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Influence of financial resources on sustainability performance of SMEs in emerging economy: The role of managerial and firm level attributes

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Abstract

This research investigates whether managerial level attributes (age, education, and experience) and firm level attributes (size and age) influence the role of financial resources (FR) on sustainability performance in small and medium enterprises (SMEs) in emerging economies. To test the model, the analyses were performed through SmartPLS based on 611 Pakistani SMEs. The results of the structural equation modeling indicate that the positive relationship between FR and sustainability performance is significantly strengthened by managerial attributes (manager experience and education) and firm level attributes (firm size). However, manager age and firm age do not moderate the nexus between FR and sustainability performance. This research recommends SMEs to focus on experienced and educated managers as compared to older ones to utilize their FR efficiently in sustainable activities. This research enriches the resource base view and upper echelon literature through empirical evidence. Further implications for policymakers and businesses are discussed.

KEYWORDS
demographic factors, finance resources, SDGs, small business, social practices, sustainability

1 | INTRODUCTION

Sustainable practices are rapidly growing in business and social organizations across the globe due to two major reasons. First, there has been increased pressure and demand from customers, society, and institutions for social and sustainable products (Song et al., 2020; Zhang & Zhu, 2019). Society expects the senior management of enterprises to act in a more socially responsible way, rather than merely emphasizing profits (Hashim et al., 2021). Furthermore, government bodies have also put pressure on corporations as well as on newly established ventures to adopt environmentally friendly and sustainable practices and not just to maximize profits (Ilyas et al., 2020; Songling et al., 2018). Second, firms have realized that sustainability pays back in the short or long run (Ameer & Othman, 2012; Krosinsky & Robins, 2012). As a result, enterprises, regardless of their size and nature of business, have devoted time and money to environmental, social, and sustainable activities (Larbi-Siaw et al., 2022; Ullah et al., 2022). In this race, the literature has highlighted large organizations as leaders in their resource advantages (Zhang et al., 2019), while small firms are still on the way to sustainable strategies due to their scarce and poor resources (Adomako & Tran, 2022). Moreover, the literature has also suggested several causes for a low level of sustainable activities in small and medium enterprises (SMEs); in particular, smallness (Hernández et al., 2020), poor networking (Alkahtani et al., 2020), limited liability (Degong et al., 2018), poor support (Lamoureux et al., 2019), and lack of financial capital (Khattak & Hassan, 2019) are the major reasons for poor environmental and social practices in SMEs. In general, it is believed that SMEs with sufficient financial resources (FR) are most likely to be engaged in sustainable and social practices (Ullah et al., 2022).

Moreover, some recent studies have reported desirable social and environmental activities in SMEs because of their skilled and capable

managers, educated staff, and enterprise size (Hashim et al., 2021; Popescu et al., 2020). Tran and Pham (2020) for instance report that highly educated managers tend to perform environmental activities effectively. However, Degong et al. (2018) demonstrate that education is not a significant indicator, but experience matters. Regarding firm level attributes, there have been heterogeneous results. For instance, some studies have found that large enterprises and mature enterprises have formal strategies for social responsibility (Jin et al., 2019; Withisuphakorn & Jiraporn, 2016), while others Khattak et al. (2021), Ullah et al. (2022) state that newly established ventures are more likely to actively emphasize environmental practices.

There has been an ongoing debate on the role of managerial and firm level attributes, but the results are fragmented. In response to this, our study attempts to understand which kinds of managerial (age, education, and experience) and firm (age and size) level attributes influence the nexus between FR and sustainability performance. By doing so, this research answers the followings questions 1. "Do FR influence the sustainability performance of SMEs?" 2. "Do managerial and firm level attributes moderate the nexus between FR and sustainability performance?"

There are several motives for studying the moderating role of managerial and firm level attributes between FR and sustainability strategies. First, we shed light on the role of FR in sustainability strategies, since finance is the most important factor of sustainable and environmental activities in businesses. In the absence of finance, a businessman does not think to adopt an environmental strategy (Khan et al., 2021). In addition, finance has been considered as the "heart" of sustainability (Cumming et al., 2016). Second, researchers have shown that younger managers have more knowledge of societal and sustainability issues (Sobczak et al., 2006). On the other hand, it is argued that resources cannot be used efficiently to achieve sustainable performance until a firm has competent, experienced, and qualified managers (Anwar, Shuangjie, & Ullah, 2020; Gholami et al., 2013; Popescu et al., 2020). Drempetic et al. (2020) report that large firms are more oriented to sustainability than small firms.

Yang and Baasandorj (2017) suggest that younger enterprises are more interested in profitability than environmental performance and their social image. Considering these fragmented results, it is vital to understand what kinds of managerial and firm level attributes play a positive moderating role. However, so far, studies have paid little attention to the importance of finance in sustainability performance with the moderating role of managerial and firm level attributes in emerging SMEs. Furthermore, research on sustainable strategies in Pakistan is lacking and only a few studies so far have been conducted (Ahmad, Wu, & Khattak, 2022; Xin et al., 2023). Our research extends the literature on financial and sustainable practices in SMEs in the emerging market of Pakistan. SMEs comprise more than 95% of all businesses in Pakistan and contribute more than 40% to Gross domestic product (GDP). Surprisingly, despite the remarkable role played by SMEs, researchers have rarely emphasized their role in sustainable performance. We address this gap and examine how SMEs can contribute to sustainable performance and how the government can restructure policies to configure their role. Specifically, emphasis is paid to the role of FR of SMEs in sustainable performance because it is acknowledged by research that finance is the key factor in motivating SMEs toward sustainable performance. The aim of this study is to examine the role of FR in sustainability performance with the moderating role of managerial and firm level attributes by using SmartPLS, which enhances the validation of results through different kinds of validity and reliability. Moreover, it separates measurement errors from the items and improves the accuracy of outcomes. Additionally, it is more suitable for moderation analysis (Dash & Paul, 2021). Similarly, SmartPLS is the more appropriate software to be used in the case of non-normal data sets (Shah et al., 2021).

