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Unlocking sustainable competitive performance in agro-based small and medium enterprises in South Asian Association for Regional Cooperation countries

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Abstract: Agro-based small and medium enterprises (SMEs) are currently receiving top priority among policymakers of the South Asian Association for Regional Cooperation (SAARC) nations due to their great contribution to employment and GDP growth. This study examines the impact of financial literacy on the sustainable competitive performance of agro-based SMEs, with a focus on the mediating role of access to digital finance and the moderating role of business experience. Using Partial Least Squares Structural Equation Modelling (PLS-SEM), we analysed data from 345 SME owner-managers. The results indicate that financial literacy positively affects sustainable competitive performance, with access to digital finance serving as a significant mediator. However, business experience does not moderate the relationship between financial literacy and access to digital finance. These findings suggest that improving financial literacy and enhancing digital finance access are critical for the sustainable development of agro-based SMEs in the SAARC region.

Keywords: access to digital finance; agricultural businesses; business experience; financial literacy; sustainable performance

The agricultural sector is a cornerstone of economic growth and in poverty reduction, contributing significantly to both the employment (around 60%) and national income (about 40%) in the South Asian Association for Regional Cooperation (SAARC) countries. SAARC was established to collectively address regional challenges, with policymakers recognising the importance of prioritising agro-based small and medium enterprises (SMEs). Agro-based SMEs in the SAARC region face significant challenges despite their natural potential (Manzoor et al. 2019). These challenges encompass limited resources, low value-added to agricultural products, subpar financial and operational performance, restricted access to funding, technological deficiencies, high transaction costs, elevated default risk relative to larger competitors, inadequate credit restrictions, limited collateral options, and poor management practices (Frimpong et al. 2022; Wu and

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Huang 2022). Financial literacy (FL) is particularly important for individuals and businesses to make informed decisions for their long-term success and growth, as emphasised by Akhtar and Liu (2018). Financial literacy alludes to the information and abilities expected to oversee individual and hierarchical funds successfully, Hasan et al. (2021). It includes the capacity to grasp and put into practice financial knowledge, including risk management, borrowing, budgeting, and saving and investing, Klapper and Lusardi (2020). Furthermore, access to digital finance (ADF) acts as a bridge between financial literacy and sustainable competitive performance, facilitating the effective implementation of financial knowledge and skills in a digital environment. Digitisation has the potential to facilitate agro-based SMEs' access to funds through web-based investment funds and web banking, making it more straightforward to get credits through digital platforms, Frimpong et al. (2022). This study recognises ADF as a mediator, considering the growing trend of digitisation worldwide. Scholars have emphasised the significance of digitalisation for economies and its positive impact on firms' financial performance (Myovella et al. 2020). Business experience (BE), as a moderator, represents the accumulated knowledge and expertise gained from previous entrepreneurial ventures or industry-specific experience. Highly experienced entrepreneurs are often more skilled at effectively utilising digital finance tools, resulting in a more substantial positive impact on sustainable competitive performance (Timothy 2022). The current study contributes to the existing knowledge by highlighting the mediating role of ADF and the moderating role of BE in the relationship between financial literacy and the performance of SMEs. The findings provide crucial guidance for policymakers and business leaders to create initiatives to improve digital finance accessibility, and harness business expertise for the sustainable development of agro-based SMEs in the digital age.

Theory and hypotheses

Resource-based view (RBV). To deepen our understanding of understudy connections, we utilise the RBV theory to explore how financial literacy positively influences the relationship between ADF and sustainable competitive performance (SCP) of agro based-SMEs. Wernerfelt (1984) and Barney (1991) initially introduced this theory, which posits that the key driver for enhancing firm performance and achieving a sustained competitive advantage lies in the significance of resources a firm possesses, and resources encompass the assets, capabilities, experience and knowledge as stated by (Wernerfelt 1984; Das and Teng 2000; Barney 2001). RBV asserts that businesses with significant and distinctive resources are better positioned to outperform rivals and maintain their competitive performance over the long term (Chatterjee et al. 2023). Financial literacy, as an internal resource, enhances the capacity of SMEs to effectively manage their finances, make informed decisions, and optimally allocate resources. This proficiency in financial management can directly impact the sustainable competitive performance of SMEs (Tian et al. 2022). When the human resources within a firm possess financial literacy, they are more likely to make strategic decisions in the selection, utilisation, management, and disposal of financial assets, thereby significantly influencing the firm's performance, Agyapong and Attram (2019). Access to digital finance acts as a mediator in this relationship. Digital finance tools provide SMEs with improved access to financial services, facilitating quicker transactions, better financial planning, and access to capital. Through these digital platforms, SMEs can leverage their financial literacy to make strategic decisions, allocate resources efficiently, and enhance their competitive positioning (Frimpong et al. 2022). Financial literacy equips managers to identify and evaluate opportunities in digital finance, make wise investments, and effectively allocate funds. It also helps them navigate digital financial tools and technology for innovation and operational efficiency (Hossain et al. 2020). Furthermore, within the RBV framework, Wernerfelt (1984) emphasises that the heterogeneity of resources across firms contributes to a sustained competitive advantage. In this context, the moderation effect of business experience aligns with the notion that the effectiveness of resources (financial literacy and ADF) can be contingent upon the managerial capabilities and experience. RBV suggests that the effectiveness of resources in achieving a sustained competitive advantage depends on various moderators, such as the organisational culture or managerial capabilities. Business experience moderates the link between financial literacy, ADF, and SCP. Experienced entrepreneurs might leverage their financial literacy more effectively in utilising digital financial tools, thereby amplifying the positive impact on the SME performance (Hernández-Carrión et al. 2016; Ko and McKelvie 2018). Thus, RBV provides a solid foundation for understanding how the financial literacy, ADF, BE, and SCP of SMEs are interlinked.

