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# FROM KNOWLEDGE TO WELLBEING: AN INTEGRATED MODEL OF FINANCIAL SKILL, CAPABILITY, AUTONOMY AND DIGITAL FINANCIAL LITERACY OF INDIAN SME OWNERS

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Original Article

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## Abstract

Small and medium-sized enterprises (SMEs), particularly micro, small, and medium-sized enterprises (MSMEs), constitute the foundation of the Indian economy. They have a major impact on exports, industrial output, employment creation, and inclusive economic growth. Indian SME owners are increasingly expected to have advanced financial and digital competences due to the quick growth of digital ecosystems like UPI, fintech platforms, digital lending, and online payment systems. Recently, financial literacy has expanded to include digital financial literacy, financial independence, competence, and saving, budgeting, and credit management. Research shows that strong financial and digital competencies increase company health, performance, and decision-making. This research proposes an integrated paradigm that connects financial competence, financial autonomy, and financial welfare among Indian SME owners along with digital financial literacy. A quantitative and explanatory research strategy was chosen for the investigation. Secondary data was gathered from the last five years' Ministry of MSME Reports. 350 SMEs make up the sample, and stratified random sampling is the method used.

Financial well-being, for these entrepreneurs, now goes hand in hand with how well they can navigate the digital world. This study aims to create an integrated model to comprehend the way financial knowledge may be deciphered into sustainable financial wellbeing for Indian SME owners in the digital era. There has been a major transformation in managing fund of Indian small business entrepreneurs. Running a successful SME now requires more than just understanding the numbers; it also requires being at ease using digital tools, making self-assured judgments, and developing true financial competency from the ground up. For these entrepreneurs, their ability to successfully traverse the digital environment now directly correlates with their financial well-being. The study aims to develop an integrated model that links these components to better understand how financial knowledge may be turned into sustainable financial health.

***Keywords: Digital Financial Literacy; Financial Competence; Financial Autonomy and Welfare; SME/MSME***

## Introduction

Financial knowledge, self-management when making financial decisions and financial success are strongly interlinked but not adequately researched when it comes to business owners. The importance of sound financial decision-making to a company's bottom line is the central theme of this study. Financial literacy, which includes budgeting, investments, financing, and analysis of finance, is an extremely important part of proper business planning and financial management in small scale enterprises [1].



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Consequently, business owners who are knowledgeable about such things can understand their financial needs better and make the right decisions for them. Side by side, how financial literacy is implemented can also influence the market performance of firms and their capacity to gain financing [2]. Despite having the benefits associated with financial concepts, research proves that a major section of people is financially illiterate, thereby complicating their efforts to become financially stable [3]. However, the reasons for financial illiteracy require further investigation to reveal the factors behind the problem [3]. Knowledge of Financial management is of extreme importance for the benefit of small companies, which makes them dependent on financial literacy [4]. Good financial management skills ensure business success and give business owners confidence in making sound decisions and taking risks in the business world [5]. Financial management skills allow business owners to make effective and efficient choices which leads to their financial independence [6]. This skill allows business owners to deal effectively with complex financial matters, distribute resources properly, and prepare for the future without external pressure [5].

This study aims to examine the relationship among financial autonomy, abilities and wellness of entrepreneurs respectively. This research basically tries to show that stronger financial abilities have a favourable impact on autonomy and autonomy in turn has a positive impact on financial wellness. This theoretical background indicates that in addition to improving the process of making decisions, financial knowledge and skills contribute to fostering autonomy that affects financial wellbeing positively. Therefore, it becomes necessary to understand this interaction to create effective educational policies regarding developing such skills, especially when talked about MSMEs [7]. It needs to be hardly mentioned that people with strong knowledge of finance feel more empowered even in case of business activity and thus become more willing to get involved in entrepreneurial activities [8]. In this connection, while explaining the importance of financial literacy, less light is thrown on inter-relationship between this concept and the financial wellbeing of business owners [8, 9]. The present research examines how financial skills and autonomy affect entrepreneurs' financial wellness, as both are needed to make sound financial decisions. Previous studies rarely highlight on the combination of financial literacy, autonomy, or wellbeing, considering these concepts among the general population rather than specifically addressing the needs of business owners [10].

To determine the impact on firm financial health, entrepreneurs' financial decision-making autonomy and financial skills must be studied. This shows these groups' finances more accurately. Previous research has examined the relationship between financial literacy, risk aversion, and firm performance [11, 12], but not the impact of business owners' financial abilities, independence, and well-being on economic stability and growth. Also, although financial literacy is very important for success, especially for women business owners or small business owners, its influence on financial autonomy and well-being remains largely unclear [13, 14].

## Literature Review

### Financial Skills

This section discusses the evolution of financial skills throughout history within economic and behavioural sciences. In this regard, financial skills evolved from simple budgeting to advanced levels of financial literacy. Currently, financial skills are comprised of knowledge and competencies that individuals require when making effective management of finances, which include budgeting, savings, investments, and debts among others [15]. The ever-increasing difficulties and complexity of dealing with financial goods and markets have contributed to this tendency. Consequently, the burden of financial security in modern society has shifted from the institutional level to the individual. Financial literacy is thus affecting the financial wellbeing and socio-economic inclusion of individuals [16]. On the other hand, debates about defining financial literacy and measures to assess its effectiveness have led to discrepancies regarding policy recommendations on the issue [17]. Contemporary empirical literature indicates that financial literacy, viewed as human capital, contributes significantly towards humanity [18]. Additionally, research on financial literacy is broadening to include behavioural aspects, such as self-control and budgeting strategies, while moving beyond traditional models that treat human capital as a one-size-fits-all concept [19]. Improved financial literacy is theoretically grounded in behavioural economics, which recognises the substantial influence of subjective feelings and beliefs in determining the authors financial decisions [18, 20]. This more comprehensive perspective lends credence to the notion that effective money management involves more than just understanding financial products; it also involves applying that knowledge to real-world scenarios [21].

