Ranah Research
Journal of Multidisciplinary Research and Development
E-ISSN: 2655-0865
082170743613 ranahresearch@gmail.com https://jurnal.ranahresearch.com
DINASTI RESEARCH

DOI: https://doi.org/10.38035/rrj.v7i5

Unlocking the Potential of Individual Investors Participation: A Glimpse into Tanzania's Dar es Salaam Stock Exchange (DSE)

Eustadius Sylidion[1], Jumanne Ally Setonga[1] & Omary Paulo Shabani[1]
[1]Tanzania Shipping Agency Corporation, Dar es Salaam, Tanzania, eustadius.sylidion@tasac.go.tz
[1]Mzumbe University, Morogoro, Tanzania, setonga812@gmail.com
[1]Institute of Social Work-Kijitonyama Campus, Department of Labour Studies, P.O. BOX 3375, Dar es Salaam-Tanzania, paulo.omary@isw.ac.tz

Corresponding Author: setonga812@gmail.com[1] (https://orcid.org/0000-0003-3284-8500), paulo.omary@isw.ac.tz[1] (https://orcid.org/0009-0003-5012-3711)

Abstract: This study investigates the determinants of individual investor participation in the stock market, utilizing data collected from the Dar es Salaam Stock Exchange (DSE). A cross-sectional research design was adopted, and a simple random sampling technique was employed to select a sample of 384 individual investors. Data collection was conducted through a structured questionnaire, designed to capture relevant demographic, behavioral, and financial information. The collected data were then analyzed using both descriptive statistics to summarize key variables and probit regression model, to examine the relationships between various factors and stock market participation.The findings revealed that age *(p = 0.099)* and being student *(p = 0.053)* also positively influence participation, being male investor *(p = 0.029),* especially when financially literate *(p = 0.000),* are significantly more likely to participate in the stock market. Degree holders *(p = 0.002)* and married individuals *(p = 0.004)* also exhibit higher participation, while diploma holders *(p = 0.005)* are less likely. Social interaction *(p = 0.000),* financial literacy *(p = 0.000*), being risk taker *(p=0.002)* and technology usage (p = 0.000) significantly enhance participation while liquidity constraints *(p = 0.990)* and transaction costs *(p = 0.008)* reduce participation in Dar es Salaam Stock Exchange Market. The findings suggest that policymakers should prioritize financial literacy programs, especially targeting male investors and degree holders, while expanding technology access to facilitate broader market participation. Efforts to reduce transaction costs and address liquidity constraints can further encourage individual investors. Enhancing social interaction platforms within investment communities will foster greater engagement, contributing to a more inclusive and vibrant stock market in Tanzania.

Keyword: Individuals Investors, Participation, Stock Market, Dar es Salaam Stock Exchange

INTRODUCTION

Global Trends

Globally, individual investor participation in stock markets has surged, with retail investors accounting for over 25% of trading volume in major markets such as the U.S. and China (Gurrola-Perez et al., 2022). Mobile and online trading platforms have fueled this rise, increasing retail investor numbers by nearly 40% between 2015 and 2020 (Mwamtambulo, 2021). Financial literacy improvements have also contributed, as about 60% of new investors cite education as a key factor in market entry (Sabiran et al., 2023). Despite these gains,

transaction costs and liquidity concerns continue to deter roughly 30% of potential investors worldwide (Sharma et al., 2022).

African Markets

In Africa, the push for improving financial literacy and fostering retail investor participation is gaining momentum, as stock exchanges and regulators recognize the importance of inclusive economic growth (Adamolekun et al., 2023). According to the World Bank (2021), in low- and middle-income economies, only about 10-15% of the adult population engages in the stock market, with financial literacy being a critical limiting factor. Countries like Kenya, Ghana, and Egypt have seen increases in individual investor participation, driven by technological innovations like mobile money and digital stock trading platforms (Banyen, 2022). In Kenya, the number of retail investors doubled between 2018 and 2022, with an estimated 800,000 new accounts opened during this period (Akinyele & Onakoya, 2020). In Ghana, the introduction of mobile platforms has resulted in a 15% growth in retail investor participation between 2020 and 2021 (Banyen, 2022; Mkoba, 2024). These statistics suggest that financial technologies, along with a conducive regulatory environment play a pivotal role in encouraging greater participation in the stock markets.

Apparently in the Sub-Saharan Africa (SSA), the participation rates are even lower, with many countries reporting participation rates of less than 5%. For instance, in Nigeria, Africa's largest economy, the Nigerian Stock Exchange (NSE) has only about 1.5 million individual investors, despite a population of over 200 million people (Nwankwo et al., 2021). This low participation rate is attributed to various factors such as limited financial literacy, lack of infrastructure, and a higher preference for real estate or informal investments (Tharakan & Adenuga, 2022). In South Africa, which has one of the most advanced stock markets in SSA, retail participation increased by 10% in 2021, driven by improved access to mobile trading and government-backed initiatives promoting financial inclusion (Bary, 2021). However, these gains are not uniform across the region, with rural areas still facing significant barriers to market participation (Nyakurukwa & Seetharam, 2022).

Tanzania

In Tanzania, while stock market participation is still low, there are signs of growing engagement. The Dar es Salaam Stock Exchange (DSE) has witnessed a steady increase in retail investor participation, with the number of individual investors growing by 8% annually from 2018 to 2023 (Mwamtambulo, 2021). Despite this growth, the stock market participation rate remains at around 1.5% of the adult population, a stark contrast to developed markets where this rate can exceed 50% (Mchomvu & Kazimzuri, 2021). Key challenges in Tanzania include low financial literacy, inadequate investment products tailored to the local market, and a lack of trust in the market. However, initiatives like the government's "Financial Literacy Week" and the promotion of digital stock trading platforms have been instrumental in improving accessibility. Aligning with the United Nations Sustainable Development Goals (SDGs), particularly SDG 8 (Decent Work and Economic Growth) and SDG 10 (Reduced Inequality), Tanzania's efforts to integrate more individuals into the financial system are critical for fostering inclusive economic development (UN, 2023). For example, the introduction of mobile trading platforms has contributed to expanding financial inclusion and providing investment opportunities for those in remote areas (Mkoba, 2024).

