



Impact of Financial Literacy on Access to Finance and Firm Performance: An Analysis of Growing Industry Cluster in Pakistan

Muhammad Waleed Khalid¹, Aqueel Imtiaz Wahga², Muhammad Gulzaib Chaudhary³,
Safyan Majid⁴, Muhammad Awais⁵

Abstract

The purpose of the study is to examine the significance of financial literacy on the relationship between access to finance and firm performance. In this study, the mediating role of financial literacy is investigated through a questionnaire distributed in the electric fitting sector in Sargodha. Electric fitting sector is a growing industry cluster in Sargodha, Pakistan which has experienced exponential growth during the past few years. However, limited access to finance has become a big hurdle in its growth. This study sheds light on the importance of financial literacy for owners and managers to increase their access to financial products and services to enhance business performance and growth. The study provides a solid foundation for academicians and policymakers to take essential measures that can promote the financial literacy especially in those sectors that are in the growth phase and require the attention from the national government to compete in the global economy.

Keywords: Access to Finance, Firm Performance, Financial Literacy

1. Introduction

Small and Medium Enterprises (SMEs) are considered the backbone of a country because they can play a significant role in boosting its economy (Beisengaliyev et al., 2018). In emerging economies, SMEs play even a much crucial role in achieving rapid growth increasing income levels and hence the buying power, while also making a significant contribution to employment generation and having a positive impact on social development (Giudice et al., 2019; Abor and Quartey, 2010; Ali, 2022). Therefore, all over the world, from entrepreneurs to venture capitalists, financial institutions to economists and from government to non-government organizations, all are giving great importance to the performance and growth of SMEs (Eniola, 2016). At the same time, various scholars have noted lack of access to finance limits SMEs' role in economic development (Beck et al., 2008), and Pakistan is not an exception (Bagh et al., 2017; Khan, 2015; Qureshi, 2012).

SMEs in Pakistan are facing many issues, including their inability to capture resources from complicated financial facilities (*Framework for SME Sector Development*, 2018). Therefore, for achieving better economic growth of the country, there is a need to focus on the development of SMEs (Khan, 2015). Small and Medium Enterprises Development Authority (SMEDA) was established in 1998 in Pakistan. According to SMEDA (2018), SMEs in Pakistan consist of 90% of all enterprises, providing 80% of employment to the non-agriculture workforce and sharing 40% of the overall GDP. These enterprises are facing financial constraints which restrict their performance and growth (SMEDA, 2018).

Access to finance means businesses' accessibility to financial facilities (Karlan & Morduch, 2010; Ali, 2022). The ability to access finance makes a firm capable of growing in the market, and it also enables emerging entrepreneurs tackle the financial needs of their businesses (Beck & Demircug-Kunt, 2006). The people who cannot access financial services are hit by the disparity of earnings, which reduces the chances of business progress (Wilson, 2012). For a smooth and profitable business, sufficient resources are required. To cope with it, the notion of financial literacy has been presented, which can help SMEs access valuable and rare resources from external sources.

Financial literacy is one of many reasons that cause challenges to SMEs in the financial context while considering decision-making (Eniola & Entebang, 2016). So, a lack of financial literacy causes badly unexpected consequences regarding financial stability, performance and development of SMEs (Lusardi & Mitchell, 2011). Financial Literacy refers to the know-how about finance so that financial decisions can be made and financial resources can be managed with a better understanding (GAO, 2011; Shah & Ali, 2023). According to Fatoki (2014), Financial Literacy refers to having some financial know-how that shapes the behavior of owners and managers in a better way and helps them to have a level of approach related to finances (Shah & Ali, 2022).

Performance can be characterized as the firm's ability to create acceptable outcomes and actions (Eniola & Entebang, 2015). As already stated, SMEs contribute to the economic development and growth (Kruja, 2013; Qureshi, 2012; Zafar & Mustafa, 2017). However, worldwide and especially in developing countries, they face many challenges which limit their performance (Naradda Gamage et al., 2020; Pandya, 2012). Amongst many other reasons, Financial Literacy and restricted access to finance lead them to poor performance (Sabana, 2014; Ali, 2022). So, to find the reason behind this, we are measuring financial literacy as it helps access finance and performance, as suggested in the literature (Hussain et al., 2018). Here this paper examines the impact financial literacy can have on firm's performance while taking into consideration the moderating impact of Access to Finance.

As mentioned earlier, Pakistani SMEs make a considerable contribution to providing jobs, improving living standards, providing products and services locally and internationally, raising foreign reserves, providing raw materials to large-scale firms and hence in achieving better economic development. However, limited access to finance is one of the top three constraints of doing business, which restricts the performance and growth of SMEs in Pakistan. To tackle these problems of access to finance and better performance of the business, financial literacy comes in from the literature to capture financial resources, smoothly running business and its better performance. So here we measure the direct impact of Financial Literacy (FL) on Access to Finance (AF) and Firm's Performance (FP) and the impact of FL on FP in the presence of mediator and moderator AF.

