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MEDIATING INFLUENCE OF FINANCIAL TECHNOLOGY AND ENTREPRENEURIAL COMPETENCIES IN EXTENDED FINANCIAL LITERACY FRAMEWORK: A PLS-SEM EXPLORATION

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Abstract

Financial literacy involves a person's capability to handle money, make well-informed choices, and tackle economic difficulties. It is grounded in strategic planning for key financial goals such as retirement and managing debt. Enhanced by financial technology and entrepreneurial competencies, this skill set aims to fortify future prosperity, contributing significantly to overall life satisfaction through improved financial well-being. The study's core objective is to examine the Mediating Role of Financial Technology and Entrepreneurial Competencies within the Extended Financial Literacy Model. For this investigation, the research employed Partial Least Square (PLS-SEM) path modeling, offering a comprehensive assessment by simultaneously measuring all paths in the research model. The results underscore a direct correlation between financial literacy, financial technology, entrepreneurial competencies, and financial satisfaction. This implies that individuals possessing a robust understanding of their finances are better positioned to attain fulfillment through the establishment of a sound financial foundation. Furthermore, entrepreneurial competencies directly relate to financial satisfaction, emphasizing that individuals who integrate these competencies with effective financial planning and decision-making experience heightened fulfillment on the financial front. The findings underscore the interconnected nature of financial literacy, technology, entrepreneurship, and satisfaction, shedding light on the nuanced dynamics of these elements in shaping financial well-being.

Keywords: Financial Literacy, Financial Technology, Entrepreneurial Competencies, Financial Satisfaction, Partial Least Square, Structural Equation Model

INTRODUCTION

Financial literacy, defined as an individual's ability to manage finances for future prosperity, holds a pivotal role in shaping one's life. The adept handling of finances today can significantly impact the future (Peprah-Yeboah, 2018). It encompasses skills related to managing monetary information for financial planning, accumulation, retirement, and debt (Burritt, et al., 2017). Research indicates that financial knowledge, coupled with effective management and behavioral competence, leads to financial satisfaction, especially when complemented by financial technology and entrepreneurial competencies (Farida et al., 2021). In the Philippines, numerous challenges compound financial well-being, including an unstable labor market, low savings coupled with high debts, costly education, and the rising cost of living. The uncertain job market,

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exacerbated by global crises such as the COVID-19 pandemic, has led to job losses, reduced income, and increased financial stress. Additionally, financial literacy has been linked to self-employment, showcasing its role in fostering entrepreneurial endeavors. Low savings and high debts pose another challenge, emphasizing the importance of financial literacy in managing personal finances (Teichman, et al., 2001). The prevalent need to work even post-retirement due to insufficient savings highlights the imperative of financial planning early in one's career (Bonsdorff, et al., 2014). Financial well-being, characterized by control over day-to-day finances and the ability to absorb financial shocks, is crucial for overall satisfaction. The soaring costs of education contribute to financial stress, with tuition fees increasing regularly. This, combined with the burden of student loans, underlines the necessity for sound financial decision-making. Studies reveal that financial literacy is inversely related to poor debt behavior, emphasizing the need for financial education (Farrar, et al., 2018. The escalating cost of living further compounds financial challenges, impacting GDP growth, business solvency, and personal consumption. Financial well-being, measured by objective and subjective indicators, reflects an individual or family's ability to live comfortably. Financial satisfaction emerges as a significant predictor of life evaluation, highlighting the crucial link between subjective well-being and financial literacy (Newman, et al., 1975). In response to these challenges, there is a growing awareness of the need for financial literacy, particularly the ability to manage finances effectively. The International Marketing Group (IMG) introduces a novel concept that empowers individuals to build a solid financial foundation. This initiative, spanning over two decades, focuses on financial education, helping people create wealth, and advocating for financial independence as a decision, not a mere dream.

Traditional financial industries often prioritize sales over education. In contrast, IMG emphasizes the importance of financial literacy by providing comprehensive information on financial planning, wealth accumulation, annuities, and debt management (Sabri, et al., 2017). The three components of financial literacy—financial attitude, knowledge, and behavior—are seen as essential for informed decision-making in daily life (Arceo-Gomez & Villagomez, 2017). Financial literacy becomes especially crucial in assessing systemic risks in the financial market. As financial transactions grow geometrically, evaluating the potential impact of financial literacy on systemic risk and liquidity crises gains significance (Berta, et al., 2016). Financial firmness, defined as the financial system's ability to withstand shocks and maintain stability, becomes a key consideration in mitigating disruptions in financial intermediation (Yanquen et al., 2022). The essence of financial satisfaction is realized when income becomes passive, investments generate returns, and individuals meet criteria for a solid financial foundation (Gerrans, et al., 2013). Against this backdrop, the study seeks to extend the financial literacy framework by introducing a shared system on a financial membership platform. This research explores the mediating role of financial technology and entrepreneurial competencies in the extended financial literacy paradigm, aiming to enhance the financial satisfaction of IMG members, stakeholders, and clients. The study encompasses theoretical background exploration, problem statement, research methodology, and a review of related literature and studies. Through this comprehensive examination, the research aims to contribute valuable

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insights to the ongoing discourse on financial literacy, technology, and entrepreneurial competencies in fostering financial well-being.

THEORETICAL FRAMEWORK

Financial literacy is gaining an impact on almost everyone especially nowadays that the financial market is very much accessible in the age of technological advancement. The number of researchers in this field is increasing (Farida, M. N., Soesatyo, Y., & Aji, T. S. 2021). It is also noted these days that financial literacy literature is mostly focused on the ability to make better financial predictions, decisions, and management of money, Patel, A. K., Singh, M., Patel, A. K., & Singh, K. (2021) defines financial literacy as just merely a concept used to refer to the core sources of knowledge, skills, and attitudes of citizens to safeguard their financial situation and that of their families. Financially literate individuals have good knowledge of money and prices, and they prepare effectively to manage their personal or family budgets (Nicolini, et al., 2017). Chandra, A. A., Manggala, F., Purnama, R., & Suade, Y. K. M. (2022) suggest that increasing one's financial literacy does not result in consistency in improving financial behavior. Bongomin, et al (2015) analyze the relationship between financial literacy and several psychological variables; Farida et al., (2021) shows the results of research that financial literacy can affect financial satisfaction.

Some researchers have taken only basic concepts of financial numeracy to assess the level of financial literacy. Other researchers have used only a particular dimension of personal finance to measure financial literacy. Very few researchers have used all the dimensions of personal finance to assess the level of financial literacy (Bushan & Medury, 2014). Lusardi, A., Hasler, A., & Yakoboski, P. J. (2021) designed the financial literacy test for the Health and Retirement Survey (HRS). This test comprised three questions to assess the respondents‟ understanding of the concepts of compound interest, inflation, and diversification of risk. This test by Lusardi and Mitchell became very popular with other researchers as well. Johan, I., Rowlingson, K., & Appleyard, L. (2021) measured financial literacy in India and Indonesia using the questions developed by Lind, T., Ahmed, A., Skagerlund, K., Strömbäck, C., Västfjäll, D., & Tinghög, G. (2020) also used these questions to assess the level of financial literacy in Sweden. Lahiri, S., & Biswas, S. (2022) measured the level of financial literacy of the Russian population by using three questions developed by Lusardi and Mitchell. This test comprised three questions to assess the respondents‟ understanding of the concepts of compound interest, inflation, and diversification of risk. Yulfiswandi, Y., Jocelynn, E., & Robin, R. (2022) measured financial literacy in India and Indonesia using the questions developed by Elinder, M., Hagen, J., Nordin, M., & Säve-Söderbergh, J. (2022) also used these questions to assess the level of financial literacy in Sweden. Lahiri, S., & Biswas, S. (2022) measured the level of financial literacy of the Russian population by using three questions developed by Lusardi and Mitchell. Lone, U. M., & Bhat, S. A. (2022) used the Dutch DNB Household Survey to assess the financial literacy of respondents. This survey added two more questions to the already existing three questions of Lusardi and Mitchell. Measurement of financial literacy through surveys in various countries has demonstrated low levels of

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financial literacy among populations (Fu, J., Hou, S., & Yu, C. W. M. 2022). It has been observed that even basic financial understanding among consumers is low; hence, they are vulnerable in matters relating to the management of their finances. It has been observed that levels of financial literacy are not very encouraging in developed nations not to mention developing countries. Financial literacy levels are found to be especially low for certain groups of the population such as less educated, young, minorities, and those earning less income. By reviewing the literature, it can be said that most of the studies on the measurement of financial literacy of the population, only one dimension of financial literacy i.e. financial knowledge is considered and other dimensions such as financial attitudes and financial behavior were not considered. Kartini, K., Fitri, F., Rabiyah, U., & Anggraeni, D. (2021) addressed that behavior was the most crucial element of financial mastery because some behavior could enhance or reduce fiscal security.

