).

### 4.2.4 | Firm relative performance

We adapted Delaney and Huselid's (1996) seven-item scale (including dimensions of quality, innovativeness, employee satisfaction, customer satisfaction, growth in sales, market share, and profitability) for firm relative performance. This type of performance measurement has been deemed an appropriate proxy to measure firm performance (e.g., Den Hartog & Verborg, 2004) and found to be highly correlated with objective measures of firm performance (Wall et al., 2004). We asked respondents (TMT members) to rate their company performance against their competitors on the above dimensions. Items were measured relative to their competitors in the last 3 years on a scale ranging from 1 ('much worse') to 5 ('much better'). The alpha reliability for this measure was 0.81. Ratings of TMT members were averaged within each firm to obtain a score for each firm's performance ( $r_{wg} = 0.97$ ;  $F[176, 362] = 8.70$ ,  $p < 0.001$ ; ICC1 = 0.79; ICC2 = 0.89).

### 4.2.5 | Control variables

We controlled for firm size, firm age, and industry because prior research has shown that these factors influence the use of HPWS and its impact on organisational outcomes (Jiang et al., 2012). We measured firm size as the total number of employees in each SME and firm age as the number of years the organisation had been in operation. We created two dummy variables—industry1 (service vs. manufacturing) and industry2 (service vs. trade)—to differentiate between the service, manufacturing, and trade sectors.

## 4.3 | Data analysis

Prior to testing our hypotheses using Mplus 7.4 software (Muthén & Muthén, 2012), we conducted a series of CFAs to establish the discriminant validity of the measures reported by TMT members, middle-level managers, and entry-level employees respectively because they reported on more than one study variables.

We used structural equation modelling (SEM) to test all hypotheses. Following Nasser and Wisenbaker (2003), an item-parcelling procedure was adopted to achieve an adequate ratio. In addition to our hypothesised relationships, we allowed the two resilience types and the two human capital dimensions to covary and controlled for firm age, firm size, industry1, and industry2 in every path. In addition, we included direct effects of HPWS on bounce-back and bounce-forward resilience capability as well as firm performance to help us assess whether our proposed model informs a complete mediation process from HPWS to organisational resilience and from HPWS to firm performance.

## 4.4 | Results

### 4.4.1 | Confirmatory factor analyses (CFAs)

Table 1 shows the CFA results for the variables rated by TMT members, middle-level managers, and entry-level employees. The hypothesised measurement models had a significantly better fit than competing models, indicating the distinctiveness of the study variables rated by participants among these three groups. In particular, the results showed that the hypothesised two-factor model of bounce-back and bounce-forward resilience capability (rated by middle-level managers) fit the data well ( $\chi^2 = 135.61$ ,  $df = 33$ ; CFI = 0.95, RMSEA = 0.090, SRMR = 0.038) and demonstrated a better fit than the one-factor model ( $\Delta\chi^2 = 388.89$ ,  $\Delta df = 1$ ). Moreover, the average variances extracted (AVE) for both bounce-back (0.56) and bounce-forward (0.61) resilience capability dimensions were each greater than the squared correlation of these two dimensions (0.26). Taken together, these results support the distinctiveness of bounce-back and bounce-forward resilience capability. We also evaluated the factor structure of all the measures aggregated at the firm level through a CFA of the latent variables in our model. Specifically, we first established the fitness of the hypothesised six-factor model and then compared it with a three-factor model, where we combined the variables rated by each group, and a one-factor model, where we combined all the variables. The results showed that the hypothesised six-factor model fit the data well ( $\chi^2 = 138.22$ ,  $df = 104$ ,  $p < 0.05$ , CFI = 0.98, TLI = 0.97, RMSEA = 0.043, SRMR = 0.040) and had a better fit to the data than the three-factor model ( $\Delta\chi^2 = 386.38$ ,  $\Delta df = 12$ ,  $p < 0.001$ ) and the one-factor model ( $\Delta\chi^2 = 888.93$ ,  $\Delta df = 15$ ,  $p < 0.001$ ).

## 4.5 | Hypothesis testing

Table 2 presents the means, standard deviations, and correlations among the key variables at the firm level.