Financial literacy and the sustainable competitive performance of agro based-SMEs. Financial literacy

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is vital for the SMEs' sustainable performance (Eniola and Entebang 2017; Agyapong and Attram 2019). It enables informed decision-making, efficient resource allocation, risk management, and easier access to funding (Adomako et al. 2016; Akhtar and Liu 2018; Priyantoro et al. 2023). Insufficient financial knowledge contributes to business failure. Proficiency in financial management enhances stability and competitiveness (Kimunduu et al. 2016). Research indicates a correlation between financial literacy and the SME performance (Dahmen and Rodriguez 2014). Businesses with strong financial literacy adapt well to changes and are innovate for sustainability (Ye and Kulathunga 2019). In essence, financial literacy fosters prudent decision-making, resilience, and strategic agility for SME success.

H_1: There is a positive correlation between financial literacy and sustainable competitive performance.

Impact of financial literacy on the digital finance acquisition. The influence of financial literacy on the adoption and effective utilisation of digital financial services and technology is crucial (Meoli et al. 2021; Dewi and Setiyono 2022). Higher financial literacy enhances the individuals' comprehension of digital finance benefits and equips them with the skills to use digital platforms and make wise financial decisions (Yang et al. 2023). Financially literate individuals can assess the legitimacy of digital financial service providers, detect fraud, and safeguard their financial information (Wu and Huang 2022). Studies show that higher financial literacy knowledge correlates with the easier use of digital platforms and conducting online transactions (Feng et al. 2022). Although Buchdadi et al. (2020) found a positive impact of financial literacy on financial access, their study did not specifically address digital financing. Limited attention has been given to the link between financial literacy and digital financing in SAARC countries. Thus, the proposed hypothesis states that:

H_2: There is a positive correlation between financial literacy and access to digital finance.

Access to digital finance and the sustainable competitive performance of SME. Access to digital finance refers to utilising digital technologies and platforms for financial services (Panos and Wilson 2020). For SMEs, it enables effective financial management, credit access, cost reduction, and market expansion (Yao and Yang 2022). Digital finance fosters SME innovation and performance by overcoming geographical barriers and providing access to formal financial services (Margiono 2020; Panos and Wilson 2020). It facilitates establishing a financial identity, managing cash flows, and making digital payments. Digital tools reduce transaction costs and enhance operational efficiency for SMEs, such as through digital payment systems (Abad-Segura and González-Zamar 2019).

Familiarity with technology significantly enhances the SME performance, particularly in integrating digital financial services (Kulathunga et al. 2020). ADF is crucial for managers seeking to improve the firm's performance by capitalising on financial advancements. However, empirical data on specific digital channels for accessing digital finance are scarce (Kulathunga et al. 2020). Mobile money platforms are widely adopted for payments, indicating a trend of digitisation in service delivery. The existing research suggests a positive impact of digital financial services on the profitability and performance (Abbasi and Weigand 2017; Ozili 2018), but further extensive research in this area is needed to confirm this conclusion.

H_3: There is a positive relationship between access to digital finance and the performance of agro-based SMEs.

Mediating role of access to digital finance in the relationship between financial literacy and the performance of agro-based SMEs. Digital finance acquisition refers to an organisation's acceptance and use of digital financial services and technology, integrating platforms like mobile banking and online payment systems (Miswanto et al. 2024). Financially literate organisations leverage their knowledge to gain a competitive advantage (Panos and Wilson 2020). The link between financial literacy and SCP is mediated by digital finance adoption (Wu and Huang 2022). Financial literacy enables understanding the value of digital tools for performance improvement (Wu and Huang 2022). Adoption of digital financial services enhances the operational effectiveness, facilitates finance access, improves risk management, and fosters innovation, boosting competitiveness (Butticè and Vismara 2022). Financial literacy also increases confidence in digital services (Feng et al. 2022), motivating organisations to embrace them. Agro-SMEs can enhance financial decision-making and competitive performance by efficiently leveraging digital financial tools (Chen and Zhang 2021). Financially literate organisations may use their knowledge and expertise to leverage their knowledge and abilities to gain lasting competitive advantages in the marketplace (Panos and Wilson 2020). For the current study, ADF is perceived as a mediator in the link between financial literacy and the SCP of agro-based SMEs. Therefore, we posit that:

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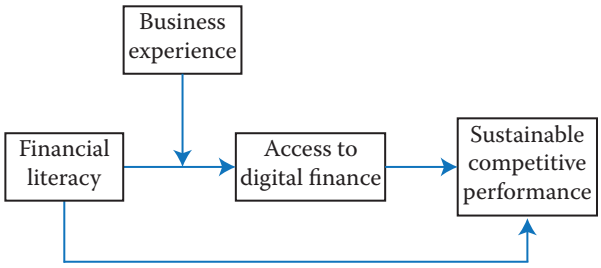

Figure 1. Conceptual framework

Source: Authors' own elaboration

H_4: There is a mediating effect of access to digital finance in the connection between financial literacy and the performance of agro-based SMEs.