METHODOLOGY

The research design utilized a descriptive correlational method, with the questionnaire serving as the primary instrument for data collection. Permission was sought from the President of the International Marketing Group (IMG), facilitated through the Senior Executive Vice Chairman. The questionnaire, distributed via Google Forms, reached the identified respondents with the assistance of various CEO Marketing Directors and Senior Marketing Directors. Processes within the research model, encompassing questionnaire design, transmittal letter, distribution, data gathering, analysis, and interpretation, culminate in an output—the extended financial literacy framework. This model characterizes processes as a sequence of input, process, and output stages, initiating with data collection and preparation, followed by defined processing, and concluding with usable outputs. At the project level, the entire research process is described within this framework. To break down the complexity at a work package level, the IPO model is applied, dividing the process into pre-processing, main-processing, and post-processing. Each work package can involve multiple steps, with pre-processing entailing inputs such as respondent profiles, perceptions, and inter-relationships. The study was conducted at the International Marketing Group Cebu, a financial education company with global reach. As a pioneer in the financial business and membership platform, IMG aims to empower individuals to build a solid financial foundation. The company has expanded globally, establishing a presence in numerous cities across different countries. IMG operates from its main location on the 4th Floor, JY Square Mall, Lahug Cebu City, Philippines, with additional Financial Centers in various cities and municipalities. The company also has international satellite offices in locations such as Brunei, Hong Kong, Japan, South Korea, Macau, Malaysia, Singapore, Taiwan, Abu Dhabi, UAE, Cyprus, Dubai, Israel, Jeddah, Kingdom of Saudi Arabia, Kuwait, Oman, Qatar, Riyadh, Barcelona, France, Ireland, Italy, London, Madrid, Milan, Rome, Russia, Switzerland, the United States of America, and Canada. Functioning as a dynamic financial education institution, International Marketing Group leads a financial membership revolution, introducing new possibilities to individuals worldwide.

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RESULTS AND DISCUSSIONS

Perception of the constructs of the model on the Mediating Role of Financial Technology and Entrepreneurial Competencies in the Extended Financial Literacy Model: A Pls-Structural Equation Modeling Approach

This section provides an analysis of the various constructs investigated, namely financial literacy (FL), financial technology (FT), entrepreneurial competencies (EC), and financial satisfaction FS). These constructs were derived from Febriyanti, et al., (2022) financial literacy model. This model captures that financial literacy does not have a significant effect on financial behavior, financial technology has a significant effect on financial behavior, financial literacy has a significant effect on financial satisfaction, the use of financial technology has a significant effect on financial satisfaction, financial behavior has a significant effect on financial satisfaction, that financial literacy through financial behavior does not affect financial satisfaction, the use of financial technology through financial behavior does not affect financial satisfaction.

Financial Literacy

Table 1 describes the respondents' view of Financial Literacy in terms of financial attitude, financial behavior, and financial knowledge toward financial satisfaction. According to Asandimitra & Kautsar, (2020). Financial literacy is how someone has an attitude, behavior, knowledge, and abilities and is accustomed to using them to make the right financial decision so there is a relationship between financial attitude, behavior, and knowledge with the concept of financial literacy. Meanwhile (Daradkah et al., 2020) said that financial literacy can be concluded as an insight to run finance. Meanwhile, financial literacy is a benchmark for understanding financial thinking and the ability to manage finances that can be used as a means to make decisions shortly and for a long time by the dynamics of needs and economic conditions (Kartini et al., 2021).Financial attitude can be defined as a personal inclination towards financial matters. It is the ability to plan and maintain a savings account that matters. Dewi, V. I. (2022) concluded that to enhance financial literacy among generations, the focus should be on developing favorable financial attitudes among the people of the country.

Financial attitude is defined as a state of mind, opinion, and judgment about finance (HC, R., & Gusaptono, R. H. 2020). These things are parts of attitude that are inseparable from the human mind that can influence the financial decision-making that affects financial satisfaction. According to Normawati et al., (2022) financial attitude has a significant influence on financial satisfaction. It has a positive effect on Financial Satisfaction. This relationship signifies the better the individual manages his finances, the higher the financial satisfaction is achieved. This is demonstrated by the ability to earn income and expenditure, to get used to saving, to have goals in finance, and to saturate financial plans for the future. Financial behavior is very important and a fundamental component of financial literacy. According to Kartini et al., (2021) positive financial behavior of individuals such as appropriate planning for expenditures and caring for financial stability enhances their financial literacy level, whereas negative financial behavior largely depends upon credits and loans weakens their financial well-being. Kumar, R., & Pathak,

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D. C. (2022) concluded that financial inclusion behavior increases with the positive effect of financial literacy on financial awareness. Grable et al., (2020) produced evidence in their study that individuals with a lower level of financial risk tolerance face difficulty in the financial decision and are unsatisfied with their financial management competency. Financial knowledge is more financially literate, and they can handle money efficiently. Beatrice et al., (2021) found an association between investors' financial literacy with the propensity effect. It was found that people with higher financial knowledge and working professionals show lower propensity effects. Financial knowledge has a compelling influence on financial attitude and behavior whether it is objective or subjective. The study also identified that financial knowledge is an essential factor in determining the financial literacy and financial decision-making skills of an individual (Chandra et al., 2022). Okicic, J. (2020) identified that financial knowledge has a positive association with retirement planning and individuals possessing financial knowledge are more financially literate. It means more financially knowledgeable people can plan better for their retirement periods, Rai, K., Dua, S., & Yadav, M. (2019).

Table 1: Indicators, Mean, Standard Deviation and Verbal Description of Respondent's Perception on Financial Literacy (n = 477)

Indicators	Mean	SD	Verbal Description
Financial Attitude			
FA1	4.26	0.8	Strongly Agree
FA2	4.42	0.7	Strongly Agree
FA3	4.24	0.8	Strongly Agree
FA4	4.66	0.6	Strongly Agree
FA5	4.83	0.4	Strongly Agree
Financial Behavior			
FB1	4.57	0.6	Strongly Agree
FB2	4.19	0.8	Agree
FB3	3.84	0.8	Agree
FB4	3.56	0.9	Agree
FB5	4.26	0.8	Strongly Agree
Financial Knowledge			
FK1	4.39	0.7	Strongly Agree
FK2	4.09	0.7	Agree
FK3	3.67	0.8	Agree
FK4	4.15	0.8	Agree
FK5	3.87	0.8	Agree

It shows that the respondents demonstrate a strong agreement on their perception of financial attitude based on the following questions: I keep a close personal watch on my financial affairs, I am aware of the importance of financial investment, I always pay bills before the due date, financial planning is important to me, it is important to set goals for the future. The respondents exhibit less on their perception of financial behavior and financial knowledge respectively. Table 2 describes the respondents' perception of financial technology with the following indicators: perceived usefulness, perceived ease of use, service trust, social influence, and attitude toward financial satisfaction. Suryono et al. (2020) argue that the advent of financial technology poses challenges for various

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industries and business sectors. The growth of digital transformation has particularly led to the rise of financial technology initiatives, which are widely acknowledged as significant innovations in the financial industry. Financial technology is a new financial industry that applies technology to improve financial activities. Moreover, according to Ye, Y., Chen, S., & Li, C. (2022), financial technology financial technology, or FinTech, refers to innovative ideas that leverage technology to improve financial service processes, tailored to different business situations. Following the global financial crisis of 2008, the emergence of e-finance and mobile technology paved the way for FinTech innovation. This development involved integrating internet technology, social networking services, social media, artificial intelligence, and big data analytics. Traditional financial institutions, including banks, were faced with the challenge of adapting their business models to stay competitive. At the same time, startups saw this as an opportunity to enter the financial services industry. It shows the demographic data of the sampled respondents measuring the variables on the specific objectives of the study that investigate the nature of financial technology services and factors influencing the perceived usefulness, perceived ease of use, service trust, social influence, and attitude toward using financial technology. All the variables of the construct under financial technology are measured on a five-point Likert scale ranging from ‘1 = Strongly Disagree to ‘5 = Strongly Agree. It exhibits a strong agreement on the significance of financial technology concerning financial literacy.