The overall SEM model showed a good fit to the data ( $\chi^2 = 207.01$ ,  $df = 156$ ,  $p < 0.001$ , CFI = 0.97, TLI = 0.96, RMSEA = 0.043, SRMR = 0.055). Table 3 and Figure 2 present the unstandardised estimates obtained from the model. The results show that HPWS had a significant relationship with human capital value ( $b = 0.24$ ,  $s.e. = 0.08$ ,  $p < 0.01$ ) and human capital heterogeneity ( $b = 0.21$ ,  $s.e. = 0.10$ ,  $p < 0.05$ ). Thus, H1a and H1b received support. Human capital value ( $b = 0.54$ ,  $s.e. = 0.13$ ,  $p < 0.001$ ) had a positive relationship with bounce-back resilience capa-

TABLE 1 Results of confirmatory factor analysis

	$\chi^2(df)$	$\Delta\chi^2$	CFI	RMSEA	SRMR
Variables rated by TMT members ( $N = 363$ )					
1. The hypothesised two-factor model (HPWSs and firm performance)	150.30*** (33)		0.91	0.099	0.057
2. One-factor model: Combining HPWS and firm performance	363.96***(34)	213.66***	0.74	0.164	0.089
Variables rated by middle-level managers ( $N = 383$ )					
1.The hypothesised two-factor model (BB and BF)	135.61*** (33)		0.95	0.090	0.038
2. One-factor model: Combining BB and BF	524.50*** (34)	388.89***	0.76	0.194	0.110
Variables rated by entry-level employees ( $N = 394$ )					
1. The hypothesised two-factor model (HCV and HCH)	282.40*** (98)		0.90	0.069	0.051
2. One-factor model: Combining HCV and HCH	471.13*** (99)	188.73***	0.80	0.098	0.077

Abbreviations: BB, bounce-back resilience; BF, bounce-forward resilience; CFI, comparative fit index; HCH, human capital heterogeneity; HCV, human capital value; HPWSs, high-performance work systems; RMSEA, root mean square error of approximation; SRMR, standardised root mean square residual.

\*\*\* $p < 0.001$ .

TABLE 2 Descriptive statistics and zero-order correlations of the study variables

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Industry1	0.14	0.35										
2. Industry2	0.09	0.29	-0.13									
3. Firm size	56.50	54.08	0.16*	-0.13								
4. Firm age	13.51	7.65	0.12	-0.05	0.47**							
5. HPWSs	3.76	0.60	0.16*	-0.01	0.21**	0.09						
6. HCV	3.92	0.52	-0.03	0.01	0.06	0.05	0.25**					
7. HCH	3.70	0.68	-0.02	0.01	0.14	0.05	0.16*	0.45**				
8. BB	3.92	0.63	0.05	0.04	0.16*	0.08	0.24**	0.42**	0.32**			
9. BF	3.92	0.65	0.02	-0.02	-0.02	0.00	0.19**	0.43**	0.39**	0.47**		
10. Firm performance	3.98	0.55	0.03	-0.02	0.08	0.10	0.47**	0.23**	0.23**	0.06	0.17*	

Note:  $N = 177$ .

Abbreviations: BB, bounce-back resilience; BF, bounce-forward resilience; HCH, human capital heterogeneity; HCV, human capital value; HPWSs, high-performance work systems; Industry1, manufacturing; Industry2, trade.

\* $p < 0.05$ ; \*\* $p < 0.01$ .

TABLE 3 Results of the structural equation modelling

Variable	HCV	HCH	BB	BF	Firm performance
Industry1	-0.09 (0.11)	-0.08 (0.14)	0.11 (0.11)	0.06 (0.12)	-0.09 (0.12)
Industry2	0.02 (0.13)	0.03 (0.17)	0.08 (0.13)	-0.06 (0.14)	-0.10 (0.15)
Firm size	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	-0.00 (0.00)	0.00 (0.00)
Firm age	0.00 (0.01)	-0.00 (0.01)	0.00 (0.01)	0.00 (0.01)	0.01 (0.01)
HPWSs	0.24** (0.08)	0.21* (0.10)			0.56*** (0.09)
HCV			0.54*** (0.13)	0.44*** (0.12)	
HCH			0.09 (0.08)	0.26** (0.09)	
BB					-0.18 (0.10)
BF					0.23** (0.09)
Residual variances	0.20***	0.35***	0.20**	0.24***	0.18***

Note:  $N = 177$ .

Abbreviations: BB, bounce-back resilience; BF, bounce-forward resilience; HCH, human capital heterogeneity; HCV, human capital value; HPWSs, high-performance work systems; Industry1, manufacturing; Industry2, trade.

\* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$ .

bility but human capital heterogeneity did not ( $b = 0.09$ ,  $s.e. = 0.08$ ,  $p > 0.05$ ). Thus, while H2a was supported, H2b was rejected. Both human capital value ( $b = 0.44$ ,  $s.e. = 0.12$ ,  $p < 0.001$ ) and human capital heterogeneity ( $b = 0.26$ ,  $s.e. = 0.09$ ,  $p < 0.01$ ) had a significant relationship with bounce-forward resilience capability, supporting H3a and H3b. Finally, while the relationship between bounce-forward resilience capability and firm performance was positive and significant ( $b = 0.23$ ,  $s.e. = 0.09$ ,  $p < 0.01$ ), that between bounce-back resilience capability and firm performance was negative but nonsignificant ( $b = -0.18$ ,  $s.e. = 0.10$ ,  $p > 0.05$ ). Thus, H4a was rejected, whereas H4b received support.

We also tested the multiple potential mediating effects implied in our model, although we did not formally hypothesise these effects. Specifically, we used Mplus syntax to calculate the products of unstandardised estimates of mediation paths for the hypothesised mediation effects. We then employed the bias-corrected bootstrapping method to derive the 95% confidence intervals (CIs) for the mediating effects (bootstrap samples = 5000). When the

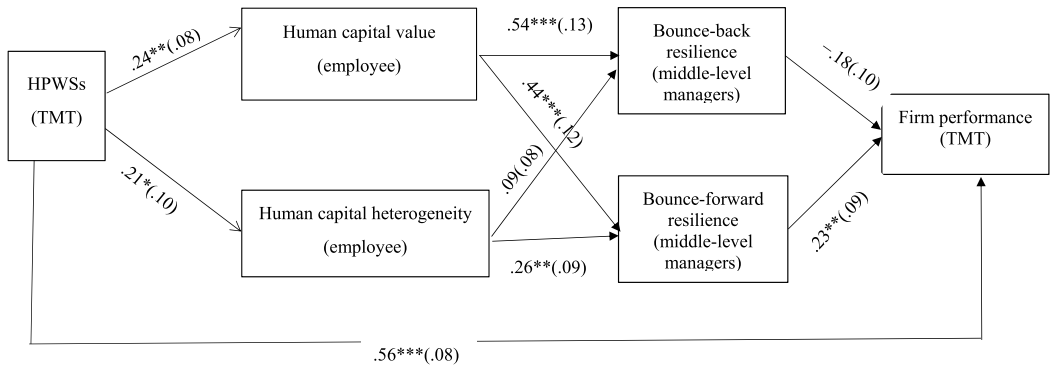


FIGURE 2 Results of the structural equation modelling. Unstandardised estimates are reported. \* $p < 0.05$ ; \*\* $p < 0.01$ ; \*\*\* $p < 0.001$ . Data sources are shown in brackets; Abbreviations: HPWSs, high-performance work systems; TMT, top management team.

TABLE 4 Indirect effects of HPWSs on organisational resilience capabilities and firm performance

Indirect effects	Estimate	Bias-corrected bootstrap 95% CI:
HPWSs→HCV→BB	0.13	0.022, 0.280
HPWSs→HCH→BB	0.02	-0.017, 0.101
HPWSs→HCV→BF	0.10	0.019, 0.248
HPWSs→HCH→BF	0.06	0.010, 0.174
HPWSs→HCV→BB→firm performance	-0.02	-0.085, 0.004
HPWSs→HCH→BB→firm performance	-0.00	-0.030, 0.002
HPWSs→HCV→BF→firm performance	0.02	0.005, 0.074
HPWSs→HCH→BF→firm performance	0.01	0.001, 0.054

Note:  $N = 177$ .

Abbreviations: BB, bounce-back resilience; BF, bounce-forward resilience; HCH, human capital heterogeneity; HCV, human capital value; HPWSs, High-performance work systems.