Moderating role of business experience. Business experience (BE) encompasses the knowledge, skills, and lessons learned from previous entrepreneurial endeavours (Doern et al. 2019). BE enhances the application of financial literacy (FL) in real-world contexts, enabling entrepreneurs to adapt to market dynamics and navigate challenges effectively (Custódio and Metzger 2014). Entrepreneurs with higher levels of BE are better prepared to utilise FL in digital finance acquisition, while those with less BE may struggle (Fabeil et al. 2020). Professional experience helps entrepreneurs establish beneficial institutional contacts, transitioning from personal to professional networks over time (Hernández-Carrión et al. 2016). Thus, prolonged tenure in a sector strengthens the relevance of the professional and institutional networks, enhancing the firm's performance. The link between FL and ADF is therefore dependent upon an entrepreneur's amount of past business experience. Entrepreneurs with more BE may show a greater correlation between FL and ADF. Their inability to properly appreciate the consequences and opportunities given by digital financial technologies may be hampered by their lack of expertise and exposure to the intricacies of corporate operations. Thus, we posit that:

H_5: Business experience positively moderates the link between financial literacy and digital finance acquisition.

The conceptual framework can be found in Figure 1.

MATERIAL AND METHODS

Research design. The study employed a reflective model for its constructs, namely *FL* as the independent variable (IV), *SCP* as the dependent variable (DV), with *ADF* as the mediator and *BE* as the moderator. This choice aligns with the theoretical grounding of the research, as reflective models are suitable when constructs are conceptualised as latent variables that reflect the underlying theoretical frameworks (Coltman et al. 2008). Financial literacy and SCP are complex concepts that are not directly observable, but are inferred through measurable indicators. By utilising a reflective model, the study ensured that the measurement of these constructs accurately represented their theoretical concepts, enhancing the validity and reliability of the research findings. Additionally, reflective models facilitate a deeper understanding of the relationships between the constructs, allowing for the comprehensive analysis of the mediation and moderation effects in the proposed model.

Sample and data. The study targeted agro-based SMEs across the SAARC region as its study population. The research focused on managers as the respondents of the research, thus, the survey was answered by owner-managers of small and medium-sized enterprises in this region. To ensure a representative sample, the study applied Andersen's (2012) criteria for unlimited population sampling, opting for a random sampling technique. Adhering to the guidelines proposed by Krejcie and Morgan (1970) for minimum sample size determination, a sample of 345 SMEs was selected. The primary data collection method involved a standardised questionnaire crafted to align with the specific context of agro-based businesses. This questionnaire was meticulously designed to gather comprehensive insights relevant to the study objectives. In order to streamline the process of gathering the questionnaire data, the researcher provided the managers of the SMEs in the study area with the option to complete the questions either electronically (using Google Forms) or manually (using a printed instrument). The questionnaires were distributed to the respondents after obtaining their consent. The data gathering process spanned a duration of almost eight weeks in order to attain a prompt and substantial response rate. The exercise commenced on March 1, 2023, and successfully finished on May 30, 2023. The exercise was predominantly carried out inside the respondents' allocated time slots. The activity was conducted with the assistance of proficient field assistants. The assistants possessed full authority over each question item, enabling them to aid the respondents whenever they faced difficulties. Upon gathering a sufficient amount of data from participants, the data underwent a comprehensive assessment to eliminate or significantly minimise any errors caused by incomplete or inaccurately filled out questionnaires. The data

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Table 1. Measurements of the study variables

Variable	No.of items	Measurement source
Financial literacy (FL)	15	Huston (2010); Yang et al. (2018)
Access to digital finance (ADF)	23	Guo et. al. (2020); Wu and Huang (2022)
Business experience (BE)	15	Ying et al. (2019)
Sustainable competitive performance (SCP)	14	Degong et al. (2018)

See Table S6 in the Electronic Supplementary Material (ESM) for the item description.

was subsequently coded with great attention to detail in order to eliminate any instances of missing information. The data was inputted, processed, and analysed using the Statistical Package for Social Sciences (SPSS) and Smart PLS-SEM software subsequent to coding.

Prior to administering the questionnaires, ethical considerations including informed consent were implemented. Anonymity and plagiarism policies were followed, with data collection conducted solely by the researcher. Participants' data was discarded after the study, digitally stored on a Google Drive for security. Questionnaires excluded identifying information and were not distributed publicly or to the media, exclusively intended for research purposes. The measurement of the variable constructs was based on previous studies (Table 1) and the individual variable items are described in Table S6 in the Electronic Supplementary Material (ESM). The demographics of the study respondents are presented in Table S1 in the ESM.

RESULTS AND DISCUSSION

Structural equation modelling is a valuable method for complex model estimation, including higher-order constructs. To ensure accurate interpretation, it is crucial to begin with a measurement model evaluation. This involves assessing the model's dependability and convergent validity, as shown in Table 2. We gauge the dependability using factor loadings, retaining components with loadings over 0.7. These loadings reflect how well something represents a construct's conceptual domain. Maintaining loadings above 0.7, as recommended by Cheah et al. (2018), indicates good internal consistency, ensuring that test items consistently measure the same construct.

This research uses two diagnostic methods to assess the internal consistency dependability, namely composite reliability (*CR*) and rho-A. The composite reliability, considered a precise gauge of reliability in PLS-SEM (Hair et al. 2017), measures the shared variance among the observed variables and latent construct indicators (Fornell and Larcker 1981). It is essential for the *CR* to exceed 0.708 to meet the test's requirement, although a range between 0.60 and 0.70 is suitable for exploratory research.