Table 2: Indicators of Financial Technology (n = 477)

Indicators	Mean	SD	Verbal Description
Perceived Usefulness			
PU1	4.14	0.8	Agree
PU2	4.07	0.7	Agree
PU3	3.84	0.8	Agree
Perceived Ease of use	**Mean**	**Sd**	**Verbal Description**
PEOU1	4.04	0.7	Agree
PEOU2	3.95	0.8	Agree
PEOU3	3.59	0.9	Agree
PEOU4	3.72	0.8	Agree
PEOU5	3.95	0.8	Agree
Service Trust	**Mean**	**Sd**	**Verbal Description**
ST1	3.83	0.8	Agree
ST2	4.08	0.8	Agree
ST3	3.83	0.8	Agree
ST4	3.8	0.8	Agree
Social Influence	**Mean**	**Sd**	**Verbal Description**
SI1	3.79	0.8	Agree
SI2	4	0.8	Agree
SI3	3.98	0.8	Agree
SI4	3.96	0.8	Agree
Attitude Toward Using FT	**Mean**	**Sd**	**Verbal Description**
ATU1	3.95	0.8	Agree
ATU2	3.78	0.8	Agree
ATU3	3.95	0.8	Agree
ATU4	3.97	0.8	Agree
ATU5	3.9	0.8	Agree

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Entrepreneurial Competencies

Table 3 describes the respondents' perception of the role and significance of entrepreneurial competencies in capturing the importance of financial literacy toward financial satisfaction. Entrepreneurial competencies play an important role in business continuity, as stated by previous research showing that entrepreneurial competencies significantly influence the business performance of a company (Khan et al., 2021).

Seraj et al. (2022) propose that entrepreneurial competency encompasses a set of capabilities that have the potential to create value at cultural, social, or financial levels, thereby shaping society. Entrepreneurial competency is reflected in a sequence of integrated capabilities, including relevant attitudes, skills, and knowledge required for executing entrepreneurial actions. For the present study, we adopt the meaning of entrepreneurial competency to include opportunities recognition, creativity, leadership, communication, networking, and problem-solving skills, along with digital, financial, and legal know-how to deal with uncertainty, ambiguity, and risks. Essential work-related competencies represent skills and abilities that are significant for the workplace.

Relevant competencies are necessary for resilience to occur, and the development of competencies over time could lead to resilient behavior, such as strategic, conceptual, opportunity, learning, personal, ethical, and familism competencies. These entrepreneurial competencies are crucial for increasing business resilience. Competencies are a specific set of firm-specific knowledge, attitudes, and awareness that summon multidimensional resources, including resilience, thereby facilitating sustainable enterprise performance. Personal competency is considered a significant factor in resilience, and research has empirically established competency as a significant predictor of resilience and organizational sustainability. In particular, micro and small enterprises must possess the necessary competencies to develop. Empirical evidence reveals that entrepreneurial competencies are a significant predictor of enterprise performance. Previous studies have shown that competencies are significantly related to economic performance, while recent studies prove that relevant competencies have significant positive effects on enterprise sustainability.

It shows that the respondents exhibit a strong agreement on the role and significance of entrepreneurial competencies in capturing the importance of financial literacy towards financial satisfaction.

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Table 3: Indicators of Entrepreneurial Competence (n = 477)

Indicators	Mean	Sd	Verbal Description
Strategic Competence			
SC1	4.09	0.8	Agree
SC2	4.06	0.7	Agree
SC3	3.94	0.8	Agree
SC4	3.98	0.8	Agree
SC5	3.99	0.8	Agree
Conceptual Competence	**Mean**	**Sd**	**Verbal Description**
CC1	3.88	0.8	Agree
CC2	3.84	0.8	Agree
CC3	3.86	0.8	Agree
CC4	3.9	0.8	Agree
CC5	3.99	0.8	Agree
CC6	4.06	0.7	Agree
Opportunity Competence	**Mean**	**Sd**	**Verbal Description**
OC1	4.03	0.8	Agree
OC2	4.09	0.7	Agree
OC3	4.01	0.8	Agree
OC4	4.01	0.8	Agree
OC5	4.02	0.8	Agree
Learning Competence	**Mean**	**Sd**	**Verbal Description**
LC1	4.16	0.7	Agree
LC2	3.83	0.9	Agree
LC3	3.99	0.8	Agree
LC4	4.04	0.8	Agree
LC5	4.14	0.7	Agree
Personal Competence	**Mean**	**Sd**	**Verbal Description**
PC1	4.34	0.7	Strongly Agree
PC2	4.32	0.7	Strongly Agree
PC3	3.99	0.8	Agree
PC4	4.11	0.7	Agree
Ethical Competence	**Mean**	**Sd**	**Verbal Description**
EC1	4.14	0.8	Agree
EC2	4.2	0.8	Agree
EC3	4.01	0.8	Agree
EC4	3.98	0.9	Agree
Familism Competence	**Mean**	**Sd**	**Verbal Description**
FC1	3.99	0.8	Agree
FC2	4.01	0.8	Agree
FC3	3.99	0.8	Agree
FC4	3.96	0.8	Agree

Financial Satisfaction

Table 4 describes the respondents' perception of the role and significance of financial satisfaction as obtained by the individuals if the desire to obtain something is achieved from their financial condition and environmental condition supports the action. Satisfaction is one form of happiness obtained from the result of an effort that has been carried out by

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someone. The happiness of life is the crowning achievement of any result. One form of happiness is through the achievement of financial satisfaction. Financial satisfaction is derived from a form of someone's behavior that is associated with how these people manage their revenues to meet their financial needs. Financial need is said to be successful if the individual can meet short-term needs for consumption and long-term needs without the slightest deficiency (Normawati et al., 2021).

Financial satisfaction can be explained using the theory of financial behavior. This theory is based on the Theory of Planned Behavior (TPB) which explains about individual behavior arises because of the intention. TPB explains that one's behavior emerges from the existence of intention. The intention is influenced by one's attitude based on how important the behavior of the individual is. The behavioral intention of someone is influenced by normative properties. This property is an individual's perception of what should one do according to others which he deems important (Rusdini et al., 2020). An individual's desire is determined by two independent variables which are attitude and subjective norm (Edwards-Dandridge et al., 2020). Attitude is a subjective norm because of the social pressure that an individual feel to do or not to do an action. A subjective norm is a normative belief that expresses individual motivation to abide by referred groups. The individual behavioral control perception shows the acceptability of one crossing a border (Rusdini et al., 2020).

Dewi et al., (2020) stated that TPB emerges from the Theory of Reasoned Action, or TRA for short. TRA states that a subjective norm is a social evolution that dictates human life and is used to approve or disapprove of certain acts. This rule is based on a belief called normative belief. The family environment factor is an environment that can influence an individual's actions or behavior. One would commit an action if other people deemed that the said action is positive, acceptable, or not.

Financial satisfaction is the satisfaction of a person toward a personal financial. The person who has financial satisfaction is the one who is satisfied with the recent financial condition. Furthermore, financial satisfaction is a subjunctive perception that is sufficient for financial resources. Financial satisfaction can be measured by looking at a person's point of view toward his income, managing his financial problems, meeting his basic needs, having debt or not, saving, ensuring the availability of money for his future, and setting his goals in life. Hence, financial satisfaction is one component of life that is characterized by sufficient financial assets

It shows that the respondents exhibit a strong agreement on the role and significance of increasing cash flow, having the right healthcare, proper income replacement, managing debts, having accurate emergency funds, and investing in capturing the importance of financial literacy towards financial satisfaction.

