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Determinants of financial literacy: Empirical evidence from micro and small enterprises in India

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ABSTRACT

The purpose of this paper is to investigate the determinants of general financial literacy, specific financial literacy and overall financial literacy among the Micro and Small Enterprises (MSEs) entrepreneurs. The data has been collected from 309 respondents from three districts in the Punjab state of India. Using ordered logit model, the results depict that the age of the entrepreneur has positive and significant effect on different types of financial literacy for the MSEs in Punjab. The findings also show that the micro and small-service enterprises have significantly higher level of financial literacy than its other manufacturing counterparts. The study also found that entrepreneurs with higher level of education have significantly higher level of all types of financial literacy. The most influencing determinant that affects the financial literacy of the entrepreneurs is found to be the level of gross profit ratio of the enterprise. Higher the gross profit ratio of the firm, significantly higher will be the level of all three types of financial literacy of the entrepreneurs. For policy perspectives, the present study recommends that firms should keep some portion of their profits to educate their employees that enhance the financial literacy. Government should help the MSEs to educate the firms to improve their level of financial literacy.

1. Introduction

1.1. Micro and small enterprises

Micro and Small Enterprises (MSEs) are considered as the pillar of economic growth of many developed and developing countries across the globe. This sector accounts for about 55 per cent of Gross Domestic Product (GDP) and 65 per cent of job opportunities in high income economies. In the middle income nations, the MSEs contribute around 70 per cent of GDP and 95 per cent of total employment, whereas in the low income economies, these account for 60 per cent of GDP and around 70 per cent of total employment (Kongolo, 2010). Thus the MSEs act as a catalyst in stimulating economic growth and providing jobs for vulnerable groups such as women, young entrepreneurs, and poor communities.

In the Indian context, MSEs contribute for 35 per cent of the gross value of output, 80 per cent of the industrial jobs and 40 per cent of the total exports (Sinha, 2019). In spite of having a growth of 10 per cent over the last 5 years (Iyer, 2018) and expected to contribute 50 per cent of the India's GDP (Dewan, 2019), this sector encounters numerous hindrances like insufficient and timely banking finance, inadequate capital and lack of financial knowledge to use various financial products/services (Adomoko et al., 2016). Since MSEs contribute remarkably to the economic development of many countries, the performance and growth of these enterprises become a great concern for several stakeholders such as government, policy makers, and financial institutions, among others. Small enterprises confront various obstacles such as rigid regulations, complicated taxation, difficulty in accessing funds, unavailability of technology and inadequate guidance/support. Moreover, these enterprises struggle to acquire the required support from the government departments, banks, financial institutions and corporates, which further restrains the contribution of MSEs by slowing down their performance and growth (Atkinson, 2017). One of the noticeable studies undertaken by Lownes-Jackson et al. (2003) has stressed upon eleven financial problems encountered by the

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entrepreneurs: inability to acquire external funds; deficient capital; high operating cost; poor money management; huge losses owing to embezzlement; high cost of skilled labour force; incapability to obtain short and long term loans; lower revenues; failure to meet the financial requirements; insurance expenses and high cost of workers' compensation. The entrepreneurs of the MSEs do not have sufficient knowledge about various financial schemes and plans run by the government, can give them a better financial access (Chawla, 2018). The literature also indicates that lack of financial management skill is prevalent in most of the developing nations that have a major impact on the performance, survival and growth of the MSEs (Adomako et al., 2016). Further, literature shows that inadequate financial literacy is the major reasons which prevent the MSEs to acquire the financial resources from the financial institutions and investors that lead to the failure of enterprise (Karadag, 2015).

1.2. Financial literacy

The success of MSE sector depends highly on the level of financial literacy of the entrepreneurs. Financial literacy is defined as managers' capacity to understand and analyse financial data so as to take financial decisions (Marriott & Mellett, 1996). Similarly, Mandell (2007) has defined financial literacy as "the ability to evaluate the new and complex financial instruments and make informed judgments in both choices of instruments and extent of use that would be in their own best long-run interest". As per Lusardi and Mitchell (2014), financial literacy is "the knowledge of basic financial concepts and ability to do simple calculations". The significance of financial literacy has gained importance due to commencement of new financial products/services, complexity of financial markets and the rapidly changing economic environment. However, the extant literature reveals that there is no well-defined standard definition of financial literacy (Gerrans & Heaney, 2016; Mabula & Ping, 2018). Therefore, the measurement of financial literacy has been considered as a big challenge (Remund, 2010).