Following the liberalization of Tanzania's financial sector in the 1990`s, the Capital Markets and Securities Act of 1994 was introduced to establish a structured, fair, and efficient financial market, overseen by the Capital Markets and Securities Authority (CMSA) (DSE, 2016). This initiative led to the creation of the Dar es Salaam Stock Exchange (DSE), officially registered in 1996 under GAP 212, and commencing operations in 1998 with its first listings Tanzania Oxygen Limited (TOL) and Tanzania Breweries Limited (TBL) (DSE, 2011). Since its inception, the DSE has steadily expanded, reflecting Tanzania's evolving economic landscape. By 2017, the exchange had 27 listed companies with a market capitalization of

approximately USD 4.9 billion (DSE, 2017). This growth continued, and by 2024, the DSE hosts 28 listed companies, comprising 22 domestic firms and 6 cross-listed companies from regional markets, with a market capitalization of USD 6.1 billion (DSE, 2024; CoSSE, 2023). This progression underscores the DSE's pivotal role in mobilizing long-term capital, enhancing market liquidity, and contributing to Tanzania's economic development. Despite fluctuations, including periods of market volatility between 2017 and 2020, the DSE has maintained its relevance as a key financial institution, providing a platform for both equity and bond trading. The exchange's ability to attract and retain listed companies reflects its ongoing importance in wealth distribution, investment mobilization, and financial inclusion across Tanzania and the broader East African region (DSE, 2024; CMSA, 2024).

Statistics from the Dar es Salaam Stock Exchange (DSE) indicates dynamic shareholding trends among individual investors across key listed companies during 2023 and early 2024. Table 1 shows shareholding trends of individual investors across selected counters at the Dar es Salaam Stock Exchange (DSE) from 2013 to 2024 exhibit notable fluctuations, reflecting changing investor behavior and market dynamics. For Swissport, individual shareholding has remained relatively stable, fluctuating mildly between 1.70% and 1.98%, with a slight downward trend toward 1.92% in 2024. Tanzania Breweries Limited (TBL) experienced modest variations, starting at 2.54% in 2013, dipping to 2.31% in 2014, and gradually increasing to 2.78% by 2024, suggesting consistent investor confidence in this counter. For TCCIA Investment, individual investor shareholding declined from 2.61% in 2013 to 2.30% in 2018, before slightly rising again to 2.53% in 2019, stabilizing around 2.34%-2.35% thereafter. CRDB Bank exhibited a sharper decline from 5.45% in 2013 to 3.00% in 2017, before fluctuating between 3.2% and 3.6% in subsequent years, suggesting a partial recovery in investor interest. DSE Plc showed the most significant growth in individual investor shareholding, rising from 2.6% in 2013 to 5.6% in 2018, followed by minor fluctuations, maintaining levels above 5.0% through 2024. These patterns suggest that while individual investor engagement has been relatively stable, sector-specific dynamics, company performance, and market conditions have influenced participation across different counters, with DSE Plc and TBL showing stronger investor retention over time.

Table 1. Shareholding of Individual Investors

YEAR	Swiss port	TBL	TCCIA Investment	CRDB	DSE Plc
2013	1.88%	2.54 %	2.61%	5.45%	2.6%
2014	1.82%	2.31%	2.5%	4.73%	3.6%
2015	1.74%	2.78%	2.34%	3.59%	4.4%
2016	1.88%	2.78%	2.34%	3.37%	3.7%
2017	1.70%	2.76%	2.34%	3%	5.1%
2018	1.98%	2.70%	2.30%	3.2%	5.6%
2019	1.96%	2.75%	2.53%	3.5%	5.1%
2020	1.97%	2.74%	2.51%	3.4%	5.3%
2021	1.95%	2.72%	2.34%	3.2%	5.1%
2022	1.94%	2.74%	2.34%	3.5%	5.2%
2023	1.93%	2.77%	2.34%	3.2%	5.5%
2024	1.92%	2.78%	2.35%	3.6%	5.6%

Source: Capital Market and Security Authority (2024)

Financial institutions in an economy like Tanzania offer an avenue through which long-term investments are made and channeled into investment. From 2011 to 2018, due to erratic fluctuation of stock prices, DSE has been plagued by a series of booms and bust. The banking sector faces liquidity challenges and does not provide long-term lending to the private sector (DSE, 2016). According to the DSE (2016), the Dar es Salaam Stock Exchange has evolved enormously to become one of the leading stock exchanges in Africa and a leading provider of services that facilitate capital rises and share trading. Market capitalization rose in terms of US dollars by 89 per cent in 2011 alone. In 2012, DSE began with US$ 4.8 billion and finished with a market capitalization of US$ 4.94 billion. The Table 1 below displays Individuals

investors' shareholdings from randomly chosen counters 2013 - 2024. In 2013 the US$ 5.1 billion opened and the US$ 5.63 billion closed. Despite the progress, DSE (2017) reported that foreign investor participation has increased since 2010, from 25% to 42% in 2011 then to 48% in 2012. Given the trend individual investor participation in Tanzania's stock market remains limited as recent statistics from the Dar es Salaam Stock Exchange (DSE) indicate that there are only 556,121 individual participants, accounting for less than 2% of the country's working population (DSE, 2021). This highlights the relatively low engagement of individual domestic retail investors in the capital market, despite ongoing efforts to promote financial inclusion and market accessibility within the country. Existing studies such as those from (Iqbal and Usmami, 2019; Mwamtambulo, 2021; Sabiran et al., 2023; Sharma et al.2022; Ashoka and Keihani, 2020) tend to focus on isolated determinants or specific regions, leaving limited understanding of the combined effects and how digital platforms mediate investment behavior across diverse investor profiles. These studies fail to examines how institutional-related factors, socio-demographic characteristics, behavioral influences, and technological adoption interact to shape individual investors' decisions, especially across different emerging markets. The current study bridges this gap by examining a comprehensive set of variables including demographic factors, social dynamics, institutional factors and financial factors through the lens of Tanzania's Dar es Salaam Stock Exchange (DSE). Thus, the current study aims to answer a central research question as to what are the determinants of individual investor's participation in Dar es Salaam stock Exchange Market?

Theoretical Framework

This study is guided by the theory of planned behaviour and the Life Cycle Hypothesis. The Theory of Planned Behavior (TPB), developed by Ajzen (1991), was established to explain how individual behaviors are driven by intentions, which in turn are influenced by attitudes, subjective norms, and perceived behavioral control. This theory was designed to extend the earlier Theory of Reasoned Action by including perceived control over behavior, addressing scenarios where individuals may not have full volitional control. TPB has been widely applied in financial behavior research to understand how financial literacy, social interactions, and personal attitudes shape investment intentions (Ajzen, 1991). Theory of Planned Behavior (TPB) offers a comprehensive framework for explaining how various psychological, social, and structural factors influence individual investor participation in the stock market. As posited by Ajzen (1991), TPB highlights that behavior is driven by intentions, which are shaped by attitudes, subjective norms, and perceived behavioral control. Financial literacy significantly enhances stock market participation reflects the role of attitudes, as greater financial knowledge fosters positive perceptions toward investing. Similarly, social interaction influences subjective norms, where peer discussions and societal expectations encourage individuals to follow investment behaviors common within their networks. Moreover, perceived behavioral control is demonstrated through factors such as technology usage, which increases accessibility and ease of participation, and transaction costs, which act as barriers, reducing investors' sense of control.