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Table 4: Indicators of Financial Satisfaction (n = 477)

Indicators	Mean	Sd	Verbal Description
Increased Cash Flow			
ICF1	3.93	0.8	Agree
ICF2	3.91	0.8	Agree
ICF3	4.06	0.8	Agree
ICF4	3.87	0.9	Agree
Health Care	**Mean**	**Sd**	**Verbal Description**
HC1	3.91	0.9	Agree
HC2	3.86	0.9	Agree
HC3	3.82	0.9	Agree
HC4	3.45	1.1	Agree
Income Replacement	**Mean**	**Sd**	**Verbal Description**
IR1	3.86	0.9	Agree
IR2	3.83	0.9	Agree
IR3	3.63	1	Agree
IR4	3.61	1	Agree
Debt Management	**Mean**	**Sd**	**Verbal Description**
DM1	3.96	0.8	Agree
DM2	4.03	0.8	Agree
DM3	4.13	0.8	Agree
DM4	4.09	0.8	Agree
Emergency Funds	**Mean**	**Sd**	**Verbal Description**
EF1	3.69	0.9	Agree
EF2	3.84	0.9	Agree
EF3	3.75	0.9	Agree
EF4	3.73	0.9	Agree
Investment	**Mean**	**Sd**	**Verbal Description**
IV1	3.41	1.1	Agree
IV2	3.55	1.0	Agree
IV3	3.65	1.0	Agree
IV4	3.39	1.0	Neutral

Structural Equation Model

Structural Equation Modelling (SEM) was adopted to assess the research model introduced in this study because it can measure all paths simultaneously, not stepwise; it is considered a more comprehensive and effective method than stepwise regression analysis (Hwang et al., 2021). In particular, Partial Least Square (PLS-SEM) path modeling was used to test the study's hypotheses relying on the statistical software WarpPLS 7.0. The PLS path modeling is a variance-based technique recommended in an early stage of theoretical development to test and validate exploratory models (Ceballos-Santamaría et al., 2021); Hwang et al., 2020). PLS was selected as it brings together three advantages; first, it is a nonparametric technique and, consequently, does not assume normality of the data and estimates least squares recursively; second, it works well with smaller sample sizes; third, it has a predictive role allowing for planning

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Vol: 43 Issue: 02-2024
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and future decision making (Afthanorhan et al., 2021; Maune, A., & Themalil, M. T. (2022). Mobile Applications Adoption and Use in Strategic Competitive Intelligence: A Structural Equation Modelling Approach. Journal of Intelligence Studies in Business, Cheah et al., (2021). PLS sample size requirements are more relaxed compared to covariance-based techniques. Minimal recommendations for PLS analysis range from 30 to 100 cases (Bentur et al., 2020; Chin et al., 2020). For a more accurate assessment, conducting a power analysis on the proportion of the model with the largest number of predictors (Lin et al., 2020; Lavery et al., 2019) is recommended.

DATA ANALYSIS

The following criteria are recommended for evaluating the dependability of a measuring instrument: one is more conservative, while the other two are more flexible. These requirements apply solely to indicators of reflective latent variables. Reliability is a quality indicator for a measuring instrument; the instrument is often composed of a series of question statements. A measuring instrument is reliable if the question statements (or other measures) linked with each latent variable are consistently interpreted by diverse respondents. To be conservative, both the composite reliability and Cronbach's alpha coefficients should be larger than or equal to 0.7. (Schumaher et al., 2019; Soliman et al., 2022; Sovey et al., 2022; Suryaningtyas et al., 2019; Odei, M. A. 2022). The more flexible form of this criteria, which is often employed, states that one of the two coefficients must equal or exceed 0.7. (Odei, M. A. 2022, May). This criterion is frequently true for the composite reliability coefficient, typically greater than the individual reliability coefficient (Shrestha et al., 2022). A more lenient variant lowers this criterion to 0.6. (Sovey et al., 2022). Therefore, Table 2 indicates that all the factor loadings for the eight (8) constructs are well above the threshold of 0.6 and this indicates that the items used to measure the constructs are valid indicators of their respective constructs.

To evaluate the reliability of the constructs, two coefficients are commonly used: CR and Cronbach's alpha α (Scott et al., 2020; Park, S., & Tussyadiah, I. P. 2020). Legate et al., 2021) recommended CR for PLS-SEM. Table 2 shows measurement model results, indicating adequate internal consistency and reliability. The indicators loadings were above 0.60, and both the CR and α ranged from 0.902-0.964 and 0.836–0.956, respectively. These results demonstrate that all the indicators and constructs' reliabilities are acceptable.

Convergent and discriminant validity are also considered to validate the reflective measurement model (Yusoff et al., 2020; Hanafiah, M. H. 2020). To ensure convergent validity, it is generally accepted that the average variance extracted (AVE) values for the constructs should exceed 0.50, as recommended by several studies (Cui et al., 2021; Sarstedt et al., 2019; Legate et al., 2021). It should be noted that AVE is only suitable for models with reflective indicators. AVE determines the amount of variance captured by the construct through its indicators (Chin, 2010). In this study, the AVE values ranged from 0.747–0.791 indicating that the convergent validity of the measurement model is highly acceptable (Hashmi et al., 2020; Hair Jr et al., 2021).

Jilin Daxue Xuebao (Gongxueban)/Journal of Jilin University (Engineering and Technology Edition)
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Table 5: Indicator Loadings, Convergent Validity and Reliability Tests

Constructs	Items	Factors Loadings	Cronbach's α	CR	AVE
Financial Literacy	Financial Attitude	(0.834)	0.836	0.902	0.754
	Financial Behavior	(0.907)			
	Financial Knowledge	(0.861)			
Financial Technology	Perceived usefulness	(0.818)	0.926	0.944	0.773
	Perceived Ease of use	(0.893)			
	Service Trust	(0.907)			
	Social Influence	(0.894)			
	Attitude Towards Using Financial Technology	(0.880)			
Entrepreneurial Competence	Strategic Competence	(0.886)	0.956	0.964	0.791
	Conceptual Competency	(0.896)			
	Opportunity Competency	(0.892)			
	Learning Competency	(0.918)			
	Personal Competency	(0.878)			
	Ethical Competency	(0.869)			
	Familism Competency	(0.887)			
Financial Satisfaction	Increased Cash Flow	(0.838)	0.932	0.947	0.747
	Health Care	(0.869)			
	Income Replacement	(0.901)			
	Debt Management	(0.842)			
	Emergency Funds	(0.907)			
	Investment	(0.827)			

The discriminant validity of a construct is the degree to which it is distinct from other constructs in the model (Al-Gasawneh, J., & Al-Adamat, A. 2020; Yusoff et al., 2020). This is accomplished by comparing the AVE of each construct to the greatest squared correlation of any other construct in the model, or by comparing the loading of an indicator with its associated construct to that of other constructs (Lin et al., 2020; Rasoolimanesh, S. M. 2022; Ismail et al., 2020; Hair Jr et al., 2020). The results of the analysis revealed that all of the square roots of the AVEs satisfy the threshold. The findings suggest that the AVE square root for each construct associated with another is an appropriate indicator of the measuring model's discriminant validity. The questionnaires were found to be trustworthy and valid for measuring the five (5) components of the research. Moreover, the HTMT ratios as presented in Table 4 also indicate the acceptable validity of the constructs.

Table 6: Discriminant Validity using the Forknell - Larcker Criterion

Constructs	1	2	3	4
1.Financial Literacy	**0.868**	0.643	0.663	0.562
2.Financial Technology	0.643	**0.879**	0.806	0.660
3.Entrepreneurial Competence	0.663	0.806	**0.890**	0.751
4.Financial Satisfaction	0.562	0.660	0.751	**0.864**

Note: Diagonal values are the squareroot of AVE.

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Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

Table 7: Discriminant Validity using HTMT Ratio of Correlations

Constructs	1.	2	3
2.Financial Technology	0.731 (0.658, 0.804)		
3.Entrepreneurial Competence	0.740 (0.667,0.813)	0.856 (0.782,0.930)	
4.Financial Satisfaction	0.636 (0.564,0.708)	0.710 (0.638,0.783)	0.797 (0.723.0.807)

Note: The HTMT ratios are all significant, that is p <0.05 (one-tailed). The values are within the lower and upper limits of the 90% confidence intervals.

Structural Model Analysis

Numerous previous studies established fundamental guidelines and recommendations for the information that should be included in any manuscript that makes primary use of confirmatory factor analysis; these indices include the Chi-square, the Alaike Information Criteria AIC, the Comparative fit, the Parsimonious fit, and the Goodness-of-fit index, among others (Wondimu et al., 2021; Gambo, N., & Musonda, I. 2021; Joko, S. D. 2019; Zhou et al., 2022). According to Memon et al., (2021), there is a strong conceptual distinction between CB-SEM and PLS-SEM. CB-SEM is the appropriate method if the research goal is to test and confirm hypotheses. In contrast, if the study's objective is to make predictions and construct theories, PLS-SEM is a suitable technique. Multiple regression analysis is theoretically and practically comparable to PLS-SEM analysis. In terms of model fit interpretation, if the aim is to test just hypotheses, the model fit indices are useless if each arrow represents a hypothesis. Assume, however, that the goal is to determine which model best fits the original data. In this case, model fit indices are useful collections of model quality metrics.