World Bank has conceptualised financial literacy as "the combination of consumers/investors understanding of financial products, concepts and their ability and confidence to appreciate financial risks and opportunities to make informed choices, to know where to go for help and take other effective actions to improve their financial wellbeing" (Kalekye & Memba, 2013).

Financial literacy of an entrepreneur can therefore be summed up as a mixture of his acquaintance with financial matters, competence to mitigate the risks and to make optimum financial investments (Fig. 1).

These definitions reveal that financial literacy is crucial for informed financial decisions (personal and business) by the owners of MSEs. Goswami et al. (2017) suggests more vocational education and training for better performance of the micro-entrepreneurs.

One of the most common highlighted success factors of MSEs is the financial management (Derbyshire, 2016) particularly among those operating in developing countries. The problem of financial management faced by MSEs all over the world is related to the capability of their entrepreneurs who manage the enterprise (Ripain et al., 2017). The lack of financial literacy impacts the ability of an individual to attain the long-term objectives e.g., daily money management, pension and financing (Ergun, 2017). In technical terms, these managerial capabilities are referred to as financial literacy. Financial literacy assists in making informed decisions and helps better financial well-being of an individual. In today's competitive world, that has a market sophisticated products/services, financial literacy is indispensable (Sekar & Gowri, 2015; Cucinelli et al., 2019) and it helps to achieve the economic growth and development in the economies. Financial literacy aids the entrepreneur to assess the requirement of additional finance and when to arrange for collaterals (Chawla, 2018). Kuntze et al. (2019) enumerate that financial literacy is a comprehensive term that comprises of cognitive abilities, personal attributes, behaviour and critical thinking that evolves over time.

Hence, financial literacy is considered as awareness/understanding of the financial concepts, products/services for making prudent financial decisions.

Ali et al. (2018) emphasised that the entrepreneurs also need to comprehend the basic financial knowledge on accounting, costing, budgeting to prosper and sustain in the competitive environment. These activities have financial significance and to work efficiently, entrepreneurs are required to be financially literate. The Association of Chartered Certified Accountants also stresses upon the significance of financial literacy of entrepreneurs of MSEs:

- to differentiate between own and firms' funds;
- to be knowledgeable about the number of financial products and services available;
- to efficiently predict the enterprise's capital requirement from alternative sources;
- to mitigate the risks;
- to make the firm creditworthy and investment-ready;
- to manage tax efficiently;
- to exercise financial management.

Therefore, it is pertinent that entrepreneurs in the MSE sector should be equipped with ample financial knowledge and skills to manage their enterprises successfully. Moreover, financial literacy improves the overall performance of the firms.

Hence, this study aims to.

i) examine the level of financial literacy of entrepreneurs among MSEs in the state of Punjab in India;
ii) analyse the impact of important determinants (age, gender, education, age of the enterprise, area of operation, type of enterprise and gross profit) on the Financial Literacy.

The following section enumerates the already contributed work by various authors for assessing the level of financial literacy among

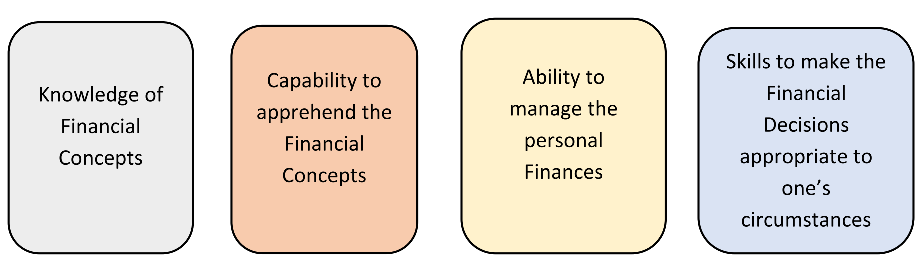

Fig. 1. Elements of financial literacy.
Source: Adegoke (2014).

the entrepreneurs of small firms in different countries. It also discusses the importance of financial literacy to reduce operational losses and to improve performance and efficient management of funds.