¹ MS Scholar, Department of Economics, Government College University, Lahore, Pakistan

² Assistant Professor, Department of Economics, Government College University, Lahore, Pakistan

³ Lecturer, Department of Economics, Government College University, Lahore, Pakistan

⁴ Corresponding Author, Assistant Professor, Department of Commerce and Finance, Government College University, Lahore, Pakistan

⁵ Department of Commerce and Finance, Government College University, Lahore, Pakistan

This study contributes to the existing literature empirically by providing valuable insights about the mediating role of access to finance between financial literacy and the firm's performance in a developing economy context Pakistan. The study can also inform policymakers to understand the situation and impact of these factors on firm performance, so focusing and taking measures accordingly to support SME performance, which can lead to better economic development. From a practice perspective, SME owners and managers can benefit from focusing on the importance of financial literacy, which can help them access finance and that finally translates to their improved business performance, development, and growth.

2. Literature Review and Hypothesis Development

According to the Organization for Economic Co-operation and Development (2005), FL refers to the understanding of customers and shareholders regarding financial theories and products and their skills in managing risk for decision-making. Financial budgeting requires knowledge of financial concepts, as budgeting is essential in any firm (Shim et al., 2011). Budgeting of earnings and expenses is a crucial element in managing a business successfully, so FL plays a vital role in budgeting (Kalekye & Memba, 2015).

Financial literacy is the most critical factor in an individual's life and is also essential to move in society (Lusardi & Mitchell, 2014). According to some scholars, FL refers to the knowledge of numeracy, know-how about interest compounding, knowledge about the inflated status in the economy and literacy about risk diversity. Numeracy refers to the knowledge of quantitative concepts, numerical, mathematical ratios, and probability. Risk diversity means to have some calculations about how much risk can be taken at different stages of the business (Skagerlund et al., 2018).

Access to finance is considered a significant issue for the policymakers of advanced and underdeveloped countries (Khattak, 2020). A better access to finance can help reduce the issue of poverty, drive economic progress and create employment opportunities in underdeveloped countries (Beck & Demircug-Kunt, 2006; Thorsten Beck et al., 2009; Claessens & Perotti, 2007; Ali et al., 2023). Financial access refers to the access to finance without any cash or non-cash obstacles (Gloukoviezoff, 2007). SME's growth ranks high on the government's social and economic development agenda. There is also a need to bridge the legal gaps that exist in the environment to support SMEs to achieve better access to finance (Ganbold, 2008).

Access can affect the progress of the firms positively or negatively. Small enterprises usually do not have many resources to access finance, which causes them to not compete in the market, and sometimes it results them to fail (Beck & Demircug-Kunt, 2006; Bushe, 2019; Audi et al., 2022). It implies that limited access to finance increases the failure rate of SMEs. So if this constraint is addressed, it can support both the SMEs' and national economy's growth (Beck et al., 2009).

2.1. Financial Literacy and Access to Finance

According to Greenspan(2002), FL makes businesses capable of using this information in making budgets for firm financial planning and also helps them to save money for future financial needs. It also helps firms to do proper planning for making firm budgets and makes them capable of better fulfilling their financial responsibilities. FL enhances the knowledge of individuals and leads to positive access to finance or credits (Disney & Gathergood, 2013; Audi et al., 2023). On the other hand, financial illiteracy leads individuals to failure in financial planning about borrowing and savings.

Financial literacy can enable SME owners and managers to get better access to finance. It can help to drive economic development, create employment opportunities, and positively affect the financial structure of the business. Financial knowledge can also make financial decisions more informed and effective, which can have a positive effect on the financial condition of the business. FL is of much importance for the survival of the business (Freeman, 1993). There are many financial issues prevailing in developed economies that SMEs do not have much information about, such as financial risk. Moreover, they don't understand how to access finance or loans by means of banks or other financial institutions. Financial illiteracy reduces access to finance, which also affects financial markets. FL also shapes the conduct of financial behavior, such as how to pay bills or loans in a timely manner.

If FL is used effectively to make financial decisions regarding businesses and if finances are managed efficiently, then it reduces the need for collateral (Wise, 2013). FL makes entrepreneurs capable of using financial information effectively to make sound financial decisions (Dahmen & Rodríguez, 2014).

It helps entrepreneurs and higher management to get finance and helps them in the financial decision-making process. Informed by the resource-based view (Barney, 1991) this study postulates that resources can be helpful in gaining a competitive advantage over others. According to the resource-based view, it can be argued that when the FL of entrepreneurs increases, it leads to the financial well-being of the entrepreneurs and also to SME growth. Hence there is a positive significant link between FL and financial well-being.

Financially illiterate entrepreneurs cannot avoid financial risk, or maybe they are not able to make financial decisions, cannot identify financial risk, or are not able to perform well in a timely manner. These challenges can restrict an entrepreneur's ability to get access to cash or how to use financial information to get access, which leads to business failure. Hence, there is a positive association between FL, access to finance and firm performance (Adomako & Danso, 2014).

According to Carbo-Valverde et al. (2016), owners of SMEs sometimes have lower financial knowledge and poor skills in managing finances, causing them to fail to obtain external capital and also leading to failure in the market. It is because FL is a primary source of financial management, estimating the prices of products, and enables entrepreneurs to negotiate for outsourced financing (Hussain et al., 2018).