Nonetheless, using PLS-SEM software techniques, the following indices were calculated: Fit indices such as the standardized root mean squared residual (SRMR), the standardized mean absolute residual (SMAR), the standardized Chi-squared (SChS), the standardized threshold difference count ratio (STDCR), and the standardized threshold difference sum ratio are used to compare indicator correlation matrices (STDSR). As is the case with the traditional model fit and quality indicators, the interpretation of these indices is dependent on the SEM analysis's objective. Since these indices assess the goodness of fit between the model-implied and observed indicator correlation matrices, their significance increases when determining whether one model fits the original data better than another, especially when combined with the conventional indices Memon et al., (2021). When evaluating the model's fit to the data, the following criteria are recommended: As shown in Table 5, the average path coefficient (APC) is 0.393 with a P-value of <0.001, the average R-squared (ARS) is 0.566 with a P-value < 0.001, and the average adjusted R-squared (AARS) is 0.564 with a P-value of <0.001. The average block VIF (AVIF) value is 2.386, which is good if the value is 5, but preferably 3.3. The average full Collinearity VIF (AFVIF) value is 2.841, which is acceptable if 5, and preferably 3.3, is considered desirable. Tenenhaus GoF (GoF) equals 0.658, which is considered small if it is equal to 0.1, medium equals 0.25, and big equals 0.36. To evaluate the goodness-of-

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DOI: 10.5281/zenodo.10685966

fit of a structural equation model, a commonly used statistic is the Goodness-of-Fit (GoF) index. The GoF index measures the degree of discrepancy between the observed data and the data that would be expected under the model. Generally, a larger value of the GoF index indicates a better fit between the model and the data that serves as an index for globally validating the PLS model as it seeks a compromise between the measurement process and the structural model, respectively. Sympson's paradox ratio (SPR) equals 1.000, acceptable if greater than 0.7, and ideally greater than 1. As a result, it is considered an optimum in this research. The R-squared contribution ratio (RSCR) of 1.000 is considered optimal in this research, with 0.9 being acceptable and 1 being perfect. The statistical suppression ratio (SSR) equals 1.000, which is considered acceptable if greater than 0.7 and ideal if more than 1. Nonlinear bivariate causality direction ratio (NLBCDR) = 1.000, acceptable if the value is greater than 0.7, is considered acceptable in this research. As a result, this model on the influence of various factors on financial satisfaction has high fit indices (Ezeugwa et al., 2022).

Table 8: Model fit and quality indices

Index Name	Values	Criterion (Kock, 2020)
Average Path Coefficient (APC)	0.393, P<0.001	P <0.05
Average R-Squared (ARS)	0.566, P<0.001	P <0.05
Average Adjusted R-Squared (AARS)	0.564, P<0.001	P<0.05
Average block VIF (AVIF)	2.386	Acceptable if <= 5, ideally <=3.3
Average Collinearity VIF (AFVIF)	2.841	Acceptable if <= 5, ideally <=3.3
Tenenhaus GOF	0.658	Small >=0.1; median >=0.25; large >=0.36
Sympson's Paradox Ratio (SPR)	1.000	Acceptable if >=0.7, ideally =1
R-Squared contribution Ratio (RSCR)	1.000	Acceptable if >=0.9, ideally = 1
Statistical Suppression Ratio (SSR)	1.000	Acceptable if >=0.7
Nonlinear Bivariate Causality Direction Ratio	1.000	Acceptable if >=0.7

Table 8 shows the coefficient of determination (R2); full Collinearity VIF and Q2 of all the endogenous variables in the study. Results on the R2 indicate the amount of variation of the endogenous construct that can be explained by the identified causal constructs found in the model. Also, full Collinearity VIP tests the possibility of bias toward research results due to multicollinearity. Results indicate that each EC has a value less than 3.3 indicating that the research model is free from the problem of Collinearity. Moreover, the Q2 test signifies the predictive validity of the predictor to each EC. Results indicate that each Q2 associated with each EC is greater than zero indicating strong predictive validity (Qalati et al., 2020).

Table 9: Coefficient of Determination, Full Collinearity VIF, Q2

Endogenous Construct	R^2	Full Collinearity VIF	Q^2
Financial Technology	0.433	3.078	0.430
Entrepreneurial Competence	0.683	1.003	0.685
Financial Satisfaction	0.581	2.367	0.585

Note: R^2 – Coefficient of Determination, Q^2 – Stone-Geisser's Value

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E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

Results of the testing of hypothesis indicate that all the hypotheses are supported.

Table 10: Results of Hypothesis Testing

Hypothesis	Path	β	P-value	f^2	Decision
Direct Relationship					
1	FL → FT	0.658	<.001	0.433 (L)	Supported
2	FL → EC	0.238	<.001	0.159 (M)	Supported
3	FT → EC	0.650	<.001	0.524 (L)	Supported
4	FT → FS	0.112	0.007	0.074 (S)	Supported
5	EC → FS	0.589	<.001	0.443 (L)	Supported
6	FL → FS	0.110	0.008	0.064 (S)	Supported
Indirect Relationship					
7	FT →EC → FS	0.475	<.001	0.315 (M)	Supported
8	FL → EC → FS	0.140	<.001	0.081 (S)	Supported
9	FL → FT → FS	0.074	0.011	0.043 (S)	Supported
10	FL → FT → EC	0.531	<.001	0.352 (L)	Supported
11	FL → FT → EC → FS	0.313	<0.001	0.181 (M)	Supported

Note: FL – Financial Literacy; FT - Financial Technology; EC - Entrepreneurial Competence; FS - Financial Satisfaction.

$f^2 \geq 0.02$ (Small) - S; $f^2 \geq 0.15$ (Medium) - M; $f^2 \geq 0.35$ (Large) –L

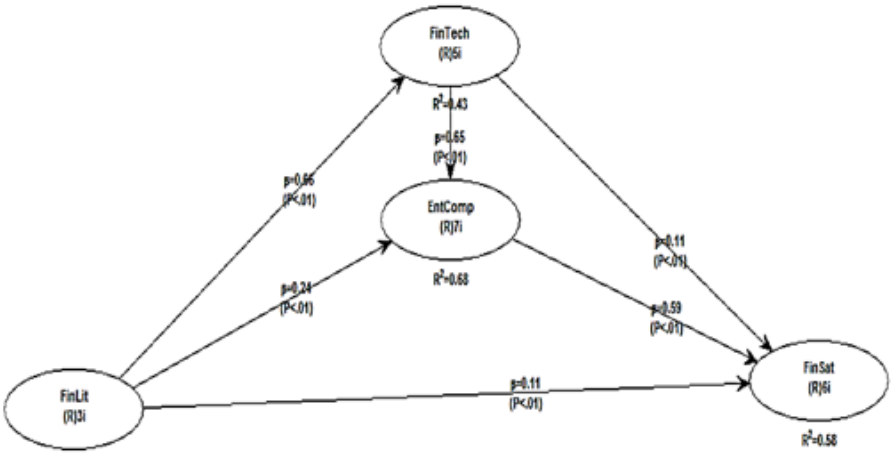

Figure 1: Structural Model with Beta Coefficients

Table 9 shows the results of the direct relationship analysis. It indicates that financial literacy and financial technology have direct relationship with the results of hypothesis testing of (β = 0.658, P-value = <.001, f2 = 0.433 (L), Decision = Supported), financial literacy and entrepreneurial competencies have direct relationship with the results of hypothesis testing of (β = 0.238, P-value = <.001, f2 = 0.159 (M), Decision = Supported), financial technology and entrepreneurial competencies have direct relationship with the results of hypothesis testing of (β = 0.650, P-value = <.001, f2 = 0.524 (L), Decision = Supported), financial technology and financial satisfaction have direct relationship with

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E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

the results of hypothesis testing of (β = 0.112, P-value = 0.007, f2 = 0.074 (S), Decision = Supported), entrepreneurial competencies and financial satisfaction have direct relationship with the results of hypothesis testing of (β = 0.589, P-value = <.001, f2 = 0.433 (L), Decision = Supported), and financial literacy and financial satisfaction have direct relationship with the results of hypothesis testing of (β = 0.110, P-value = 0.008, f2 = 0.064 (S), Decision = Supported).