2. Review of literature

Entrepreneurs are considered as significant to ensure that the enterprises acquire adequate funds and earn sufficient revenues. Hence, it is crucial that the entrepreneurs should have and comprehend the basic financial literacy like knowledge about accounting, costing, budgeting for the growth and survival of their enterprise in the competitive world (Ali et al., 2018). The studies undertaken by Isern et al. (2009); Oseifuah (2010); Fatoki (2014); Plakalovi (2015); Engstrom and McKelvie (2017); Ali et al. (2018) revealed that entrepreneurs of the small enterprises possessed low level of financial literacy. However, the study conducted by Ponio and Timog (2017); Dahmen and Rodriguez (2014) found that the owners of the MSEs displayed moderate level of financial literacy. The literature shows that the failure rate of MSEs was around 85 per cent in African enterprises because of poor management decisions and low financial literacy level (Fadahunsi, 1997). In Nigeria, around 59 per cent of SME entrepreneurs faced struggle in the usage of financial services (Isern et al., 2009). The lack of financial literacy skills results in lower performance and thus premature failure of the enterprise (Adegoke, 2014). Further, Ali et al. (2018) highlighted that financially literate entrepreneurs have higher income and savings, are able to plan and are likely to have lower levels of debt. The entrepreneurs with financial knowledge are able to survive in the competitive environment. Fatoki (2014) surveyed 34 micro enterprises and found that most of the entrepreneurs understood the basic business and financial terminologies such as Saving (100 per cent); Loan (100 per cent); Investment (94.12 per cent); Collateral (100 per cent); Taxes (100 per cent); Insurance (100 per cent); Interest rate (100 per cent); Credit card (100 per cent); Hire purchase (100 per cent); Stock market (91.17 per cent). However, the entrepreneurs were not able to understand the more sophisticated financial services like asset-based lending and debtor finance. Engstrom and McKelvie (2017) explored that only 2.6 per cent of the entrepreneurs in Ecuador answered all three (interest, inflation and risk) questions correctly. However, the percentage of respondents who could not answer any of the questions correctly was merely 5.5.

Guliman (2015) evaluated the level of financial knowledge and skills of MSEs entrepreneurs in Iligan City and a low financial literacy (knowledge and skills) level was found among most of respondents, though the respondents possessed medium level of financial skills pertaining to planning/budgeting. The study by Ponio and Timog (2017) revealed that more than half (60 per cent) of the total number of the micro business owners had average level of financial knowledge on financial concepts like diversification, interest, risk and return. The results indicated that 40 per cent of the respondents scored average in financial knowledge, while 37 per cent scored low and 23 per cent scored high on this financial aspect. Barte (2012) reported that fish vendors in Cebu City, Philippines possessed low level of financial skills, as a significant number of vendors did not keep any record of transactions (71 per cent) and did not monitor profit and loss (75 per cent). 82 per cent vendors had poor cash management practices i.e. they did not segregate the funds utilised for personal and business purposes. Similarly, study undertaken by Oseifuah (2010) exhibited that only 31 per cent of the entrepreneurs were capable in managing their own funds. He reported that 85.3 per cent of the respondents kept financial records and about two-thirds (66.7 per cent) of the respondents prepared the budget and tracked the expenses.

The survey conducted in Florida by Dahmen and Rodriguez (2014) depicts that 50 per cent of the business owners did not regularly review financial statements of their firms and 86 per cent of those businesses experienced financial problems. The reasons for the financial difficulties were revenue losses, insufficient cash flow, and excessive debt. Further, only one out of fourteen business owners had an understanding of the calculation of the company's gross profit. Plakalovi (2015) measured the level of financial literacy of owners and managers of Small and Medium Enterprises (SMEs) in the Republic of Srpska. The author pointed that only 20 per cent of respondents could be considered as financially literate. Egbo et al. (2020) surveyed 20 women entrepreneurs in Nigeria and found 31 per cent of the respondents to possess knowledge about finance. Further, 22 per cent of the respondents associated financial literacy skills with profit maximization whereas 36 per cent considered financial literacy as critical for business growth and about 10 per cent admitted financial literacy to be essential for informed decision making.