Table 2. Reliability and convergent validity assessment of measurement constructs

Variables and indicators		Factor loading	rho_A	Composite reliability (rho-C)	*AVE*
Financial literacy	*FL*11	0.836	0.929	0.943	0.732
	*FL*2	0.858			
	*FL*3	0.873			
	*FL*4	0.862			
	*FL*5	0.827			
	*FL*9	0.877			
Business experience	*BE*1	0.901	0.889	0.930	0.816
	*BE*10	0.884			
	*BE*3	0.925			
Access to digital finance	*ADF*18	0.801	0.914	0.932	0.696
	*ADF*19	0.802			
	*ADF*20	0.825			
	*ADF*21	0.862			
	*ADF*22	0.863			
	*ADF*23	0.850			
Sustainable competitive performance	*SCP*1	0.739	0.953	0.957	0.653
	*SCP*10	0.868			
	*SCP*11	0.727			
	*SCP*12	0.876			
	*SCP*14	0.738			
	*SCP*2	0.804			
	*SCP*3	0.780			
	*SCP*4	0.880			
	*SCP*5	0.794			
	*SCP*6	0.815			
	*SCP*8	0.832			
	*SCP*9	0.827			

AVE – average variance extracted; see Table S6 in the Electronic Supplementary Material (ESM) for the indicator description
Source: Authors' own elaboration

Test of convergent and discriminant validity. The standard practice utilised the omission of reflected indicators with loadings of less than 0.700 from the measurement model, according to Hulland (1999), although some writers of flexible criteria sometimes

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advocate factor loadings surpassing 0.6. Testing of the convergent and discriminant validity was undertaken in addition to the indicator reliability test. Analysis of the indicators' outer loadings and the generally extracted variance were also calculated. The hidden variable must account for at least 50% of the variation in each indicator for a judgment to be made. The outer loading was predicted to be more than 0.708 or 0.5 squared. Convergent validity is the idea that measures of the same construct have a stronger correlation with the underlying construct than measures of distinct constructs. All the components listed in Table 2 demonstrate convergent validity since their average variance extracted (*AVE*) scores exceed 0.5. Discriminant validity was assessed through a diagnostic test, utilising the cross-loading and heterotrait-monotrait correlation ratio (HTMT) measures, which are presented in Tables 2–4 as the evaluation criteria. According to Henseler et al. (2015), the cross-loading method for establishing discriminant validity involves observing a construct indicator's limited association with all the other constructs, except the one it is primarily linked to. The outcomes presented in Table 2 reveal that the indicators exhibit stronger loadings on their respective parent constructs compared to the cross-loadings on the alternative constructs, which validates the use of cross-loadings for achieving discriminant validity. The PLS algorithm technique is employed to generate these cross-loading values (as seen in the table), and their discriminant validity can be assessed. The findings illustrated in Table 3 indicate that the indicators possess stronger loadings on their original constructs in comparison to the cross-loadings on the other constructs, providing further support for the appropriateness of utilising cross-loadings to establish discriminant validity.

Table 3. Heterotrait-monotrait ratios for discriminant validity

Construct	Access to digital finance	Business experience	Financial literacy	Sustainable competitive performance
Access to digital finance	–	–	–	–
Business experience	0.536	–	–	–
Financial literacy	0.589	0.530	–	–
Sustainable competitive performance	0.682	0.638	0.680	–

Source: Authors' own elaboration from Smart PLS

Table 4. Variance inflation factors for multicollinearity assessment

Constructs	*VIF*
Financial literacy → Sustainable competitive performance	1.424
Financial literacy → Access to digital finance	1.374
Access to digital finance → Sustainable competitive performance	1.424
Business experience → Access to digital finance	1.417
Business Experience × Financial literacy → Access to digital finance	1.279

VIF – variance inflation factor
Source: Authors' own elaboration

To determine if an indicator is discriminately valid, the HTMT and the cross-loadings were utilised (Table 3). A final number near one in the HTMT, which is thought to be more reliable, indicates a lack of discriminant validity. Henseler et al. (2015) recommends a threshold value of 0.90. In contrast, a lower, more cautious threshold value of 0.85 is recommended when conceptions are conceptually more diverse, Henseler et al. (2015). As a result, indicators perform better at differentiating across constructs when the HTMT ratio is below 0.85. The majority of the HTMT values (Table 3) meet the stricter criteria of 0.85, and they all fall below the value of 0.9. Kline (2011) asserts that indicators considerably perform well in discriminating between the unrelated constructs and loading highly on the parent constructs, according to the HTMT. Tables S2–S5 in the ESM contain important quality criteria, the total indirect effects, the special indirect effects and the total effects, respectively.

Collinearity diagnostics. The collinearity, relevance and significance of the structural model, effect size, overall impact of the exogenous components, and the predictive capacity of the path model were assessed further. We conducted a preliminary test to mitigate potential collinearity issues and ensure accurate estimation of the path coefficients in the structural model. Hair et al. (2017) guided us, indicating that a substantial number of variance inflation factor (*VIF*) values exceeding 5 to signify the presence of collinearity issues. An alternate, more rigorous criterion proposed by Becker suggests that VIF values in the range of 3 or below are preferable (Duarte and Amaro, 2018).

Test for the moderating effect. The moderator sets the necessary parameters in order for there to be a re-

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lationship between a forecast and an outcome variable. This means that the moderating variable affects the kind and strength of the link between a predictor and an outcome variable. Following Pokhariyal (2019), moderators may be qualitative or categorical (e.g. depending on the sex, race, or class) or continuous and or discrete (e.g. income or level of reward). Moderators can increase, reduce, or even reverse the impact of a prediction on an outcome. The study's ultimate goal was to investigate the moderating impact of the business experience on the relationship between the financial literacy and ADF. A bootstrapping approach was used to determine the moderating hypotheses' relevance, and the results are shown in Table 5.