The Life-Cycle Hypothesis (LCH), formulated by Modigliani and Brumberg (1954), was developed to explain individuals' saving and consumption behavior across different stages of life. This economic theory posits that individuals aim to smooth consumption over their lifetime, saving during their working years and dissaving during retirement. LCH was established to model the relationship between income variability across life stages and financial decision-making (Modigliani & Brumberg, 1954).The LCH provides a theoretical foundation for understanding how demographic and financial factors influence stock market participation across different stages of an individual's life. LCH posits that individuals plan their consumption and savings behavior to optimize financial well-being over their lifetime, typically saving during their working years and drawing down assets during retirement. The LCH hold that age, marital status, and income significantly impact saving behaviour.

Specifically, older and married individuals with higher incomes are more likely to invest, as they often have greater disposable income, financial stability, and a stronger focus on long-term wealth accumulation. Furthermore, liquidity constraints as a negative determinant of investment behaviour reinforces LCH's premise that access to financial resources varies across life stages, affecting the ability and willingness to invest. Younger individuals or those with limited income face financial pressures that limit their participation in investment markets. Thus, LCH provides explanatory framework for interpreting how life stage, financial capacity, and resource availability jointly influence investment decisions, making it particularly relevant for analyzing stock market participation in the Tanzanian context. Together, these theories TPB focusing on behavioral intentions and perceived control, and LCH focusing on economic life-stage planning offer a comprehensive framework to explain why and when individuals engage in stock market investment.

Literature Review

The empirical studies on the factors influencing individual investors' decisions in stock markets highlighted the macroeconomic and individual levels determinants. Kengatharan (2019) found that the performance history of a company's stock, its stability, goodwill, industry reputation, dividends, predicted returns, and social standing significantly affect investment decisions in Sri Lanka's stock market. The study further revealed that investors' socio-economic characteristics, such as age, gender, marital status, educational background, and income level, had a statistically significant impact on their investment choices. Similarly, research by Iqbal and Usmami (2019) on the Karachi Stock Exchange pointed out that investors heavily rely on a company's financial performance and accounting statements when making investment decisions. On the other hand, Patel and Modi (2017) observed that demographic factors such as age, gender, and income significantly influenced investment preferences, as confirmed by their study conducted with investors in Gujarat, India. Mwamtambulo (2021) explored factors affecting investor engagement in Tanzania's stock market, finding that financial literacy, income, and social interaction significantly drive participation, particularly in emerging markets where financial education remains limited. This is supported by Sabiran et al. (2023), who focused on millennials and revealed that technology adoption, peer influence, and financial literacy are critical in shaping stock market intentions. Similarly, Sharma et al. (2022) identified financial barriers such as liquidity constraints and transaction costs as significant deterrents to participation, ranking these among the primary reasons for non-investment in financial markets. In contrast, Ashoka and Keihani (2020) reinforced the positive impact of financial literacy and disposable income on stock market engagement, while noting that higher transaction costs diminish investor willingness to participate. However, these studies do not explore the combination of these variables with social interaction or gender-based financial literacy gaps, particularly in the African context where social networks and financial infrastructures differ significantly from developed economies. The current study bridges this gap by examining a comprehensive set of variables including demographic factors (age, gender, education), social dynamics (interaction, perception), institutional factors (technology usage, transaction costs), and financial elements (income, liquidity constraints) through the lens of Tanzania's Dar es Salaam Stock Exchange (DSE).

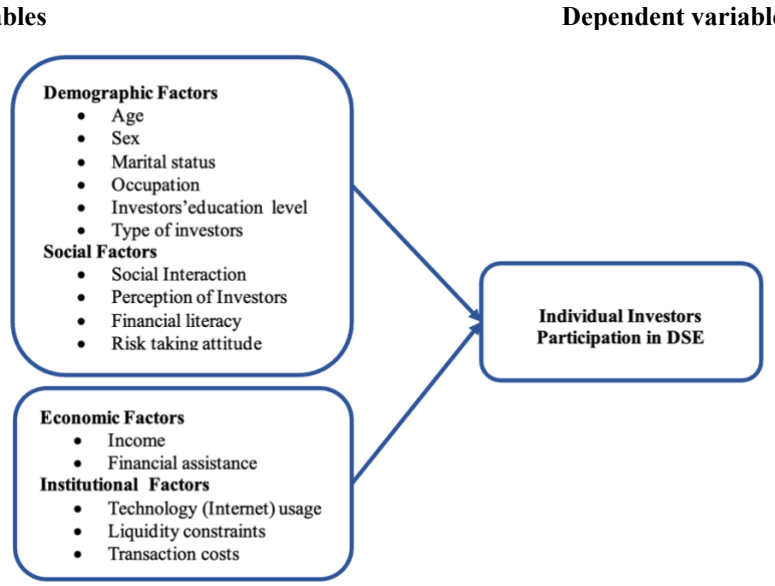

Figure 1. Conceptual Framework
Source: Research Results

METHOD

This study employed a cross-sectional survey design, which is particularly effective for estimating the prevalence of specific behaviors within a population at a given point in time. This design facilitated the collection of data from a large sample within a defined period, offering benefits such as cost-effectiveness and the ability to quickly gather comprehensive data. The research was conducted in the Dar es Salaam Stock Exchange (DSE) the only board licensed by the Capital Market and Security Authority of Tanzania to control and manage all issues relating to the stock market in the nation. The sample size was determined using Cochran's (1977) formula, which accounts for factors like margin of error, confidence level, and population variability. $n = \frac{(Z)^2 * p.q}{(e)^2}$; Z is the certain critical value; q = 1 - p is the proportion of an element P, and e is the desired precision level. Assuming maximum variability (p = 0.5), a 95% confidence level, and a 5% margin of error, the calculated sample size was 384 respondents. To ensure representativeness, the study employed a simple random sampling technique, allowing each individual investor at the DSE an equal chance of being selected. Data were collected through structured questionnaires, capturing detailed information on individuals' stock market investments and related factors in Tanzania.