Financial management is no longer about money, but about a wider set of information, communication and assurance in financial planning [22]. They have good understanding on financial ideas and commodities which makes them to take sound judgements [23]. Culebro-Martínez et al. [12] indicate that research has increased in this field to explore how people comprehend financial information to make better decisions about wealth, debt and retirement to improve their financial well-being in general. The change in attitude shows the importance of financial literacy in enhancing human welfare and guiding efforts to develop financial competence among all sections of the population [18]. Financial literacy goes so beyond typical conceptions based on human capital theory but also incorporates behavioural elements such as self-regulation and budgeting [19]. Behavioural economists have shown that financial skills demand a more complicated knowledge since emotional parts and cognitive biases have a direct impact on monetary judgements [18, 20].
Gedvilaitė et al. [21] found that effective financial management required expertise. Financial literacy includes knowledge, self-confidence, competence, communication, and planning [22]. Financial competence studies have also improved the authors understanding of how people process and act on financial facts. Recent research has demonstrated that financial literacy is becoming more crucial in digital finance. It empowers users, reduces marginalisation, and guarantees people may confidently use digital financial services [24]. Financial knowledge, behavioural insights, and the ever-changing technological landscape affect an individual's financial capacities [25]. This fundamental information helps people make better financial decisions and maintains economic stability and resilience in a volatile global economy, according to Lusardi [26] and Mireku et al. [27]. Expanding on this knowledge of financial skills, the authors propose:

***$H_1$: Financial competencies will impact the fiscal health of small and medium-sized enterprises (SMEs).***

**Financial Autonomy**

Financial autonomy refers to being able to decide independently in matters of finance and resources management. Such independence plays a crucial part in providing sustainable financing and managing resources, particularly in areas such as public higher education by allowing for a greater variety of funding sources and adaptation to changing finances [28]. Financial autonomy has evolved throughout time and usually presents a paradoxical combination of the desire for self-government and the need for accountability to public financiers [29]. Some of the latest findings in financial autonomy reveal that it is not limited to budgeting but extends to earning money and making strategic allocations in relation to expenditure. This can be illustrated by research into the financial model of universities [30]. In public sector accounting, financial autonomy contributes to improving the quality of financial information for enhancing national financial resource allocation and increasing citizen confidence [31]. There is a need to separate "freedom from" control from "freedom for" self-determination and examine the relationship between independence and responsibility [32].

In terms of deeper consideration, the authors may also consider various dimensions of financial autonomy, including, but not limited to, emotional, behavioural, and cognitive aspects, all of which contribute to self-governance [33]. In turn, in cases when financial autonomy is lacking, the authors talk about heteronomy which entails being regulated by external factors thus losing control over decision-making [34]. Such conceptualization is important to analyse current shifts within institutional autonomy due to state interventions and market competition while recognising the autonomy of the latter [35]. There may also be a link between the magnitude of financial autonomy and the performance of organizations in question, since, in certain situations, having more financial flexibility leads to greater cost inefficiency [36]. New literature on financial autonomy increasingly attempts to provide criteria and measures by which this concept might be measured in terms of its constituents [37]. Thus, assessment of financial independence in public institutions, e.g. universities, implies the possibility of producing revenue independently and managing budget and assets without any influence from the government [38]. Revenue diversity and discretion regarding capital and operating budgets might be particularly important here [39]. In addition, financial independence will be reflected in how transparent information is regarding finance, helping to take proper decisions and reducing the lack of information necessary for accountability [40]. Setting up a strong system of financial governance is essential for the current university management to help optimise the use of resources and prevent any financial risks [41]. According to recent studies, universities from some developing countries like Ethiopia have encountered notable restrictions in financial independence because of the

centralization of government authorities. It has become clear that there is a growing understanding among academic leaders and managers that more independence is needed to ensure not only freedom of academics but also effective operations [42].

This entails having good internal financial management practices such as proper budget management and cash management to maintain financial instability [43]. In fact, the emphasis placed on this balance shows how complex financial management can be when it comes to higher education and the tensions that can result due to public oversight [44].

***$H_2$: Financial autonomy will affect the financial health of SMEs.***

**Financial Capability**

Due to substantial shifts in its idea, financial capability has evolved in a noteworthy way. The concept has evolved from being limited to financial literacy to including both the management of finances and effective economic decision-making [45]. Initially, financial capability could be viewed as financial literacy. The reasoning was that the possession of financial literacy would translate into proper financial behaviour [46]. Nevertheless, due to the consideration of psychological, social, and contextual components of real-world financial behaviour, financial capability came to be defined from a combination of knowledge and awareness to appropriate financial products [19, 47]. The idea here was to realise that knowledge of itself is not enough since individuals require confidence and skills to apply their knowledge alongside having proper access to the relevant financial instruments and the corresponding societal framework [48]. Modern understanding of the concept considers its complex nature by accounting for financial literacy and skills, the possession of necessary financial instruments and financial decision-making mindset [49].