Test for the mediation. In a mediation analysis, a third variable, known as the mediating variable, is introduced between two related constructs, as outlined by Hair et al. (2017). This mediating variable helps establish a connection between the dependent and independent variables, confirming their relationship. The results of several direct and indirect impacts are shown in Table 5.

Structural model. The structural model (PLS-SEM) figure shows that there is relationship between *FL*, digital finance, and *SCP*. Results show that financial literacy has a positive impact on *SCP* and digital finance.

The structural model is depicted in Figure 2.

Discussion. The study explores the intricate relationships among *FL*, *ADF*, *BE* and *SCP* within the context of agro-based small and medium enterprises (SMEs). The structural model results reveal significant path coefficients and statistical support for the proposed hypotheses. Financial literacy emerges as a pivotal internal resource, positively influencing both the sustainable performance and ADF. The statistically significant robust path coefficient $\beta_2 = 0.613$ signifies the substantial impact of financial literacy on enhancing the SMEs' capacity to make strategic decisions, effectively manage finances, and navigate the complexities of the digital finance landscape. This finding aligns with the RBV, which emphasizes the significance of internal resources, including knowledge and capabilities, in achieving a sustained competitive advantage (Wernerfelt 1984; Barney 1991).

Access to digital finance is identified as a mediator in the relationship between the financial literacy and sustainable performance. Digital finance tools provide SMEs with improved access to financial services, facilitating quicker transactions, better financial planning, and access to capital. The positive and statistically significant correlation coefficient between the ADF and SCP $\beta_1 = 0.431$ underscores the importance of leveraging digital platforms to enhance the overall business operations and competitiveness. This aligns with the evolving landscape of financial services, where digitalisation plays a pivotal role in improving efficiency and accessibility.

This study also explored how business experience moderates the link between *FL* and *ADF* for agro-based SMEs in the SAARC countries. Furthermore, it investigates how *ADF* mediates the relationship between *FL* and *SCP*. The interaction term has a path coefficient of –0.003, an SD of 0.015, and a *t* statistic of 0.195, with a *P*-value of 0.845. This indicates that the interaction effect between business experience and financial literacy on the path to *SCP* through *ADF* is not significant. This means that *ADF* from the model in Figure 2 partially mediates the relationship between *FL* and *SCP* of agro-based SMEs in the SAARC. Also, the introduction of *BE* dampens the relationship between *FL* and *ADF* and ultimately to the firm's performance. The RBV asserts that businesses with significant and distinctive resources are better positioned to outperform rivals and maintain their competitive performance over the long term (Chatterjee et al. 2023). Specifically, in this context, intangible and internal resources like financial literacy and business experience are valuable

Table 5. Path coefficients for direct and indirect effects on sustainable competitive performance

Relationships	Path coefficient	SE	*t* statistics	*P*- values
Financial literacy → Sustainable competitive performance (β_2)	0.613	0.057	10.671	0.000
Financial literacy → Access to digital finance (β_5)	0.426	0.075	5.646	0.000
Access to digital finance → Sustainable competitive performance (β_1)	0.431	0.073	5.927	0.000
Financial literacy → Access to digital finance → Sustainable competitive performance (β_3)	0.184	0.035	5.276	0.000
Business Experience × Financial literacy → Access to digital finance → Sustainable competitive performance (β_4)	–0.003	0.015	0.195	0.845

Source: Authors' own elaboration

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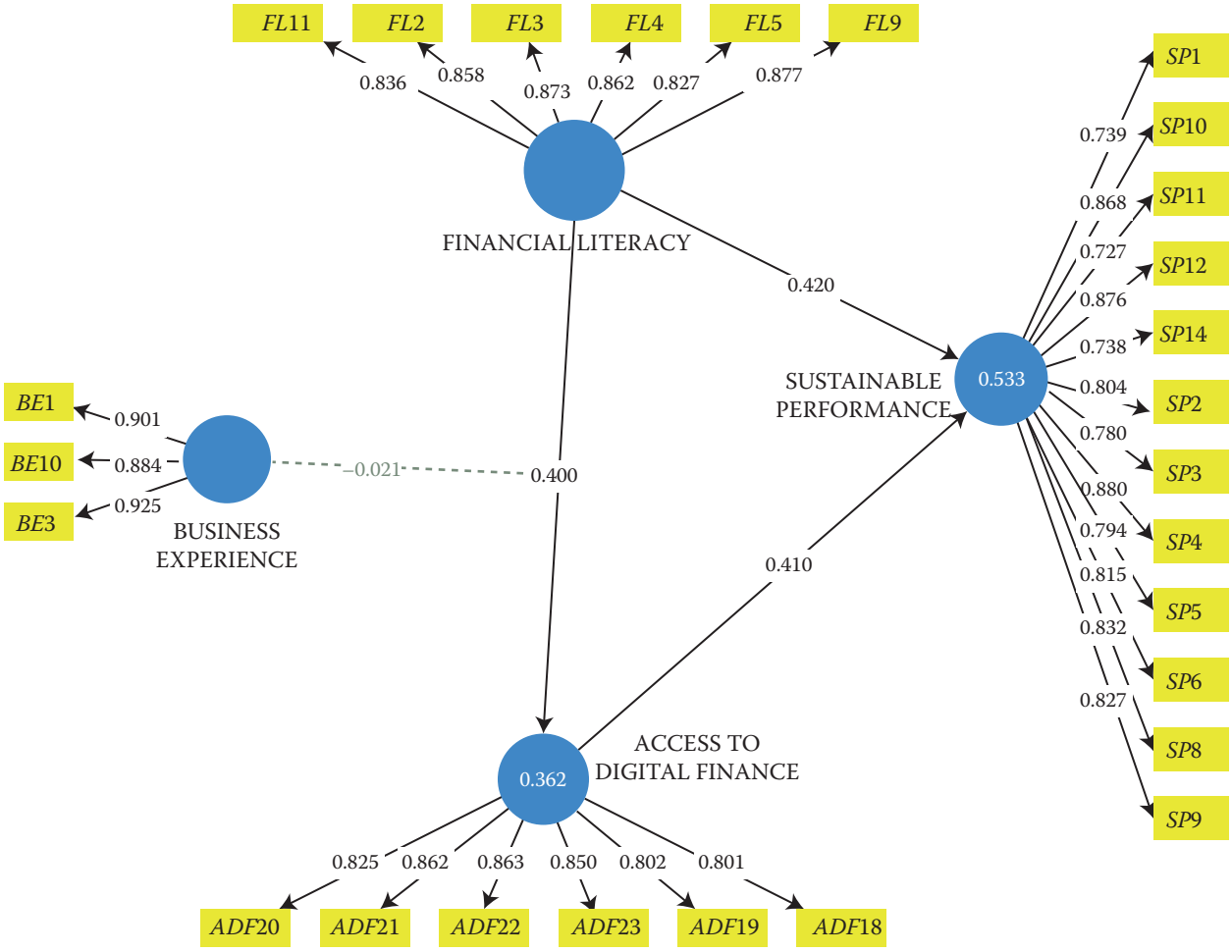