This research contributes to the resource base view (RBV) and upper echelon (UE) theories. The RBV highlights the role of tangible and intangible resources in the competitiveness and superior performance of firms (Barney, 1991). Our research used FR to understand how a firm with sufficient finance gains desirable sustainability goals. UE theory demonstrates the role of a manager's psychological and demographic factors in organizational outcomes (Hambrick, 2007). We use managerial attributes (age, education, and experience) in the lens of the UE theory. The findings of this research benefit top management teams of SMEs in understanding the importance of finance and managerial capabilities in sustainability strategies. Also, this research suggests several policy implications for practicing managers and the government in formulating their strategies for environmental and social actions.

2 | THEORETICAL BACKGROUND

2.1 | The RBV theory

The RBV theory was introduced by Barney (1991) and sheds light on the worth of immutable, rare, and unique resources in a firm's competitive advantage and superior performance. Tangible resources include machinery, finance, material, products, and so forth, while intangible resources refer to information, intellectual capital, reputation, and networking, which benefit firms in improving profitability and performance. A number of studies have been carried out to test the nexus between resources and enterprise performance through the lens of RBV theory (Khattak & Ullah, 2021; Lin & Wu, 2014; Yang et al., 2022). Recent studies have also shown the importance of resources in environmental and sustainability performance (Alraja et al., 2022; Azam et al., 2023). However, there have only been a few studies in emerging economies, and especially in Pakistan using the lens of the RBV while considering resources in sustainable practices (Khan et al., 2021; Ullah et al., 2022). Our research utilizes empirical evidence and tests whether FR facilitates SMEs in improving their sustainability performance when managerial and firm level attributes play a moderating role. For instance, in our study, finance is a tangible resource that is used to perform sustainable practices. There has been an ongoing debate about whether large or small enterprises as well as young or mature ventures efficiently utilize their FR to enhance sustainable performance. For instance, Khattak et al. (2021) highlight

small ventures who pay significant attention to the management of resources for environmental activities. On the other hand, Withisuphakorn and Jiraporn (2016) demonstrate that older and mature enterprises manage FR in a better way for sustainable practices. Hence, in the present study, we intend to enrich the RBV theory through empirical evidence and reveal whether small or large and young or old firms get higher benefits from finance in sustainability activities.

2.2 | The UE theory

UE theory describes how managerial psychological and demographic factors influence organizational outcomes and performance (Hambrick, 2007). Psychological factors include personality traits and cognition factors, while demographic factors include age, education, experience, and gender (Anwar, Shuangjie, & Ullah, 2020; Ying et al., 2019). Researchers have widely tested the theory in the field of management and social science (Anwar, Shuangjie, & Ullah, 2020). However, in our study, we use age, education, and experience as managerial demographic factors in the context of UE theory that influence sustainability practices in SMEs. For instance, Hashim et al. (2021) state that older managers desire more environmental practices, while Elmagrhi et al. (2019) show that younger managers are more environmentally oriented. Similarly, some studies have demonstrated that highly educated managers are actively engaged in social and environmental activities (Hashim et al., 2021; Quazi, 2003; Tran & Pham, 2020), while others have found insignificant links between education and sustainability activities (Yildiz Çankaya & Sezen, 2019).

Consequently, managers with more experience are considered environmentally orientated (Ying et al., 2019), while many studies have shown that there is no relationship between experience and sustainability activities (Melnyk et al., 2003). Educated and experienced managers use their skills and capabilities to manage resources efficiently in order to achieve sustainable performance according to Ying et al. (2019); similarly, Anwar, Shuangjie, and Ullah (2020) demonstrate that financially literate and experienced managers of SMEs easily exploit new opportunities for desirable outcomes. In another study, Li et al. (2020) show that the interaction of intellectual capabilities and FR increases SMEs' efficiency. Based on this evidence, we argue that experienced and highly educated managers could strengthen the role of FR on sustainable outcomes.

2.3 | Hypotheses development

2.3.1 | FR and sustainability performance

The RBV theory introduced by Barney (1991)—sheds light on the worth of immutable, rare and unique resources in the competitive advantage and superior performance of firms. Tangible resources indicate machinery, finance, material and products, and so forth, while intangible resources demonstrate information, intellectual capital, reputation and networking, and so forth, that benefit firms in gaining profitability and performance. A number of studies have tested the RBV theory in the relationship between resources and firm performance (Khattak & Shah, 2020a, 2020b; Xin et al., 2023). Prior studies have shed light on the importance of FR and argued that finance is a tangible resource that is used to perform sustainable practices (Khan et al., 2021; Ullah et al., 2022).

FR are essential for sustainable activities in commercial industries and encourage SMEs to engage in sustainable green activities, particularly in emerging economies like Pakistan (Ullah et al., 2022). FR are regarded as tangible resources that can improve their performance (Memon et al., 2020). Numerous studies have concluded that FR directly contribute to a firm's financial and environmental performance (e.g., Adomako & Tran, 2022; Khattak et al., 2021).

A number of studies have tested the role of FR in green and environmental performance. For instance, Khan et al. (2022) said that finance is the key to green activities. Firms with poor financial systems have poor environmental performance (Khattak & Hassan, 2019). Consequently, studies have identified that finance is the main attribute of sustainable competitiveness and firm performance (Degong et al., 2018; Khattak & Shah, 2020a, 2020b). Business enterprises spend more resources on green activities because of their significant role in profitability (Mukandwal et al., 2020).

Roxas and Chadee (2012) suggest that FR are important for an enterprise to perform environmentally friendly activities. In a broad sense, an enterprise willing to improve its environmental performance will set a target that aims to reduce environmental pollution and be more environmentally friendly (Leonidou et al., 2015). Hence, sufficient finances are necessary for environmentally friendly practices, whereas ventures with limited finances fail to comply with sustainable activities (Sadiq et al., 2022). Moreover, such enterprises use marginal analysis while indulging in sustainable activities (Kumar et al., 2022), while Scarpellini et al. (2018) claim that, due to FR constraints, firms cannot actively participate in and implement eco-innovative activities.