It shows the results of indirect relationship analysis as well which indicates that financial technology, entrepreneurial competencies and financial satisfaction have an indirect relationship with the results of hypothesis testing of (β = 0.475, P-value = <.001, f2 = 0.315 (M), Decision = Supported), financial literacy, entrepreneurial competencies and financial satisfaction have an indirect relationship with the results of hypothesis testing of (β = 0.140, P-value = <.001, f2 = 0.081 (S), Decision = Supported), financial literacy, financial technology and financial satisfaction have an indirect relationship with the results of hypothesis testing of (β = 0.074, P-value = 0.011, f2 = 0.043 (S), Decision = Supported), financial literacy, financial technology and entrepreneurial competencies have an indirect relationship with the results of hypothesis testing of (β = 0.531, P-value = <.001, f2 = 0.352 (L), Decision = Supported), lastly financial literacy, financial technology, entrepreneurial competencies and financial satisfaction have an indirect relationship with the results of hypothesis testing of (β = 0.313, P-value = <0.001, f2 = 0.181 (M), Decision = Supported)

CONCLUSIONS

Based on the results of data analysis, we found that financial literacy has a direct relationship on financial technology, financial literacy has a direct relationship on entrepreneurial competencies, financial technology has a direct relationship on financial satisfaction, entrepreneurial competencies has a direct relationship on financial satisfaction and financial literacy has a direct relationship on financial satisfaction; while financial technology, entrepreneurial competencies and financial satisfaction has an indirect relationship with each other, financial literacy, entrepreneurial competencies and financial satisfaction has an indirect relationship with each other, financial literacy, financial technology and financial satisfaction has an indirect relationship with each other, financial literacy, financial technology and entrepreneurial competencies has an indirect relationship with each other, and financial literacy, financial technology, entrepreneurial competencies and financial satisfaction has an indirect relationship with each other. The results of this study are in line with the hypothesis that we propose; financial literacy has a positive and significant influence and relationship on financial technology, entrepreneurial competencies, and financial satisfaction. In addition, financial literacy has a positive and significant effect on financial satisfaction. Furthermore, financial literacy has a positive influence on financial satisfaction, but it is not significant. These results indicate that individuals with good financial literacy in making decisions related to financial matters would feel more secure, confident, and satisfied in their finances both now and in the future. This study proves that most of the respondents have an excellent financial perspective in their finances so that they can be in harmony with their financial

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Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

management in dealing with financial problems so that they get satisfaction in their financial matters.

The study was able to assess the construct of reliability, two coefficients are considered, i.e., CR and Cronbach's alpha α (Yaşar, O. M., Özgen, C., Malkoç, N., & Bal, E. 2020; Saleki, R., Quoquab, F., & Mohammad, J. 2019; Nazari et al., 2022). Hair et al. (2014) recommended CR for PLS-SEM. Table 2 shows measurement model results, indicating adequate internal consistency and reliability. The indicators loadings were above 0.60, and both the CR and α ranged from 0.902-0.964 and 0.836–0.956, respectively. These results demonstrate that all the indicators and constructs' reliabilities are acceptable.

Convergent and discriminant validity are also considered to validate the reflective measurement model (Gambo, N., & Musonda, I. 2021; Hair, J., & Alamer, A. 2022). The constructs' average variance extracted (AVE) values must be greater than 0.50 for an accepted convergent validity (Gambo, N., & Musonda, I. 2021; Sovey, S., Osman, K., & Mohd-Matore, M. E. 2022; Hair, J., & Alamer, A. 2022). The AVE is only applicable for models with reflective indicators. AVE measures the total variance through its indicators (Jahmani, A., Bourini, I., & Jawabreh, O. A. 2020). The AVE values for this study ranged between 0.747–0.791 indicating that the convergent validity of the measurement model is highly acceptable (Guo, W., Lu, W., Gao, X., & Cai, F. 2021; Marceda Bach et al., 2020).

The discriminant validity of the measurement model is shown in Table 3. The discriminant validity of a construct is the degree to which it is distinct from other constructs in the model (Lin et al., 2020; Hair Jr, J. F., Howard, M. C., & Nitzl, C. 2020). This is accomplished by comparing the AVE of each construct to the greatest squared correlation of any other construct in the model, or by comparing the loading of an indicator with its associated construct to that of other constructs (Lin et al., 2020; Rasoolimanesh, S. M. 2022; Hair Jr, J. F., Howard, M. C., & Nitzl, C. 2020; Rasoolimanesh, S. M., Ringle, C. M., Sarstedt, M., & Olya, H. 2021). The results of the analysis revealed that all of the square roots of the AVEs satisfy the threshold.

The findings suggest that the AVE square root for each construct associated with one another is an appropriate indicator of the measuring model's discriminant validity. The questionnaires were found to be trustworthy and valid for measuring the five (5) components of the research. Moreover, the HTMT ratios as presented in Table 4 also indicate the acceptable validity of the constructs.

References

1) Afthanorhan, A., Awang, Z., Abd Majid, N., Foziah, H., Ismail, I., Al Halbusi, H., & Tehseen, S. (2021, February). Gain more insight from common latent factor in structural equation modeling. In Journal of Physics: Conference Series (Vol. 1793, No. 1, p. 012030). IOP Publishing.

2) Al-Gasawneh, J., & Al-Adamat, A. (2020). The mediating role of e-word of mouth on the relationship between content marketing and green purchase intention. Management Science Letters, 10(8), 1701-1708.

3) Arceo-Gómez, E. O., & Villagómez, F. A. (2017). Financial literacy among Mexican high school teenagers. International Review of Economics Education. https://doi.org/10.1016/j.iree.2016.10.001

ISSN: 1671-5497
E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

4) Asandimitra, N., & Kautsar, A. (2020). The Influence of Financial Information, Financial Self Efficacy, and Emotional Intelligence to Financial Management Behavior of Female Lecturer. https://doi.org/10.18510/hssr.2019.76160

5) Beatrice, V., Murhadi, W. R., & Herlambang, A. (2021). The effect of demographic factors on behavioral biases. Jurnal Siasat Bisnis, 25(1), 17-29.

6) Bentur, L., Gur, M., Ashkenazi, M., Livnat-Levanon, G., Mizrahi, M., Tal, A., & Efrati, O. (2020). Pilot study to test inhaled nitric oxide in cystic fibrosis patients with refractory Mycobacterium abscessus lung infection. Journal of Cystic Fibrosis, 19(2), 225-231.

7) Berta, N., Gautherat, E., & Gun, O. (2016). Transactions in the European carbon market: A bubble of compliance in a whirlpool of speculation. Cambridge Journal of Economics. https://doi.org/10.1093/cje/bew041

8) Bongomin, G. O. C., Ntayi, J. M., Munene, J. C., & Nabeta, I. N. (2015). Financial Inclusion in Rural Uganda: Testing Interaction Effect of Financial Literacy and Networks. Journal of African Business. https://doi.org/10.1080/15228916.2016.1117382

9) Bonsdorff, M. E. V., Rantanen, T., Törmäkangas, T., Kulmala, J., Seitsamo, J., Nygård, C., Ilmarinen, J., & Bonsdorff, M. B. V. (2014). Type of retirement as a determinant of pre- and post-retirement hospital in-patient care use: A prospective study. Journal of Public Health. https://doi.org/10.1093/pubmed/fdu100

10) Burritt, R., & Christ, K. L. (2017). The need for monetary information within corporate water accounting. Journal of Environmental Management. https://doi.org/10.1016/j.jenvman.2017.06.035

11) Bhushan, P., & Medury, Y. (2014). An Empirical Analysis Of Inter Linkages between Financial Attitudes, Financial Behaviour and Financial Knowledge of Salaried Individuals. Indian Journal of Commerce and Management Studies, 5(3), 58-64.

12) Ceballos-Santamaría, G., Mondéjar-Jiménez, J., Sánchez-Cubo, F., & García-Pozo, A. (2021). Motivations in heritage destinations of the cultural tourist: the case of Malaga (Spain). Natl Account Rev, 3, 86-94.

13) Chandra, A. A., Manggala, F., Purnama, R., & Suade, Y. K. M. (2022). Financial Confidence in Financial Satisfaction through Financial Behavior for Ciputra School of Business Makassar Students. Hasanuddin Economics and Business Review, 6(2), 47-55.

14) Cheah, J. H., Roldán, J. L., Ciavolino, E., Ting, H., & Ramayah, T. (2021). Sampling weight adjustments in partial least squares structural equation modeling: guidelines and illustrations. Total Quality Management & Business Excellence, 32(13-14), 1594-1613.