Hypothesis 1: Financial literacy has a significant positive impact on access to finance.

2.2. Financial Literacy and Firm Performance

SMEs play a vital role in the development of the economy. The ability to borrow, which is usually a part of running a business, is affected by financial literacy. If one is financially literate, he can make the best decision regarding how and from where to borrow finance for the business (Fatoki, 2014). It is also well established that FL increases the ability to make sound financial

decisions that increase the chances of better performance (Agye, 2018). According to Nunoo and Andoh (2012), it is crucial to find how much FL increases the financial capability of owners to make sound financial decisions and the use of optimal financial means. FL enhances firm performance if investment capital is available, and business people can utilize that, which leads to better performance (Adomako & Danso, 2014). Karadag (2017) states that FL has gained the attention of researchers in both advanced and under-advanced countries. This study concludes that there is a positive significant link between FL and firm performance. The capability of entrepreneurs to evaluate financial matters and resolve them leads to the success of the firms (Usama & Yusoff, 2018).

Hypothesis 2: Financial literacy has a positive impact on a firm's performance.

2.3. Access to finance and firm performance

A firm that has no access to cash by external means or has inadequate access cannot lead the business to growth, but still, SMEs face many challenges in case of access to monetary means. The capital arrangement of any business is quantitatively crucial and gives rise to firm performance, and it is based on the association of internal and external finance. The author used the FAME database to select samples for the collection of data. The database has about eighteen lacs firms, of which five lacs have complete details. It is observed that financial obstacles negatively affect a firm's ability to run a business in a smooth environment and also lead to a decline in business growth. Internal financing affects firm performance, but it decreases when firms get access to external monetary resources, and it also increases the chances of business development in a positive environment. Firms use external financial sources as the premier means to achieve success (Rahaman, 2011).

Hypothesis 3: Access to finance has a significant positive impact on the firm's performance.

2.4. Mediating role of access to finance between financial literacy and firm performance

(Schiffer & Weder, 2001) Studies show that access to finance is more difficult for SMEs than for large firms. (Nkundabanyanga et al., 2014) Found that financial literacy has a positive impact on access to finance. He also found that among many obstacles a firm face, financing is the top obstacle for SME performance. Possessing financial literacy may not only turn to the performance of the firm but also through the possession/access to finance. So here we examine if access to finance plays a mediator role.

According to (Coalition, 2007), financial literacy is the ability of a person to use his knowledge and skills to manage financial resources effectively. Access to finance refers to the employment of resources to acquire financial facilities, including deposit, credit, reimbursement, and insurance facilities. Performance is the accomplishment of a task through the application of knowledge, skills and abilities (By John Shields, 2015). The growth of firms is constrained by insufficient finance available to them (Malhotra et al., 2007). Accessing working capital is one of the significant problems small firms face in doing business, which leads them to poor performance (Code & Tamvada, 2012). (Schiffer & Weder, 2001) Studies show that access to finance is more difficult for SMEs than for large firms. He also found that among many obstacles a firm faces, financing is the top obstacle for SME performance. (Grohmann et al., 2018), (Nkundabanyanga et al., 2014) found that financial literacy has a positive impact on access to finance. Resources-based theory (RBT) is used to explain this relation. Resource-based theory suggests that a firm can achieve a competitive advantage by collecting and integrating valuable resources, and it is used to explain this relation (Barney, 1991). Financial literacy, a resource of a firm, can be used to reduce information asymmetry to gain access to finance and, by using it, leads to superior performance. Here, access to finance is used as a mediator.

Hypothesis 4: Access to finance positively mediates the relationship between financial literacy and Firm performance.

3. Methodology

The group of people targeted in this study includes the SME owners and managers doing business in the Electrical fitting industry in Sargodha, Pakistan. An enterprise is considered a micro, small, and medium enterprise if they have a minimum of 10 and a maximum of 50. And less than 250 employees respectively. Non-probability sampling is used in the collection of data because the population is unknown. In this research, convenience sampling, which is one of many non-probability sampling techniques, is used for the collection of data because it is challenging to approach every owner and manager of an Electrical fitting enterprise in Sargodha city. The sample size for this study is calculated using the 10 times rule (Jr et al., 2017). The total number of items is 16, so as per the rule, the acceptable sample size should be at least 160. Data was collected from 232 SME owners and managers.

This study collected primary data. The primary data is first-hand data that is collected freshly for the research (Jr et al., 2017), that was collected using a close-ended questionnaire. There were four sections in the questionnaire. The first section was related to demographics and consisted of Age, Gender, Marital status, education, and firm age. Financial literacy were measured by capturing familiarity with financial terms as proposed by Mitchel & Lusardi (2015) using a five-point Likert scale. The terms included Securitization, Activity Ratios, Leasing, cash flow forecast, Gearing ratios, Overdrafts, Profit and loss account, Profitability, Balance Sheet and liquidity ratios. Access to finance were measured using 3 items adapted from Zampetakis et al., (2015) using a five-point Likert scale. Items include (i) bank loans being easily accessible to us, (ii) suppliers' credit being easily accessible to us, and (iii) finance from other sources being easily accessible to us. The firm's performance was measured using 3 items adopted from Ismail (2005) using a five-point scale: inferior, poor, fair, reasonable, and excellent. These items were termed profitability, sales growth, and image/client loyalty.