Lestari et al. (2020) measured the level of financial literacy among 40 entrepreneurs from East Java, Indonesia. They found that the respondents were aware about savings (88 per cent), banking (74 per cent) and time value of money (68 per cent). However, they had little knowledge about insurance (18 per cent), capital gain (35 per cent), risk and return (41 per cent). The study also revealed that gender and age of the respondents significantly influenced their level of financial literacy. Rachapaettayakom et al. (2020) conducted an in-depth interview of 18 restaurant entrepreneurs in Thailand. The results depicted that 49.4 per cent of the entrepreneurs possessed a low level of financial knowledge on six financial aspects (financing, accounting, cash management, cost of calculations, business planning and feasibility study), while 22.7 per cent had no financial knowledge at all. Mashizha et al. (2019) revealed that financial literacy among entrepreneurs of micro and small enterprises was relatively low. Hassan Al-Tamimi and Anood Bin Kalli (2009) indicated that financial literacy among the investors in UAE was affected by the income level, education and workplace activity. However, financial illiteracy existed irrespective of the age. Using the factor analysis, it was found that most influencing factors for investment decisions were religious reasons, reputation of the firm and diversification, whereas, the least affecting factors came out to be rumours and ease of obtaining borrowed funds.

The literature shows that various studies pertaining to financial literacy have been carried out in different parts of the world. Also, it was revealed that there exists a great disparity in the dimensions/parameters used to measure the level of financial literacy among the entrepreneurs by various authors in different countries. Despite the great potential of the topic, no or little research so far has been undertaken to assess the impact of different determinants on financial literacy in India in general and in the state of Punjab in particular for the sustainability of MSEs. Also, to the best of our knowledge, few studies have been undertaken to investigate the determinants of general financial literacy in a multivariate framework among the entrepreneurs in India. Hence, Punjab state in India has been selected for the present study.

This study contributes to knowledge by examining and estimating the determinants of financial literacy, first time using multivariate Ordered Logit model. It is worth mentioning that previous studies examined the effect of financial literacy on profit and profit growth but did not use multivariate regression analysis.

3. Methodology

3.1. Scope of the study

MSEs is a vital component of the industries in the state of Punjab

Table 1
Sample of the study.

Name of the City	Total Number of Registered Micro Enterprises	Total Number of Registered Small Enterprises	Number of Selected Micro Enterprises	Number of Selected Small Enterprises
Ludhiana	5384	2008	170	63
Jalandhar	2255	564	71	18
S.A.S. Nagar	1307	376	41	12
Total	8946	2948	282	93
Total Sample			**375**	

Source: Department ofMSMEs (2016), Government of India.

and contributes around 60 per cent of the total output and 80 per cent of the total job opportunities in the state (The Tribune, 2019). The data depicts that in the year 2018, the total number of sick units in Punjab was 7198 and the outstanding amount was Rs 15.41 billion (Roy, 2018). The present study has considered only Micro and Small Enterprises since the state is dominated by these enterprises. It has a rich industrial base with more than 2 to 3 million (Vasdev, 2019) MSEs engaged in Auto Components, Bicycle Parts, Hosiery, Sports Goods, Electronics, Agricultural Implements, Chemical and Pharmaceutical products (Industrial Policy, 2017).

3.2. Sampling design

Cross Sectional Research Design has been employed and the data has been collected from the Entrepreneurs in the Punjab state using multi stage sampling technique.

- Stage I: Micro and Small Enterprises (MSEs) operating in manufacturing and service sector have been selected on the basis of Purposive Sampling as these enterprises comprise 99.19 per cent of the total number of registered MSEs in Punjab in the year 2015. Districts Namely-Ludhiana, Jalandhar and S.A.S. Nagar with the highest number of registered MSEs has been selected using Cluster Sampling Technique.
- Stage II: Three Industrial Areas in the main cities of the selected Districts namely- Ludhiana City, Jalandhar City and S.A.S. Nagar City have been selected using Convenience Sampling Technique.
- Stage III: A total of 375[1] Enterprises (282 Micro Enterprises and 93 Small Enterprises) in proportion to the registered Micro and Small Enterprises in these Districts have been selected using Proportional Stratified Sampling and Snow Ball Sampling (Table 1).