15) Chin, W., Cheah, J. H., Liu, Y., Ting, H., Lim, X. J., & Cham, T. H. (2020). Demystifying the role of causal-predictive modeling using partial least squares structural equation modeling in information systems research. Industrial Management & Data Systems, 120(12), 2161-2209.

16) Chong, K. F., Sabri, M. F., Magli, A. S., Abd Rahim, H., Mokhtar, N., & Othman, M. A. (2021). The effects of financial literacy, self-efficacy and self-coping on financial behavior of emerging adults. The Journal of Asian Finance, Economics and Business, 8(3), 905-915.

17) Cui, L., Wang, Y., Chen, W., Wen, W., & Han, M. S. (2021). Predicting determinants of consumers' purchase motivation for electric vehicles: An application of Maslow's hierarchy of needs model. Energy Policy, 151, 112167.

18) Dewi, V. I. (2022). How do demographic and socioeconomic factors affect financial literacy and its variables?. Cogent Business & Management, 9(1), 2077640.

ISSN: 1671-5497
E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

19) Dewi, V. I., Febrian, E., Effendi, N., & Anwar, M. (2020). Does financial perception mediating the financial literacy on financial behavior? A study of academic community in central Java Island, Indonesia. Montenegrin Journal of Economics, 16(2), 33-48.

20) Dewi, V. I., Febrian, E., Effendi, N., Anwar, M., & Nidar, S. R. (2020). Financial literacy and its variables: The evidence from Indonesia. Economics & Sociology, 13(3), 133-154.

21) Dewi, V., Febrian, E., Effendi, N., & Anwar, M. (2020). Financial literacy among the millennial generation: Relationships between knowledge, skills, attitude, and behavior. Australasian Accounting, Business and Finance Journal, 14(4), 24-37.

22) Edwards-Dandridge, Y., Simmons, B. D., & Campbell, D. G. (2020). Predictor of turnover intention of register nurses: job satisfaction or work engagement?. International Journal of Applied Management and Technology, 19(1), 7.

23) Elinder, M., Hagen, J., Nordin, M., & Säve-Söderbergh, J. (2022). Who Lacks Pension Knowledge, Why and does it Matter? Evidence from Swedish Retirement Savers. Public Finance Review, 50(4), 379-435.

24) Ezeugwa, B., Talukder, M. F., Amin, M. R., Hossain, S. I., & Arslan, F. (2022). Minimum sample size estimation in SEM: Contrasting results for models using composites and factors. Data Analysis Perspectives Journal, 3(4), 1-7.

25) Farrar, S., Moizer, J., Lean, J., & Hyde, M. (2018). Gender, financial literacy, and preretirement planning in the UK. Journal of Women & Aging. https://doi.org/10.1080/08952841.2018.1510246

26) Febriyanti, F., Sari, L. P., & Subaida, I. (2022). Pengaruh Literasi Keuangan Terhadap Perilaku Keuangan Mahasiswa Fakultas Ekonomi Dan Bisnis Universitas Abdurachman Saleh Situbondo Dengan Inklusi Keuangan Sebagai Variabel Intervening. Jurnal Mahasiswa Entrepreneurship (JME). https://doi.org/10.36841/jme.v1i2.1967

27) Fu, J., Hou, S., & Yu, C. W. M. (2022). Introducing Financial Literacy to Residential Colleges' General Education: A Systematic Review. Evolving Landscape of Residential Education, 111-127.

28) Gambo, N., & Musonda, I. (2021). Effect of the fourth Industrial Revolution on road transport asset management practice in Nigeria. Journal of Construction in Developing Countries, 26(1), 19-43.

29) Gerrans, P., Speelman, C., & Campitelli, G. (2013). The Relationship between Personal Financial Wellness and Financial Wellbeing: A Structural Equation Modelling Approach. Journal of Family and Economic Issues. https://doi.org/10.1007/s10834-013-9358-z

30) Gillani, S. M. A. H., Bode, J., & Ehsin, M. (2022). Mediating Role of Entrepreneurial Self-efficacy between Business Incubation Centre and Entrepreneurial Intention of Pakistani Students. UW Journal of Management Sciences, 6(1), 1-18.

31) Gomes, F., Haliassos, M., & Ramadorai, T. (2021). Household finance. Journal of Economic Literature, 59(3), 919-1000.

32) Grable, J. E., Archuleta, K. L., Ford, M. R., Kruger, M., Gale, J., & Goetz, J. (2020). The moderating effect of generalized anxiety and financial knowledge on financial management behavior. Contemporary Family Therapy, 42, 15-24.

33) Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. Journal of Business Research, 109, 101-110.

34) Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S., & Ray, S. (2021). Evaluation of reflective measurement models. Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R: A Workbook, 75-90.

35) Hanafiah, M. H. (2020). Formative vs. reflective measurement model: Guidelines for structural equation modeling research. International Journal of Analysis and Applications, 18(5), 876-889.

ISSN: 1671-5497
E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

36) Hashmi, H. B. A., Shu, C., & Haider, S. W. (2020). Moderating effect of hedonism on store environment-impulse buying nexus. International Journal of Retail & Distribution Management, 48(5), 465-483.

37) HC, R., & Gusaptono, R. H. (2020). The impact of financial literacy on investment decisions between saving and credit: Studies on Sharia bank customers in the special region of Yogyakarta. Journal of Economics and Business, 3(4).

38) Hwang, H., Cho, G., Jung, K., Falk, C. F., Flake, J. K., Jin, M. J., & Lee, S. H. (2021). An approach to structural equation modeling with both factors and components: Integrated generalized structured component analysis. Psychological Methods, 26(3), 273.

39) Hwang, H., Sarstedt, M., Cheah, J. H., & Ringle, C. M. (2020). A concept analysis of methodological research on composite-based structural equation modeling: bridging PLSPM and GSCA. Behaviormetrika, 47, 219-241.

40) Ismail, K., Nopiah, Z. M., Mohamad, S. R., & Pang, C. L. (2020). Technical competency among vocational teachers in Malaysian public skills training institutions: Measurement model validation using PLS-SEM. Journal of Technical Education and Training, 12(1).

41) Johan, I., Rowlingson, K., & Appleyard, L. (2021). The effect of personal finance education on the financial knowledge, attitudes and behaviour of university students in Indonesia. Journal of Family and Economic Issues, 42, 351-367.

42) Joko, S. D. (2019). National security of investment climate: a case study in the South Sulawesi region of indonesia. Russian Journal of Agricultural and Socio-Economic Sciences, 85(1), 163-172.

43) Kadoya, Y., & Khan, M. S. R. (2020). What determines financial literacy in Japan. Journal of Pension Economics & Finance, 19(3), 353-371.

44) Kartini, K., Fitri, F., Rabiyah, U., & Anggraeni, D. (2021). Analysis of the Financial Literacy Behavior Model. Golden Ratio of Finance Management, 1(2), 114-122.

45) Kaur, A., & Verma, R. (2022). Financial Literacy and Financial Inclusion: A Systematic Literature Review. ECS Transactions, 107(1), 9893.

46) Khan, M. A., Zubair, S. S., Rathore, K., Ijaz, M., Khalil, S., & Khalil, M. (2021). Impact of entrepreneurial orientation dimensions on performance of small enterprises: do entrepreneurial competencies matter?. Cogent Business & Management, 8(1), 1943241.

47) Kumar, R., & Pathak, D. C. (2022). Financial awareness: a bridge to financial inclusion. Development in Practice, 32(7), 968-980.

48) Lahiri, S., & Biswas, S. (2022). Does financial literacy improve financial behavior in emerging economies? Evidence from India. Managerial Finance.

49) Lavery, M. R., Acharya, P., Sivo, S. A., & Xu, L. (2019). Number of predictors and multicollinearity: What are their effects on error and bias in regression?. Communications in Statistics-Simulation and Computation, 48(1), 27-38.

50) Legate, A. E., Hair Jr, J. F., Chretien, J. L., & Risher, J. J. (2021). PLS-SEM: Prediction-oriented solutions for HRD researchers. Human Resource Development Quarterly.

51) Lin, H. M., Lee, M. H., Liang, J. C., Chang, H. Y., Huang, P., & Tsai, C. C. (2020). A review of using partial least square structural equation modeling in e-learning research. British Journal of Educational Technology, 51(4), 1354-1372.