Researchers have argued that weak financial conditions restrict SMEs in implementing and contributing to sustainable activities because of the lack of FR. Thus, FR is a crucial and key driver for green activities in SMEs (Ullah et al., 2022). SMEs require sufficient capital and determination to improve environmental performance (Khan et al., 2021). Researchers such as Khan et al. (2019) have empirically proved that a firm's noble activities, like corporate social responsibility (CSR) and green practices, are derived through sufficient finance. With adequate FR, the managers/owners are encouraged to promote green activities due to their long-term benefits.

SMEs can easily determine economic activities by using FR to boost their internal operational and sustainable manufacturing processes (Khattak & Ullah, 2021). For instance, Zhang et al. (2021) claim that finance has become one of the most significant factors of sustainable development. Most enterprises use FR to compete in turbulent markets (Li et al., 2020). According to Ilyas et al. (2020), most enterprises cannot contribute to social and environmental activities because of a lack of FR. Business enterprises with financial capabilities have a greater impact on SME growth and sustainability than those

with insufficient finance (Khattak & Shah, 2020a, 2020b). Domestic finance plays an important role in addressing social issues and contributing to community and society development (Khattak & Hassan, 2019). FR is the most important factor in sustainable and environmental activities in business firms. Without FR, a businessman does not think of adopting an environmental strategy (Cumming et al., 2016). A recent study conducted by Ullah et al. (2022) reveals that FR directly and indirectly contribute to sustainability performance. Similarly, Xin et al. (2023) confirmed that FR assist SMEs in emerging economies to contribute significantly to sustainable performance of the manufacturing sector. Therefore, we hypothesize that:

H1. *FR has a significant positive impact on the sustainability performance of SMEs.*

2.3.2 | The moderating role of managerial attributes

Enterprises have a variety of resources that either directly or indirectly contribute to sustainability performance (Degong et al., 2018; Khattak & Ullah, 2021; Li et al., 2020). Numerous studies have concluded that FR directly contribute to a firm's financial and environmental performance (e.g., Khan et al., 2022; Ullah et al., 2022), while others claim that sustainable performance cannot be directly achieved through FR, but also requires managerial capabilities and attributes, such as financial literacy (Adomako & Danso, 2014), and that competencies (Khattak & Hassan, 2019), and so forth. affect the nexus. However, it is still unclear whether FR directly spurs sustainability performance or needs the support of managerial attributes.

Considering sustainability in business operating activities has become an essential strategic decision for today's firm owners (Jansson et al., 2017). In the currently turbulent environment, society demands a sustainable environment (Larbi-Siaw et al., 2022). Based on this concept, society expects the senior management of enterprises to act more socially responsibly and contribute more to society than to the company itself (Hashim et al., 2021).

The UE theory describes how managerial attributes such as age, education, experience, and gender influence an enterprise's success (Hambrick, 2007). This concept—"top manager's demographics factors and psychological factors influence enterprises performance"—is widely debated in the lens of UE theory (Hambrick, 2007). Researchers have also concluded that attributes of senior managers affect sustainability practices (Cho et al., 2019; Heenipellage et al., 2022). For instance, Anwar, Shuangjie, and Ullah (2020) claim that the past experience of senior managers is an essential factor for recognizing new opportunities and sustainable new venture growth.

Senior managers' attributes, such as age, education, and experience, significantly impact a company's sustainability performance (Hashim et al., 2021). These managerial attributes are essential factors in the efficient and effective implementation of green activities (Hashim et al., 2021; Shah et al., 2021). Cera et al. (2022) conclude that older managers are more likely to participate in green activities and promote CSR initiatives. While on the other hand, researchers have suggested younger managers have more knowledge of societal issues (Sobczak et al., 2006). Furthermore, Gholami et al. (2013) claim that senior managers are more interested in long-term sustainable performance and environmental practices. In a similar vein, Ma et al. (2019) show that older people are more likely to support environmental activities, while younger executives have a lower level of motivation for sustainable activities but are more concerned with profitability. In general, it is argued that senior managers have a strong desire for CSR (Cera et al., 2022; Gholami et al., 2013).

Those people who have higher education are more aware of environmental and social issues. For instance, Tran and Pham (2020) claim that highly educated executives play a crucial role in enterprises' environmental performance. To support this notion, Quazi (2003) shows that a manager's educational background is significantly linked with CSR practices. Several studies have confirmed that highly educated managers have a high desire for environmental and social activities (Cho et al., 2019; Elmagrhi et al., 2019). Similarly, Istiaq et al. (2020) demonstrate that managers with sound education and financial knowledge use the firm's resources efficiently in order to achieve long-term sustainable performance. Furthermore, manager education is one of the less expensive intangible resources that can help firms achieve sustainable performance. Despite the significant role of FR, surprisingly, many owners and managers do not efficiently utilize these FR due to a lack of education. Mostly SMEs in emerging economies fail due to a lack of resources and cannot survive in the long run. Hence, managers and executives require intangible capabilities (e.g., education) to efficiently use the valuable resources, which in turn spurs sustainability performance (Khattak & Shah, 2020a, 2020b). In our study, we predict that highly educated, senior, and experienced managers will have a high desire for environmental and social practices.

Previous studies have confirmed that past experiences have a high impact on environmental performance and eco-friendly practices (Elmagrhi et al., 2019; Shahab et al., 2020). Anwar, Mahmood, et al. (2020), Anwar, Shuangjie, and Ullah (2020) conclude that enterprises with experienced managers achieve superior environmental performance. Additionally, experienced managers are needed to build the knowledge and skills necessary to scrutinize existing markets and look for new ones with the potential for high profit in a competitive and chaotic market (Khan & Khan, 2021). Executive experience plays an essential role in the sustainable performance of enterprises because experienced managers make wise decisions. It is argued that managers who have experience in international business are better equipped to proactively spot new opportunities. Such expertise enables business managers to draw lessons from the past and set up future projections to grab the most lucrative possibilities required for superior competitive performance (De Clercq, Sapienza, Yavuz, & Zhou, 2012). Top managers can acquire external resources and a lasting competitive edge by learning from experience (Campbell, Coff, & Kryscynski, 2012). Experience enables managers to discover various strategies that are valuable and essential for SMEs' success and growth (D'Angelo & Presutti, 2019).

