

Demystifying the role of risk tolerance, economic hardship and financial literacy on microentrepreneurs' financial capability

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Khurram Ajaz Khan

*Department of Business, Institute Business and Innovation,
IMC KREMS University of Applied Sciences, KREMS, Austria*

Mohammed Anam Akhtar

University of Southampton, Delhi, India

Yusuf Hassan

Heriot-Watt University Dubai, Dubai, United Arab Emirates, and

Jana Přílučková

*Faculty of Management and Economics, Tomas Bata University in Zlín,
Zlín, Czech Republic*

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Abstract

Purpose – The aim of the study is twofold. Firstly, the study aims to examine the impact of economic hardship and risk tolerance on entrepreneurs' financial capability, an area of the entrepreneurial ecosystem that has received limited research attention. Second, to validate whether the elements of financial literacy – such as financial behaviour, financial knowledge and financial attitude – moderate these relationships.

Design/methodology/approach – A quantitative research design using structural equation modelling was employed to analyse the data collected from 311 microentrepreneurs through a structured questionnaire. Additionally, the study complements the findings by performing necessary condition analysis (NCA) to examine economic hardship and risk tolerance as predictors of financial capability.

Findings – The findings revealed that economic hardship has a significant influence on financial capability, whereas risk tolerance does not. Individuals facing economic hardship often develop coping mechanisms that may force people to become more financially capable in terms of money management. Furthermore, the study found no moderating effect of financial literacy constructs on the relationship between the independent variables and financial capability. NCA results confirm that economic hardship and risk tolerance are moderately necessary for developing financial capability among microentrepreneurs.

Practical implications – The results highlight the importance of addressing microentrepreneurs' economic hardships. Enhancing financial literacy through interventions may not necessarily improve financial capability. The study intends to give policymakers and practitioners insights into establishing effective financial planning education and training programmes, specifically on coping with and preparing for economic hardships to sustain during economic hardship.

Originality/value – This study highlights the relevance of economic hardship as a key component of financial capability. To tackle economic hardship, skills and support are more relevant than merely stressing the importance of improving financial literacy. It establishes economic hardship as a major external driver of financial capability. It challenges the dominant narrative by showing that financial literacy alone is insufficient to enhance capability. It brings much-needed focus to micro-entrepreneurs, an understudied group. Ultimately, it broadens a direction to reframe policy priorities, shifting attention from financial literacy to economic resilience and support for survival.

Keywords Financial literacy, Economic hardship, Risk tolerance, Financial capability, Microentrepreneurs

Paper type Research article



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Introduction

Micro-businesses are understudied compared to other business sizes and face several constraints and growth challenges (Gherhes *et al.*, 2016). What makes them more vulnerable is the unavailability of capital, limited access to credit, and inadequate financial support from the regulators (Harvie and Lee, 2005; Kljucnikov and Belas, 2016; Khan *et al.*, 2020). The recent pandemic caused numerous challenges to the survival (Corredera-Catalán *et al.*, 2021) of all businesses, and it is expected that in the long run, crises that impact economic stability may happen again. Therefore, the solution is to remain well-prepared to meet uncertainties and calamities. During the pandemic, every individual was financially affected, resulting in reduced income, which led to economic hardship. Economic hardship can arise due to low income (Ranta *et al.*, 2020). A post-pandemic survey revealed significant inequality in economic impact, as those who were more financially vulnerable faced greater financial strain (Bruce *et al.*, 2022). Micro-businesses were also among the severely affected segments due to lockdowns and other safety restrictions (Sonobe *et al.*, 2021; United Nations Development Programme, 2021). It pushed micro-entrepreneurs into financial difficulties and exposed them to economic hardships, challenging their capability to sustain. Micro-businesses rely heavily on their cash flows from day-to-day operations, and thus, the lockdowns affected them severely. What further exacerbated their vulnerability was their lack of business domain capabilities (Gherhes *et al.*, 2016). Based on the capability approach, the ability to live and survive with complete freedom requires two basic prerequisites (Nussbaum and Sen, 1993; Sen, 1993): the ability and the opportunity to be financially capable. Consequently, micro-entrepreneurs must be able to sustain themselves financially and survive economic hardships independently. Thus, economic hardship is a relevant factor in building financial capability. Hence, this study aims to explore the significance of economic hardship as an external phenomenon, providing an extended understanding that may be useful for policymakers to develop effective interventions to support microentrepreneurs.

Risk tolerance is not static, and it fluctuates in response to external shocks, in situations like health emergencies, economic recessions, or periods of inflationary pressure (Guiso *et al.*, 2018). Kahneman and Tversky's (1979) prospect theory explains that people become more loss-averse during times of crisis. Investors show increased risk aversion and shift to safer investment options during the time of crisis (Hoffmann *et al.*, 2021), and microentrepreneurs may not be an exception to this. Risk tolerance is related to the individual's internal trait, but it fluctuates in response to external shocks (Singh *et al.*, 2022). Hence, risk tolerance could be a fundamental trait that significantly influences how microentrepreneurs manage both their business and personal finances (Singh *et al.*, 2022). Since the financial capability approach is concerned with the ability to manage money, future planning, make informed financial choices, and cope with financial shocks, risk tolerance plays a significant role in financial decision-making (Johnson and Sherraden, 2007; Despard and Chowa, 2014; Ranta and Salmela-Aro, 2018). Moreover, risk tolerance might widely influence entrepreneurial decision-making, shape how microentrepreneurs approach financial planning, engage with financial services, and make decisions during economic uncertainty. Therefore, it can be a critical cognitive driver of financial capability, particularly in environments where formal financial support is limited (Hirawati *et al.*, 2021; Kerr *et al.*, 2017; González-Prida *et al.*, 2025; Rahman and Fauziyah, 2021). So, this study tries to investigate the impact of economic hardship and risk tolerance on the financial capability of microentrepreneurs.

Furthermore, it has been found that knowledge, positive behaviour and the right financial attitude contribute to better decision-making. Together, these factors constitute the elements of financial literacy (Johnson and Sherraden, 2007; OECD, 2013; Lusardi and Mitchell, 2014). Financial literacy is an important factor in understanding a firm's overall financial performance and influences the capacity and performance of SMEs (González-Prida *et al.*, 2025). A lot depends on the ability of entrepreneurs; for instance, the managerial skills of entrepreneurs substantially impact a firm's production function, growth, and productivity; hence, managers' financial education may also have an impact (Xu and Zia, 2012). This

highlights the significance of financial literacy in enabling micro-entrepreneurs to withstand economic fluctuations. The indicators of financial literacy include an individual's capacity to absorb and comprehend economic data, accumulate assets, grasp annuity budgeting, and manage debt (Lusardi and Mitchell, 2014; Çera *et al.*, 2020a). Lower levels of financial literacy may lead to ordinary financial decisions (Calcagno and Monticone, 2015). On the other hand, better financial decision-making can improve financial capability (Calcagno and Monticone, 2015; Sherraden and Ansong, 2016; Çera *et al.*, 2020b). Economic pressures and limited financial capability are highly correlated with reduced or inadequate income (Ranta *et al.*, 2020). Financial competence, a mix of financial knowledge, access, and efficient financial habits, can reduce financial difficulties (Huang *et al.*, 2013). Higher financial competence among people may help them create plans to shield themselves against monetary distress. It is more likely that they will use their limited economic resources wisely to survive during a crisis (Huang *et al.*, 2015). Economic hardship can, therefore, cause a detrimental impact on a person's financial condition; however, a person's financial attitudes, knowledge, and behaviour might moderate this impact.