Modelling individual investors participation in DSE

This study uses probit model to analyse the determinants of individual investor's participation in stock market. The probit model was chosen for its effectiveness in estimating probabilities for binary outcomes, such as stock market participation. It ensures that predicted probabilities remain within 0 and 1, unlike linear models. This makes it ideal for discrete choice analysis. Additionally, the model provides clear marginal effects, showing how each factor influences participation likelihood. It also handles nonlinear relationships between variables and outcomes well. This model is similar to that used by Setonga & Omary (2024). Therefore, the demographics, socioeconomic and institution factors related to the individuals under the study are therefore regressed against outcome variables.Thus, general probit equation for the determinants of of individual investor's participation in stock market is therefore given as;

$$Y_{1i} = \beta_0 + \beta_1 X_i + \beta_2 D_i + \mu_i$$

Given that, when

$y_i^* > 0, y_i = 1\ if\ individual\ participated\ in\ DSE$

$y_i^* \leq 0, y_i = 0\ if\ individual\ don't\ participated\ in\ DSE$

Then, the study adopt the probit model to analyze the data and the empirical model is specified as;

$$y = \frac{e^{\beta_0+\beta_1X_1+\ldots\ldots\ldots\ldots+\beta_PX_{iP}}}{1+e^{\beta_0+\beta_1X_1+\ldots\ldots\ldots\ldots+\beta_PX_{Xi}}} = \frac{1}{1+e^{-(\beta_0+\beta_1X_1+\ldots\ldots\ldots\ldots+\beta_PX_{iP})}}$$

The log transformation of the equation in the probit regression model yields a linear relationship between the dependent and independent variables. Following that, the probit transformation is as follows:

$$Probit(y) = In\frac{P(y)}{1-P(y)} = \beta_0 + \beta_1X_1 + \beta_2X_2 + \ldots\ldots\ldots\ldots\ldots + \beta_PX_{iP}$$

Model Specification

Therefore, the estimated model was specified as;

$$\ln\frac{P(y)}{1-P(y)} = \beta_0 + +\beta_1FEduc + \beta_2Sinter + \beta_3TCost + \beta_4Perce + \beta_5Techn + \beta_6Liq + \varepsilon_i$$

FEduc=Financial literacy; Sinter=Social Interaction; Perce=Perception of Investors; TransC= Transaction costs; Techn=Technology; Liq=Liquidity constraints

Table 2. Variables measurement

Variables	Operational definitions	Measurement	Sign
Participation in the stock Market (Dependent variable)	1 if individual investors participated in SM 0 otherwise	Binary	
Independent variables			
Age	The actual number of respondents' age	Continuous	+
Marital status	1 if respondents are married 0 otherwise	Binary	+
Sex	1 if male 0 if female	Binary	+
Occupation	1 if the student (not working), 0 otherwise 1 if self-employed, 0 otherwise 1 if business owners, 0 otherwise 1 if others, 0 otherwise	Binary	+
Investors education level	1 if Diploma education, 0 otherwise 1 if Degree education, 0 otherwise 1 if Masters' education, 0 otherwise	Binary	+
Type of investors	1 if the investor is speculative investors, 0 otherwise 1 if the investor is a capital investor, 0 otherwise 1 if the investor is both, 0 otherwise	Binary	+
Social interaction	1 if individuals interact with other individuals in the SM, 0 otherwise	Binary	+
Perception of investors	1 if the individual investor is optimistic about investing at DSE, 0 otherwise	Binary	+
Risk taking attitude	1 if risk taker 0 if risk averse	Binary	+
Income	The average individual investors' income earned	Continuous	+
Financial literacy	1 if respondents are financial literacy 0 otherwise	Binary	+
Liquidity constraints	1 if individual investor face liquidity constraints, 0 otherwise	Binary	-

Technology usage	1 if the individual is an advent to internet 0 otherwise	Binary	+
Financial assistance	1 if individual investor received any financial assistance, 0 otherwise	Binary	+
Transaction costs	Costs individuals incur in the transaction (Tshs)	Continuous	-

RESULTS AND DISCUSSION

The results from Table 3 reveal key characteristics that influence individuals participation in the stock market. A larger proportion of the sample were male (71.35%) compared to female investors (28.64%). In terms of education, a significant number held a bachelor's degree (53.64%), followed by diploma holders (27.60%) and those with a master's degree (18.75%). According to Banyen (2022), in Ghana, men dominate stock market participation due to socio-cultural factors and financial literacy disparities. Similarly, Galván and Aguirre (2025) observed a 46.3% increase in labor market participation for individuals with higher education, yet gender disparities remain, with women less likely to engage in higher-risk financial activities like stock investments. Together, Otuonuyo et al. (2025) found that individuals with tertiary education levels constituted the majority of financial market participants in Lagos, Nigeria. Similarly, Mogoba (2024) observed that education was a key determinant of stock trading participation, with most investors possessing higher education qualifications. The majority were married (73.43%), self-employed (25.78%), or business owners (57.81%), with a small percentage working in other occupations (16.40%). Similar to Wang, Yin, and Jiang (2023), who reported that the majority of stock market participants in China were also married. Regarding occupation, a trend similarly observed by Mutukrishna and Henrich (2022), who found that the majority of active investors were engaged in entrepreneurial or self-directed economic activities. Concerning investment type, most respondents were speculative investors (57.29%) or engaged in both speculative and capital investments (20.83%). This pattern reflects Aisa (2021), who noted that a majority of retail investors in emerging economies exhibited speculative behaviors due to easier access to financial technologies. Technology usage was high among the respondents (63.02%), consistent with Karki et al. (2024), who reported that a majority of new investors, especially in emerging markets, accessed stock markets through digital innovations such as mobile trading apps. Additionally, the finding that 57.03% of investors had received financial assistance is supported by Alhassan and Abu (2025), who observed that a significant proportion of investors, especially in developing countries, rely on microfinance institutions or credit facilities for investment. Also, high proportion of investors facing liquidity constraints (68.4%) is in line with Arianpoor and Mohammadbeikzade (2025), who reported that liquidity constraints affected a majority of emerging market investors, limiting their ability to deepen market participation.

The findings reveal that a significant majority (83.85%) of surveyed individual investors at the Dar es Salaam Stock Exchange (DSE) exhibited a risk-taking attitude, whereas only 16.14% identified as risk-averse. This trend aligns with Mishra (2018), who found that a majority of retail investors, particularly in emerging markets, tend to adopt risk-taking behaviors due to speculative motives and the desire for higher returns. Financial literacy among the sample was also relatively high, with 66.1% demonstrating sufficient financial knowledge, corroborating the observations of Aisa (2021), who reported that financially literate investors are more confident and active participants in capital markets. Investor optimism was notably strong, with 76.56% expressing positive expectations about their investment prospects. This supports findings by Karki et al. (2024), who noted that positive investor sentiment, bolstered by access to real-time market data and digital platforms, contributes to higher engagement rates in stock markets. Social interaction within the DSE community appeared relatively balanced, with 50.52% of investors engaging with peers, which aligns with Alhassan and Abu (2025),

who emphasized that peer interactions often encourage market entry and information sharing among retail investors. Furthermore, 72.91% of the surveyed individuals reported active participation in the stock market, demonstrating a vibrant retail investor base, similar to trends noted by Wang et al. (2023) in emerging economies. The average age of investors was 45.45 years (SD = 15.27), suggesting a moderately diverse demographic mix at the Dar es Salaam Stock Exchange (DSE). This finding is comparable to the age distribution trends in stock market participation reported by Mutukrishna and Henrich (2022), who noted that middle-aged individuals (typically between 35 and 55 years) dominate financial markets due to their accumulated wealth, financial literacy, and risk tolerance developed over time. Similarly, Aisa (2021) found that middle-aged investors are more likely to participate in stock markets compared to younger or older cohorts, as they are at a life stage where income levels and savings are relatively higher. Supporting this trend, Wang, Yin, and Jiang (2023) observed in their study on financial inclusion in emerging markets that individuals aged between 40 and 55 constitute the majority of stock market participants, driven by a combination of life-cycle savings behavior and a focus on wealth accumulation for retirement.