CIs of the indirect effect do not include zero, this indicates a significant indirect effect. As shown in Table 4, the bootstrapping results revealed that the indirect effects of HPWS on bounce-back resilience capability via human capital value were significant (estimate = 0.13, bias-corrected bootstrap 95% CI: 0.022, 0.280); however, the indirect effects of HPWS on bounce-back resilience capability via human capital heterogeneity were nonsignificant (estimate = 0.02, bias-corrected bootstrap 95% CI: -0.017, 0.101). Meanwhile, the indirect effects of HPWS on bounce-forward resilience capability via human capital value (estimate = 0.10, bias-corrected bootstrap 95% CI: 0.019, 0.248) and those via heterogeneity (estimate = 0.06, bias-corrected bootstrap 95% CI: 0.010, 0.174) were significant. Finally, the indirect effects of HPWS on firm performance via human capital value and bounce-forward resilience capability (estimate = 0.02, bias-corrected bootstrap 95% CI: 0.005, 0.074), as well as those via human capital heterogeneity and bounce-forward resilience capability (estimate = 0.001, bias-corrected bootstrap 95% CI: 0.001, 0.054), were significant.

## 5 | DISCUSSION

Drawing on HRM as an internal capability builder perspective and human resource capital theory, we developed and theorised a model for understanding how and why HPWSs can influence organisational resilience capabilities and

firm performance by shaping human capital value and heterogeneity. Using data from 1140 participants (including TMT members, middle-level managers, and entry-level employees) from 177 Nigerian SMEs, we found that HPWSs contribute to bounce-back resilience capability via human capital value and contribute to bounce-forward resilience capability via both human capital value and heterogeneity. Furthermore, we found that bounce-forward resilience is positively related to firm performance.

Our hypothesis regarding the link between human capital heterogeneity and bounce-back resilience capability did not receive support (H2b). This may reflect the challenge of managing human capital heterogeneity. Unlike human capital value, which is narrowly employed to support the current business strategy, human capital heterogeneity—while offering alternatives and skill flexibility—requires complex managerial approaches to configure diverse knowledge and skills and integrate them into the dominant practices and processes (Ployhart & Moliterno, 2011; Wright & Snell, 1998). As one aspect of flexible human resources, its impact on organisational resilience and performance may be more salient when external contingencies such as industry growth and market dynamics are present (Way et al., 2018). Perhaps the advantage derived from human capital heterogeneity can only be exploited by experienced managers who are capable of organising and coordinating diverse resources under fast-growing and dynamic conditions.

Contrary to our prediction, the relationship between bounce-back resilience and firm performance was negative but nonsignificant (H4a). This finding may be because the benefits accruing from bounce-back resilience ensure only the viability and efficiency of the organisation in the same direction of travel (Gilbert et al., 2012; Hamel & Valikangas, 2003). As SMEs are prone to be affected by changes in dynamic markets, firms with high bounce-back resilience may end up offering products and services that are disconnected from the new business reality, which calls for more innovative products/services, resulting in decreased performance relative to competitors.

## 5.1 | Theoretical implications

Our findings have several important theoretical implications. First, although HRM has been related to organisational resilience (Gittell et al., 2006; Weick et al., 1999), the questions of how and why HRM systems such as HPWSs contribute to organisational resilience remain a conceptual discussion (Lengnick-Hall et al., 2011). Our finding, based on a quantitative approach, that HPWSs can contribute to organisational resilience capabilities by shaping human capital value and heterogeneity offers empirical evidence for the utility of HRM systems in fostering organisational resilience, particularly in the SME context. Although the literature implies the potential links between the implementation of HRM practices and organisational resilience in SMEs (e.g., Heilmann et al., 2020; Zeitoun & Pamini, 2021), to our knowledge this is the first study that directly tests and shows how and why a systematic HRM approach such as HPWS can influence organisational resilience capabilities in such contexts. Thus, building on prior research that showed the impact of HPWSs on organisational performance and innovation (Haar et al., 2021; Patel et al., 2013; Shahzad et al., 2019; Wu et al., 2015), our finding contributes to the burgeoning literature on HPWS in SMEs by linking it to another important organisation outcome, that is, organisational resilience.