Similarly, there is an association between risk tolerance and financial decision-making. (Nguyen *et al.*, 2016). Financial decision-making affects financial capability (Joo and Grable, 2004; Johnson and Sherraden, 2007; Taylor, 2009; Xiao, 2016; Çera *et al.*, 2020a; Khan and Akhtar, 2021; Khan *et al.*, 2022). Risk tolerance can affect financial capability (Bunyamin and Abdul Wahab, 2021). Being financially literate can help in risk assessment, enable taking calculated risks, and highlight the role financial literacy plays in risk tolerance and financial capability. In short, micro-entrepreneurs often operate with limited financial means and minimal institutional support. Therefore, being financially capable is a relevant factor. All these together make financial capability a critical factor in their sustainability. In this context, economic hardship represents an external constraint that directly affects the ability to make informed and confident financial decisions, especially during crises such as the pandemic. Risk tolerance, on the other hand, reflects an internal psychological trait that can influence entrepreneurial decision-making, investment behaviour, and resilience under financial pressure. Lastly, financial literacy is widely assumed to enhance financial decision-making; however, its role as a moderator in the relationship between psychological and environmental stressors (i.e. risk tolerance and economic hardship) and financial capability remains underexplored, particularly among microentrepreneurs. In general, studies on financial literacy, risk tolerance, and financial well-being are still relatively underexplored in the context of emerging economies (Naveed and Ali, 2024). Prior studies have addressed the financial capability of individuals. Banerjee (2016) encouraged research on individuals' financial capability, especially in the Indian context. The majority of earlier financial capability research focused on the younger generation (Johnson and Sherraden, 2007; Despard and Chowa, 2014; Ranta and Salmela-Aro, 2018), Consumers (Xiao and O'Neill, 2016), and rural households (Chowa *et al.*, 2014). A lot has been researched on medium and large-scale businesses, too. However, the microentrepreneurs who are at the bottom of the pyramid received far less attention, specifically regarding their financial capability. None of the financial capability research has been dedicated to the post-pandemic context of microentrepreneurs in developing nations. Moreover, Indian micro-entrepreneurs suffered significantly during the pandemic due to a lack of financial support and limited resources. Therefore, this study tries to address the visible gap in the literature.

This study intends to answer the following research questions.

- RQ1. Do economic hardship and risk tolerance negatively affect the financial capability of micro-entrepreneurs?
- RQ2. How can financial behaviour, attitude, and knowledge, as components of financial literacy, moderate the impact of economic hardship and risk tolerance on micro-entrepreneurs' financial capability?

The data for this study were gathered from Uttar Pradesh, the most populous state, with the highest proportion of microbusiness owners (approximately 9.6% of the total population). Further, Uttar Pradesh has over 224 million residents, 60 million of whom are low-income (World Bank, 2021a, b, c). The prevalent income disparity and the number of microbusinesses make Uttar Pradesh a proper geographical match for the current examination.

This study tries to establish economic hardship as a major external driver of financial capability and risk tolerance as an internal driver of financial capability, thereby highlighting the behavioural adaptations triggered by financial stress. It also argues against the dominant narrative that financial literacy alone is enough to enhance capability. It brings much-needed focus to microentrepreneurs, who are at the bottom of the economic pyramid. Thereby, this study aims to provide direction for reframing policy priorities, shifting attention from financial literacy to economic resilience and support for survival. This study highlights the need for policy interventions that aim to reduce economic hardship and foster resilience among microentrepreneurs, focused on income sufficiency and regularity. Customised support systems and crisis-preparedness programmes may be more effective for ensuring financial sustainability. Programmes that promote a better understanding of risk and risk mitigation mechanisms could be an effective element in building financial capability.

Literature review

Economic hardship and financial capability

Financial capability is concerned with the individual's ability to manage, control, and make informed decisions about their finances and has received increasing attention, especially after the 2008 global economic volatility. It goes beyond financial literacy or income levels, including the ability to access, opportunity to understand, and effectively use financial services to promote well-being (Jian *et al.*, 2014; Xiao & O'Neill, 2018). Unlike economic deprivation, financial capability involves both opportunity (access to financial services) and ability (knowledge, skill, behaviour) (Johnson and Sherraden, 2007; Sherraden *et al.*, 2015; Taylor, 2011). Sherraden and Ansong's (2016) conceptualisation is that financial capability is multifaceted and context-specific. Although a wide range of factors influencing financial capability have been identified, such as financial education, access to services, and behavioural traits, economic hardship (EH) remains understudied as a direct antecedent. EH is concerned about the inability to meet essential financial needs such as food, housing, and healthcare (Heflin and Iceland, 2009). It often leads to increased financial stress, social exclusion, and compromised decision-making (Ranta *et al.*, 2020; Jorgensen *et al.*, 2010). Factors related to psychological, health, and social consequences, such as anxiety, poor well-being, and relationship strain, have gained a lot of attention in the existing literature (Conger *et al.*, 1994; Neppi *et al.*, 2016), rather than exploring their direct impact on financial capability. There are mixed insights, which address the need for further studies to understand the role of EH on financial capability across different socioeconomic groups. EH reduces individuals' ability to engage with financial services, while others imply that economic pressure may prompt adaptive financial behaviour in some cases (Taylor, 2011; Ranta *et al.*, 2020; Sun *et al.*, 2022). However, the financial capability approach suggests that limited freedom to act under hardship weakens one's ability to manage finances effectively, which is supported further by the conservation of resources theory, where economic hardship depletes personal resources, causing stress and reducing cognitive capacity, which impairs financial capability (Mullainathan and Shafir, 2013; Sen, 1999; Hobfoll, 1989).

EH affects individuals' resources and their financial ability and opportunity, which in turn affects their financial capability. A frequent income loss or reduction, due to economic crisis, and a rise in unexpected expenses can also impact individuals' financial well-being, particularly for individuals without savings or access to credit (Bufe *et al.*, 2022; Ranta *et al.*, 2020). EH reduces income, restricts access to financial services, ultimately restricting the individual's abilities and opportunities to act (Sun *et al.*, 2022; Ranta *et al.*, 2020). Constant

stress and debt burden may impact the individual's cognitive capability for sound financial decision-making (Thompson, 2021). EH can disrupt psychological abilities such as self-control, to maintain financial resilience, and in emerging economies, economic instability weakens financial inclusion and erodes confidence in formal financial systems (Hamid et al., 2023; Koochel et al., 2023). Thus, EH not only creates immediate financial strain but also weakens the foundational skills, behaviours, and psychological resources that constitute financial capability.