4. Results and Analysis

4.1. Demographics

Demographics of the owners and managers measured here include the Owner/Manager's age, gender, marital status, firm's age, and education level of Owner/Manager. Findings demonstrate that 24.14% of them were below 30 years of age, and the largest group of respondents, approximately 31.47%, belonged to the age group of 31 to 40. 23.71% of respondents were from 41 to 50, and 20.69% were more than 50 years old. As far as the gender is concerned, all the respondents were male, which shows

zero or indirect participation of females. The majority of them were married (76.72%). The data revealed that 20.69% of the firms were of 1 to 5 years of age. 11.20% of firms' age were from 6 to 10 years, 18.10% were from 11 to 15 years, 21.12% were from 16 to 20 years, and 28.88% were more than 20 years of age. As far as education is concerned, the majority of SME owners and managers were matric or even below they are 50.86 percent. Out of 232 respondents, 11.64% were intermediate certificate holders, 26.29% had bachelors degree, and only 11.20% of them have achieve the Masters degree or above.

Table 1: Demographics

	Variable	Frequency	Percentage
Age	Below 30	56	24.14%
	30-40	73	31.47%
	41-50	55	23.71%
	51 & above	48	20.69%
	Total	232	100%
Gender	Male	232	100%
	Female	0	0%
	Total	232	100%
Marital Status	Single	54	23.28%
	Married	178	76.72%
	Total	232	100%
Firm age	1-5 years	48	20.69%
	6-10 years	26	11.20%
	11-15 years	42	18.10%
	16 – 20 years	49	21.12%
	Above 20 years	67	28.88%
	Total	232	100%
Education	Below or Matric	118	50.86%
	Inter	27	11.64%
	Bachelor	61	26.29%
	Master & above	26	11.20%
	Total	232	100%

4.2. Reliability Concreteness & Convergent Acceptability

Reliability is the mark to measure that the constructs are free and stable from erroneous to give reliable results. Reliability tells that the technique of assembling data and results will produce steady results through analysis. Saunders (2011) defines reliability as the accuracy or consistency of a measure that is to be adopted. To check the reliability of measures, this study applied a test to get the values of AVE (Average Variance Extracted) and Composite reliability. To assess the reliability of the research, Composite reliability is preferred as a measure of reliability because Cronbach's alpha may over- or underestimate the reliability of scale, usually the latter. For this reason, composite reliability is preferred among researchers in PLS-based research (Garson, 2016). The authors proposed multiple values for the acceptance of reliability. Carmines and Zeller (1979) suggested that 0.80 should be the value of acceptance. However, a few authors recommended that 0.60 should be the benchmark. Marcus et al. (2006) proposed that 0.7 should be the minimum benchmark of Cronbach alpha. Generally, 0.70 is also considered to be the acceptance criterion of reliability. The Amalgamated dependability value should be equal to or greater than 0.70 level, as suggested by (Henseler, 2012). The constructs of reliability and validity are shown in Table 2.

Table 2: Composite Reliability

	Composite Reliability	Average Variance Extracted (AVE)
AF	0.796	0.569
FL	0.918	0.586
FP	0.861	0.675

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

4.3. Discriminant Validity

To analyze the validity of each construct's discriminant, we have used the criteria (David & Fornell, 1981) shown in Table 3. The AVE's square root is given in Table 2, further intense qualities and highlighted values and the intense qualities which are higher than the evaluated correlation values, subsequently show the DV constructs DV (discriminant validity), which is related

to proposed models (Fang et al., 2016; Hair Jr et al., 2017). The benchmark value for the overlapping constructs should be less than 0.85. The values which are more significant than 0.85, indicate the overlapping constructs, which means they are analyzing or measuring the same thing. The results in the table below are fulfilling all the necessities suggested by the scholars.

Table 3: Discriminant Validity

	Access to Finance	Financial Literacy	Firm Performance
AF	0.754		
FL	0.656	0.766	
FP	0.740	0.586	0.821

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

4.4. Outer Loadings Among Scale Items

Outer loadings are used to measure the estimated relationship in the Model, which is reflective, and the arrows are from constructs to items. Items loading below 0.50 should be removed. Values above 0.50 should be taken to apply further tests. The values of items of measurement constructs in the table below are all in range and, therefore, meet the proposed criteria. Loading values are also used to evaluate the reliability of individual items and should be more than 0.50. The values below all meet the criteria, so the items are considered reliable.

Table 1: Outer Loadings Among Scale Items

	Access to Finance	Financial Literacy	Firm's Performance
AF1	0.625		
AF2	0.818		
AF3	0.805		
FL10		0.692	
FL3		0.628	
FL4		0.894	
FL5		0.636	
FL6		0.817	
FL7		0.773	
FL8		0.734	
FL9		0.900	
FP1			0.833
FP2			0.816
FP3			0.814

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

4.5. Path-Coefficients

4.5.1. Structural Model Analysis

In this research, we have assessed the general informative effect of all the constructs by reckoning the values of R² and β-values of the path coefficient and through the relevance of Q² values.