Second, while the role of human capital value in transmitting the impact of HPWSs on organisational outcomes has been well established in the extant literature (e.g., Jiang et al., 2012; Jiang et al., 2013; Takeuchi et al., 2007), including in the SME context (Haar et al., 2021), the function of the heterogeneity of human capital resources accumulated at the organisational level has been relatively underexplored (Beltrán-Martín et al., 2021; Ployhart & Moliterno, 2011). This is an unfortunate omission as many strategic HRM scholars have long suggested that heterogeneous human capital is a critical underlying mechanism for organisational capabilities (Barney et al., 2011; Kraaijenbrink et al., 2010), and consequently central to sustainable competitive advantage (Barney, 1991; Barney et al., 2011). For SMEs, human capital heterogeneity has been suggested as desirable since it allows for flexibility in the deployment of human capital while keeping the costs low (Heneman et al., 2000). Our findings demonstrate that HPWSs, through using a cluster of complementary HR practices, can simultaneously build both human capital

value and heterogeneity, which in turn serve as two distinct pathways through which HPWSs influence organisational resilience and performance. By so doing, we not only account for the resource pathways through which HPWSs impact organisational resilience and performance (Lengnick-Hall et al., 2011) but also shed insight into the synergistic effects of HPWSs in building different dimensions of human capital resources, which have important implications for various strategic needs (Way et al., 2018; Wright & Snell, 1998) and sustainable competitive advantage (Barney et al., 2011; Ployhart & Moliterno, 2011). By establishing these relationships in the SME context, our research enriches the discussion of training and developing human capital for sustainable competitive advantages in SMEs (Nolan & Garavan, 2016) by highlighting the importance of a systematic HRM approach in building human capital, as well as that of differentiating different aspects of human capital in such contexts. Our finding also corroborates the notion that SMEs that are capable of building and deploying valuable and heterogeneous surplus resources (especially in terms of human capital) are more likely to reduce or absorb market turbulence (Pal et al., 2014) and to achieve sustainable competitive advantage (Patel & Conklin, 2012).

Finally, much of the extant research has accumulated an understanding of organisational resilience processes and actions via conducting case analyses of specific disruptive events in specific organisational and industry contexts (e.g., Brueller et al., 2019; Christianson et al., 2009; Gittell et al., 2006; Gover & Duxbury, 2018; Powley, 2009), including those in the SME contexts (e.g., Ates & Bititci, 2011; Demmer et al., 2011; Pal et al., 2014). Although insightful, such an approach constrains our ability to test theories and demonstrate the generalisability of findings regarding organisational resilience across organisations and sectors. Our quantitative approach to studying this important organisational phenomenon in SMEs will encourage more quantitative research in this line of inquiry in large organisations. Furthermore, our research is an initial effort to advance the organisational resilience literature by differentiating two types of organisational resilience capabilities—bounce-back and bounce-forward resilience capability—and demonstrating their respective antecedents and consequences. This should encourage future research to extend this line of inquiry by exploring other different processes and resources required by each type of organisational resilience capabilities, as well as identifying circumstances when organisational resilience capabilities can be translated into firm performance.

## 5.2 | Practical implications

Given the changing and dynamic business environment, organisations are constantly confronted with unexpected disruptions and challenges. SMEs tend to be more vulnerable than large organisations to external shocks because of resource constraints and limited capacity to plan for crisis events. Thus, SMEs must develop appropriate types and levels of organisational resilience capabilities to counteract potential future disruptions. Our study finding that HPWSs promote SMEs' resilience capabilities via influencing human capital value and heterogeneity suggests that HPWS can be an effective management approach to promote SMEs' preparedness and resilience for unexpected crises in the future. Meanwhile, given the different antecedents and consequences of bounce-back and bounce-forward resilience capabilities uncovered in our study, SMEs and their managers can use the distinction between these two types of resilience capabilities to diagnose their current resilience capability levels and develop interventions accordingly.

Another important practical implication can be derived from our findings that HPWSs can influence both bounce-back and bounce-forward resilience capability, indirectly through building human capital value and heterogeneity. Thus, if SME managers feel that their company is not effective in recovering from disruptions or weak in building new capabilities from the disruptions, they can assess the levels of human capital value and heterogeneity in the company. If the diagnosis suggests that employees' KSAOs do not meet the needs of the current business strategy, the managers can adjust relevant HPWS components such as recruitment, training and development, and performance appraisal, to purposefully enhance the specific, required knowledge and skills among employees. However, if the diagnosis indicates that the problems are with human capital heterogeneity, that is, a lack of variety and flexibility in employees' knowledge and skills, which hinders organisational learning, knowledge creation, and creativity, the



managers can modify some other relevant HPWS components such as empowerment, team working, and reward policies for innovation. Following this logic, SMEs can target relevant HR practices to improve their bounce-back and bounce-forward resilience capability.