Additionally, in the specific case of microentrepreneurs, where the majority of individuals alone manage both personal and business finances, separating them is difficult. This often fails to draw the lines between personal and business finances and operates without a safety margin. In such situations, hardship not only drains their resources but also impacts their overall financial capability. Therefore, this study attempts to investigate the role of economic hardship on the financial capability of micro-entrepreneurs.

H1. Economic hardship is negatively related to financial capabilities.

Risk tolerance and financial capability

The extent to which individuals are willing to tolerate financial risk, which reflects their ability to take risks and manage financial decisions independently, is related to risk tolerance. Researchers describe risk tolerance as a person's readiness to participate in activities like investing in equities, debt that carries a degree of uncertainty and the potential for negative outcomes (Nobre and Grable, 2015). Prior studies suggest that an individual's willingness to accept risk is subject to change, i.e. it is a state and not necessarily a trait or dispositional characteristic of an individual. Research has shown that risk tolerance is connected to financial well-being (Naveed et al., 2021), which is the ultimate aim to achieve, and financial capability precedes financial satisfaction and financial well-being (Shim et al., 2009a; Xiao and Porto, 2017). Supported by the Theory of Planned Behaviour, which explains that high-risk-tolerance individuals are more likely to engage in proactive financial behaviour, as they feel more in control of financial outcomes (Ajzen, 1991). Similarly, the Behavioural Life-Cycle Hypothesis (Shefrin and Thaler, 1988) suggests that individuals who are risk tolerant have a higher capability to manage their long-term planning. These perspectives align with the Financial Capability Framework (Atkinson and Kempson, 2007), which recognises attitudes like risk tolerance as key components of financial behaviour.

This argument is based on the fact that risk tolerance has a positive impact on financial satisfaction. Individuals assign personal values to various goals in their lives. Depending on the degree of value attached to these goals, individuals may or may not exceed their capabilities to achieve them (Joo and Grable, 2004). In the case of financial decisions, individuals who are high on risk tolerance and also view financial goals as important milestones in their personal and professional lives would be eager to make such decisions proactively. Studies have identified the role of financial risk tolerance in promoting goal-based saving behaviour among individuals (Chatterjee et al., 2017). The subsequent outcome of these decisions should be well planned for future financial decisions. Thus, financial tolerance would promote higher skill and ability to manage financial resources for favourable financial outcomes (Dew and Xiao, 2011). Studies found a direct relationship between risk tolerance and financial capability, and higher financial risk tolerance encourages participation in financial markets and enhances financial capability by enabling individuals to pursue wealth-building opportunities (Bunyamin and Abdul Wahab, 2021). Risk-tolerant individuals are more likely to invest, diversify, and take advantage of financial tools, all of which contribute to stronger financial capability.

Risk tolerance is widely regarded as an important psychological factor influencing financial behaviour. An individual's willingness to accept uncertainty and potential financial loss for a possible future gain (Nobre and Grable, 2015). Also, traditionally, investment

behaviour plays a critical role in everyday financial decision-making, especially for entrepreneurs operating in uncertain and resource-constrained environments. Several studies have established positive links between risk tolerance and financial outcomes such as financial satisfaction (Joo and Grable, 2004), goal-oriented saving behaviour (Chatterjee et al., 2017), and financial well-being (Naveed et al., 2021). People who are comfortable taking risks tend to approach their finances more actively and are quicker to explore new opportunities. Also, they are better equipped to handle unexpected financial challenges. These qualities closely reflect what is meant by financial capability. However, not all findings support a straightforward positive relationship. Studies suggest that excessive risk tolerance may lead to impulsive or speculative behaviour (Grable and Lytton, 1999; Mandell and Klein, 2009; Guiso et al., 2018) and risk tolerance may vary across time and situations, influenced by experiences, income levels, or economic crises (Singh et al., 2022; Ranta et al., 2019; Guiso et al., 2018). Applying to the situation of microentrepreneurs, they often operate in high-uncertainty environments without formal financial planning structures, making their risk attitudes potentially more consequential. Risk tolerance predicts financial capability among micro-entrepreneurs, who typically lack formal financial buffers and face different risk–return trade-offs. It thus addresses a key gap in the understanding of psychological determinants of financial capability in underserved business communities.

In light of the preceding arguments, the study intends to test the following hypothesis.

H2. Risk tolerance is positively related to the individual's Financial Capability.

Financial literacy: moderating effects

Prior research suggests that individuals with higher financial Literacy can make better-informed decisions in uncertain situations (Lusardi and Mitchell, 2014; Lusardi, 2019; Sherraden and Ansong, 2016). In the above discussion, in hypothesis one, financial Literacy may buffer the negative impact of economic hardship on financial capability by enabling better resource management, planning, and decision-making. It is believed that micro-entrepreneurs with higher financial Literacy can adjust spending and plan more effectively (Deuffhard et al., 2021; Kou et al., 2021), thereby preserving their financial capability despite external hardship. In the above framed hypothesis, financial Literacy can influence how risk tolerance affects financial capability. While low risk tolerance might restrict entrepreneurial decisions, those with greater financial Literacy may still make sound financial choices and manage risks more confidently. Thus, financial literacy may reduce the negative effects of low risk tolerance on overall financial capability. This moderating role suggests that financial literacy helps people make sound financial choices even when they face stress or uncertainty, serving as a mental resource that can soften the impact of difficult situations, and improving financial literacy can be an effective way to strengthen an individual's financial capability (Naveed and Ali, 2024). However, as elements of financial literacy, how each aspect of financial knowledge, attitude, and behaviour moderates such relationships is unknown.

Moderating role of financial knowledge, attitude, and behaviour (financial literacy)

Sun et al. (2022) found that financial literacy mediated and moderated the relationship between economic hardship and financial capability, supporting that higher financial literacy and better access to financial tools were more capable of maintaining financial stability even during tough economic times. This supports the idea that financial literacy components (knowledge, behaviour, and access) not only influence financial capability directly but also buffer the negative effects of economic hardship.

Financial knowledge, attitude and behaviour are believed to be detrimental to financial decisions. Scholars have argued that for short-term and long-term financial decisions, such as retirement investment plans, individuals often fail to make correct decisions due to a lack of or low level of knowledge, attitude and behaviour requisite for such decision-making processes.