Path coefficient evaluation analysis is applied to check the relationships among the variables. This could be measured as a summary of the association between the hypothesis variables. The analysis shows a positively significant relationship between the Financial and Access to Finance literacy independent variables. A summary of the consequences is shown below.

In this study, the values are under the scholar's proposed standard range. Results are in support of the hypothesis with values of access to finance with firm performance (beta= 0.625 p<0.000), financial literacy with access to finance (beta= 0.656, p<0.000), and financial literacy with firm performance (beta= 0.175, p<0.001).

Table 2: Structural Model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values	Result
AF -> FP	0.625	0.626	0.046	13.529	0.000	Supported
FL -> AF	0.656	0.661	0.031	20.982	0.000	Supported
FL -> FP	0.175	0.176	0.051	3.1693.409	0.001	Supported

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

The analyzed value of the R square shows that the proposed Model gives significant results (instructive implication). According to the authors (Hair Jr et al., 2017; Marković & Alecci, 2017), Model choosing on the basis of R-value isn't a good strategy. However, (Dijkstra, 1983 Sarstedt et al., 2011) proposed a Q-Square (Q²) test to analyze or assess the relevance (predictive) of the Structural Model. The assumptions of this research study are assumed to be indicative if the value of Q is greater than '0'.

Every construct has been analyzed to perceive the collinearity issue. The results illustrate no issue of collinearity. Along with that, the predictive relevance significance of the proposed Model is attained.

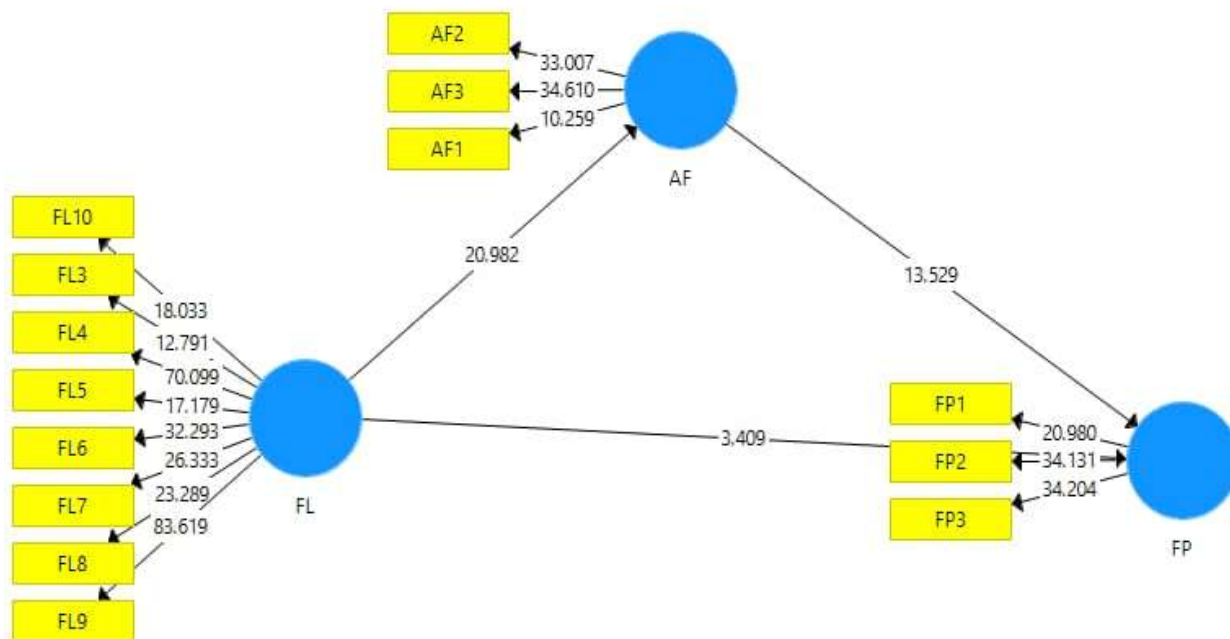


Figure 1: Structural Model

4.5.2. Model Fitness Test

The Smart PLS is used to check the fitness of the Model. The values of R-square and adjusted R-square are shown in Table 7. In this proposed Model, the R-square values are 0.430 & 0.565, which expresses GOF. The proposed research is an accepted fit, Referencing the existing standard. In the graph shown in Figure 7, the green bar depicts the acceptance of the proposed Model. Since model fitness acceptance on the basis of R-square isn't a rational approach, the Q² value has also been calculated to check the fitness of the proposed Model.

Table 3: Model Fitness Test

	R Square	R Square Adjusted
AF	0.430	0.428
FP	0.565	0.562

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE

4.6. Construct Cross-validated Redundancy

Table 7 Construct Cross-validated Redundancy

	SSO	SSE	Q ² (=1-SSE/SSO)
AF	696.000	532.403	0.235
FL	1856.000	1856.000	
FP	696.000	437.030	0.372

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

The results in Table 7 show that the latent independent variable (Exogenous variable) has analytical significance for the latent dependent variable (endogenous construct). (Chin, 2010) have suggested that the Q-square value should be greater than zero. According to the results, the value of Q² is between 0.235 and 0.372, which shows that the research hypothesis of this research construct has a solid analytical significance (Access to finance and Firm Performance).