3.3. Research instrument

To quantify how knowledgeable entrepreneurs are in managing their business, a structured questionnaire has been framed. It comprises of:

- Six General Questions (understanding of Simple Interest, Compound Interest, Inflation, Risk, Risk Diversification and Time Value of Money) developed based on previous studies like Klapper et al. (2012); Jariwala (2014).
- Fourteen Specific Questions (Financial Worth, Budgeting, Balance Sheet, Profit and Loss Account, Current Assets, Fixed Assets, Fixed Deposits, Debentures, Equity Shares, Corporate Tax, Goods and Service Tax, Service Tax and Excise Duty) framed to measure the level of Financial Literacy by taking into consideration the previous studies such as Robinson (2015) and Tulsian and Tulsian (2016).

Each question has been assigned one mark. If a respondent gives the correct answer to a question, he/she is awarded one mark for the same and no mark is given for an incorrect answer or for ‘do not know’ answer. To compute the Financial Literacy Score, the sum of all the correct answers has been calculated.

The structured questionnaire was administered to 375 respondents personally. However, 309 duly filled questionnaires have been received from the respondents indicating a response rate of 82.4 per cent.

3.4. Statistical techniques

In this study, the dependent variable being ordinal in nature, Ordered Logit model is more suitable than a linear model to analyse the impact of various possible determinants on the level of financial literacy of the entrepreneurs; the following equation has been used:

$$\begin{aligned} Financial\ literacy_i = \alpha + \beta_1 age_i + \beta_2 Gender_i + \beta_3 Education_i \\ + \beta_4 Age\_enterprise_i + \beta_5 Dludhiana_i \\ + \beta_6 Djalandhar_i + \beta_7 Dms_i + \beta_8 Dsm_i \\ + \beta_9 Dss_i + \beta_{10} Grossprofitratio_i + e_i \end{aligned} \tag{1}$$

Where, Financial $literacy_i$ = different types of financial literacy for firm ‘i’ and e_i is the random. Detailed description of other variables in equation (1) is given in Table 2 along with the summary statistics.

4. Results and discussion

4.1. Descriptive analysis

Table 2 depicts that in terms of general financial literacy (x = 4.159, s = 1.359), the respondents performed better than specific financial literacy (x = 7.559, s = 2.607) and the average overall financial literacy was at 11.7. Low level of financial literacy leads to wrong financial decisions (Munoz-Murillo et al., 2019), poor savings, lack of portfolio diversification, inefficient risk management and low net worth (Xue et al., 2018). Further, on an average, the age of the respondent was 36. The data depicts that majority (305) of the respondents were male, while 1.3 per cent (4) were females. This reveals male dominance (98.7 per cent) among the MSEs in the state. It was observed during collection of data that the enterprises of the women entrepreneurs were lesser in number than their male counterparts due to different socio-economic and cultural reasons. Therefore, it is suggested that there is a need to promote the development of women entrepreneur networks to increase their participation in the labour force.

[1] For sample size selection, please see, Nargundkar (2003).

Table 2
Summary statistics.