(Çera and Tuzi, 2019; Johnson and Sherraden, 2007). Relevant literature on financial management has examined the role of the above three factors in shaping the financial capability of individuals (Çera *et al.*, 2020a, b; Fu, 2020; Xiao *et al.*, 2020). The current study argues that financial knowledge, attitude, and behaviour significantly moderate the association between financial risk acceptance/economic hardship and financial capability. Financial knowledge, which includes an individual's comprehension of core theoretical and practical financial aspects, is an important component of financial capability (Robb and Sharpe, 2009). Regarding the link between financial capability and tolerance, individuals with strong financial knowledge backgrounds should be better able to identify the risks of financial transactions and, consequently, become more capable of managing financial uncertainty and decisions in the future (Atkinson and Messy, 2012; Grable, 2000). On the other hand, a person with lesser financial expertise is likely to make basic errors in planning, scheduling, and engaging in financial transactions. Grable and Rabbani (2023) found that both subjective and objective financial knowledge significantly moderate the relationship between risk tolerance and financial decision-making. Those with higher knowledge levels are more likely to translate risk tolerance into effective financial capability. Therefore.

H1a. Financial knowledge moderates the relationship between Risk tolerance and Financial Capability.

The moderating impact of financial knowledge regarding economic hardship and financial capability also holds. Individuals with a greater understanding of financial management are better positioned to utilise financial resources for their benefit efficiently (Morris *et al.*, 2022). Such individuals can efficiently cope with limited earnings, make efforts to create new income channels based on their understanding, and use their knowledge to identify further relevant support programmes and services that can reduce their hardship (Li *et al.*, 2022). It has also been argued that individuals with high financial knowledge are less likely to accumulate debt and engage more in financial capacity building (Buckland, 2010; Lusardi, 2019; Sherraden and Ansong, 2016). Therefore.

H1b. Financial knowledge moderates the relationship between economic hardship and Financial Capability.

Bapat (2020) explains that financial attitudes are subject to change based on time and context. Previously, the concept has largely been used as an antecedent to financial behaviour. However, we have argued that the concept can moderate the relationship between economic hardship/risk tolerance and financial capability. Financial attitude can be a major source of motivation for an individual facing economic hardship, enabling them to overcome the challenge and identify alternative avenues to overcome the hardship (Amagir *et al.*, 2020; Khan *et al.*, 2022). Furthermore, a positive financial attitude may motivate individuals to minimise their expenses, keep track of their spending, efficiently utilise their existing funds, and reduce debt through various means. Prior research suggests that individuals may attach or assign values to money and economic growth differently. For example, some may perceive money as critical for life and social prestige. Others may attribute more value to factors other than money regarding their social status and prestige. In particular, our attitude centres on our confidence, promoting appropriate financial decisions (Çera and Tuzi, 2019). Depending upon the attitude (positive/negative, high/low), the effect of economic hardship on financial capability may be compromised differently (Białowski *et al.*, 2020). Similarly, whether an individual has a highly positive attitude towards risk-taking and spending, their risk tolerance would impact their financial capability differently. Individuals high on the instrumental dimension of financial attitudes are expected to evaluate their financial situations based on real premises, such as hardships/limitations or the ability to spend more (risk tolerance), to a higher degree than individuals low on this dimension (Gasirowska, 2015). Therefore.

- H2a.* Financial attitude moderates the relationship between economic hardship and Financial Capability.
- H2b.* Financial attitude moderates the relationship between risk tolerance and Financial Capability.

Finally, financial behaviour can moderate the relationship between economic hardship/risk tolerance and financial capability. While an individual may have an attitude towards efficiently managing their financial resources, whether such an attitude proceeds into positive financial behaviour or not could be equally detrimental to successful financial management. For example, according to a study, individuals who maintain emergency funds report less stress and higher well-being compared to individuals who do not engage in such saving behaviours (Serido *et al.*, 2013). Regarding the link between financial capability and risk tolerance or economic hardship, financial behaviour can provide support, such as favourable financial behaviour, which can enhance the relationship between risk tolerance and financial capability. Individuals exhibiting positive financial behaviour are likely to promote saving behaviour and planned financial investment. Bhargava *et al.* (2023) state that the personality traits of individuals moderate the effect of financial behaviour on financial capability. Das (2023) highlighted that smaller, regular financial support payments (e.g. tax credits) are more effective in reducing financial hardship than lump-sum payments, especially when recipients have higher financial literacy. It reflects that the individual's behaviour and attitude, which are part of financial literacy, play a significant role in influencing the individual's financial hardship and capability. This would mean a reduced economic hardship and an increased financial capability. Positive financial behaviour should open more avenues for the responsible utilisation of financial resources available to individuals (Perry and Morris, 2005). We propose.

- H3a.* Financial behaviour moderates the relationship between economic hardship and Financial Capability.
- H3b.* Financial behaviour moderates the relationship between risk tolerance and Financial Capability.

In times of economic hardship, individuals with strong financial literacy and positive financial behaviours are more likely to maintain or even improve their financial capability. When it comes to risk tolerance, financial knowledge enables individuals to take calculated risks, thereby enhancing their financial capability rather than exposing them to unnecessary financial vulnerability. Based on the literature review and keeping in mind the dependent (financial capability), independent (economic hardship, risk tolerance), moderating variables (financial knowledge, financial attitude, and financial behaviour)-components of financial literacy, and the proposed relationship, the author(s) framed the following conceptual model for examination (refer to Figure 1).

Methodology/research methods

Research design

The primary objective of this explanatory-predictive study is to evaluate statistical inference, path coefficients, impact in terms of effect magnitude, the model's predictive abilities, and any prediction errors (Henseler, 2018). Partial Least Squares Structural Equation Modelling (PLS-SEM) using SmartPLS 4 software was employed in this study due to its suitability for analysing complex models based on survey data and its robustness with small and medium sample sizes. It is widely utilised for prediction-oriented research (Sarstedt *et al.*, 2020), making it ideal for examining the proposed relationships in the current research. Structured self-report questionnaires are suitable for assessing behavioural intentions (Chan, 2009), so they were used for data collection.

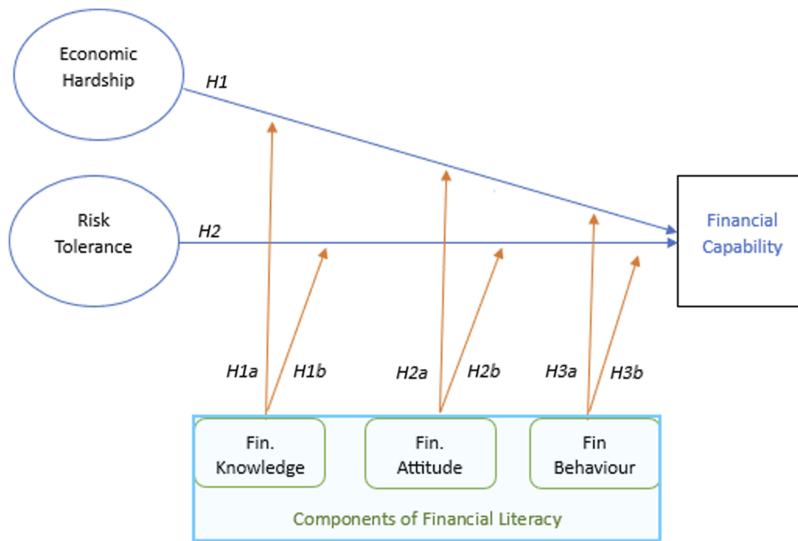


Figure 1. Conceptual model

This research follows a two-step process and applies Partial Least Squares Structural Equation Modelling (PLS-SEM) in the first stage, a multivariate statistical analysis technique used to model relationships between latent variables. Moreover, critical situations in data sets could be categorised using Necessary Condition Analysis (NCA), a new strategy and method for data analysis developed by Dul (2015). NCA looks for regions in scatter plots of dependent and independent data that can point to a necessary condition rather than just analysing the average correlations between dependent and independent variables (Ebrahimi *et al.*, 2021; Richter, 2020). This helps us verify the results of the PLS-SEM in the form of prerequisites and thus provides deeper data insights. Therefore, in the second stage, we applied NCA to support the findings of PLS-SEM and provide a more comprehensive insight into the variables under examination.