Managers with a high level of experience are considered environmentally orientated (Kuckertz & Wagner, 2010). For instance, Popescu et al. (2020) show that manager experience has a direct and

significant influence on the sustainable performance of enterprises. Pagell and Gobeli (2009) claim that firms' sustainability is positively affected by the plant managers' experience. MoreoverKhattak and Shah (2020a, 2020b) demonstrate that experienced managers efficiently use FR to achieve sustainable performance. In a similar vein, a manager with more experience can easily gain a competitive advantage, which in turns spur new venture performance (Anwar, Shuangjie, & Ullah, 2020). Hence, we perceive that FR and managerial demographic factors such as age, education, and experience should improve SMEs' sustainable performance. For instance, Khattak and Shah (2020a, 2020b) conclude that SMEs are influenced by both FR and managerial capabilities. Similarly, Songling et al. (2018) claimed that FR and managers' intangible capabilities are both crucial for long-term sustainable performance. Hence, FR are not enough for SMEs to improve sustainability performance, but they need experienced and well-educated managers (Ishtiaq et al., 2020). We argue that both tangibles (finance) and intangibles (managerial attributes) are crucial for long-term sustainable business operations. Therefore:

H2. *The nexus between FR and sustainability performance will be stronger when the firm is managed by older managers/owners.*

H3. *The nexus between FR and sustainability performance will be stronger when the firm is managed by highly educated managers/owners.*

H4. *The nexus between FR and sustainability performance will be stronger when the firm is managed by highly experienced managers/owners.*

2.3.3 | The moderating role of firm attributes

It is claimed that FR significantly contribute to SMEs' environmental and financial performance, but the nexus can be influenced by various internal and external factors (Anwar & Li, 2021; Khan et al., 2022; Li et al., 2020). While taking into account the indirect impact of FR on sustainability performance, we argue that firm level characteristics can significantly tighten the link. FR is the most important factor of sustainable and environmental practices in business enterprises (Khan et al., 2022). Without FR, a businessman does not think of adopting an environmental strategy (Roxas & Chadee, 2012). Also, FR has been considered the "heart" of sustainability (Cumming et al., 2016).

Firm level attributes play a vital role in SMEs' success and long-term growth (Islam et al., 2011; Park et al., 2010) and enhance an enterprise's performance. Earlier studies researched how firm level attributes play a vital role in a firm's financial performance (Ebrahimi et al., 2018; Hsu et al., 2013). Further Dixon-Fowler et al. (2017) suggest that firm size plays a significant role in environmental performance. Similarly, Gallo and Christensen (2011) conclude that the size of the firm matters while performing sustainability activities. In a similar vein, Wang et al. (2018) conclude that firm size has a significant

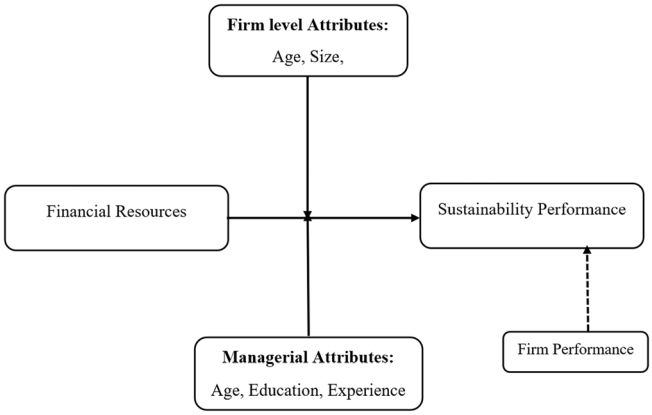

FIGURE 1 Research model for study.

influence on all the dimensions of sustainable performance in the context of China. According to a recent study conducted by Drempetic et al. (2020), large firms are more sustainably oriented than small firms. Hoffmann et al. (2012) conclude that small firms are unable to perform green activities due to a lack of resources. Large enterprises possess essential resources, so they can more easily pursue sustainable practices than small enterprises (Jin et al., 2019). Furthermore, large firms, due to excess crucial resources, engage in sustainable activities for a long period (Gallo & Christensen, 2011). Yang and Baasandorj (2017) suggest that younger enterprises are more interested in profitability than in environmental performance and their social image. This notion has been substantiated by the recent study of Abdi et al. (2022), who conclude that firm age significantly influences a firm's sustainability activities. The current study considers firm size and age to be the relevant moderators in the FR and sustainability performance nexus. Therefore:

H4. *The nexus between FR and sustainability performance will be stronger in matured firms.*

H5. *The nexus between FR and sustainability performance will be stronger in larger firms.*

2.4 | Research model

We present the conceptualized model in Figure 1, showing FR as an independent variable, firm level, and managerial attributes as moderators, while sustainable performance is a dependent variable. In addition, the financial performance of the firms is a control variable.

2.5 | Methodology

2.5.1 | Sample and data

This research is focused on quantitative research design where a deductive approach is used to gather cross-sectional data from SMEs.

TABLE 1 Demographic characteristic of firms.

Description	Frequency	Percentage
Manager age		
20–30 years	263	43.0
31–40 years	148	24.2
41–50 years	162	26.5
51–60 years	36	5.9
61 and above	2	0.3
Manager/owner education		
Intermediate and below	224	36.7
Bachelor	175	28.6
Master	191	31.3
MS/MPhil, and above	21	3.4
Manager experience		
5 years and less	150	24.5
6–10 years	113	18.5
11–15 years	161	26.4
16–20 years	151	24.7
21 and above	36	5.9
Firm age		
1–5 years	267	43.7
6–10 years	140	22.9
11–15 years	126	20.6
16–20 years	51	8.3
21 years and above	27	4.4
Size of firms		
20–50 employees	254	41.6
51–100	92	15.1
101–150	142	23.2
151–200	70	11.5
201–250	53	8.7
Industry		
Trading	220	36.0
Manufacturing	255	41.7
Services	136	22.3
Total	611	100