The formulation of financial capability frameworks has helped pinpoint certain aspects that are essential to the personal financial wellbeing of a person. Such important components include financial literacy, ability, availability of financial products, and psychological motivation to act intelligently and rationally, which all depend on one’s socio-economic profile [50]. Such a framework recognises the fact that one's financial decisions are strongly connected to his/her understanding of financial processes, skills needed for effective personal finance management, availability of suitable financial products, and motivation and preparedness to deal with financial issues [22, 51]. It also highlights the fact that handling money is a complicated process that is influenced not only by an individual's financial behaviour but also by psychological characteristics like risk aversion, overconfidence, and myopia, as well as their external financial environment [52]. Modern approaches also view financial capability as something that is not fixed — it grows and shifts as people go through different stages of life [20]. Research consistently shows that better financial decisions are typically made by those with greater financial capacity, whether it comes to saving regularly, investing wisely, or paying off debts [53]. Stronger financial capacities are consistently linked to better financial decisions, including regular savings, prudent investing, and debt repayment [53]. Although having sound financial knowledge is important, recent research indicates that subjective factors, especially financial self-sustenance, or ability to manage money, are equally important in converting knowledge into favourable financial outcomes, particularly for vulnerable groups [54]. It's interesting to note that non-cognitive characteristics like self-control and critical thinking frequently have a bigger impact on financial behaviour and well-being than just technical financial knowledge [55, 56]. This demonstrates how psychological prejudices can prevent people from acting in their own best financial interests [57].

Financial literacy also influences an individual's economic stability, supports wealth creation, drives entrepreneurship, and contributes to national economic growth. People who have a solid understanding of finance make better investment choices, start enterprises, and contribute to the development of a more robust and stable economy [18].

According to several studies, the improvement in financial literacy translates to enhanced saving and investment practices among individuals. This makes it clear that financial literacy should be counted as a tool that promotes long-term decision-making rather than short-term behaviours [58]. The positive impact becomes evident when individuals

become responsible for the way their finances will influence their future life. As a result, higher financial knowledge leads to active participation in dealing with complex financial products, making financial literacy important for people's success [58]. Studies also indicate that digital financial literacy enhances people's decision-making processes and well-being, if there are strong analysis and evaluation skills in place [59]. Simultaneously, financial literacy can positively affect financial well-being through such factors as financial self-sustenance since individuals with better self-sustenance tend to turn knowledge into actions [8]. Based on this research, the authors propose that:

***$H_3$: Financial capability will influence the financial well-being of SMEs.***

**Digital Financial Literacy**

In current society, digital tools influence financial decisions. Accordingly, Koskelainen et al. [60] suggest redefining financial literacy to incorporate ICT skills. To use online financial services safely and effectively, one needs "digital financial literacy" skills, knowledge, and confidence. New financial literacy strategies are needed in the digital age, as traditional concepts are no longer relevant [61]. Digital financial literacy includes digital skills and awareness of the dangers and rewards of working in digital finance, enabling informed decision-making [62]. It requires evaluating data available in online financial platforms, preventing oneself from falling victim to fraud, and making decisions regarding online financial operations [63]. The phenomenon expansion of technological capabilities has influenced consumer behaviour, including managing finances [60].

The arrival of mobile payments and internet banking has led people to question the necessity of learning how to use modern technology and the safety of online transactions. Furthermore, the growing popularity of digital finance applications, owing to the widespread use of smartphones, suggested that digital financial literacy should be considered when talking about the ability to use digital devices to facilitate payments and perform transactions from daily transactions to investment [64]. At this moment, it seems that people needed to have knowledge in the field of finance and practical skills to deal with new financial technologies [22]. It is also very vital to separate authentic information about finance issues among the many information available on the internet.

Customers desire security and everyone should have access to financial services, thus mobile banking and cryptocurrency must be understood [64]. Therefore, "digital financial literacy" is knowing how and when to undertake online financial transactions. AI and blockchain technologies, which power these services, must also be understood [65]. Digital financial literacy also requires understanding online financial transaction legislation and consumer protections [66]. Digital financial literacy is necessary for financial actions and decisions, according to Azeez and Akhtar [67]. Credit accessibility and financial system digitisation shape people's lives and enable them to engage positively with society. Recently, digital financial literacy has expanded to include cybercrime and data breach awareness as well as technology use according to Yu et al. [68].

With the changes related to digital finance, the definition of digital financial literacy became rather controversial among scholars who define it as awareness, knowledge, skills, attitudes, and behaviour regarding the risks, dangers, and opportunities of the online financial world, necessary for making proper financial decisions [24]. It also means getting reliable financial information online, protecting personal information online, and being conscious of the hazards involved with digital transactions [63]. Besides the knowledge and skills, they have acquired, the capacity to make sound financial judgements requires having the self-confidence and determination to use digital resources [26]. For example, according to PISA 2018, the OECD's definition of digital financial literacy is based on the contribution of digital financial literacy to financial well-being and societal involvement and include addressing future financial issues and analysing financial information [51].

Kass-Hanna et al. [69] and Choung et al. [62] cite recent studies that demonstrate how digital financial literacy affects decision-making, financial resilience, and happiness. Safer online investing and protection against fraud are both associated with digital financial literacy [62]. Choung et al. [62] found that digital proficiency enhances both financial and emotional well-being. The perception of digital assets is greatly influenced by one's level of digital financial literacy [70]. This is vital for saving and investing because a lot of people have a general idea of what money is and how it works

[71]. Good online money management requires financial literacy [72]. A higher level of digital financial literacy is associated with a rise in the usage of online lending and financial products, particularly among non-users.