Sampling procedure

A stratified sampling method was employed to ensure that participants represent diverse age groups, genders, income levels, educational backgrounds, and geographic locations within Uttar Pradesh. The microentrepreneurs under examination represented various industries in Uttar Pradesh. Many micro-entrepreneurs operate in age-old crafts that have been passed on through generations, such as woodworking, embroidery, and ceramics. Second, agro-based enterprises, such as dairy, poultry, and food processing, are just a few of the small-scale agro-based enterprises run by a few others in Uttar Pradesh, a state renowned for its agricultural industry. The textile industry in Uttar Pradesh is booming, and microentrepreneurs are active in sectors such as textile weaving, clothing production, and embroidery. Finally, some microentrepreneurs also run small-scale factories that make metalwork, plastic products, and paper goods. These micro-entrepreneurs have a wide range of experience and tenure in the market. Some are relatively new to the market, while others have run their business for decades.

Stratified random sampling was employed to include different groups and to reduce selection bias. While this method helped capture diversity across demographics and sectors, some bias might still be present. For example, relying on participants who were willing and able to take part in face-to-face surveys could mean that more remote or harder-to-reach micro-

entrepreneurs were left out. Also, measures such as anonymous surveys and standardised questionnaires were employed to reduce social desirability and response biases. The anonymous survey and use of validated measurement scales ensured that the impact of biases was minimised.

Primary data was collected from November 2022 to January 2023. The authors collected 400 completed questionnaires. After removing the 50 questionnaires collected for pilot testing and the 39 questionnaires with missing data, the sample size remained at 311, meeting the minimal sample size condition (Bagozzi and Yi, 2012) (see Table 1).

Results

At this stage, the factor loadings of the indicators used in the questionnaire were computed, and those with loadings of less than 0.7 were excluded from further analysis. The computed VIF values of these indicators also ranged from 1.000 to 2.839, which is within the limit that would indicate collinearity, as the presence of collinearity can violate the basic assumption of a regression model (see Table 2) (Sarstedt *et al.*, 2020).

Common Method Bias

As the data was gathered in a single session using just one tool, Common Method Bias (CMB) might affect the findings of this study. We used a two-step approach to address the CMB issue

Table 1. Sample profile

	Frequency	Per cent
<i>Gender</i>		
Male	179	57.6
Female	132	42.4
Total	311	100.0
<i>Age</i>		
18–28	88	28.3
29–38	128	41.2
39–48	61	19.6
49–58	26	8.4
59–68	8	2.6
Total	311	100.0
<i>Education</i>		
No formal schooling	24	7.7
High School	62	19.9
Senior Secondary School	107	34.4
Bachelor	101	32.5
Master	17	5.5
Total	311	100.0
<i>Location</i>		
Rural	129	41.5
Urban	182	58.5
Total	311	100.0
<i>Sector</i>		
Services	139	44.7
Agricultural related	119	38.3
manufacturing	53	17.0
Total	311	100.0

Source(s): Authors' own work – calculated using IBM-SPSS Statistics-20

Table 2. Measurement scale

Variables name	Items	Loading	VIF	
Economic hardship	I face trouble in paying rent/ Mortgage, bills like electricity, etc.	0.814	2.164	Williams et al. (2015) , Finra Investor Education Foundation (2018) , Blom et al. (2019) , Ranta et al. (2020)
	I have to frequently cutbacks my personal expenditures	0.724	1.608	
	I have family and friends' financial support	0.776	1.887	
	How much money do you have leftover the day before your next pay-check or other income payment	0.718	1.62	
	Have you been late with debt payment, housing loan or any other	0.746	1.907	
	Do you have medical expenses bills burden on you	0.711	1.613	
Financial attitude	I tend to live for today and let tomorrow take care of itself	0.774	1.785	OECD (2011) , Atkinson and Messy (2012) Potrich et al. (2015) OECD (2011) , Atkinson and Messy (2012)
	After making a decision about money, I tend to worry too much about my decision	0.709	1.585	
	I find it more satisfying to spend money than save it for the long term	0.799	1.797	
Financial behaviour	Money is there to be spent	0.775	1.682	Joo and Grable (2004) , OECD (2011) , Atkinson and Messy (2012) , Potrich et al. (2016)
	I follow a weekly or monthly plan for expenses	0.695	1.791	
	I set long term financial goals and strive to achieve them	0.809	1.998	
	Before I buy something, I carefully consider whether I can afford it	0.694	1.774	
	I pay my bills on time	0.854	2.839	
Financial capability	I have plans to achieve my financial goals	0.850	2.632	Robb and Woodyard (2011) , FINRA (2012) , Finra Investor Education Foundation (2018)
	I have enough funds to survive for three months without regular earnings	0.806	2.164	
	I often use electronic payment mode for paying bills through (credit card, debit card, online banking, mobile banking, etc.)	0.692	1.983	
	I have more than one/several sources of income	0.742	2.306	
	I am good at dealing with day-to-day financial matters, such as checking accounts, credit and debit cards, and tracking expenses	0.765	2.72	
	I plan for retirement or have a retirement account	0.748	2.361	
	Have you ever calculated how much you need at retirement	0.707	1.876	
Do you have insurance (such as health, life or accidental)	0.773	2.214		

(continued)

Table 2. Continued

Variables name	Items	Loading	VIF	
Financial knowledge	An investment with a high return is likely to be high risky	0.714	2.053	Lusardi and Mitchell (2007) , OECD (2011) , Robb and Woodyard (2011) , NFCS (2012) , Woodyard and Robb (2012)
	High inflation means that the cost of living is increasing rapidly and money in saving account losses value	0.828	2.169	
	I understand the cost of buying on credit	0.794	2.692	
	It is less likely that you will lose all of your money if you save them in more than one place	0.795	2.158	
	I am pretty good at math	0.733	1.822	
Risk tolerance	I am more comfortable putting my money in a bank account than in any risky option	0.861	2.407	Joo and Grable (2004)
	When I think of the word “risk”, the term “loss” comes to mind immediately	0.744	1.935	
	Making money in stocks and bonds is based on luck	0.803	2.291	
	I lack the knowledge to be a successful investor	0.751	2.008	
	Investing is too difficult to understand	0.835	2.241	

Source(s): Authors' own work – calculated values through SmartPLS 4

([Podsakoff et al., 2003](#)). The questionnaire used reverse scaling and item mixing to guarantee that CMB was avoided during data collection ([Osakwe et al., 2016](#)). Moreover, the authors also performed Harman's single-factor test, which was within the acceptable threshold.