We focused on SMEs operating in the twin cities of Rawalpindi and Islamabad for two major reasons: first, the increased number of SMEs in these cities makes data collection easy; second, most of the firms have their head office and strategic team in these cities (Khattak & Ullah, 2021). According to "(Small and Medium Enterprises Development authority) SMEDA", SMEs are those firms that have between 20 and 250 employees (Dar et al., 2017). Hence, we targeted those firms where from 20 to 250 employees were working and we obtained lists of registered firms from the Chambers of Commerce and Industry in Rawalpindi (an industrial city) and Islamabad (the capital of Pakistan). The lists contain the name, address (phone and email), and nature of business of more than 20,000 registered firms in these cities. We employed a probability-based sampling formula that provided a sample size of more than 500. The data were collected through a structured questionnaire, which was divided into two sections. The first section was related to the main variables, while in the second, questions related to managers and the firm's attributes. A cover letter at the start of the questionnaire was given to ensure the secrecy of the data. Moreover, we approached the top management of the SMEs because of their awareness and knowledge of performance and strategies (Khattak & Shah, 2020a, 2020b). We received 670 questionnaires, but some of the responses were missing and incorrectly filled. Hence, after removing the redundant data, we utilized 611 responses as a final sampling with a 67% response rate. The managers' and firms' demographic data are given in Table 1.

2.6 | Measures

2.6.1 | Managerial attributes

We measured managerial age with five options displaying (1) 20–30 years old, (2) 31–40 years old, (3) 41–50 years old, (4) 51–60, and (5) 61 and above. The educational level of the manager was also measured with five options: (1) Intermediate and below, (2) Bachelor, (3) Master, and (4) MS/MPhil and above. Finally, the experience was also measured using five options: (1) less than 5 years, (2) 6–10 years, (3) 11–15 years, (4)16–20 years, and (5) 21 and above.

2.6.2 | Firm attributes

The age of firms was measured with five options showing that the firm started its operation: (1) 5 or fewer years ago, (2) 6–10 years ago, (3) 11–15 years ago, (4) 16–20 years ago, and (5) 21 or more years ago. The size of firms was also measured with five options: (1) 20–50 employees, (2) 51–100 employees, (3) 101–150 employees, (4) 151–200 employees, and (5) 201–250 employees.

2.6.3 | Financial resources

It indicates the financial capital possessed by a firm and is used for operational activities. We used six items to measure FR that were taken from previous studies (Ullah et al., 2022). These items were validated with Cronbach Alpha 0.889. A sample item is "We are satisfied with the financial capital available for the business operations". Five options were given: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree.

2.6.4 | Sustainability performance

According to Sarkar, Qian, and Peau (2020), a sustainability plan encourages firms to participate in environmentally friendly, societal,

TABLE 2 Factor loading, validity, and reliability.

		Loading	CR	AVE	√AVE
FR	finr1	0.802	0.867	0.916	0.595
	finr2	0.810			
	finr3	0.697			
	finr4	0.738			
	finr5	0.863			
	finr6	0.704			
Sustainability performance	sper1	0.839	0.881	0.901	0.682
	sper2	0.867			
	sper3	0.865			
	sper4	0.892			
	sper5	0.642			
	sper6	0.920			

Abbreviations: AVE, average variance extracted; CR, composite reliability; FR, financial resources.

and economic activities. Performance in terms of sustainability and the environment frequently overlap. However, in this research, sustainability is blended with more general concepts, such as an organization's sustained competitive position in marketplaces with high levels of competition. Sometimes it is also referred to as "sustainability performance." In this research, we adopted five items from the prior study of Gelhard and Von Delft (2016) to measure sustainability performance; a sample item is, "Our competitors consider us as a leading company in the field of sustainability". Five options were given: (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree.

2.6.5 | Control variables

We controlled the financial performance to lessen spurious results. Financial performance was measured with six items and the firms were asked to rate their performance since the last 5 years based on the given options: (1) strongly declined, (2) declined, (3) neutral, (4) improved, and (5) strongly improved. The results are discussed in the structural model.

2.6.6 | Empirical findings

We employed SmartPLS to analyze the data and substantiate the hypotheses. There are several benefits of using SmartPLS rather than SPSS; SmartPLS enhances the validation of results through different kinds of validity and reliability. Moreover, it separates measurement errors from the items and improves the accuracy of outcomes. Additionally, it is more useful for mediation analysis (complex model), as suggested by the literature (Dash & Paul, 2021). Similarly, in the case of non-normal data sets, SmartPLS is the more appropriate software to be used (Shah et al., 2021). In the case of our model, we used SmartPLS to substantiate the moderating role of managerial and firm level attributes between FR and sustainability performance. However, we used SPSS for descriptive statistics, common method bias (CMB), and correlation analysis.

2.6.7 | Confirmatory factor analysis

The survey data were analyzed through SmartPLS and the results are discussed below. First, we assessed the measurement model by employing an algorithm to certify the factor loading, validity, reliability, and fitness of the model (see Table 2). Additionally, all the standardized factor loadings (Table 2) are above or close to the cutoff value of 0.70 (Hair et al., 2012).

In addition to model fitness and factor loading, we checked validity and reliability (see Table 2). We found that the convergent validity of all the constructs is satisfactory (above 0.50), and the discriminant validity also gave us desirable results (above 0.70), as pointed out by Martyn (2009). Furthermore, in the results, all the constructs provided desirable composite reliability (above 0.70) as per the suggestion of Bacon et al. (1995). The skewness and kurtosis values (see Table 3) fall within the threshold level (i.e., less than from ± 2) and fulfill the assumption of data normality as suggested by George (2011).

2.6.8 | Common method bias

In this study, the nature of the data is cross-sectional, due to which the problem of CMB may exist. To recognize the issue of CMB, we employed Harman's one-factor test in SPSS, which validates that the first construct only explains 41.138% of the variation, which is less than from the cutoff criteria (i.e., 50%) as suggested by MacKenzie and Podsakoff (2012). Therefore, our data is free from CMB.

2.6.9 | Correlations

Table 4 reveals the relationships between the constructs. We found that FR is positively related with sustainability performance ($r = 0.295$). Managerial attributes such as manager age and education are also significantly positively related to sustainability performance ($r = 0.206$ and 0.167). Additionally, the relationship between firm

TABLE 3 Descriptive statistics.