Figure 2. Structural model results with path coefficients

BE – business experience; *FL* – financial literacy; *ADF* – access to digital finance; *SP* – sustainable performance; the figure displays the results of the objective tests at a 5% significance level

Source: Authors' own elaboration

resources that managers can leverage to improve the SCP of agro-based SMEs.

Table S4 in the ESM shows that there is a significant direct relationship between the *BE*, *ADF*, and *SCP* (β_3 = 0.132, t = 2.795, P = 0.0005). This indicates that higher business experience is positively associated with better access to and utilization of digital financial services. However, there is no significant moderation effect that was observed. Business experience does not enhance the relationship between *FL* and *ADF* (β_4 = –0.0003, t = 0.195, P = 0.845). The results suggest that ADF partially mediates the relationship between *FL* and the *SCP* of agro-based SMEs in the SAARC. This implies that financially literate managers can use their knowledge to gain lasting competitive advantages through digitisation. This can lead to increased customer reach, higher sales, and improved performance (Margiono 2020; Panos and Wilson 2020; Frimpong et al. 2022; Yao and Yang 2022). Businesses with strong financial literacy are more inclined to recognise the benefits of using digital financial tools effectively, which can enhance their sustainable competitive performance, Wu and Huang (2022). Adopting digital financial services can improve the operational efficiency, ease access to finance, enhance the risk management, and foster innovation, all contributing to a company's competitive advantage (Butticè and Vismara 2022).

Moreover, *BE* negatively affects the link between *FL* and *ADF* which suggests that business experience enhances the agro-based SME owners' ability to apply financial literacy in real-world contexts, adapt to market dynamics, and navigate challenges effectively. Their extensive experience allows them to craft more refined financial policies for their companies and minimise ex-

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penses, resulting in superior performance (Custódio and Metzger 2014). Furthermore, the prevailing belief suggests that the business and industry experience of top managers and founders equips them to secure vital financial and non-financial external resources crucial for the success of new ventures (Ko and McKelvie 2018). However, entrepreneurs with little business experience could find it difficult to apply their financial literacy abilities to the purchase of digital financing. The lack of expertise and exposure to digital financial technologies can hinder their ability to understand the consequences and opportunities in corporate operations (Fabeil et al. 2020). Entrepreneurs with limited BE may benefit from practical training, such as real-world case studies and hands-on learning, to bridge the gap between financial literacy and ADF.

CONCLUSION

This study illuminates the pivotal role of financial literacy and access to digital finance in enhancing the sustainable competitive performance of agro-based SMEs in SAARC countries. The findings indicate that financial literacy has a significant impact on sustainable competitive performance, with access to digital finance acting as a crucial mediator in this relationship. Nevertheless, the influence of business experience on the relationship between financial literacy and access to digital finance was not statistically significant.

These insights have several implications. For policymakers, it is recommended to prioritize the implementation of financial literacy programs tailored for SME managers, with the objective of equipping them with the requisite knowledge and skills to enable informed financial decision-making. Enhancing the accessibility and usability of digital finance platforms can further strengthen the financial capabilities of agro-based SMEs, enabling them to leverage digital tools for improved operational efficiency and market competitiveness.

For digital financial service providers, there is an opportunity to develop customized solutions that cater specifically to the unique needs of agro-based SMEs. By addressing the barriers to digital finance adoption, such as technological infrastructure and user training, service providers can play a vital role in the financial inclusion of these enterprises.

Future research could adopt a longitudinal approach to capture the temporal nature of financial literacy and its impact on SME performance. Furthermore, extending the study to encompass additional countries within the SAARC region would enhance the generalizability of the findings. Further investigations could also explore the impact of other factors, such as capacity building, skill development, and environmental and social sustainability practices, on the sustainable competitive performance of SMEs.