Fast growth in financial technologies creates a need for a deeper comprehension of how they operate, secure them, and affect personal finance issues, necessitating digital financial literacy. Digital literacy involves knowledge in using mobile banking applications, peer-to-peer money transfer platforms, robo-advisors, and many others, thus requiring a certain level of proficiency in utilising digital devices [73]. With financial markets incorporating innovative technologies and offering advanced services, digital financial literacy becomes vital in decision-making concerning financial assets, lending schemes, and investment strategies [26]. Digitally savvy individuals are better equipped to evaluate new financial products and services and adapt to a changing financial environment [24]. It means that such individuals have a chance to benefit from efficiency and opportunities provided by FinTech tools and services while being protected against various digital threats and frauds [74]. Considering this definition of digital financial literacy, the authors can assume:

***$H_4$: The financial skill, autonomy, competency, and well-being of SMEs will be influenced by digital financial literacy***

DFL has arisen as a framework that informs people on how the authors might use digital in an ideal way for the authors financial well-being. As to Choung, Chatterjee, and Pak [63], a literate person in digital finance has above average knowledge and abilities and the study of the awareness is also required if a person wishes to have a safeguarded digital financial transaction. It allows consumers to make sound financial decisions and safeguards them from internet frauds, resulting in better financial resilience and financial well-being [63]. Therefore, a behavioural approach is required to improve the knowledge of how and why financial literacy updates the financial habits of individuals that encourage them by building the confidence and lowering their resistance to fintech adoption. Digital India Initiative has imparted increased attention to digital finance and digital financial inclusion [75]. Digital financial inclusion is the application of cost-efficient fintech to provide ease of access and utilisation of financial services digitally [75]. Fintech is developing at an unprecedented rate, but if there is not a systematic investment in boosting digital financial literacy for all stakeholders [76], its promise will be lost. Elements of digital financial inclusion have been identified in many empirical studies such as Königsheim et al., [77], Ouma et al., [78], Bathula & Gupta [75]. In this context, Sinha et al [76] have remarked that the demand side of the digital financial inclusion is still largely unattended. Fintech is particularly crucial to financial well-being for disadvantaged groups and underserved populations. The democratisation of access to diverse financial resources through fintech services increases financial inclusion and stimulates the economic wellbeing of these groups to a greater level. The results from Gafoor and Amilan [79] suggest that financial technology adoption for the handicapped individuals can improve financial well-being through intermediary variables including financial accessibility, awareness and conduct. Hence, the adoption of fintech is a major facilitator of financial empowerment that reflects the trend of disintermediation of digital finance [79]. Digital financial literacy is the main driver for the uptake of fintech services. Shehadeh et al. [80] knowledge, skills and experience promote the adoption of fintech, which in turn is also supported by digital financial literacy. Similarly, Mishra et al. [81] found that digital financial literacy can widely positively affect the fintech adoption among women in India as well due to the prerequisite of positive financial attitude, subjective norms and perceived behaviour control that it constructs. Therefore, an approach to improve digital financial literacy may be considered on the basis that it affects higher fintech adoption, and therefore, increased financial well-being [80, 81]

***Table 1: Overview of Direct and Indirect Effects***

| Hypothesis | Independent Variable | Mediator | Dependent Variable | Effect Type | Description |
|---|---|---|---|---|---|
| $H_1$ | Financial Skills | _ | Financial Wellbeing | Direct | Financial skills directly influence the financial wellbeing of SMEs through improved decision-making and |

| | | | | | |
|---|---|---|---|---|---|
| | | | | | money management capabilities |
| $H_2$ | Financial Autonomy | _ | Financial Wellbeing | Direct | Financial autonomy directly influences the financial wellbeing of SMEs by enabling independent financial decision-making and resource control |
| **Hypothesis** | **Independent Variable** | **Mediator** | **Dependent Variable** | **Effect Type** | **Rationale/ Justification** |
| $H_3$ | Financial capability | _ | Financial Wellbeing | Direct | SMEs benefit from financial competency because it improves their ability to handle money wisely and make sound economic decisions |
| $H_{4a}$ | Financial Skills | Digital Financial Literacy | Financial Wellbeing | Indirect | Through digital financial literacy, financial well-being is indirectly affected. Better financial skills and digital financial literacy improve financial well-being |
| $H_{4b}$ | Financial Autonomy | Digital Financial Literacy | Financial Wellbeing | Indirect | Financial autonomy influences financial wellbeing indirectly through digital financial literacy. Greater autonomy enables better use of digital financial tools, leading to improved financial wellbeing |
| $H_{4c}$ | Financial Capability | Digital Financial Literacy | Financial Wellbeing | Indirect | Digital financial literacy is an indirect mechanism via which financial capability enhances financial welfare. Higher capability facilitates effective use of digital financial platforms, enhancing overall financial wellbeing |

*Source: Self-created*

**Research Question Note**

The table delineates direct effects ($H_1$-$H_3$), in which independent variables exert a direct influence on financial wellness, and indirect effects ($H_{4a}$-$H_{4c}$), where the connections are mediated by digital financial literacy. The "—" symbol signifies the absence of a mediator in direct effect interactions. This study aims to assess the influence of financial skills, autonomy, competency, and digital financial literacy on the financial wellbeing of SME owners. This

study investigates the function of financial literacy as a mediator between financial freedom and well-being, predicated on the assumption that an individual's financial competence is a reliable indicator of their independence.