Name of the variable	Description of the variable	Average ($\bar{x}$)	Standard deviation (s)
General_FL	General Financial Literacy: (0 = lowest literacy and 6 = highest literacy) constructed using 6 general financial literacy questions.	4.159	1.359
Specific_FL	Specific Financial Literacy: (0 = lowest literacy and 14 = highest literacy) constructed using 14 specific financial literacy questions.	7.559	2.607
Overall_FL	Overall Financial Literacy = General_FL + Specific_FL	11.702	3.439
Age	Age of the Entrepreneur (years)	35.514	9.134
Gender	Sex of the Entrepreneur Male (305) = 1 and Female (4) = 0	0.987	0.113
Education	Education of the Entrepreneur: 1 = Matric (49); 2 = Senior Secondary (55); 3 = Professional Diploma (102); 4 = Graduate (58); 5 = Professional Degree (17) and 6 = Post Graduate (28)	3.104	1.467
Age_Enterprise	Age of the Enterprise: 1 = below 5 years (71); 2 = 5–10 years (134) and 3 = 10 years and above (104)	2.107	0.746
DLudhiana	If the firm is from Ludhiana = 1; otherwise = 0 (default dummy)	0.605	0.490
DJalandhar	If the firm is from Jalandhar = 1; otherwise = 0 (default dummy)	0.236	0.425
DSASnagar	If the firm is from S. A. S. Nagar = 1; otherwise = 0, (default dummy)	0.159	0.366
Dmm	If the firm is Manufacturing –Micro (180) = 1; otherwise = 0, (default dummy)	0.583	0.494
Dms	If the firm is Micro-Service (50) = 1; otherwise 0	0.197	0.399
Dsm	If the firm is Small-Manufacturing (61) = 1; otherwise = 0	0.162	0.369
Dss	If the firm is Small-Service (18) = 1; otherwise = 0	0.058	0.235
Grossprofitratio	Gross Profit Ratio:1 = Low Performance 2 = Moderate Performance and 3 = High Performance	1.793	0.787

Note: i) Source: Primary data; ii) figures in the brackets indicate individual sample size.

Table 3
Determinants of Financial literacy (estimated co-efficient from equation (1) for different specifications).

	Dependent variable					
Independent Variable	General Financial Literacy	Specific Financial Literacy	Overall Financial Literacy	General Financial Literacy	Specific Financial Literacy	Overall Financial Literacy
	(1)	(2)	(3)	(4)	(5)	(6)
Age	0.0248** (2.08)	0.0222* (1.86)	0.0231* (1.93)	0.0112* (1.75)	0.0159 (1.30)	0.0149 (1.21)
Gender	0.8732 (0.99)	−0.2184 (−0.28)	0.1591 (0.19)	0.9705 (1.11)	−0.3627 (−0.41)	0.0708 (0.07)
Education	0.4175*** (5.55)	0.5046*** (6.83)	0.5598*** (7.39)	0.3169*** (4.05)	0.4301*** (5.76)	0.4950*** (6.41)
Age_enterprise	0.0249 (0.17)	−0.3982*** (−2.76)	−0.3006** (−2.07)	0.2050 (1.37)	−0.2249 (−1.53)	−0.1005 (−0.67)
Dludhiana	−0.1873 (−0.57)	−0.3228 (−1.05)	−0.2560 (−0.82)	−0.0171 (−0.05)	−0.0992 (−0.32)	0.0523 (0.17)
Djalandhar	0.1749 (0.47)	−0.0832 (−0.24)	−0.0081 (−0.02)	0.2810 (0.76)	0.1554 (0.46)	0.2775 (0.80)
Dms	1.7434*** (6.05)	1.5099*** (5.46)	1.7297*** (6.46)	1.5040*** (5.04)	1.1457*** (4.09)	1.4224*** (5.05)
Dsm	0.6672** (2.16)	0.4138 (1.41)	0.4487 (1.48)	0.8763*** (2.80)	0.4553 (1.53)	0.6465** (2.07)
Dss	1.6825*** (3.68)	1.9800*** (4.17)	2.2211*** (4.78)	0.9022* (1.90)	1.2577** (2.47)	1.5074*** (3.12)
Grossprofitratio				1.0534*** (6.52)	1.0756*** (6.85)	1.2592*** (8.14)
Observations	309	309	309	309	309	309
Pseudo R-squared	0.097	0.074	0.085	0.143	0.109	0.133
LR Chi-squared	94.429***	105.199***	128.070***	139.465***	154.735***	199.366***

Note: i) t-statistics are in the brackets; ii) ***; ** and * represent the level of significance at 1%; 5% and 10% level, respectively.