The descriptive statistics also revealed that the mean monthly income among individual investors at the Dar es Salaam Stock Exchange (DSE) was approximately 2,257,446.8 TZS, with considerable variation across respondents. This variation indicates a diverse investor base, spanning across different income brackets. These findings are consistent with Alhassan and Abu (2025), who emphasized that income disparities significantly influence stock market participation, as higher-income individuals are more capable of allocating surplus funds for investment activities. Similarly, Wang, Yin, and Jiang (2023) observed that greater disposable income enhances not only the likelihood of participation but also the level of investment commitment in stock markets. In addition, the average transaction cost recorded was 214,532.5 TZS, also demonstrating substantial variation. High transaction costs have been widely recognized as a barrier to stock market participation, particularly for lower-income and small-scale investors. Arianpoor and Mohammadbeikzade (2025) noted that when transaction costs consume a significant proportion of investment returns, they can discourage active trading and limit market accessibility for ordinary investors as majority incurred an average mean of transaction costs.These findings suggest that factors such as education, optimism, financial literacy, liquidity constraints, and technology usage are crucial determinants in individual investor participation in the stock market.

Table 3. Individual investor's Characteristics

Variables	Attributes	Frequency	Percent
Sex	Male	274	71.35
	Female	110	28.64
	Total	**384**	**100.0**
Education level	Diploma education	106	27.60
	Bachelor degree education	206	53.65
	Masters education	72	18.75
	Total	**384**	**100.0**
Marital status	Married	282	73.43
	Unmarried	102	26.56
	Total	**384**	**100.0**
Occupation	Self-employed	99	25.78
	Business owners	222	57.81
	Others	63	16.40
	Total	**384**	**100.0**
Type of investors	Speculative (short-term)	220	57.29
	Capital (long-term)	84	21.87
	Both (speculative and capital)	80	20.83
	Total	**384**	**100.0**
Financial assistance	Received Financial Assistance	219	57.03
	Not received Financial Assistance	166	42.96

Variables	Attributes	Frequency	Percent
	Total	**384**	**100.0**
Investor's Attitudes	Risk taker	322	83.85
	Risk-Averse	62	16.14
	Total	**384**	**100.0**
Technology usage	Use technology	242	63.02
	Do not use technology	142	36.97
	Total	**384**	**100.0**
Liquidity constraints	Investor face liquidity constraints	263	68.4
	Do not face liquidity	121	31.5
	Total	**384**	**100.0**
Financial literacy	Financial literate	254	66.1
	Not literate	130	33.8
	Total	**384**	**100.0**
Perception of investors	Optimistic	294	76.56
	Pessimistic	90	23.43
	Total	**384**	**100.0**
Social interaction	Interact with others in stock market	194	50.52
	Not interacting	190	49.47
	Total	**384**	**100.0**
Participation	Participated in Stock Market	280	72.91
	Not Participated	104	27.08
	Total	**384**	**100.0**
Investors' Age		Mean	45.45103
		Std. dev.	15.27221
Average Monthly income		Mean	2257446.8
		Std. dev.	1186909.9
Transaction costs		Mean	214532.5
		Std. dev.	112131.3

Determinants Individual investor's participation in DSE

The fitness of the data is statistically significant at 1 percent level, as indicated by a small P-value of 0.0000, according to the results of the probit model estimation on Table 4, which was designed to analyze the social economic and institutional factors associated with individual stock market participation. The Pseudo R2 is 0.4581, indicating that the explanatory variables in the model explain 46 percent of the variation in stock market participation. The Wald chi2 (14) =158 is the logarithm of the 14-degrees-of-freedom chi-squared probability test.The logarithmic probability of 143.096 indicates that all independent variable parameters are zero, implying that the probability output may be rejected at any significance level.

Results in Table 4 show that the age of investors (dy/dx = 0.003, $p<0.10$) positively influences stock market participation, suggesting that older individuals have a higher probability of engaging in the market, though the effect is marginal. Male investors (dy/dx = 0.172, $p<0.05$) are significantly more likely to participate in the stock market compared to their female counterparts. Similar results were obtained by , Ghosh (2022) who indicated that stock market participation increases with age, though the correlation tends to flatten for individuals above 60. However, Kaur and Vohra (2012) found a smaller effect of age on participation, focusing instead on economic and social factors. Together a study by Almenberg and Dreber (2015) suggest that gender plays a significant role, with men more likely to invest in the stock market as compared to women. Similarly, Sivaramakrishnan and Srivastava (2017) observed that male investors show higher participation rates, particularly among younger investors, which reinforces the gender difference in participation. The findings also shows that being male and financially literate (dy/dx=0.422, $p<0.01$) positively influence stock market participation. That is being male and financially literate increases the probability of participating in the stock market by 42.2%. The findings are consistent to that of Kumar et al. (2021) found that financial literacy significantly influences stock market participation, particularly for men. Similarly,

Sholevar (2023) highlighted that gender and financial literacy together amplify the likelihood of stock market participation, especially in male investors, which aligns that financial literacy increases male participation. Phung and Martinez-Gonzalo (2025) also discussed the moderating role of financial literacy on gender-based disparities in financial behaviors, suggesting that financial literacy bridges the gender gap, particularly for males.

In terms of educational attainment, individuals with a diploma ($dy/dx = 0.357$, $p<0.01$) are less likely to participate, with the magnitude of the negative effect being greater compared to those with a degree ($dy/dx = 0.488$, $p<0.01$) who have high likelihood of participating in stock market. The findings aligns with that of Sivaramakrishnan, Srivastava & Rastogi (2017) observed that educational attainment, particularly a master's degree increases stock market participation. They argue that financial literacy and the knowledge gained through advanced education encourage risk-taking and financial investments. Additionally, Guragai & Peabody (2018) found that higher education is positively correlated with stock market participation when financial literacy is also considered. Together with Srija & Vijay (2020) found that individuals with higher levels of education, such as degrees, tend to participate more in financial markets, potentially due to greater financial literacy and better understanding of risk. On the other hand, Zingher (2022) observed that individuals with vocational diplomas or lower educational qualifications are often less inclined to take on financial risks. Also, Mwakabumbe (2024) found that women with vocational diplomas perceive stock market investment as too risky due to a lack of comprehensive financial education.