Reliability and validity

The authors also computed Cronbach's alpha, composite reliability, Rho A, AVE, and HTMT to determine reliability, convergent validity, and discriminant validity ([Henseler et al., 2009, 2014](#); [F. Hair et al., 2014](#)). The construct's reliability was determined by Cronbach's alpha, and composite reliability was greater than 0.7 (see [Table 3](#)) ([Hair et al., 2017, 2019](#)).

Table 3. Reliability and convergent validity

	Cronbach's alpha	Composite reliability (rho_A)	Average variance extracted (AVE)
EH	0.843	0.848	0.561
FA	0.764	0.773	0.585
FB	0.841	0.853	0.614
FC	0.868	0.871	0.56
FK	0.835	0.85	0.599
RT	0.859	0.868	0.64

Source(s): Authors' own work – calculated values through SmartPLS 4

All reported AVE values were above 0.5, further confirming the convergent validity. The discriminant validity was established by the reported Fornell-Larcker criterion that fell within cut-off values (see Table 4). (Farrell, 2010; Henseler et al., 2014; Sarstedt et al., 2020).

Assessment of the model

Direct effect

To evaluate the framed hypotheses, a two-tailed percentile bootstrapping test with 10,000 sub-samples and a 5-per cent relevance criterion was used.

The analysis revealed that EH significantly affects the financial capability of the micro-entrepreneurs, leading to the non-rejection of H1 ($\beta = 0.20, p = 0.004$). However, regarding RT, the analysis has no significant effect, which causes H2 ($\beta = 0.168, p = 0.078$) to be rejected. The findings were also supported by t-values, which further verify the outcome.

Moderating effect

The analysis further revealed that FK fails to moderate the relationship between RT and FC and EH and FC, respectively, leading to the rejection of H1a ($\beta = -0.007, p = 0.964$) and H1b ($\beta = -0.057, p = 0.659$). The moderating role of FA between EH and FC and RT and FC disclosed no significant impact, leading to the rejection of H2a ($\beta = 0.152, p = 0.095$), and H2b ($\beta = -0.158, p = 0.114$). Lastly, the moderating effects of FB between EH and FC and RT and FC also fetched similar results, rejecting H3a ($\beta = 0.075, p = 0.514$) and H3b ($\beta = -0.155, p = 0.222$). Thus, all the moderators fail to register any significant impact on the examined variables (refer to Table 5 and Figure 2). It might be due to the presence of informal economies, where financial transactions occur outside formal banking systems, which can limit the relevance or visibility of formal financial capability indicators. Additionally,

Table 4. Discriminant validity

	EH	FA	FB	FC	FK	RT
EH	0.749					
FA	0.62	0.765				
FB	0.584	0.69	0.784			
FC	0.687	0.633	0.722	0.748		
FK	0.544	0.744	0.861	0.704	0.774	
RT	0.682	0.739	0.716	0.66	0.762	0.8

Source(s): Authors’ own work – calculated values through SmartPLS 4

Table 5. Hypothesized relationships

Hypotheses		Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T-statistics (O/STDEV)	p-values
H1	EH → FC	0.2	0.208	0.069	2.888	0.004
H2	RT → FC	0.168	0.159	0.095	1.761	0.078
H1a	FK x RT → FC	-0.007	-0.016	0.151	0.045	0.964
H1b	FK x EH → FC	-0.057	-0.042	0.129	0.441	0.659
H2a	FA x EH → FC	0.152	0.148	0.091	1.672	0.095
H2b	FA x RT → FC	-0.158	-0.154	0.1	1.581	0.114
H3a	FB x EH → FC	0.075	0.066	0.115	0.652	0.514
H3b	FB x RT → FC	-0.155	-0.146	0.127	1.22	0.222

Source(s): Authors’ own work – calculated values through SmartPLS 4

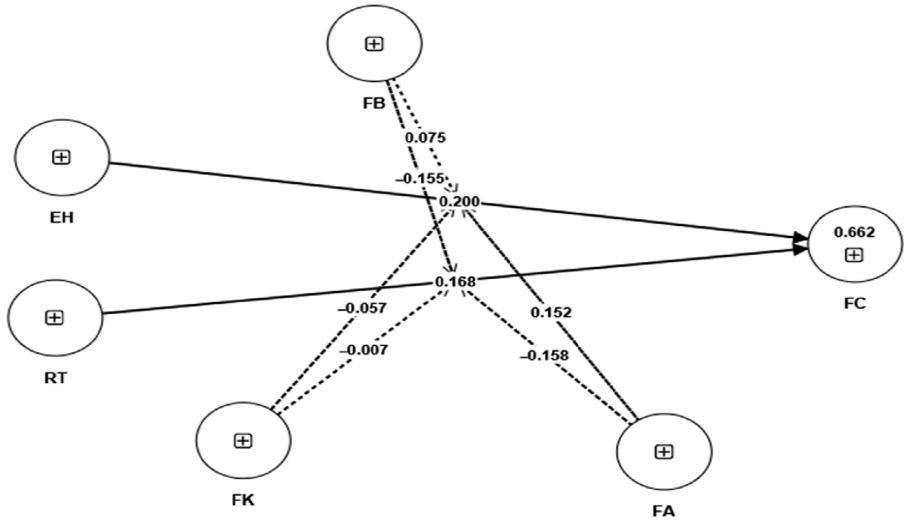


Figure 2. Author-generated model using Smart PLS 4

sociocultural saving behaviours, such as reliance on family networks, community-based savings groups, or informal lending practices, may substitute for formal financial behaviours, thereby weakening the observed effects of financial knowledge, attitude, or behaviour. These contextual dynamics may explain why hypothesised moderating effects did not emerge as statistically significant in our analysis.

R-square. The model’s R^2 values demonstrate that the associated constructs account for 66.2% of the variance in the dependent variable (FC), which, by the researchers’ standards, is within the moderate range (Hair *et al.*, 2019) (see Table 6).

Model fit. The analysis revealed the SRMR = 0.094, which is well within the threshold suggested in the literature (Clark and Bowles, 2018; Hair *et al.*, 2019). This indicates a satisfactory model fit for the current examination (see Table 7).