In terms of education, most of the respondents were diploma holders (x = 3.104, s = 1.467). Also, maximum number of enterprises were in the growth stage i.e. 5–10 years of age (x = 2.107, s = 0.746). Table 2 further reveals that the number of manufacturing enterprises both in the micro (x = 0.583, s = 0.494) and small enterprises (x = 0.162, s = 0.369) was more than that of their service counterparts. The analysis of gross profit ratio indicates that the profitability of the enterprise was between low to medium (x = 1.793, s = 0.787).

4.2. Determinants of financial literacy

The Ordered Logit model was carried out to estimate the coefficients of the determinants separately on the level of general, specific and overall financial literacy using equation (1). The estimated coefficients involved in equation (1) for different specifications are presented in Table 3. The estimated coefficient of age was positive and significant which depicts that most probably higher the age of the respondent, higher will be the level of financial literacy. This indicates that with increase in their age and experience, probably the entrepreneurs improve their level of the financial literacy by dealing with daily financial issues (Lusardi and Mitchell, 2014). Whereas, the findings of the previous studies (Murendo & Mutsonziwa, 2017; Mashizha et al., 2019) are not consistent as they showed that the old respondents had low level of financial literacy and encountered difficulties in improving their financial capabilities. Similarly, the estimated coefficient of education was positive and significant for all specifications which indicates that higher education level of the entrepreneurs will most probably lead to higher level of financial literacy. Thus, it implies that the entrepreneurs of MSEs with the higher level of education[2] will be able to increase the level of different types of financial literacy significantly. The findings are consistent with the previous results available in the literature (Lusardi and Mitchell, 2014; Worthington, 2005) which also support the observation that the level of education influences the level of financial literacy. Goswami et al. (2017) highlighted that education helps the entrepreneurs not only to

[2] Hassan Al-Tamimi and Anood Bin Kalli (2009) found that financial literacy level is influenced significantly by income, education and workshop activity.

manage the risk but also influences the value-added output and better financial access that ultimately leads to the profitability which acts a safeguard against any undesirable failure of venture.

However, no significant impact of gender has been observed on financial literacy of the entrepreneurs which is perhaps because the representation of female entrepreneur in this study is very negligible compared to male entrepreneurs.[3] Lusardi and Mitchell (2014); Potrich et al. (2016) found that females tend to face difficulty while making financial calculations and often do not possess adequate financial knowledge.[4] The results from other studies (Cupak et al., 2018; Ergun, 2017; Hasler & Lusardi, 2017; Lestari et al., 2020; Mabula & Ping, 2018; Rasoaisi & Kalebe, 2015; West & Worthington, 2014) are inconsistent with the present study. The position and work location of the female also affects the level of financial literacy. The females who are heads of the rural household and owners of the non-farm enterprises displayed low and high level of financial literacy respectively (Cole et al., 2009).

The estimated coefficients of DLudhiana and DJalandhar were insignificant for all specifications which indicate that the level of financial literacy of the entrepreneurs does not differ significantly with respect to area of operation. Cole et al. (2009) highlighted that regional difference influences the level of financial literacy, that is, people from rural areas in India and Indonesia are less financially literate in comparison to the people from the developed nations. It is worth mentioning that all districts under the present study belong to the urban area. Therefore, no significant difference was found. However, different pedagogies may be required for the entrepreneurs from urban and rural area to enhance their level of financial literacy.

Similarly, it was found that service sector firms exhibited higher level of all types of financial literacy than their manufacturing counterparts. This is borne out by the fact that entrepreneurs of service enterprises scored more in financial literacy than the entrepreneurs of manufacturing firms. This is due to the fact that entrepreneurs of service sector involved in information & technology, repair and servicing of motor vehicles etc. have to acquire some qualification before starting their enterprise. Also, the entrepreneurs of the MSEs indulged in the service sector, transact on the daily basis and thus prompt them to improve their financial knowledge. The finding is consistent with the previous study by Mashizha et al. (2019).

The estimated co-efficient for Gross Profit Ratio was positive and significant for all three types of financial literacy. It indicates that probably a high Gross Profit Ratio increases the financial literacy of the MSEs in Punjab significantly. The reason behind this is that as the profitability of the enterprise increases, the firm has more funds at its disposal. A firm with higher Gross Profit Ratio would have more money to spent to educate their employees and hence increases the level of financial literacy of the firm. The reason behind this is when the profitability of the enterprise increases, the firm has more funds at its disposal. Also, the entrepreneurs have to engage in gazing interest rates, managing the risk, inflation, items of balance sheet, profit and loss account, management of fixed and current assets which leads to enhancement of the financial literacy level.