Table 8: Construct Total Effects

FL → AF	0.656
FL → FP	0.175
AF → FP	0.625

NOTE: AF- ACCESS to FINANCE, FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

4.7. Construct Direct Effects, Indirect effects, and Total Effect

Values were taken from PLS bootstrap results to find out the impact of constructs on other constructs. Constructs (Financial Literacy on Access to Finance, Financial Literacy on Firm Performance and Access to Finance on Firm Performance) total effects are 0.656, 0.175 and 0.625 at p-values less than 0.05.

The indirect effect of Financial Literacy (Exogeneous construct) on Firm Performance (Endogenous construct) via Mediator (Access to Finance) is 0.405 at a P-value less than 0.05.

Table 9: Construct indirect effect

FL → FP	0.405
---------	-------

NOTE: FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

The total effect of the Exogeneous construct (Financial Literacy) on the Endogenous construct (Firm Performance) is 0.585. The total effect is the sum of the direct effect and indirect effect of the Exogenous construct on the endogenous construct.

4.8. Construct Total effect for FP

Table 10: Construct Total Effect

FL → FP	0.585
---------	-------

NOTE: FP- FIRM PERFORMANCE, FL- FINANCIAL LITERACY

5. Conclusion

The purpose of this research study was to investigate the role of financial literacy and access to finance in determining the performance of a firm. Here, we have analyzed the direct impact of financial literacy on access to finance and firm performance; at the same time, the impact of access to finance among financial literacy and firm performance has been analyzed to see if it is contributing as a mediator or as a moderator among the other two variables. For this purpose, the data were collected from the SME owners and managers from the electrical fitting industry in Sargodha, which produces approximately 80% of the electrical fitting in Pakistan. A structured questionnaire consisting of 21 questions was used to collect data face-to-face from the respondents using a 5-point Likert scale.

Results revealed that access to finance plays a mediating role here; financial literacy has minimal direct impact on firm performance, but it impacts firm performance through mediator access to finance. It means that financial literacy helps firms get financial resources, which leads to/translates into firm performance. Here, access to finance is not playing the role of impactor (moderator); instead, it is proving to be a strong mediator. In the moderating Model, access to finance has a fragile negative impact on firm performance, which indicates that the availability of higher financial resources will lower the firm's financial literacy capacity for performance. So, financial literacy is of much importance for the performance of firms. Hence firms, as well as the government, should take measures to improve the financial literacy of SMEs' owners and managers.

One of the limitations of this study is its limited coverage of geography as it is based only on the data collected from firms based in Sargodha, Punjab, Pakistan. Another limitation is that this study used a quantitative approach, which restricts respondents from sharing their opinions and experiences because of close-ended questions. Moreover, study is constrained by the limited number of samples because authors could not cover the whole population due to time and financial resource constraints.

Overall, the study suggests that SME owner and managers, industry association and provincial and national governments should work collaboratively and take joint initiatives to improve the financial literacy of firm's owners and managers so that they are able to make informed financial decisions and their firms' performance improves, which eventually can lead to development of SME sector, and hence the economic growth of the country. For the academic community, the study suggests for researchers to conduct future studies using large sample sizes, using qualitative methods, and covering other tehsils, districts, and industry sectors in the country so that a better understanding of the issues can be developed, and more informed policies can be made to support SMEs across the country.

References

- Abor, & Quartey. (2010). Issues in SME Development in Ghana and South Africa. *International Research Journal of Finance and Economics*(39).
- Adomako, S., & Danso, A. (2014). The Financing Behaviour of firms & financial crisis. *Managerial Finance*, 40(12), 1159-1174.
- Agye, K. S. (2018). Culture, financial literacy, and SME performance in Ghana. *Cogent Economics & Finance*, 6(1).
- Ali, A, Khokhar, B. Sulehri, F. A. (2023). Financial Dimensions of Inflationary Pressure in Developing Countries: An In-depth Analysis of Policy Mix. *Journal of Asian Development Studies* 12 (3), 1313-1327.
- Ali, A. (2022). Determining Pakistan's Financial Dependency: The Role of Financial Globalization and Corruption. *Journal of Business and Economic Options*.
- Ali, A. (2022). Financial Liberalization, Institutional Quality and Economic Growth Nexus: Panel Analysis of African Countries. *Bulletin of Business and Economics (BBE)*, 11(3), 37-49.
- Ali, A. (2022). Foreign Debt, Financial Stability, Exchange Rate Volatility and Economic Growth in South Asian Countries. *Journal of Business and Economic Options*.
- Audi, M., Ali, A., & Hamadeh, H. F. (2022). Nexus Among Innovations, Financial Development and Economic Growth in Developing Countries. *Journal of Applied Economic Sciences*, 17(4).