Table 6. R-square

	R-square	R-square adjusted
FC	0.674	0.662

Source(s): Authors’ own work – calculated values through SmartPLS 4

Table 7. Model fit

	Original effect size	95.00%	Permutation p-value
EH	0.147	0.061	0
RT	0.199	0.059	0

Source(s): Authors’ own work – calculated values through SmartPLS 4

Necessary Condition Analysis (NCA)

NCA could categorise critical situations in data sets. This study sought to ascertain whether EH and RT were prerequisites for microentrepreneur FC. Figure 3 displays the scatter plots for each significant association, and Table 8 shows the effect sizes.

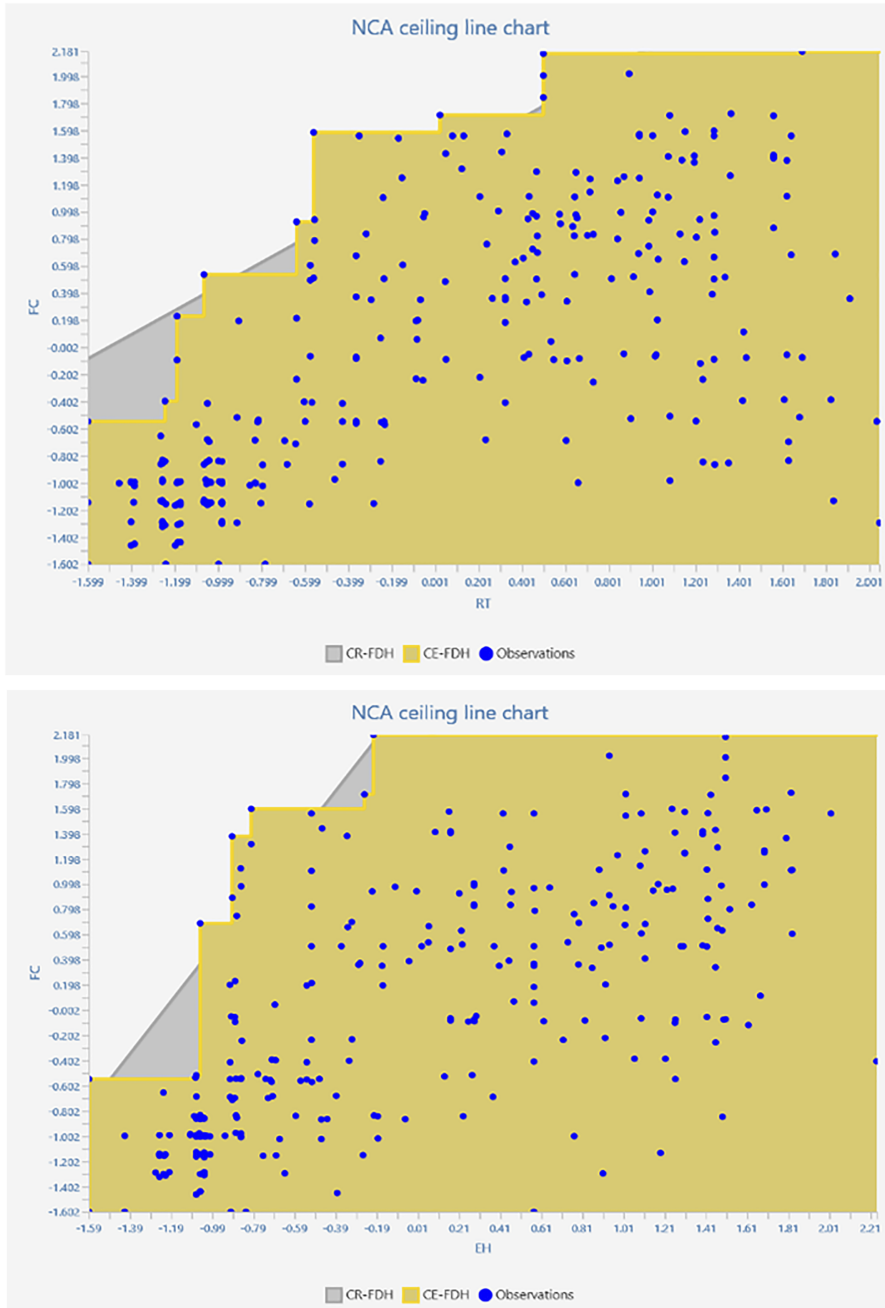


Figure 3. Author-generated model using SmartPLS-4

Table 8. NCA effect size

	Original effect size	95.00%	Permutation <i>p</i> -value
EH	0.147	0.061	0
RT	0.199	0.059	0

Source(s): Authors' own work – calculated values through SmartPLS 4

The NCA results complement the PLS-SEM analysis results, depicting a moderate effect size for EH ($d = 0.147$) and RT ($d = 0.199$). This is a crucial insight as the findings of PLS-SEM suggested that RT has no significant impact on the financial capability of the microentrepreneurs. Still, the data insights through NCA reflect that RT also has a moderate effect similar to EH and thus is an important predictor of the microentrepreneurs' financial capability.

Discussion

Direct effects: economic hardship and risk tolerance on financial capability

This study found that economic hardship negatively affects financial capability, but risk tolerance does not significantly impact it. Additionally, it found no moderating effect of financial literacy components, namely financial knowledge, attitude, and behaviour. Economic hardship negatively affects financial capability, consistent with previous research (Fernandes *et al.*, 2014; Shim *et al.*, 2009b), which leads to reduced income, increased debt, and decreased savings, an unfavourable situation for microentrepreneurs to manage their finances effectively. Micro-entrepreneurs must develop strategies for coping with economic hardship, such as seeking financial advice, reducing expenses, and increasing income.

The finding that risk tolerance does not significantly impact financial capability is somewhat surprising, as previous research has suggested that risk tolerance plays a crucial role in making economic decisions (Lusardi and Mitchell, 2011; Weber *et al.*, 2002). However, the result indicates that risk tolerance is not a significant factor for micro-entrepreneurs' financial capability, possibly because micro-entrepreneurs are less likely to engage in risky financial behaviour due to the nature of their business. Economic hardship goes beyond just reducing income or increasing debt; it also takes a toll on a person's mental state. Thereby makes it harder to think clearly and make good financial choices. When people are under financial stress, they tend to focus on what they need right now instead of planning for the future. This idea is also advocated by the scarcity mindset theory (Mullainathan and Shafir, 2013). For microentrepreneurs, this may mean prioritising urgent cash flow issues at the expense of strategic financial capability development.