Further, it is worth mentioning that so far no study tried to establish the effect of profit ratio on financial literacy in a multivariate framework.

[3] Only 4 (1.3%) out of a sample of 309 are female.

[4] See also Mashizha et al. (2019) for detail.

5. Conclusion and recommendations

The present study attempts to find the possible determinants of different types of financial literacy (general, specific and overall financial literacy). A structured questionnaire was circulated among 375 entrepreneurs initially in the state of Punjab, India. However, 309 duly filled questionnaires from the respondents were received indicating a response rate of 82.4 per cent. It was observed that the MSEs in Punjab (India) is a male dominant sector that gives rise to the need for encouraging more females to become entrepreneurs. The government needs to bring up special schemes and incentives to promote entrepreneurship among females. More initiatives like women Self-Help Groups (SHGs) should be introduced to give entrepreneurial opportunities to women. Institutions should conduct special programmes/vocational courses with no or nominal fee to spread awareness, induce and develop entrepreneurship among females.

Further, using ordered logit modelling technique, the study revealed that education and age are the most important determinants of all the three types of financial literacy. This finding is significant for the policy makers, since the level of financial literacy of the entrepreneurs can be enhanced with increase in the level of education. Hence, it is suggested that all schools, degree/diploma colleges/institutions should include basic finance related courses in the curriculum. The subject should comprise of various types of literacy such as banking, price, financial planning, risk, taxation and legal. These should cover the topics pertaining to concept of finance, various sources of funds, creation of internal funds, preparation of budget, surplus/deficient budget, types of investments and risk, knowledge about financial statements, calculations of tax liability, tax planning, knowledge about legal framework for formation of the firm and effective management. Also, efforts need to be undertaken to boost confidence among the youth regarding the matters related to money and financial risk by organising periodical workshops including practical classes that can be conducted by the financial services companies.

Another significant finding of the study is that gross profit ratio is the most influential determinant that affects all types of financial literacy. This indicates that higher the gross profit ratio, most probably higher will be the level of all the three types of financial literacy among the entrepreneurs. The reason behind this is, when the profitability of the enterprise increases, the firm has more funds at its disposal. Due to increase in the profitability, entrepreneurs have to engage in gazing interest rates, managing the risks, inflation, items of balance sheet, profit and loss account, management of fixed and current assets and this engagement leads to the enhancement of the financial literacy level. Thus, efforts should be made by the Punjab Government to improve the gross profit ratio of the firm by reducing the costs in the supply chains, making finance easily available and reducing the tax burden in order to provide more funds to MSEs. This will in return, boost the level of financial literacy among the entrepreneurs.

The significant policy implication based on the findings is that it is essential to develop and implement separate (practical and theoretical) financial training modules to increase the level of financial literacy of all types of entrepreneurs. The MSEs in manufacturing sector involve high risk due to high investment, therefore frequent training should be organised for the entrepreneurs of manufacturing sector in their area of operation. Another imperative policy implication based on the result of the study is that better understanding of general and specific financial literacy and its determinants can help the players such as government agencies, educators/trainers and others at the state and centre level to develop and implement Policies, Programmes and Projects (3 P s) to enhance entrepreneurs' financial literacy. The recommendations made could significantly enhance financial literacy skills of the entrepreneurs in the region, which will help in increasing the sustainability and growth of the MSEs.

6. Limitations of the study

The study relies on the data collected from one state of India i.e. Punjab. Data has been collected from entrepreneurs of the Registered Micro Enterprises. Hence, the data collected may not be sufficient to generalize the results for other regions across India. Furthermore, the findings of the study are based on the data collected through a self-developed structured questionnaire, therefore there may be scope for measuring the financial literacy of the entrepreneurs by other means.

Besides, the study is purely cross-sectional, hence, it ignores the characteristics of Micro and Small Enterprises using longitudinal study design.

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