In conclusion, this study emphasizes the pivotal role of financial literacy and digital finance access in fostering the sustainable growth and competitiveness of agro-based SMEs. By fostering these capabilities, stakeholders can contribute significantly to the economic development and poverty alleviation efforts in the SAARC region.

REFERENCES

Abad-Segura E., González-Zamar M.D. (2019): Effects of financial education and financial literacy on creative entrepreneurship: A worldwide research. Education Sciences, 9: 238.

Abbasi T., Weigand H. (2017): The impact of digital financial services on firm's performance: A literature review. Available at https://arxiv.org/abs/1705.10294 (accessed Feb 21, 2022)

Adomako S., Danso A., Ofori Damoah J. (2016): The moderating influence of financial literacy on the relationship between access to finance and firm growth in Ghana. Venture Capital, 18: 43–61.

Agyapong D., Attram A.B. (2019): Effect of owner-manager's financial literacy on the performance of SMEs in the Cape Coast Metropolis in Ghana. Journal of Global Entrepreneurship Research, 9: 67.

Akhtar S., Liu Y. (2018): SMEs' use of financial statements for decision making: Evidence from Pakistan. Journal of Applied Business Research, 34: 381–392.

Andersen E.B. (2012): The statistical analysis of categorical data. Berlin, Springer: 531.

Barney J.B. (2001): Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. Journal of Management, 27: 643–650.

Buchdadi A.D., Sholeha A., Ahmad G.N., Mukson (2020): The influence of financial literacy on SMES performance through access to finance and financial risk attitude as mediation variables. Academy of Accounting and Financial Studies Journal, 24: 16.

Butticè V., Vismara S. (2022): Inclusive digital finance: The industry of equity crowdfunding. The Journal of Technology Transfer, 47: 1224–1241.

Chatterjee S., Chaudhuri R., Vrontis D., Thrassou A. (2023): Revisiting the resource-based view (RBV) theory: From cross-functional capabilities perspective in post COVID-19 period. Journal of Strategic Marketing: 16.

https://doi.org/10.17221/264/2023-AGRICECON

Cheah J.H., Sarstedt M., Ringle C.M., Ramayah T., Ting H. (2018): Convergent validity assessment of formatively measured constructs in PLS-SEM: On using single-item versus multi-item measures in redundancy analyses. International Journal of Contemporary Hospitality Management, 30: 3192–3210.

Chen S., Zhang H. (2021): Does digital finance promote manufacturing servitization: Micro evidence from China. International Review of Economics and Finance, 76: 856–869.

Coltman T., Devinney T.M., Midgley D., Venaik S. (2008): Formative versus reflective measurement models: Two applications of formative measurement. Journal of Business Research, 61: 1250–1262.

Custódio C., Metzger D. (2014): Financial expert CEOs: CEO's work experience and firm's financial policies. Journal of Financial Economics, 114: 125–154.

Dahmen P., Rodríguez E. (2014): Financial literacy and the success of small businesses: An observation from a small business development center. Numeracy, 7: 3.

Das T.K., Teng B.S. (2000): A resource-based theory of strategic alliances. Journal of Management, 26: 31–61.

Degong M., Ullah F., Khattak M., Anwar M. (2018): Do international capabilities and resources configure firm's sustainable competitive performance? Research within Pakistani SMEs. Sustainability, 10: 4298.

Dewi A.L., Setiyono W.P. (2022): The effect of financial literacy, financial inclusion, fintech crowdfunding on MSME performance in Sidoarjo Regency. Indonesian Journal of Innovation Studies, 20: 10-21070.

Doern R., Williams N., Vorley T. (2019): Special issue on entrepreneurship and crises: Business as usual? An introduction and review of the literature. Entrepreneurship and Regional Development, 31: 400–412.

Duarte P., Amaro S. (2018): Methods for modelling reflective-formative second order constructs in PLS: An application to online travel shopping. Journal of Hospitality and Tourism Technology, 9: 295–313.

Eniola A.A., Entebang H. (2017): SME managers and financial literacy. Global Business Review, 18: 559–576.

Fabeil N.F., Pazim K.H., Langgat J. (2020): The impact of Covid-19 pandemic crisis on micro-enterprises: Entrepreneurs' perspective on business continuity and recovery strategy. Journal of Economics and Business, 3: 9.

Feng W., Wu A., Yao L., Jin B., Huang Z., Li M., Zhang H., Ji H. (2022): Community governance, financial awareness, and willingness to participate in national park development: Evidence from the Giant Panda National Park. Diversity, 14: 582.

Fornell C., Larcker D.F. (1981): Structural equation models with unobservable variables and measurement error: Algebra and statistics. Journal of Marketing Research, 18: 382–388.

Frimpong S.E., Agyapong G., Agyapong D. (2022): Financial literacy, access to digital finance and performance of SMEs: Evidence from Central region of Ghana. Cogent Economics and Finance, 10: 2121356.

Guo F., Wang J., Wang F., Kong T., Zhang X., Cheng, Z.Y. (2020): Measuring the development of digital inclusive finance in China: Index compilation and spatial characteristics. China Economics Quarterly, 19: 1401–1418.

Hair J., Hollingsworth C.L., Randolph A.B., Chong A.Y.L. (2017): An updated and expanded assessment of PLS-SEM in information systems research. Industrial Management and Data Systems, 117: 442–458.

Hasan M., Le T., Hoque A. (2021): How does financial literacy impact on inclusive finance? Financial Innovation, 7: 40.