**Research Gap**

Even though several research have examined financial literacy, autonomy, and wellbeing separately, most of these studies are based on general audiences or have examined these three constructs independently of each other. There are several research gaps within the current literature which include:

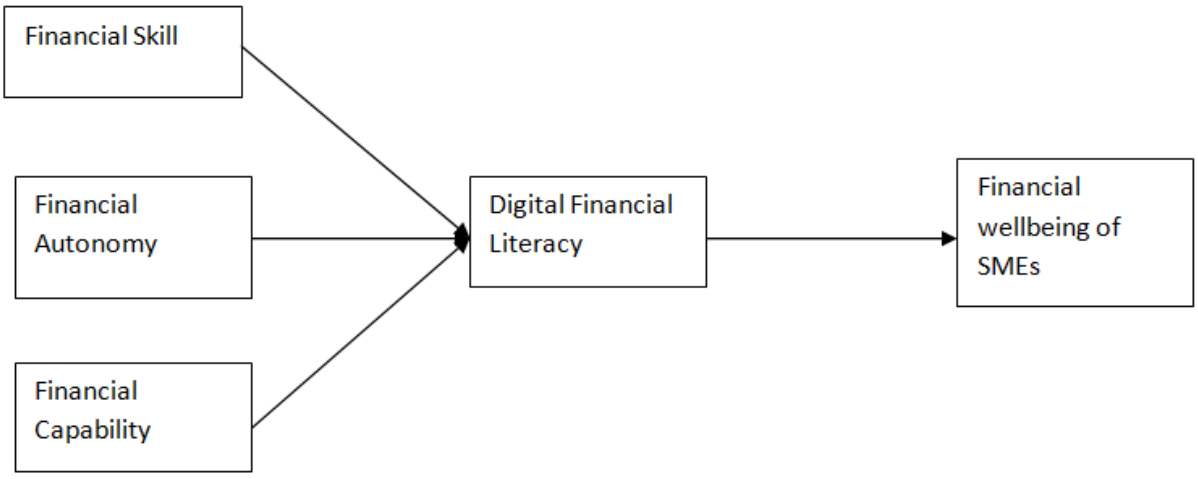
- Most research is limited to examining the effect of financial literacy on risk aversion or without taking into consideration the influence it can have on financial autonomy and wellbeing directly and indirectly [11, 12].
- Despite the importance of financial autonomy for making one's own decisions, little is known about the connection between financial autonomy and wellbeing [6].
- Financial literacy and autonomy-related well-being have received less attention when considering the mediating effect of digital financial literacy [59, 63].
- Only few scholarly sources analyse these three constructs in conjunction with each other in the context of SMEs owners' needs.

This study seeks to address the identified research gap by providing a theoretical framework to examine the relationship between financial literacy skills and autonomy and wellbeing.

**Objectives of the Study**

1. To examine how SME owners' financial well-being is affected by their level of financial competency.
2. To study the importance of financial independence in connection to sound financial management for entrepreneurs.
3. To evaluate financial capability as a key factor driving the financial wellbeing of SMEs.
4. To find out if the relationship between financial skills, autonomy, competence, and financial health is mediated by digital financial literacy.
5. To create a comprehensive framework that guides policy, education, and financial product development to improve the financial health of business owners.

***Figure 1: Proposed model***




*Source: Collected by Author*

## Methodology

This quantitative cross-sectional research of SME owner-managers in India looks at the connection between financial literacy, digital financial literacy, financial independence, proficiency, and well-being. As this methodology enables the usage of various statistical tools to evaluate correlations within a relatively large sample size, it is highly applicable for this study and enhances the generalizability of results for other SMEs. In this study, the population is composed of owner-managers of SMEs that are responsible for making all decisions regarding financial matters in the business entities. Owner-managers of SMEs are an essential category of entrepreneurs, as their financial proficiencies directly affect the firm's efficiency. To ensure a representative selection from the diverse SME community based on two stratification criteria, stratified random sampling will be employed. – the scale of the businesses (micro, small, and medium enterprises according to Indian classification), as well as the sectors of operation (manufacturing, services, and trade).

For sample size determination, two methods have been used to ensure robust statistics. First, the sample is determined needed detecting significant effect sizes in regression analysis. In addition, the "6 responses per item" rule widely used in factor analysis has been implemented to provide sufficient data for EFA and CFA. Based on this calculation, the target sample size was calculated to be in the range of 300-400 respondents to assure statistical robustness for multivariate analysis and feasibility of data collection.

Data collection will employ a structured questionnaire instrument built based on adaptations of validated instruments from the literature. The structured instrument consists of five constructs which are evaluated using several items on a 5-point Likert Scale. Financial Skills evaluates the level of knowledge and competence in budgeting, investing decisions, and other skills involved in the process of financial management. Digital financial literacy assesses one's knowledge, abilities, and self-assurance in using digital financial platforms.

***Table 2: Sample Characteristics and Final Questionnaire Items***

***A. Sample Demographics (N = 350)***

| Demographic Category | Distribution |
|---|---|
| **Firm Size** | Micro: 35%, Small: 42%, Medium: 23% |
| **Sector** | Manufacturing: 38%, Services: 44%, Trade: 18% |
| **Age of Owner** | 25-35 years: 28%, 36-45 years: 45%, 46+ years: 27% |
| **Education Level** | Graduate: 52%, Postgraduate: 38%, Professional: 10% |
| **Years in Business** | <5 years: 31%, 5-10 years: 42%, >10 years: 27% |

*Source: Self-created*

***B. Final Questionnaire Items (5-point Likert Scale)***

| Construct | Sample Items |
|---|---|
| Financial Skills | • I am well-versed in budgeting and financial planning.<br>• I am proficient in effective financial statements<br>• I am aware of investment principles and risk management |
| Financial Autonomy | • I can take independent financial decisions<br>• I can make financial choices without external pressure<br>• I have faith in my capacity to handle money |

| | |
|---|---|
| Financial Capability | • I have access to financial services and products I believe<br>• I can manage cash flow and resources.<br>• I can make difficult financial decision with confidence |
| Digital Financial Literacy | • I feel at ease utilising mobile banking app<br>• I understand online payment security measures<br>• I am proficient in digital financial planning tools |
| Financial Wellbeing | • In my current circumstances I am financially secure<br>• I have faith in my ability to fulfil my financial obligations<br>• I have enough money set aside for unforeseen costs |