	Mean	Standard deviation	Skewness	Kurtosis
Manager age	1.962	0.980	0.536	−0.855
Manager education	1.985	0.936	0.174	−1.078
Manager experience	2.689	1.247	0.025	−1.154
Firm size	2.310	1.340	0.584	−0.890
Firm age	2.045	1.191	.0797	−0.270
Firm performance	3.657	0.453	−0.176	1.113
Financial resources	3.667	0.446	−0.022	1.578
Sustainability performance	3.621	0.446	−1.145	1.711

TABLE 4 Correlations.

Constructs	1	2	3	4	5	6	7	8
1. Firm performance	1							
2. Manager age	0.039	1						
3. Manager education	0.058	0.530**	1					
4. Manager experience	0.138**	0.338**	0.329**	1				
5. Firm age	0.004	0.577**	0.447**	0.265**	1			
6. Firm size	0.126**	0.344**	0.291**	0.089*	0.289**	1		
7. FR	0.285**	0.121**	−0.023	0.095*	0.017	0.076	1	
8. Sustainability performance	0.204**	0.206**	0.167**	0.043	0.272**	0.132**	0.295**	1

Abbreviation: FR, financial resources.
**Correlation is significant at the 0.01 level (2-tailed).
*Correlation is significant at the 0.05 level (2-tailed).

TABLE 5 F square and *R* square.

F square	Sustainability performance	R-square	R-square adjusted
FR	0.027		
Firm age	0.138		
Firm size	0.001		
Manager education	0.005		
Manager age	0.001		
Manager exp	0.004		
Firm size × FR	0		
Firm age × FR	0.002		
Manager education FR	0		
Manager age × FR	0		
Manager experience × FR	0.002		
Sustainable performance		0.121	0.105

level attributes such as firm age and firm size is positively linked with sustainability performance ($r = 0.272$ and 0.132), respectively. Furthermore, we found that manager experience is insignificantly associated with sustainability performance ($r = 0.043$).

R square reveals (see Table 5) that a 15.1% variance in sustainability performance is explained by the FR in the presence of managerial and firm level attributes. However, *f* `square` shows (see Table 5) the size effects of all the constructs in sustainability performance and acknowledges that all the variables demonstrate a small to medium effect in sustainability performance as per the suggestion of Cohen (1992); the value of *f* square is equal to or less than 0.10, which is a small effect. In contrast, 0.25 is a medium value, and 0.40 or greater is a large effect in the model.

2.6.10 | Heterotrait-Monotrait ratio (HTMT)

HTMT is a new technique introduced by Henseler et al. (2015) for estimating discriminant validity in a model. A score of HTMT lower than 0.90 reveals acceptable and satisfactory validity as suggested by Henseler et al. (2015). In our research study, all the scores (see Table 6) are lower than 0.9 and thereby meet the condition of threshold level.

2.6.11 | Structural model

We used a bootstrapping approach in SmartPLS to test the hypotheses. Table 7 illustrates the hypothesized relationship among the constructs. Considering the influence of FR on sustainability performance, we found it positively significant ($\beta = 0.161$, $p = .000$), providing support for H1 (Figure 2).

TABLE 6 Heterotrait-Monotrait ratio.

	1	2	3	4	5	6	7
FR							
Sustainable performance	0.184						
Firm age	0.025	0.292					
Firm size	0.066	0.144	0.288				
Manager education	0.053	0.181	0.446	0.289			
Manager age	0.103	0.221	0.577	0.345	0.53		
Manager experience	0.067	0.065	0.265	0.089	0.329	0.338	

Abbreviation: FR, financial resources.

TABLE 7 Hypothesis testing.

Path coefficient	β	Standard deviation	T stat	*p* values	2.50%	97.50%
FR → sustainability performance	0.161	0.036	4.517	.000	0.102	0.243
Manager age → sustainability performance	0.032	0.054	0.596	.551	0.076	0.136
Manager education → sustainability performance	0.38	0.049	1.633	.103	0.417	0.175
Manager experience → sustainability performance	0.323	0.044	1.490	.137	0.455	0.017
Firm age → sustainability performance	0.231	0.046	4.986	.000	0.138	0.322
Firm size → sustainability performance	0.133	0.039	0.844	.399	0.143	0.107
Manager age × FR → sustainability performance	0.011	0.047	0.223	.824	0.081	0.104
Manager education × FR → sustainability performance	0.248	0.051	3.312	.002	0.307	0.095
Manager experience × FR → sustainability performance	0.283	0.039	1.721	.041	0.334	0.116
Firm age × FR → sustainability performance	0.053	0.045	1.175	.240	0.033	0.148
Firm size × FR → sustainability performance	0.132	0.043	2.593	.032	0.210	0.055

Abbreviation: FR, financial resources.

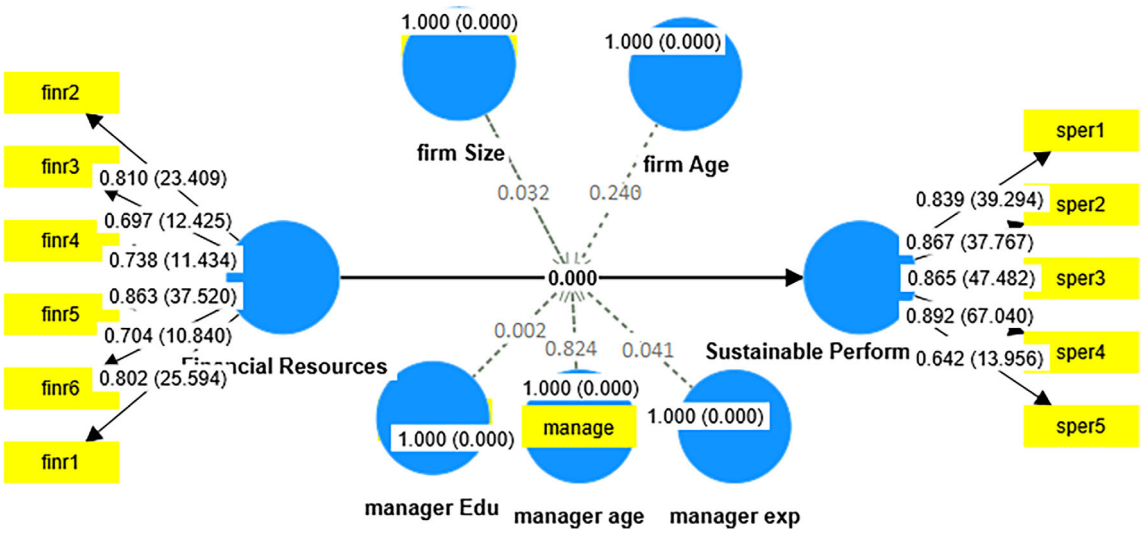

FIGURE 2 Structural model.