The results reveal that risk-taking attitude is a statistically significant at the 1% level and significant positive determinant of individual investor participation in the stock market demonstrating a strong relationship between risk tolerance and investment engagement. Specifically, the marginal effect ($dy/dx = 0.341$, $p = 0.001$) indicates that being a risk taker increases the probability of participating in the stock market by approximately 34.1%, holding other factors constant. Ghosh (2022) similarly reported that individuals with a higher risk-taking propensity are more likely to engage in stock market activities due to their openness to uncertain outcomes and the potential for higher returns. Additionally, Nadeem et al. (2020) demonstrated that investor attitudes toward risk, combined with financial self-efficacy, significantly influence market participation decisions. Their study revealed that individuals with stronger risk appetites are more inclined to participate in stock markets, regardless of demographic factors, because they possess the psychological resilience to handle market fluctuations. In a similar vein, Sivaramakrishnan et al. (2017) examined the relationship between attitudinal factors and stock market participation and found that risk preference was a key psychological driver. They argued that individuals with a risk-taking attitude are more confident in navigating financial uncertainties, thereby increasing their likelihood of investing in volatile markets like equities.

The results also show that students ($dy/dx = 0.136$, $p<0.10$) and married individuals ($dy/dx = 0.242$, $p<0.01$) are more likely to engage in the stock market, with the effect being statistically significant for married individuals. Similarly, Ghosh (2022) found that students, particularly those in financial education programs, are more likely to engage in investment behaviors like stock market participation due to early exposure to financial literacy. On the other hand, Gao, Meng & Zhao (2023) revealed that married individuals tend to have a more stable financial situation and greater access to joint resources, which can enhance their likelihood of investing in stocks. Together, Adhikari & Alburez-Gutierrez (2025) also note that married couples, benefiting from shared financial decision-making and dual incomes, are more likely to invest. Together, Ton & Nguyen (2014) revealed that married individuals have greater financial security and long-term planning motivations, contributing to their increased market involvement.

Social interaction ($dy/dx = 0.680$, $p<0.01$) and financial literacy ($dy/dx = 0.623$, $p<0.01$) both have significant positive impacts on the likelihood of stock market participation.

Investor having social interaction and financial literacy are strongly associated with an increased probability of investing in the stock market. Mwamtambulo (2021) support the findings that social networks and peer influence play a critical role in shaping investor behavior and individuals are more likely to participate in the stock market when they are embedded in socially interactive environments. Similarly, Sabiran et al. (2023) focused on millennials and found that both financial literacy and social interaction are significant predictors of stock market participation intentions. Together, Ashoka and Keihani (2020) also concluded that financial literacy is a fundamental factor driving stock market participation. They argued that educated investors are more confident in navigating market complexities, thus more likely to participate. However, different findings were obtained by Sharma et al. (2022) and revealed that non-participation in the stock market was attributed to low financial literacy and lack of social exposure to investment environments.

Table 4. Determinants of individual investor's participation in stock Market

Variables	Probit Model			Marginal coefficients		
	Coefficient	Standard error	P-value	dy/dx	Standard error	P-value
Investor's Age	0.008791	0.00532	0.099	0.003*	0.002	0.099
Male	0.456714	0.21981	0.038	0.172**	0.079	0.029
Male*Financial Literate	0.523242	0.34042	0.000	0.422***	0.135	0.000
Diploma education	-0.927966	0.35701	0.009	0.357**	0.129	0.005
Degree education	1.324993	0.48970	0.002	0.488***	0.158	0.002
Masters education	0.395903	0.33586	0.238	0.150	0.122	0.219
Student	0.350221	0.18349	0.056	0.136*	0.070	0.053
Self-employed	0.080664	0.23028	0.726	0.031	0.089	0.724
Business owners	0.133272	0.57802	0.818	0.053	0.230	0.819
Married	0.658624	0.25029	0.003	0.242***	0.084	0.004
Perception (Optimistic)	0.305609	0.34207	0.372	0.119	0.132	0.368
Social interaction	2.308572	0.55595	0.000	0.680***	0.076	0.000
Financial Literate	1.778589	0.18635	0.000	0.623***	0.049	0.000
Ln income	0.236493	0.14876	0.002	0.092	0.058	0.112
Financial Assisted	0.242637	0.19927	0.223	0.095	0.078	0.223
Risk Taker	0.43134	0.13435	0.002	0.341***	0.131	0.001
Technology usage	0.710101	0.16783	0.000	0.267***	0.055	0.000
Liquidity constraints	-0.412363	0.15469	0.008	-0.200***	0.000	0.990
Transaction costs	-0.001730	0.13672	0.005	-0.163**	0.057	0.008
Constant	-6.38901	1.89758				
Number of observations	384	Hosmer-Lemmeshow test		0.9823		
Pseudo R squared	0.4581	Linktest (hat)		0.000		
Prob>Chi squared	0.0000	Model classification		81.77%		

**** p<0.01, ** p<0.05, * p<0.1*

In terms of income, while the coefficient for income (dy/dx = 0.092, p<0.01) is positive, it is statistically significant at the 1% significance levels, indicating that income have a strong influence on stock market participation. Similarly, Technology usage (dy/dx = 0.267, p<0.01) is found to significantly increase the likelihood of stock market participation, demonstrating that the adoption of technology facilitate investment activities. On the other hand, liquidity constraints (dy/dx = -0.200, p<0.10) and transaction costs (dy/dx = -0.163, p<0.01) both negatively affect stock market participation, with the latter being statistically significant. The negative relationship with transaction costs suggests that higher costs discourage participation in the market. The findings are consistent with that of Mwamtambulo (2021) identified income as a critical factor enhancing stock market engagement, as individuals with higher earnings have surplus resources to invest. Similarly, Sabiran et al. (2023) support the role of technology among millennials, suggesting that digital platforms reduce barriers and make investing more accessible. Together, Ashoka and Keihani (2020) highlighted both transaction costs and the availability of disposable income as important determinants, noting that higher costs

discourage participation, whereas higher income levels encourage it. Similarly, Sharma et al. (2022) discussed liquidity constraints and transaction costs as key deterrents for stock market participation and ranked these financial barriers among the top reasons individuals avoid investing, particularly when market entry and maintenance costs are perceived as high.