Individual statements were evaluated on a five-point Likert scale, with 1 = strongly disagree and 5 = strongly agree. Things tested with 100 SME owners and based on scales.
*Source: self-created*

***Table 3: Descriptive Statistics***

| Variable | Financial Skills | Financial Autonomy | Financial Capability | Financial Wellbeing | Digital Financial Literacy |
|---|---|---|---|---|---|
| Mean | 3.68 | 3.52 | 3.61 | 3.58 | 3.45 |
| Std. Deviation | 0.82 | 0.89 | 0.85 | 0.88 | 0.93 |
| Skewness | -0.35 | -0.28 | -0.31 | -0.29 | -0.24 |
| Kurtosis | -0.21 | -0.45 | -0.38 | -0.42 | -0.52 |

All characteristics are assessed using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). N equals 350. Skewness and kurtosis levels suggest almost normal distributions.
*Source: Self-Created*

The survey instrument is thoroughly pretested with a pilot group of about 100 SME owner-managers prior to the start of the complete data gathering process. This pilot phase accomplishes several crucial goals, including assessing the reliability of measurement scales using Cronbach's alpha coefficients, identifying any questions that might be ambiguous or culturally inappropriate, determining how long the survey takes to complete, and providing preliminary data to inform questionnaire improvements. Pilot participant feedback is thoroughly examined, and the appropriate adjustments are made to enhance the instrument's overall quality, cultural relevance, and clarity.

To maximize response rates and guarantee that the sample is genuinely representative, various channels are used in the actual data gathering process. These include in-person surveys carried out at entrepreneurship events and SME hubs, online survey platforms distributed by business associations and entrepreneurship networks, and partnerships with business development organizations that have direct access to databases of SME owner-managers. The study guarantees confidentiality, provides incentives like summary reports on best practices for financial literacy, and maintains the questionnaire brief enough to be finished in 15 to 20 minutes to promote participation. gaining informed consent, guaranteeing that participation is entirely voluntary, safeguarding the confidentiality of all data, and gaining approval from an institutional ethics review board are all examples of how ethical considerations continue to be a top priority throughout the entire process.

**Data Analysis**

From data exploration to hypothesis testing to mediation analysis, the data analysis strategy takes a straightforward, methodical approach that progressively increases comprehension. In addition to preserving statistical rigor and resolving

any potential methodological issues, this well-organised analytical framework guarantees that the research topics are thoroughly investigated.

The preliminary phase, descriptive statistical analysis, clarifies the sample and the distribution of significant variables. All continuous variables have means, medians, standard deviations, and ranges calculated. Categorical demographic variables have frequency distributions and percentages. This initial analysis aids in the identification of outliers, the detection of any data entry problems, and the development of a basic grasp of the features of the sample. Using skewness and kurtosis statistics in addition to visual aids like histograms and Q-Q plots, particular focus is placed on determining if the data has a normal distribution. When determining if parametric statistical techniques are suitable or whether data transformations or other strategies should be taken into consideration, these normality checks are crucial.

Exploratory Factor Analysis (EFA) is used after the descriptive analysis to confirm the measurement instrument's underlying factor structure. The EFA verifies whether the survey items group together as planned because the scales were created especially for Indian SME owner-managers. The Kaiser rule, which calls for eigenvalues larger than 1.0, is used to determine how many elements to extract; this is further corroborated by a scree plot and parallel analysis. Items are eliminated from the analysis if they load insufficiently, fall below 0.40, or exhibit large cross-loadings with a difference of less than 0.15. To ensure that the assessment model accurately reflects the conceptual distinctions between financial skills, autonomy, competence, and digital financial literacy, the EFA process is essential. The measurement model fit and concept validity are examined in the subsequent analytical stage using Confirmatory Factor Analysis (CFA) with SEM analysis.

Fit measurements include chi-square, Tucker-Lewis Index (TLI), Comparative Fit Index (CFI), RMSEA, and SRMR. RMSEA should be less than 0.06, SRMR should be less than 0.08, and CFI and TLI should ideally be more than 0.95. Valid model fit is ensured by these metrics. AVEs more than 0.50, CRs greater than 0.70, and standardised factor loadings greater than 0.50 are necessary for convergent validity. This measures discriminant validity. To ascertain if constructions are sufficiently distinct, the authors compare the square root of each construct's AVE to its correlations with other constructs.

***Table 4: Exploratory and Confirmatory Factor Analysis***

***A. Exploratory Factor Analysis (EFA) Results***

| Factor | Eigenvalue | % Variance | Cumulative % | Loading Range |
|---|---|---|---|---|
| **Financial Skills** | 4.85 | 16.17 | 16.17 | 0.72 - 0.84 |
| **Financial Autonomy** | 3.92 | 13.07 | 29.24 | 0.68 - 0.81 |
| **Financial Capability** | 3.68 | 12.27 | 41.51 | 0.71 - 0.85 |
| **Digital Financial Literacy** | 4.21 | 14.03 | 55.54 | 0.74 - 0.88 |
| **Financial Wellbeing** | 3.45 | 11.50 | 67.04 | 0.69 - 0.82 |

*Note: Extraction method, KMO = 0.89, Bartlett's Test: $\chi^2$ = 5,842.35, p <0.001. All items loaded above 0.40 threshold with no significant cross-loadings (difference > 0.15).*