- Audi, M., Ehsan, R., & Ali, A. (2023). Does Globalization Promote Financial Integration in South Asian Economies? Unveiling the Role of Monetary and Fiscal Performance in Internationalization. *Empirical Economics Letters*, 22(10), 237-248.
- Bagh, T., Arif, M., Liaqat, I., & Razzaq, S. (2017). Impact of financial constraints on growth and development of small and medium enterprises in Sialkot Pakistan. *International Journal of Financial Markets*, 2(4), 131-141.
- Bank, T. W. (2019). *The World Bank*.
- Barney, J. (1991). Firm Resources and Sustained Competitive Advantage. *Journal of Management*, 17(1), 99-120.
- Beck, T., & Demirgüç-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, 30(11), 2931-2943.
- Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). Access to financial services: Measurement, impact, and policies. *The World Bank Research Observer*, 24(1), 1119-1145.
- Beck, T., Demirgüç-Kunt, A., & Honohan, P. (2009). Access to Financial Services: Measurement, Impact, and Policies. *World Bank Research Observer*, 24(1).
- Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different? *Journal of Financial Economics*, 89(3), 467-487.
- Beisengaliyev, B., Khishauyeva, Z., Lesbayeva, G., Rakisheva, A., Tasbulatova, D., & Turekulova, D. (2018). Impact of small and medium enterprises on the economy. *Journal of Applied Economic Sciences*, 13(8), 2437-2445.
- Bushe, B. (2019). The causes and impact of business failure among small to micro and medium enterprises in South Africa. *Africa's public service delivery and performance review*, 7(1), 1-26.
- By John Shields, M. B., Sarah Kaine, Catherine Dolle-Samuel, Andrea North-Samardzic, Peter McLean, Robyn Johns, Patrick O'Leary, Geoff Plimmer, Jack Robinson. (2015). *Managing Employee Performance and Reward: Concepts, Practices, Strategies*. Cambridge University Press.
- Carmines, & Zeller. (1979). *Reliability and validity assessment*. Sage University.
- Claessens, S., & Perotti, E. (2007). Finance and inequality: Channels and evidence. *Journal of comparative Economics*, 35(4), 748-773.
- Coalition, J. t. (2007). National Standards in K-12 Personal Finance Education. In: jumpstart.org.
- Code, A., & Tamvada, J. P. (2012). Firm growth and barriers to growth among small firms in India. *Small Business Economics*, 39(2), 383-400.
- Dahmen, P., & Rodríguez, E. (2014). Financial literacy and the success of small businesses: An observation from a small business development center. *Numeracy*, 7(1), 3.
- David, L. F., & Fornell, C. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Sage journals*, 18(1), 39-50.
- Disney, R., & Gathergood, J. (2013). Financial literacy and consumer credit portfolios. *Journal of Banking & Finance*, 37(7), 2246-2254.
- Eniola, A. A., & Entebang, D. H. (2015). Government Policy and Performance of Small and Medium Business Management. *International Journal of Academic Research in Business and Social Sciences*, 5(2).
- Eniola, A. A., & Entebang, H. (2016). Financial literacy and SME firm performance. *International Journal of Research Studies in Management*, 5(1), 31-43.
- Eniola, A. A., Entebang, Harry. (2016). Financial literacy and SME firm performance. *International Journal of Research Studies in Management*, 5(1), 31-43.
- Fatoki, O. (2014). The Financial Literacy of Micro Entrepreneurs in South Africa. *Journal of Social Sciences*, 40(2), 151-158.
- Framework for SME Sector Development*. (2018).
- Freeman, D. B. (1993). Survival strategy or business training ground? The significance of urban agriculture for the advancement of women in African cities. *African Studies Review*, 36(3), 1-22.
- Ganbold, B. (2008). *Improving access to finance for SME: international good experiences and lessons for Mongolia* (Vol. 438). Institute of Developing Economies.
- GAO. (2011). *Financial literacy. The federal government's role in empowering Americans to make sound financial choices*.
- Garson, G. D. (2016). *PARTIAL LEAST SQUARES: Regression & Structural Equation Models*. Statistical Associates Publishing.
- Giudice, M. D., Scuotto, V., Garcia-Perez, A., & Petruzzelli, A. M. (2019). Shifting Wealth II in Chinese economy. The effect of the horizontal technology spillover for SMEs for international growth. *Technological Forecasting and Social Change*, 145, 307-316.
- Gloukoviezoff, G. (2007). From financial exclusion to overindebtedness: the paradox of difficulties for people on low incomes? In *New frontiers in banking services: Emerging needs and tailored products for untapped markets* (pp. 213-245). Springer.
- Greenspan, A. (2002). Financial Literacy: A Tool for Economic Progress. *The Futurist*, 36(4), 37-41.
- Grohmann, A., Klühs, T., & Menkho, L. (2018). *Does Financial Literacy Improve Financial Inclusion? Cross Country Evidence*.
- Henseler, J. (2012). *Handbook of Research on International Advertising*.
- Hussain, J., Salia, S., & Karim, A. (2018). Is knowledge that powerful? Financial literacy and access to finance. *Journal of Small Business and Enterprise Development*.
- Hussain, J., Salia, S., & Karim, A. (2018). Is knowledge that powerful? Financial literacy and access to finance: An analysis of enterprises in the UK. *Journal of Small Business and Enterprise Development*, 25(6), 985-1003.