CONCLUSION

Based on the findings, this study successfully identifies and examines the determinants influencing individual investor participation in Tanzania's Dar es Salaam Stock Exchange (DSE). The findings highlight the role of social interaction, financial literacy, technology usage, income levels, and demographic factors, such as age, gender, and marital status, in shaping investment behavior. Conversely, constraints such as high transaction costs and liquidity limitations were shown to significantly deter market participation. These insights align closely with global and regional trends, affirming that socio-economic and behavioral factors critically influence financial market engagement. By situating these findings within the broader context of emerging market dynamics, particularly in Sub-Saharan Africa, the study contributes valuable empirical evidence to the growing discourse on retail investor inclusion. The probit regression model employed provided robust estimations, confirming the statistical significance of various factors and demonstrating that nearly half of the variation in stock market participation are explained by the model. Ultimately, the study advances understanding of how individual characteristics and external conditions interact to affect stock market participation in Tanzanian context while contributing to the global literature on financial inclusion and investment behavior. The findings suggest that policymakers should prioritize initiatives that promote financial literacy and increase social interaction among potential investors. This can be achieved by integrating financial education into public programs and school curricula, especially targeting underrepresented groups such as women and younger individuals. Furthermore, reducing transaction costs and improving access to digital platforms will encourage greater participation in the stock market, ultimately fostering a more inclusive financial system. These improvements can lead to broader economic benefits by enhancing the investment capabilities of individuals, thereby contributing to the development of financial markets and the overall economy.

REFERENCES

Adamolekun, G., Sakariyahu, R., Lawal, R., & Ahmed, A. (2023). Electronic trading and stock market participation in Africa: Does technology induce participation?. *Economics Letters*, *224*, 110991.

Adhikari, B., & Alburez-Gutierrez, D. (2025). Financial decision-making among married couples: Evidence from emerging markets. *Journal of Family and Economic Issues*, 46(2), 123-139.

Aisa, N. N. (2021). Do financial literacy and technology affect intention to invest in the capital market in the early pandemic period? *Journal of Accounting and Investment, 22*(1), 71–84. https://www.academia.edu/download/90298493/pdf.pdf

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Akinyele, S. T., & Onakoya, A. B. (2020). Factors influencing retail investor participation in Kenya's stock market. *International Journal of Business and Management Studies*, 9(2), 45-60.

Alhassan, H., & Abu, B. M. (2025). Access to credit and market participation: Evidence from Ghana. *Journal of Applied Economic Research*. (In press).

Arianpoor, A., & Mohammadbeikzade, N. (2025). Stock liquidity, future investment, and financial constraints in an emerging economy. *Journal of Islamic Accounting and Business Research*. (In press).

Ashoka, M. L., & Keihani, H. R. (2020). Factors influencing the investors to invest in stock market. *International Journal of Management (IJM)*, 11(1), 166-175.

Banyen, T. (2022). Behavioral drivers of stock market participation: Insights from Ghanaian investors. *Journal of Business and Economic Options*, *5*(2), 1-13.

Bary, E. (2021). South Africa's retail investors surge with mobile trading platforms. *Financial Markets Journal*, 19(4), 224-239.

Cameron, R., Lewis, J., & Rees, P. (2023). Fintech growth and investor participation in global markets. *Journal of Financial Technology*, 18(2), 101-120.

Chen, S., Piao, X., Xie, J., & Managi, S. (2025). Human capital and regional disparities: Advancing accounting frameworks with education, health, and population dynamics. *PloS One*. https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0315166

Committee of SADC Stock Exchanges (CoSSE). (2023). *Evolution of Dar es Salaam Stock Exchange (DSE)*. Retrieved from https://www.cosse.africa/wp-content/uploads/2023/09/Evolution-of-Dar-es-Salaam-Stock-Exchange.pdf

Dar es Salaam Stock Exchange (DSE). (2011). *Dar es Salaam Stock Exchange Handbook 2011*. DSE Publications.

Dar es Salaam Stock Exchange (DSE). (2016). *Dar es Salaam Stock Exchange Annual Report 2016*. DSE Publications.

Dar es Salaam Stock Exchange (DSE). (2017). *Dar es Salaam Stock Exchange Annual Report 2017*. DSE Publications.

Dar es Salaam Stock Exchange (DSE). (2021). *Dar es Salaam Stock Exchange Statistical Bulletin*. Dar es Salaam Stock Exchange PLC.

Dar es Salaam Stock Exchange (DSE). (2024). *About - Dar es Salaam Stock Exchange*. Retrieved from https://dse.co.tz/about

Epaphra, M., & Kiwia, B. P. (2021). Financial literacy and participation in the financial markets in Tanzania: An application of the logit regression model. *Journal of Economic and Financial Studies*. https://jefjournal.org.za/index.php/jef/article/download/545/1199

Galván, J. Y. R., & Aguirre, J. F. I. (2025). Returns to Higher Education in Mexico: A Cross-Sectional Analysis, 2010–2024. *Economies*.

Gao, M., Meng, J., & Zhao, L. (2023). Income and social communication: The demographics of stock market participation. *The World Economy*, 46(7), 2244-2277.

Ghosh, S. K. (2022). Demographic aspects and investors' decision-making process: A study. *Journal of Asian Business Strategy*, 12(2), 150-162.

Guragai, B., & Peabody, S. D. (2018). Demographic factors affecting US households' investment in stocks. *International Journal of Economics and Finance*, 10(4), 112-122.

Gurrola-Perez, P., Lin, K., & Speth, B. (2022). Retail trading: An analysis of current trends and drivers. *SSRN Electronic Journal*. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4562259

Iqbal, K., & Usmami, S. (2019). Behavioural factors influencing individual investors' decision making: Study of Pakistan Stock Exchange (PSX). *BUJHSS*, 2(1), 10-10.

Karki, D., & KC, R. (2024). Technological evolution, service innovation, and intraday trading adoption in Nepal's stock market: A behavioral approach. *ResearchGate*. https://www.researchgate.net/publication/390586919

Kaur, M., & Vohra, T. (2012). Women and stock market participation: A review of empirical evidences. *Management and Labour Studies*, 37(4), 283-293.

Kengatharan, L. (2019). Factors affecting stock market investing decisions: Evidence from individual investors in the northern region of Sri Lanka. In *1st Asia Pacific Symposium on Academic Research (APSAR-2019)*.

Kumar, R., Kiwia, B., & Epaphra, M. (2021). Financial literacy and participation in the financial markets in Tanzania: An application of the logit regression model. *Journal of*

Economic and Financial Studies. https://jefjournal.org.za/index.php/jef/article/view/545

Mchomvu, E., & Kazimzuri, J. (2021). Stock market participation in Tanzania: Challenges and opportunities. *Tanzanian Journal of Economics and Finance*, 12(2), 45-63.