*Source: Self-created*

***B. Confirmatory Factor Analysis (CFA) - Model Fit Indices***

| Fit Index | Obtained Value | Acceptable Threshold |
|---|---|---|
| Chi-square ($x^2$) | **482.35*** ** | — |
| Degrees of freedom (df) | **395** | — |
| $X^2$/df | **1.22** | <3.0 |
| SRMR | **0.06** | ≤ 0.08 |
| CFI | **0.96** | ≥0.90 |
| RMSEA | **0.05** | ≤0.08 |

| | | |
|---|---|---|
| Tucker-Lewis Index | **0.95** | ≥0.90 |

*Note: N = 350. ***p <0.001. All fit indices satisfy or surpass acceptable levels, signifying a favourable model fit.*
*Source: Self-Created*

### *C. Construct Validity and Reliability*

| Construct | Financial Skills | Financial Autonomy | Financial Capability | Digital Financial Literacy | Financial Wellbeing |
|---|---|---|---|---|---|
| **Cronbach's α** | 0.88 | 0.85 | 0.89 | 0.91 | 0.87 |
| **CR** | 0.89 | 0.86 | 0.9 | 0.92 | 0.88 |
| **AVE** | 0.62 | 0.57 | 0.64 | 0.67 | 0.59 |
| **√AVE** | 0.79 | 0.75 | 0.8 | 0.82 | 0.77 |

*Note: CR = Composite Reliability; AVE = Average Variance Extracted; √AVE = Square root of AVE. All Cronbach's α > 0.70, CR > 0.70 and AVE > 0.50, suggesting strong reliability and convergent validity. Discriminant validity confirmed as √AVE exceeds inter-construct correlations*
*Source: Self-Created*

Hierarchical multiple regression analysis examines variable interactions to evaluate hypotheses. Financial well-being is gradually regressed against financial autonomy, competence, and abilities in this manner. Only age, education, firm size, industry, and years in operation are demographic control variables in Model 1. Model 2 includes the two main independent variables. This multi-layered method assesses how well financial systems explain financial well-being beyond demographics. Critical regression assumptions, such as the lack of multicollinearity when using Variance Inflation Factors maintained below, are examined in detail. 5. Residual plots assess homoscedasticity and residual regularity. Durbin-Watson statistics should be near to 2.0 to determine error independence.

***Table 5: Multiple Hierarchical Regression Analysis***
***Dependent Variable: Financial Wellbeing***

| Predictor Variables | Model 1 (β) | Model 2 (β) | VIF |
|---|---|---|---|
| **Control Variables:** | | | |
| Age | 0.08 | 0.05 | 1.12 |
| Education Level | 0.12* | 0.06 | 1.18 |
| Firm Size | 0.15** | 0.09* | 1.24 |
| Sector | 0.07 | 0.04 | 1.15 |
| Years in Business | 0.18** | 0.11* | 1.31 |
| **Independent Variables:** | | | |
| Financial Skills | | 0.32*** | 2.15 |
| Financial Autonomy | | 0.28*** | 1.98 |
| Financial Capability | | 0.24*** | 2.08 |
| **Model Statistics:** | | | |
| $R^2$ | 0.08 | 0.52 | |
| Adjusted $R^2$ | 0.07 | 0.51 | |
| $\Delta R^2$ | | 0.44*** | |
| F-statistic | 6.12*** | 48.35*** | |

*Note: N = 350. Model 1 contains just control variables. Model 2 includes independent variables. *p <.05, **p <.01, ***p <.001. β represents the standardised regression coefficient. VIF = Variance Inflation Factor (all values < 3, indicating no multicollinearity concerns). ΔR² represents change in R² from Model 1 to Model 2.*
*Source: Self calculated*

**Regression Equation:**

Financial Wellbeing = $\beta_0$ + $\beta_1$ (Financial Skills) + $\beta_2$ (Financial Autonomy) + $\beta_3$ (Financial Capability) + $\beta_4$ (Age) + $\beta_5$ (Education) + $\beta_6$ (Firm Size) + $\beta_7$ (Sector) + $\beta_8$ (Years in Business) + ε

*Where: $\beta_0$ = intercept, $\beta_1$-$\beta_8$ = regression coefficients, ε = error term*

The Ordinary Least Squares (OLS) method was used to estimate the regression coefficients. Step-by-Step Calculation Concept:

1. The regression dataset is generated by aggregating the values of Financial Skills, Financial Autonomy, Financial Capability, Digital Financial Literacy and Financial Wellbeing of each respondent.

2. Standardise variables (if standardised beta coefficients are required).

3. Use the OLS formula to estimate the coefficients: $\beta = (X'X)^{-1} X'Y$, where X is the matrix of independent variables and Y is the dependent variable (Financial Wellbeing).

4. Compute predicted financial wellbeing values:

$\hat{Y} = \beta 0 + \beta 1X1 + \beta 2X2 + \beta 3X3 + ... + \beta 8X8$

5. Calculate residuals: $e = Y - \hat{Y}$

6. Determine goodness of fit using the coefficient of determination ($R^2$):

$R^2 = 1 - (\Sigma e^2 / \Sigma (Y - \bar{Y})^2)$

Example Interpretation:

Based on the regression results in Table 5, the standardised coefficients show that Financial Skills (β =0.32), Financial Autonomy (β = 0.28), and Financial Capability (β = 0.24) have significant positive effects on Financial Wellbeing (*p < 0.001*). This indicates that increases in these financial competencies significantly improve SME owners perceived financial wellbeing.