2.6.12 | Moderating effect

To scrutinize the moderating role of managerial attributes between the FR and sustainability performance, we established the interaction term of FR and managerial attributes. The results (see Table 7) indicate that manager education significantly strengthens the nexus between FR and sustainability performance ($\beta = 0.248$, $p = .002$). Similarly, manager experience also significantly strengthens the nexus between FR and sustainability performance ($\beta = 0.283$, $p = .041$). Thus, H3 and H4 are substantiated. Furthermore, the results (see

Table 7) demonstrate that firm size strengthens the nexus between FR and sustainability performance significantly ($\beta = 0.132$, $p = .032$).

Surprisingly, however, our findings indicate that manager age and firm age do not moderate the nexus between FR and sustainability performance. For instance, the moderating role of manager age between the FR and sustainability performance nexus is insignificant ($\beta = 0.011$, $p = .824$). Similarly, the moderating role of firm age between the FR and sustainability performance nexus is also insignificant ($\beta = 0.052$, $p = .240$). These results did not support H2 and H5, respectively (see Table 7).

2.6.13 | Discussion

Researchers' interest in studying sustainable practices in business industries is rapidly expanding across the globe, but the available insight on this topic is still lacking. Several studies have examined the connections between firm resources and sustainability practices in large and small businesses as well as emerging and industrialized economies (Azam et al., 2023; Khattak & Ullah, 2021; Li et al., 2020). Surprisingly, the importance of FR in sustainability performance with the moderating role of firm and managerial attributes has been ignored. The focus of the current study was to scrutinize the role of FR and managerial and firm level attributes in sustainability performance operating in emerging economies. We gathered empirical evidence from 611 SMEs operating in Pakistan and scrutinized the model through SmartPLS. There were two major objectives of this study. First, to test how FR contributes to sustainability performance. Second, how managerial and firm level attributes moderate the nexus between FR and sustainability performance. The current study tried to extend the knowledge of RBV and UE theories through the essential role of FR and managerial and firm level attributes in sustainability performance. The debate on both theories is rarely touched, especially in Pakistan, while considering resources in sustainable practices (Ullah et al., 2022). Furthermore, UE theory has been widely tested by researchers in the field of management and social science (Anwar, Shuangjie, & Ullah, 2020). The existing literature does not provide sufficient information on whether managerial and firm level attributes play a moderating role between FR and sustainability performance. The present study fills the gap and contributes to RBV and UE theories by testing the moderating role of age, education, and experience as managerial demographic factors and firm level attributes between the FR and sustainability performance in SMEs.

Firstly, our results indicate that FR significantly contributes to sustainability performance. These results are aligned with the outcomes of Khan et al. (2022) and Xin et al. (2023), who scrutinized whether FR significantly spurs sustainable and environmental performance. In a similar vein, Ullah et al. (2022) conclude that FR is an essential predictor of sustainable practices. These outcomes are also favored by RBV theory while considering finance as a tangible resource that is used to perform sustainable practices (Khan et al., 2021).

Secondly, our results show that managerial attributes, such as manager experience and education, significantly strengthen the nexus between FR and sustainability performance. These results are consistent with the outcomes of Anwar, Shuangjie, and Ullah (2020) and Ying et al. (2019), who demonstrate that experience enables managers to acquire financial and non-FR, leading to more sustainable performance. Similarly, Khattak and Shah (2020a, 2020b) conclude that managerial capabilities and FR combine for enterprises to sustain long-term performance. These results also align with the findings of Hashim et al. (2021), who conclude that managers' attributes, such as experience and education, enable enterprises to use scarce resource efficiently to improve their sustainability performance. These results are favored by the findings of Elmagrhi et al. (2019) and Istiaq et al. (2020), who demonstrate that managers with sound education and financial knowledge use the firm's resources proficiently in order to achieve long-term sustainable performance. Furthermore, our results demonstrate that manager age does not strengthen the nexus between FR and sustainability performance. The reason behind this insignificant moderating role is the study context, that is, in Pakistan, older managers are mostly traditional in nature; they have no environmental knowledge and are not much aware of environmental policy.

Finally, the results indicate that the firm level characteristic (i.e., firm size) significantly moderates the nexus between FR and sustainability performance. These results are in parallel to the findings of Jin et al. (2019), who concluded that large enterprises have more FR, so they can achieve sustainable practices more easily than small enterprises. Similarly, Gallo and Christensen (2011) found that, due to their easy access to crucial FR, large firms efficiently perform sustainable activities, which in turn spur sustainable performance. Furthermore, the results demonstrate that the age of the firm does not play a moderating role between the nexus of FR and sustainability performance. These results contradict the findings of Yang and Baasandorj (2017), who concluded that mature and old enterprises are more interested in sustainable and environmental performance as compared to profitability. In a similar vein, this notion has been contradicted by Abdi et al. (2022), who showed that firm age significantly influences a firm's sustainability activities. The reason behind this insignificant moderating role is the study context, that is, in Pakistan, most of the older firms do not pay more attention to environmental reputation and do not properly utilize FR for sustainability practices, because they think that their reputation has already been established in the society.

2.6.14 | Conclusion

The focus of the current study was to scrutinize the influence of FR and managerial and firm level attributes on the sustainability performance of SMEs operating in emerging economies. We gathered empirical evidence from 611 SMEs operating in Pakistan and scrutinized the model through SmartPLS. There were two major objectives of this study. First, to test how FR contributes to sustainability performance. Second, how managerial and firm level attributes moderate the nexus between FR and sustainability performance. The hypotheses were substantiated through the bootstrapping method in SmartPLS. The outcomes of this study indicate that FR significantly

influences sustainability performance. Furthermore, the results confirm that the nexus between FR and sustainability performance is significantly moderated by manager experience and education. The results also show that firm size also significantly strengthens the nexus between FR and sustainability performance, while manager age and firm age do not moderate the nexus between FR and sustainability performance. This research advises financial institutions, SMEDA, and public authorities to provide enough finance and to financially support small SMEs for sustainability performance. Furthermore, this research also advises SMEs to efficiently utilize their FR in an economical way to achieve sustainability performance that produces returns in both the short term and the long-term.