Moderating role of financial literacy: knowledge, attitude, and behaviour

The results indicate that financial knowledge (FK) does not significantly moderate the relationship between risk tolerance (RT) and financial capability (FC). These findings suggest that simply possessing financial knowledge may not be sufficient to alter how microentrepreneurs translate risk tolerance or economic pressure into financial capability. One possible explanation is that financial knowledge, while important, may not be effective under highly stressful or constrained conditions, as suggested by behavioural finance literature (Mullainathan and Shafir, 2013). Microentrepreneurs facing hardship or uncertainty often prioritise short-term decisions over applying their financial knowledge, which reduces the benefits that knowledge could otherwise provide. The finding also suggests that financial attitude does not significantly influence how economic hardship affects financial capability. This indicates that even though a person's financial attitude shows their confidence, sense of

responsibility, and readiness to plan, it doesn't always protect them from outside pressures like economic hardship. Microentrepreneurs may hold positive financial attitudes but lack structural support or emotional resilience to convert those attitudes into behaviour when under financial pressure. Similarly, financial behaviour (FB) was found to be a non-significant moderator for both the direct hypotheses. These findings suggest that although positive financial behaviours (e.g. budgeting, saving, planning) are important for capability, they do not significantly interact with economic conditions or risk attitudes in this context. One reason may be that financial behaviours among microentrepreneurs are often adaptive and situational, rather than strategic or proactive. This means that behaviours are driven more by necessity than by long-term planning, limiting their capacity to moderate the effects of risk tolerance or financial strain on capability.

These findings indicate that financial literacy constructs do not moderate the relationship between financial hardship and risk tolerance with financial capability but are inconsistent with previous studies (Lusardi and Mitchell, 2011; Mandell and Klein, 2009). The lack of a significant moderating effect could be because the study focused on microentrepreneurs, who might already have gained financial knowledge and skills through business operations. It indicates that financial literacy acts more as a direct driver of financial capability, rather than serving as a shield or booster between external or internal conditions and outcomes. It highlights the importance of the contextual sensitivity of financial literacy—particularly among microentrepreneurs—who may rely more on informal learning and experiential knowledge rather than financial literacy constructs. This might also suggest a ceiling effect, meaning that financial knowledge, attitude, and behaviour are already quite strong in this group, leaving little room for these factors to interact further.

Future research could focus on financial literacy not just as an individual skill, but as something that grows and evolves through real business experience, cultural influences, and the resources people can access.

Conclusion

In conclusion, this study provides insights into two major factors, economic hardship and risk tolerance, that influence microentrepreneurs' financial capability during economic volatility, when sustainability is the key issue. Economic hardship negatively affects financial capability, but risk tolerance is not a significant factor. Furthermore, financial literacy constructs do not moderate the relationship between independent and dependent variables. The present study specifically considers the importance of financial literacy, especially in the post-pandemic scenario, which has already given a push towards digitisation. The present research supports that financial literacy does not moderate the connection between economic hardship and risk tolerance in microentrepreneurs' financial capability, and this sheds light on the importance of other factors, which might play a more significant role in shaping their financial capability. Therefore, it opens space to focus on different factors, which might moderate the examined relationships. The outcomes of this examination also attempt to draw the attention of the researchers toward such factors as well.

Moreover, this study emphasises that policymakers should develop regulations that facilitate microenterprise growth, such as loan availability, streamlined regulatory processes, and entrepreneurship incentives. These steps can increase the financial resilience of microentrepreneurs and lessen some of the financial difficulties that they face. The findings also underscore the importance of managing economic hardship for microentrepreneurs' sustainability during volatility and encourage exploring additional factors that may affect microentrepreneurs' financial capability. Given the relative importance of microbusinesses in the growth of an emerging nation like India, this examination suggests that policymakers should shift their focus from merely organising financial literacy campaigns for the microentrepreneurs.

Practical implications

There is a need to work on the root causes of economic hardship. For instance, improving access to financial services for income regularity and sufficiency and creating safety nets to help microentrepreneurs. To manage financial shocks, establishing buffers and financial preparedness is necessary, thereby sustaining them during crises. Second, financial education programs should include practical skills and coping strategies tailored to the realities of microbusinesses. The policymakers can also aim to reduce the tax burden, offer subsidies on technology adoption, promote the products in different geographical locations of the country to mitigate economic hardship and enhance risk tolerance levels. This can significantly contribute to enhancing the financial capability of microbusiness owners in the state and in the country as well.

Furthermore, as the study did not find the risk tolerance significant, the focus should be on how to cope with the economic hardship during the crisis, which has an immediate impact on their sustainability and survival. Concerning microfinance institutions, self-help groups, etc, should offer affordable credit, peer support, and targeted financial education. Programs should aim to build a supportive ecosystem that enhances financial resilience and empowers microentrepreneurs for their long-term sustainability. There might not be a one-size-fits-all solution for everyone; therefore, the demographic, economic background, and cultural differences might play a significant role in a deeper understanding and then providing for regionally tailored policies and support systems that enhance financial resilience and sustainable practices among microentrepreneurs, linking financial capability to long-term business and community sustainability. The focus should be on local and regional economic hardship to strengthen regional entrepreneurial capacity for local community sustainability.

Further research insights can guide interventions that link financial capability, resilience, and growth across regions. Last but not least, the study encourages future research on contextual and structural factors, cross-regional comparisons, and the role of non-financial determinants in shaping financial capability and entrepreneurial sustainability. Hence, the present study's findings encourage the development of region-specific, tailored policies, not restricted to financial literacy improvement, but rather focused on a broader range of issues, which could be more effective for microentrepreneurs' sustainability.

Theoretical implications

This study does not agree with the assumption that financial literacy alone (financial knowledge, attitude, and behaviour) is sufficient to improve financial capability among microentrepreneurs. This suggests a need to rethink existing models that emphasise financial literacy as the primary driver of financial capability. Second, the risk tolerance does not significantly affect financial capability. This could mean that traditional economic theories about risk and financial decision-making might not fully apply to microentrepreneurs who are going through tough economic times. It may be because when they face tough financial situations, they focus more on immediate needs and survival than on taking risks. Because of this, their usual attitude toward risk doesn't strongly influence their financial decisions, so traditional economic theories about risk don't fully apply in their situation.

Third, the present study gives a more holistic theoretical framework for understanding financial capability, one that incorporates structural and contextual factors such as economic hardship, rather than focusing solely on individual traits or knowledge. Lastly, it contributes to the literature by highlighting the long-term impact of economic hardship on financial behaviour, suggesting that financial capability is shaped by both internal (knowledge, attitude), which relates to ability, and external (economic conditions, access to resources) factors, which relate to opportunities.

Limitations of the study

There are a few limitations of the current examination. One of them is the cross-sectional design, which provides only a snapshot of microentrepreneurs' financial capability rather than a full story.

Future work might benefit from using longitudinal or experimental designs, which would make it easier to see the bigger picture—especially when looking at how people respond to economic shocks. There is also value in conducting comparative research across regions or countries. Since this study focused on a specific culture and a relatively concentrated group, cross-regional comparisons could reveal how cultural norms, and systemic conditions influence these relationships. In addition, using qualitative or mixed-methods approaches could shed light on how microentrepreneurs respond under financial stress. Broadening the scope to include ecosystem-level elements—such as access to credit, availability of digital tools, or the role of policy support—could lead to more practical insights. Finally, incorporating financial well-being as an outcome measure might help connect capability with long-term entrepreneurial sustainability in a more comprehensive manner.

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Corresponding author

Khurram Ajaz Khan can be contacted at: drkhurramajazkhan@gmail.com