- Ismail, N. A. (2005). Firm performance and AIS alignment in Malaysian SMEs. *International Journal of Accounting Information Systems*, 241-259.
- Jr, J. F. J. H., Sarstedt, M., Ringle, C. M., & Gudergan, S. P. (2017). *Advanced Issues in Partial Least Squares Structural Equation Modeling*. Sage Publication.
- Kalekye, P., & Memba, F. (2015). The role of financial literacy on the profitability of women owned enterprises in Kitui Town, Kitui Country, Kenya. *International Journal of Science & Research*, 4(6), 2360-2365.
- Karlan, D., & Morduch, J. (2010). Access to finance. In *Handbook of development economics* (Vol. 5, pp. 4703-4784). Elsevier.
- Khan, M. M. (2015). Sources of finance available for SME sector in Pakistan. *International Letters of Social and Humanistic Sciences*, 47, 184-194.
- Khattak, M. S. (2020). Does access to domestic finance and international finance contribute to sustainable development goals? Implications for policymakers. *Journal of Public Affairs*, 20(2), e2024.
- Kruja, A. D. (2013). The contribution of SMEs to the economic growth (Case of Albania). *Euro Economica*, 32(01), 55-67.
- Lusardi, A., & Mitchell, O. S. (2011). Financial literacy around the world: an overview. *Journal of pension economics & finance*, 10(4), 497-508.
- Lusardi, A., & Mitchell, O. S. (2014). The economic importance of financial literacy: Theory and evidence. *American Economic Journal: Journal of Economic Literature*, 52(1), 5-44.
- Malhotra, M., Chen, Y., Criscuolo, A., Fan, Q., Hamel, I. I., & Savchenko, Y. (2007). *Expanding Access to Finance: Good Practices and Policies for Micro, Small and Medium Enterprises*, WBI Learning Resource Series. World Bank.
- Marcus, Lawrence, & Lance. (2006). The Sources of Four Commonly Reported Cutoff Criteria: What Did They Really Say?
- Mitchel, & Lusardi. (2015). Financial Literacy and Economic outcomes: Evidence and policy implications. *The Journal of retirement*, 3, 5-44.
- Naradda Gamage, S. K., Ekanayake, E., Abeyrathne, G., Prasanna, R., Jayasundara, J., & Rajapakshe, P. (2020). A review of global challenges and survival strategies of small and medium enterprises (SMEs). *Economies*, 8(4), 79.
- Nkundabanyanga, S. K., Kasozi, D., Nalukenge, I., & Tauringana, V. (2014). Lending terms, financial literacy and formal credit accessibility. *International Journal of Social Economics*.
- Pandya, V. M. (2012). Comparative analysis of development of SMEs in developed and developing countries. The 2012 International Conference on Business and Management,
- Qureshi, J. A. (2012). The Role of Small and Medium-Size Enterprises in Socio-Economic Sustainability in Pakistan. *Global Journal of Management and Business Research*, 12(19), 15-28.
- Rahaman, M. M. (2011). Access to financing and firm growth. *Journal of Banking & Finance*, 35(3), 709-723.
- Sabana, B. M. (2014). *Entrepreneur financial literacy, financial access, transaction costs and performance of micro enterprises in Nairobi City County, Kenya* [University of Nairobi].
- Saunders, M. N. (2011). *Research methods for business students*. Pearson Education India.
- Schiffer, M., & Weder, B. (2001). Firm Size and the Business Environment: Worldwide Survey Results. In: International Finance Corporation. (Reprinted from: 43).
- Shah, S. M., & Ali, A. (2022). A Survey on Financial Inclusion: Theoretical and Empirical Literature Review. *Journal of Policy Research*, 8(4), 310-330.
- Shah, S. M., & Ali, A. (2023). Macro Dimensions of Financial Inclusion Index and its Status in Developing Countries. *Journal of Policy Research*, 9(1).
- Shim, J. K., Siegel, J. G., & Shim, A. I. (2011). *Budgeting basics and beyond* (Vol. 574). John Wiley & Sons.
- Skagerlund, K., Lind, T., Stromback, C., & Tinghog, G. (2018). Financial literacy and the role of numeracy-How individuals' attitude and affinity with numbers influence literacy. *Journal of Behavioral Experimental Economics*, 74, 18-25.
- SMEDA. (2018). *SMEDA*. https://smeda.org/index.php?option=com_content&view=article&id=7:state-of-smes-in-pakistan&catid=15
- Usama, K., & Yusoff, W. (2018). The Relationship Between Entrepreneurs' Financial Literacy And Business Performance Among Entrepreneurs Of Bauchi State Nigeria. *International Journal Of Entrepreneurship & Business Innovation*, 1(1), 15-26.
- Wilson, T. A. (2012). Supporting social enterprises to support vulnerable consumers: the example of community development finance institutions and financial exclusion. *Journal of consumer policy*, 35, 197-213.
- Wise, S. (2013). The impact of financial literacy on new venture survival. *International Journal of Business and Management*, 8(23), 30.
- Zafar, A., & Mustafa, S. (2017). SMEs and its role in economic and socio-economic development of Pakistan. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 6(4).
- Zampetakis, L. A., Vekini, M., & Moustakis, V. (2015). Entrepreneurial orientation, access to financial resources, and product performance in the Greek commercial TV industry. *The Service Industries Journal*, 897-910.