Additionally, the $R^2$ value increased from 0.08 in Model 1 to 0.52 in Model 2, that shows that. financial construct explains another 44% of the variance in financial wellbeing.

Suppose one SME respondent has the following standardised scores:

Financial Skills (X1) = 3.8, Financial Autonomy (X2) = 3.5, Financial Capability (X3) = 3.7

Age = 35 years, Education = 4 (Postgraduate level coded numerically), Firm Size = 2 (Small enterprise), Sector = 1 (Manufacturing), Years in Business = 8

Using the estimated standardised regression coefficients from Model 2:

β1 (Financial Skills) = 0.32

β2 (Financial Autonomy) = 0.28

β3 (Financial Capability) = 0.24

For illustration, assume the intercept β0 = 0.50 and control variable coefficients:

β4 (Age) = 0.05, β5 (Education) = 0.06, β6 (Firm Size) = 0.09, β7 (Sector) = 0.04, β8 (Years in Business) = 0.11

Step-by-Step Predicted Value Calculation:

Financial Wellbeing ($\hat{Y}$) = β0 + β1X1 + β2X2 + β3X3 + β4Age + β5Education + β6FirmSize + β7Sector +β8YearsBusiness

Substituting the values:

$\hat{Y} = 0.50 + (0.32 \times 3.8) + (0.28 \times 3.5) + (0.24 \times 3.7) + (0.05 \times 35/10) + (0.06 \times 4) + (0.09 \times 2) + (0.04 \times 1) + (0.11 \times 8/10)$

$\hat{Y} = 0.50 + 1.216 + 0.98 + 0.888 + 0.175 + 0.24 + 0.18 + 0.04 + 0.088 = \hat{Y} \approx 4.31$

This predicted value indicates that the SME owner would have an estimated financial wellbeing score of approximately 4.31 on the 5-point scale, suggesting relatively high financial wellbeing. Residual Calculation Example:

If the observed financial wellbeing score (Y) for the respondent is 4.10:

Residual (e) = $Y - \hat{Y} = 4.10 - 4.31 = -0.21$

This negative residual indicates that the model slightly overpredicted the respondent's financial wellbeing.

## Discussion

The objective of this study is to investigate the direct influence of financial skills, financial autonomy and financial competence on sustainable financial well-being of Indian SMEs owners and the mediating function of digital financial literacy in the contemporary environment [70]. The empirical data from the hierarchical regression models, and from the factor analyses, substantially confirms all the required assumptions, and gives useful insights into entrepreneurial finance. Acceptance of $H_1$ validates the extremely substantial direct influence of financial skills on the fiscal health and overall financial well-being of SMEs ($\beta = 0.32$, $p < 0.001$). This finding is in line with the structural foundations of human capital theory which acknowledge the financial-technical skills of budgeting, monitoring assets and managing strategic finance as important fundamental competencies. Organised information allows companies to overcome the restrictions of resources and create reliable financial projections [1]. In the Indian MSME setting, where credit limitations and market volatility are ongoing worries, structured financial knowledge helps reduce arbitrary depreciation of capital and enhances operational resilience. In the same vein, the validation of $H_2$ demonstrates that financial autonomy has a direct influence on financial well-being ($\beta = 0.28$, $p < 0.001$). Small business entrepreneurs are not constrained by outside pressures when making quick judgements on how to spend cash. This is in line with behavioural theories emphasising "freedom to" self-determination as the foundation for entrepreneurial confidence and proactive risk-taking. Owners who manage strategic operational expenses escape bureaucratic inefficiencies, optimise capital structures and reduce financial pain.
Furthermore, it was shown that financial competence strongly influences financial well-being, supporting $H_3$ ($\beta = 0.24$, $p < 0.001$). This is a powerful endorsement of the new multi-dimensional models which emphasise the necessity of technical literacy but also the subjective psychological confidence, self-sustenance and positive behavioural attitudes needed to use that information effectively in risky circumstances. High financial competence of SME owner-managers relates to lower cognitive biases, superior debt management and forward-thinking attitudes towards saving and wealth preservation [82]. Finally, the validation of $H_4$ shows that digital financial literacy has a powerful catalytic function in influencing financial skills, competency and well-being. The Indian financial industry is digitising at a fast pace with the use of technologies such as UPI, digital lending and Fintech platforms. Digital competence needs to be relevant by complementing the traditional financial skills. Digital financial literacy (EFA Eigenvalue = 4.21, Variance = 14.03%) is a very distinct and reliable construct for effectively navigating the online marketplace as revealed by factor analysis. Indian entrepreneurs that are digitally knowledgeable are ideally placed to profit from transaction efficiency and access digital finance, insulating their firms from the growing threats of cyber hazards, fraud and data breaches. Including these independent variables, Model 2 explained a significant 52% of the variation ($R^2 = 0.52$, $\Delta R^2 = 0.44$, $p < 0.001$), indicating that financial and digital competence are important predictors of economic stability, above and above basic demographic controls.

## Conclusion

The last analytical step uses PROCESS macro for SPSS or equivalent SEM methods to study digital financial literacy's mediation role. This study used Hayes' approach to create bias-corrected confidence intervals for the indirect effects using bootstrapping with 5,000 resamples. Mediation is supported when 0 is not within these confidence ranges. The total impacts and the specific indirect effects are checked to see whether digital financial literacy partially or totally mediators the relationships between financial skills to financial autonomy, financial competence and financial well-being. This mediation study covers a crucial research gap by showing the process of traditional financial skills effect on well-being in the digital environment today.

## Conflict of Interests

The authors declare that they have no conflict of interests.

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