2.6.15 | Theoretical contributions

The present study tried to extend the knowledge of RBV and UE theories through the significant role of FR in the presence of managerial and firm level attributes to attain sustainability performance. Based on FR and sustainability performance, this research contributes to the literature on RBV. UE theory is also enriched through the role of managerial and firm level attributes and sustainability performance of SMEs. The present study is distinctive in that it addresses an important gap in the existing literature concerning the nexus between FR and sustainability performance of SMEs bond's moderating elements. The present research fills the gap and contributes to RBV and UE theories through the empirical examination of managerial and firm level attributes moderating roles between FR and sustainability performance of SMEs, specifically from the perspective of Pakistan. The current study advances the knowledge of how FR affects SMEs' sustainability performance in the presence of managerial and firm level attributes. We found that larger SMEs get higher benefits from finance in sustainability than smaller ones. However, age does not play any role in the relationship between FR and sustainability performance. Steering the UE theory, our findings demonstrated that managers' experience and education significantly moderate the nexus between FR and sustainability performance in the emerging economy of Pakistan. However, the age of managers has no role in strengthening the role of FR in sustainability performance. Hence, as a result, our study provides a fresh avenue for extending the idea to other countries as well.

2.6.16 | Implications for practice

The current research has several policy and practical implications.

2.6.17 | Implications for businesses

Practically, the results of this research highlight the crucial role of FR in sustainability performance along with managerial and firm level attributes. Based on our findings, we suggest that SMEs should utilize their finance in an efficient and economical way to configure their environmental policies. An effective use of capital and investment can benefit SMEs in sustainability objectives. Hence, SMEs should pay significant attention to their management of FR to achieve sustainability performance.

Further, we found that the relationship between FR and sustainability performance is moderated by managerial attributes (experience and education). This suggests that SMEs must emphasize the attributes of their managers when looking for sustainability performance. For instance, experienced and educated managers are capable of utilizing FR in order to achieve sustainability performance. In particular, if SMEs aim to achieve sustainability performance, they need to focus on hiring educated and experienced managers. According to Hashim et al. (2021), inexperienced and uneducated managers can negatively affect sustainability outcomes, while experienced and educated managers facilitate SMEs to achieve sustainability performance. SMEs in emerging economies have scarce resources, which hampers their progress in the context of sustainability, while managing FR efficiently is an important strategy of SMEs in today's turbulent atmosphere. To cope with this, SMEs should hire educated and experienced managers who will help them to efficiently manage and utilize FR for sustainability practices. Larger SMEs have more sustainable performance when they have sufficient FR. However, younger SMEs need to work more and utilize their resources in a way that gives desirable sustainability performance. Additionally, our research recommends that SMEs investigate the insignificant role of managers' age in sustainable practices.

2.6.18 | Implications for policymakers

This research suggests a few key policy implications for SMEDA, financial institutions, and public authorities. Our insights reveal that FR plays a vital role in sustainable performance. Therefore, the government and responsible authorities are required to provide enough finance to the industrial sector. In particular, interest free or low interest loans should be available for environmental and sustainable practices. Our insights reveal that managerial attributes (i.e., experience and education) play a moderating role between FR and sustainability performance. Therefore, governmental authorities must provide appropriate training and arrange educational programs for managers and owners of SMEs. These attributes help them in the efficient utilization of FR to achieve sustainability performance. We contend that the SME sector should prioritize managerial attributes over other initiatives when it comes to managing FR. Additionally, our insight gives advice to the government and relevant agencies to assist SMEs in implementing and achieving sustainable practices. SMEDA is advised to support the environmental indicators of small business industries. SMEDA aims to gain Sustainable development Goals through several campaigns. Based on these intuitions, SMEDA should also support managers in achieving sustainable practices. Government officials can call meetings between top managers and policymakers to formulate strategies for sustainability concerns. Policymakers and the

government should mitigate resource barriers and support SMEs for sustainable practices in the industrial sector. SMEs are in great need of FR and the industry desires substantial backing from the government. In particular, SMEs should be assisted in terms of tangible and intangible resources to endorse sustainable performance.

2.6.19 | Limitations and directions for future studies

This research suffers from several constraints that can be addressed through our suggestions. The first limitation of this research is concerned with cross-sectional data, which has a threat of CMB. Therefore, in-depth interviews and longitudinal data will provide results free of bias, that will be better for policy implications.

Second, we conducted our study in SMEs while did not consider large and listed firms. We recommend future researchers to conduct the survey in large firms in order to understand how managerial and firm level attributes affect the nexus between resources and sustainability strategies. Third, we tested the influence of FR on sustainability performance while other external and internal resources, especially technological, government support and external networking, etc., have not been considered. We, therefore, suggest future researchers consider digital resources and external networking to extend the model. Fourth, we conducted this study on Pakistani SMEs. However, to increase the generalizability and validity of the results, we recommend data collection from other economies, including Asia and Europe, to conduct a comparative study.

Furthermore, we recommend future researchers to test the same model based on different categories such as young and mature firms, young managers, old managers, and so forth. In future studies new managerial attributes (such as gender and values as well as firm attributes social capital in the managerial sense and sector etc.) should be considered to test the same model.

Since there is no published data on SMEs in Pakistan, it is not a wise strategy to use annual reports for the model. However, an alternative could be a qualitative study by employing in-depth interviews to explore the information. Moreover, future researchers could focus on bibliometric or systematic studies to assess the relationship between FR and sustainable strategies. We used SmartPLS software which has some limitations. For instance, SmartPLS cannot be applied when structural models contain causal loops or circular relationships between the latent variables (i.e., non-recursive models). So, in the future, AMOS or MPLUS software can be used to tackle this problem.

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