Finally, constrained by resources, SMEs may face the challenge of how to effectively invest in HRM practices (Messersmith & Guthrie, 2010; Patel & Conklin, 2012; Sheehan, 2014). Our finding that human capital heterogeneity and human capital value mediate the impact of HPWSs on organisational resilience to influence performance suggests that SMEs should focus not only on building human capital value (which denotes 'the more the better'), but also on cultivating human capital heterogeneity by increasing the variety of the required knowledge and skills. By so doing, SMEs can be more effective in employing their limited resources. Thus, while our finding does not suggest that SMEs' investment in HRM practices should be 'the more the better,' it indicates that SMEs should go beyond the one-dimensional focus on investing in human capital value and use HR practices such as empowerment and teamwork to encourage employees to develop new and different knowledge and skills.

### 5.3 | Limitations and future research

This study has several limitations that offer some suggestions for future research. First, although our model of the influences of HPWS on organisational resilience capabilities via human capital value and heterogeneity leading to firm performance is in line with HRM as an internal capability builder perspective (Barney & Wright, 1998), given the cross-sectional design, the causal effects of the relationships implied in the model cannot be clearly determined. Future research can address this limitation by employing a longitudinal design to ascertain the relationships uncovered in our study. Second, in addition to human capital value and heterogeneity, there may be other internal capabilities that HPWS can build to foster organisational resilience capabilities. Future research should explore other alternatives such as HR flexibility as potential antecedents to organisational resilience. Encompassing employees' skill and behavioural flexibility, HR practices flexibility, and coordination flexibility (Beltrán-Martín et al., 2008; Bhattacharya et al., 2005; Way et al., 2015, 2018), HR flexibility can help organisations build flexible and surplus human resources and allow resourceful actions to emerge. This in turn enables organisations to reduce or absorb market turbulence, resulting in organisational resilience (Williams et al., 2017). Given the documented relationship between HRM systems and HR flexibility (Beltrán-Martín et al., 2008), future research should investigate whether HR flexibility constitutes an additional mechanism, in addition to human capital value and heterogeneity, that links HPWS and organisational resilience. Third, our study of the impact of HPWSs on organisational resilience capabilities was conducted in a relatively dynamic business environment with SMEs in Nigeria, a fast-developing economy before the Covid-19 pandemic. Our findings can be context-specific and may not apply to unprecedented disruptions such as the Covid-19 pandemic (Gregg et al., 2022). However, in a recent study of the banking industry in the United States, Bentley and colleagues (Bentley et al., 2021) found that organisations were better at coping with the Covid-19 pandemic crisis (by making fewer people redundant) if their pre-pandemic investment in human capital was high. They argue that this is because investment in human capital leads to valuable resources that organisations endeavour to protect in times of crisis. Like our study, their study highlights the importance of investing in human capital to drive organisational ability to deal with crises. Nevertheless, future research can extend our research by adopting a contingency perspective (Harney & Alkhalaf, 2021) and testing our model in different national and organisational contexts, as well as taking into account different types of crisis. Fourth, another limitation was that we used subjective performance variables in our study. Although such an approach provides a form of control for differences in performance that may be due to industry or strategic group effects (Delaney & Huselid, 1996) and has been widely used in the SMEs management literature (e.g., He & Wong, 2004; Lubatkin et al., 2006; Patel & Conklin, 2012), future research should seek to verify our findings by using objective performance data. Finally, although we developed the scale of organisational resilience based on the organisational resilience literature in general (Sutcliffe & Vogus, 2003),

we have only tested its validities in the SME context. More research is needed to test whether the validity of the scale still holds in large organisations.

## 5.4 | Conclusion

Drawing on HRM as an internal capability builder perspective and human capital resource theory, our research seeks to investigate how organisations can use their HRM systems such as HPWSs to build and shape human capital resources to foster bounce-back and bounce-forward resilience capability, leading to better firm performance. Based on a sample of SMEs from Nigeria, our SEM findings indicate that HPWSs can promote bounce-back resilience capability by investing in human capital value and promote bounce-forward resilience capability by building human capital value and heterogeneity. In turn, bounce-forward resilience capability is positively related to firm performance. Our findings underscore the usefulness of HPWS as an intervention strategy that SMEs can deploy to build organisational resilience capabilities for performance and the importance of focussing on both human capital value and heterogeneity.

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## CONFLICT OF INTEREST

The authors reported no potential conflict of interest.

## DATA AVAILABILITY STATEMENT

Data available on request from the authors.

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## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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