Henseler J., Ringle C.M., Sarstedt M. (2015): A new criterion for assessing discriminant validity in variance-based structural equation modeling. Journal of the Academy of Marketing Science, 43: 115–135.

Hernández-Carrión C., Camarero-Izquierdo C., Gutiérrez-Cillán J. (2016): Entrepreneurs' social capital and the economic performance of small businesses: The moderating role of competitive intensity and entrepreneurs' experience. Strategic Entrepreneurship Journal, 11: 61–89.

Hossain M.M., Ibrahim Y., Uddin M.M. (2020): Finance, financial literacy and small firm financial growth in Bangladesh: The effectiveness of government support. Journal of Small Business and Entrepreneurship, 35: 336–361.

Hulland J. (1999): Use of partial least squares (PLS) in strategic management research: A review of four recent studies. Strategic Management Journal, 20: 195–204.

Huston S. (2010): Measuring financial literacy. Journal of Consumer Affairs, 44: 296–316.

Kimunduu G., Erick O., Shisia A. (2016): A study on the influence of financial literacy on financial performance of small and medium enterprises in Ruiru Town, Kiambu County, Kenya. International Journal of Economics, Commerce and Management, 4: 416–433.

Klapper L., Lusardi A. (2020): Financial literacy and financial resilience: Evidence from around the world. Financial Management, 49: 589–614.

Kline R.B. (2011): Convergence of structural equation modeling and multilevel modeling. In: Williams M., Vogt W.P. (eds): The SAGE Handbook of Innovation in Social Research Methods. Los Angeles, SAGE: 562–589.

Ko E.J., McKelvie A. (2018): Signaling for more money: The roles of founders' human capital and investor prominence in resource acquisition across different stages of firm development. Journal of Business Venturing, 33: 438–454.

Krejcie R.V., Morgan D.W. (1970): Determining sample size for research activities. Educational and Psychological Measurement, 30: 607–610.

https://doi.org/10.17221/264/2023-AGRICECON

Kulathunga K.M.M.C.B., Ye J., Sharma S., Weerathunga P. (2020): How does technological and financial literacy influence SME performance: Mediating role of ERM practices. Information, 11: 296.

Manzoor F., Wei L., Nurunnabi M., Abdul Subhan Q. (2019): Role of SME in poverty alleviation in SAARC region via panel data analysis. Sustainability, 11: 6480.

Margiono, A. (2020): Digital transformation: Setting the pace. Journal of Business Strategy, 42: 315–322.

Meoli M., Rossi A., Vismara S. (2021): Financial literacy and security-based crowdfunding. Corporate Governance: An International Review, 30: 27–54.

Miswanto M., Tarigan S., Wardhani S., Khuan H., Rahmadyanti E., Jumintono J., Ranatarisza M.M., Machmud, M. (2024): Investigating the influence of financial literacy and supply chain management on the financial performance and sustainability of SMEs. Uncertain Supply Chain Management, 12: 407–416.

Myovella G., Karacuka M., Haucap J. (2020): Digitalization and economic growth: A comparative analysis of Sub-Saharan Africa and OECD economies. Telecommunications Policy, 44: 101856.

Ozili P.K. (2018): Impact of digital finance on financial inclusion and stability. Borsa Istanbul Review, 18: 329–340.

Panos G.A., Wilson J.O. (2020): Financial literacy and responsible finance in the FinTech era: Capabilities and challenges. The European Journal of Finance, 26: 297–301.

Pokhariyal G.P. (2019): Importance of moderating and intervening variables on the relationship between independent and dependent variables. International Journal of Statistics and Applied Mathematics, 4: 4.

Priyantoro P., Ratnawati K., Aisjah S. (2023): The effect of financial literacy on business performance through mediation of financial access and financial risk attitude. International Journal of Research in Business and Social Science, 12: 275–287.

Tian G., Zhou S., Qi Y. (2022): Executive financial literacy and corporate performance: Evidence from small and medium-sized enterprises in China. Asia-Pacific Journal of Financial Studies, 51: 797–827.

Timothy V.L. (2022): The effect of top managers' human capital on SME productivity: The mediating role of innovation. Heliyon, 8: e09330.

Tushar K.M. (2017): The role of ethical leadership in developing sustainable organization. Australasian Journal of Law, Ethics, and Governance (AJLEG), 2: 83–95.

Wernerfelt B. (1984): A resource based view of a firm. Strategic Management Journal, 5: 171–180.

Wu Y., Huang S. (2022): The effects of digital finance and financial constraint on financial performance: Firm-level evidence from China's new energy enterprises. Energy Economics, 112: 106158.

Yang S., Ishtiaq M., Anwar M. (2018): Enterprise risk management practices and firm performance, the mediating role of competitive advantage and the moderating role of financial literacy. Journal of Risk and Financial Management, 11: 35.

Yang J., Wu Y., Huang B. (2023): Digital finance and financial literacy: Evidence from Chinese households. Journal of Banking and Finance, 156: 107005.

Yao L., Yang X. (2022): Can digital finance boost SME innovation by easing financing constraints? Evidence from Chinese GEM-listed companies. PLoS ONE, 17: e0264647.

Ye J., Kulathunga K.M.M.C.B. (2019): How does financial literacy promote sustainability in SMEs? A developing country perspective. Sustainability, 11: 2990.

Ying Q., Hassan H., Ahmad H. (2019): The role of a manager's intangible capabilities in resource acquisition and sustainable competitive performance. Sustainability, 11: 527.

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