Mishra, R. (2018). Financial literacy, risk tolerance and stock market participation. *Asian Economic and Financial Review*. https://www.researchgate.net/publication/330135725

Mkoba, C. (2024). Financial technology and stock market participation in Ghana. *African Financial Review*, 15(1), 55-72.

Modigliani, F., & Brumberg, R. (1954). Utility analysis and the consumption function: An interpretation of cross-section data. In K. K. Kurihara (Ed.), *Post-Keynesian Economics* (pp. 388-436). New Brunswick, NJ: Rutgers University Press.

Mogoba, G. M. (2024). Challenges faced by support groups in offering services to people living with HIV and AIDS in Kitutu Chache Constituency, Kisii County. *Kenyatta University Repository*.

Mutukrishna, M., & Henrich, J. (2022). Entrepreneurship and market engagement: Behavioral determinants. *Journal of Behavioral Economics and Organization*. (In press).

Mwakabumbe, C. A. (2024). Empowering Tanzanian Women: The Moderating Role of Awareness on Stock Market Participation. *Journal of Co-operative and Business Studies (JCBS)*, *8*(2), 1-19.

Mwakabumbe, C. A., Temu, S. S., & Kazungu, I. (2023). Stock Market Indicators and Domestic Market Capitalization of Emerging Markets. *ORSEA JOURNAL*, *13*(1).

Mwamtambulo, D. J. (2021). Factors influencing individual investor participation in stock markets: Evidence from Tanzania. *International Journal of Emerging Markets*, 16(4), 789–808. https://doi.org/10.1108/IJOEM-03-2020-0295

Mwamtambulo, D. J. (2021, June). Factors influencing individual investor participation in stock market. In *Contemporary Trends and Challenges in Finance: Proceedings from the 6th Wroclaw International Conference in Finance* (pp. 57-74). Cham: Springer International Publishing.

Nadeem, M. A., Qamar, M. A. J., Nazir, M. S., Ahmad, I., Timoshin, A., & Shehzad, K. (2020). How investor attitudes influence stock market participation when financial self-efficacy is present. *Frontiers in Psychology*, 11, 2286.

Nwankwo, A., Okoye, P., & Uzochukwu, I. (2021). Individual investor participation in the Nigerian stock exchange: Challenges and prospects. *African Journal of Business Management*, 15(5), 121-134.

Nyakurukwa, K., & Seetharam, Y. (2022). Household stock market participation in South Africa: the role of financial literacy and social interactions. *Review of Behavioral Finance*, *16*(1), 186-201.

Otuonuyo, G., Adewumi, B. J., & Onamade, A. O. (2025). Who Benefits? A deep dive into the social and economic impact of cooperative housing estates in Lagos megacity. *UNIABUJA Journal of Social Science and Humanities*.

Parker, S., & Riley, T. (2022). Retail investor trends and market democratization: A global perspective. *Global Financial Review*, 29(4), 345-367.

Patel, B., & Modi, V. (2017). Impact of demographic determinants on investment decision: An empirical investigation from South Gujarat. *International Journal of Latest Engineering and Management Research*, 2(12), 31-38.

Phung, T. M., & Martinez-Gonzalo, J. (2025). *The impact of financial literacy on women's economic empowerment: Exploring the mediating role of digital financial services*. Journal of Applied Research in Higher Education. https://www.emerald.com/insight/content/doi/10.1108/JARHE-07-2023-0273/full/html

Sabiran, D., Ismail, N. A., & Ahmad, M. S. (2023). Technology adoption, peer influence, and financial literacy in shaping millennials' stock market intentions. *Journal of Financial Services Marketing*, 28(1), 15–27. https://doi.org/10.1057/s41264-023-00156-7

Sabiran, M. H., Mohamed, N. N. N., & Yusoff, N. M. (2023). Factors influencing stock market participation intentions among millennials. *Journal of Advanced Research in Business and Management Studies*, 30(1), 58-73.

Setonga, J., & Omary, P. S. (2024). Analysis of Willingness to Pay for Improved Waste Management among Food Vendors in Mzumbe Ward, Mvomero District. *Open Access Library Journal*, *11*(10), 1-17.

Sharma, A., Goel, A., Rastogi, S., & Bhimavarapu, V. M. (2022). Factors accountable for non-participation in the stock market: Identification and ranking. *SAMVAD*, 23, 50-64.

Sharma, R., Gupta, V., & Singh, P. (2022). Financial barriers and investor participation in emerging markets. *Journal of Economic Studies*, 49(3), 487–505. https://doi.org/10.1108/JES-12-2021-0629

Sholevar, M. (2023). Mind the gap: The relationship between gender, financial inclusion, and financial literacy. *SOAS University*. Retrieved from https://eprints.soas.ac.uk/39119

Singh, B., & Singh, M. (2024). Empowering Indigenous Wealth: Analyzing Financial Literacy, Risk Preferences, and Stock Market Engagement within Scheduled Tribes in India. *Vision*. https://journals.sagepub.com/doi/abs/10.1177/09722629241226446

Sivaramakrishnan, S., Srivastava, M., & Rastogi, A. (2017). Attitudinal factors, financial literacy, and stock market participation. *International Journal of Bank Marketing*, 35(5), 818-841.

Srija, A., & Vijay, S. S. (2020). Female labor force participation in India: Insights through time use Survey. *Review of Market Integration*. https://journals.sagepub.com/doi/abs/10.1177/09749292211031131

Tharakan, P., & Adenuga, A. (2022). Barriers to stock market participation in Sub-Saharan Africa. *African Development Review*, 34(3), 567-586.

Ton, H. H., & Nguyen, T. P. (2014). The impact of demographical factors on investment decision: A study of Vietnam stock market. *International Journal of Economics and Finance*, 6(11), 83-89.

United Nations (UN). (2023). *Sustainable Development Goals Report 2023*. United Nations Publications. https://unstats.un.org/sdgs/report/2023/

Wang, J., Yin, Z., & Jiang, J. (2023). The effect of the digital divide on household consumption in China. *International Review of Financial Analysis, 87*, 102592. https://doi.org/10.1016/j.irfa.2023.102592

World Bank. (2021). *Global financial inclusion database: Stock market participation in developing economies*. Washington, DC: World Bank Publications.

Zeng, Y., Chen, C., Wang, J., & Zou, J. (2025). Education investment, social security, and household financial market participation. *Finance Research Letters*. https://www.sciencedirect.com/science/article/pii/S1544612325003873

Zhou, Y., Lu, W., Niu, G., & Xi, Z. (2025). Individualism and stock market participation. *The European Journal of Finance*. https://www.tandfonline.com/doi/abs/10.1080/1351847X.2024.2380409

Zingher, J. N. (2022). Diploma divide: Educational attainment and the realignment of the American electorate. *Political Research Quarterly*. https://journals.sagepub.com/doi/abs/10.1177/10659129221079862