52) Lind, T., Ahmed, A., Skagerlund, K., Strömbäck, C., Västfjäll, D., & Tinghög, G. (2020). Competence, confidence, and gender: The role of objective and subjective financial knowledge in household finance. Journal of Family and Economic Issues, 41(4), 626-638.

ISSN: 1671-5497
E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

53) Lusardi, A. (2019). Financial literacy and the need for financial education: evidence and implications. Swiss Journal of Economics and Statistics, 155(1), 1-8.

54) Maune, A., & Themalil, M. T. (2022). Mobile Applications Adoption and Use in Strategic Competitive Intelligence: A Structural Equation Modelling Approach. Journal of Intelligence Studies in Business, 12(1), 65-82.

55) Memon, M. A., Ramayah, T., Cheah, J. H., Ting, H., Chuah, F., & Cham, T. H. (2021). PLS-SEM statistical programs: a review. Journal of Applied Structural Equation Modeling, 5(1), 1-14.

56) Newman, S. J. (1975). Objective and subjective determinants of prospective residential mobility. Social Indicators Research. https://doi.org/10.1007/bf00300470

57) Nicolini, G., Gärling, T., Carlander, A., & Hauff, J. C. (2017). Attitude toward Risk and Financial Literacy in Investment Planning. Springer EBooks. https://doi.org/10.1007/978-3-319-57592-6_14Ng, W., & Diener, E. (2022). Stress's association with subjective well-being around the globe, and buffering by affluence and prosocial behavior. The Journal of Positive Psychology, 17(6), 790-801.

58) Normawati, R. A., Rahayu, S. M., & Worokinasih, S. (2021, May). Financial knowledge, digital financial knowledge, financial attitude, financial behaviour and financial satisfaction on millennials. In ICLSSEE 2021: Proceedings of the 1st International Conference on Law, Social Science, Economics, and Education, ICLSSEE 2021, March 6th 2021, Jakarta, Indonesia (p. 317). European Alliance for Innovation.

59) Normawati, R. A., Rahayu, S. M., & Worokinasih, S. (2022). Financial Satisfaction on Millennials: Examining the Relationship between Financial Knowledge, Digital Financial Knowledge, Financial Attitude, and Financial Behavior. Jurnal Aplikasi Manajemen, 20(2), 354-365.

60) Odei, M. A. (2022, May). The external factors leading to product innovation outcomes in the Visegrad Group-Structural Equation Model Approach: The external factors leading to product innovation outcomes in the Visegrad Group-Structural Equation Model Approach. In European Conference on Research Methodology for Business and Management Studies (Vol. 21, No. 1, pp. 157-162).

61) Park, S., & Tussyadiah, I. P. (2020). How guests develop trust in hosts: An investigation of trust formation in P2P accommodation. Journal of Travel Research, 59(8), 1402-1412.

62) Patel, A. K., Singh, M., Patel, A. K., & Singh, K. (2021). Mapping of Global Research Trends in Financial Literacy: A Scientometric Approach. Library Philosophy and Practice (e-journal), 5141, 1-19.

63) Peprah-Yeboah, A., Frejus, W. E. B., & Fianko, E. (2018). Financial Literacy of Undergraduate Students: Do Personality Traits and Cognitive Ability Matter? International Journal of Accounting and Financial Reporting. https://doi.org/10.5296/ijafr.v8i4.14012

64) Qalati, S. A., Li, W., Vela, E. G., Bux, A., Barbosa, B., & Herzallah, A. M. (2020). Effects of technological, organizational, and environmental factors on social media adoption. The Journal of Asian Finance, Economics and Business, 7(10), 989-998.

65) Rai, K., Dua, S., & Yadav, M. (2019). Association of financial attitude, financial behaviour and financial knowledge towards financial literacy: A structural equation modeling approach. FIIB Business Review, 8(1), 51-60.

66) Rasoolimanesh, S. M. (2022). Discriminant validity assessment in PLS-SEM: A comprehensive composite-based approach. Data Analysis Perspectives Journal, 3(2), 1-8.

67) Robson, J., & Peetz, J. (2020). Gender differences in financial knowledge, attitudes, and behaviors: Accounting for socioeconomic disparities and psychological traits. Journal of Consumer Affairs, 54(3), 813-835.

ISSN: 1671-5497
E-Publication: Online Open Access
Vol: 43 Issue: 02-2024
DOI: 10.5281/zenodo.10685966

68) Rusdini, D. A., Mulyaningsih, T. I. S., Ghaisani, I., & Kautsar, A. (2020). Impact of Financial Knowledge, Socio-Demographics, and Debt on Financial Satisfaction of Kediri People. International Journal of Latest Engineering and Management Research (IJLEMR), 5(1), 06-09.

69) Sabri, M. F., & Poh, L. M. (2017). How Financially Literate is Today's Youth? International Journal of Asian Social Science. https://doi.org/10.18488/journal.1.2017.710.803.817

70) Sarstedt, M., Hair Jr, J. F., Cheah, J. H., Becker, J. M., & Ringle, C. M. (2019). How to specify, estimate, and validate higher-order constructs in PLS-SEM. Australasian marketing journal, 27(3), 197-211.

71) Schumaher, M. L. N., Milani, D., & Alexandre, N. M. C. (2019). Psychometric properties evaluation of the psychological empowerment Instrument in a Brazilian context. Journal of Nursing Management, 27(2), 404-413.

72) Scott, K. C., & Nimon, K. (2020). Construct validity of data from a TPACK self-assessment instrument in 2-year public college faculty in the United States. Journal of Research on Technology in Education, 53(4), 427-445.

73) Seraj, A. H. A., Fazal, S. A., & Alshebami, A. S. (2022). Entrepreneurial competency, financial literacy, and sustainable performance—examining the mediating role of entrepreneurial resilience among Saudi entrepreneurs. Sustainability, 14(17), 10689.

74) Shrestha, N. (2021). Factor analysis as a tool for survey analysis. American Journal of Applied Mathematics and Statistics, 9(1), 4-11.

75) Soliman, M. R., Baher, M., & Soliman, D. M. (2022). Digital Literacy and its Effect on Employees' Innovation in Egyptian Official Tourism Organizations.

76) Sovey, S., Osman, K., & Mohd-Matore, M. E. (2022). Exploratory and Confirmatory Factor Analysis for Disposition Levels of Computational Thinking Instrument among Secondary School Students. European Journal of Educational Research, 11(2), 639-652.

77) Suryaningtyas, D., Sudiro, A., Eka, T. A., & Dodi, I. W. (2019). Organizational resilience and organizational performance: examining the mediating roles of resilient leadership and organizational culture. Academy of Strategic Management Journal, 18(2), 1-7.

78) Teichman, J. M., Bernheim, B. D., Espinosa, E. A., Cecconi, P. P., Meyer, J., Pearle, M. S., Preminger, G. M., & Leveillee, R. J. (2001). How do urology residents manage personal finances? Urology. https://doi.org/10.1016/s0090-4295(00)01128-6

79) Wondimu, S. T., & Birru, M. W. (2020). Determinants of Informal Economy Estimation in Ethiopia: Multiple-Indicators, Multiple-Causes (Mimic) Approach. Copernican Journal of Finance & Accounting, 9(2), 65-86.

80) Yanquen, E., Livan, G., Montañez-Enriquez, R., & Martinez-Jaramillo, S. (2022). Measuring systemic risk for bank credit networks: A multilayer approach. Latin American Journal of Central Banking, 3(2), 100049.

81) Ye, Y., Chen, S., & Li, C. (2022). Financial technology as a driver of poverty alleviation in China: Evidence from an innovative regression approach. Journal of Innovation & Knowledge, 7(1), 100164.

82) Yulfiswandi, Y., Justyanita, J., Septiana, S., Sativa, E., & Saprudin, M. (2022). Keys to Financial Planning: Effects of Financial Literacy during Covid-19. Jpim (Jurnal Penelitian Ilmu Manajemen), 7(2), 217-231.

83) Yusoff, A. S. M., Peng, F. S., Abd Razak, F. Z., & Mustafa, W. A. (2020, April). Discriminant validity assessment of religious teacher acceptance: The use of HTMT criterion. In Journal of Physics: Conference Series (Vol. 1529, No. 4, p. 042045). IOP Publishing.

84) Zhou, G., Zhu, J., & Luo, S. (2022). The impact of fintech innovation on green growth in China: Mediating effect of green finance. Ecological Economics, 193, 107308.