

## **Influence of Socio-Economic Factors on the Participation of Individual Investors in**

### **Dar es Salaam Stock Exchange**

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#### **ABSTRACT**

*Individual participation in the emerging stock market, such as the Dar es Salaam Stock Exchange (DSE), is growing, although it covers only 2 per cent of the working population in Tanzania. This study examined socio-economic factors that explain individual participation decisions in DSE. Data were collected from 200 participants and 200 non-participants using a questionnaire. Quantitative data were analysed using descriptive statistics and a binary logistic regression model, while qualitative data were analysed using thematic analysis. Results indicated that individuals participate in different social and economic groups, which motivates them to invest. The BLR results indicated that social interaction, income, and internet technologies are the potential to influence individuals' decisions to participate in the stock market. Conclusively, social interactions, access to the internet and investment preference have a high likelihood of influencing individuals' investment decisions. These results are consistent with socioeconomic and cultural risk theories showing that the intermix of economic and social factors influence individuals' investment decisions. However, these theories do not include internet technologies. In this vein, the inclusion of these technologies in determining the influence of an individual's participation in the stock market is necessary. These results call for the government to strengthen supervision and quality monitoring of social group operations and management of funds. Furthermore, the study advocates DSE to use technology enablers such as the internet and social media to reach many individual investors.*

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## 1.0 INTRODUCTION

The stock market facilitates the economic growth of individuals, industries, banks and companies worldwide (Iddrisu &Abdu-Malik, 2017; Abiad *et al.*, 2015; Khyareh & Oskou, 2015). Individual investors, as among the beneficiaries of stock market activities, often conserve their resources by investing in different ways such as share acquisition, bond and debenture holding of different listed companies while expecting a positive return for their future economic development. On the other hand, individual shares acquisition is the means by which savings can flow into productive investment in the economy (Thomas, 2017). They also facilitate individuals' income growth gained through dividends and capital gains generated by themselves as company owners through share acquisition (Grimbeek, 2016).

Participation as a measure of whether an individual invests in the stock market (Sivaramakrishnan *et al.*, 2017) positively contributes to firms, the liquidity of the market and the economy. According to Sarkar and Sahu (2018), individual investors contribute to India's capital stock. Additionally, individual participation contributes to the market capitalisation of the different African markets, hence increasing markets' liquidity (WFE, 2017). Impliedly, individual participants owning outstanding shares of different companies increases firms' capital leading to improved liquidity. Similarly, a low number of participants can lead to market illiquidity (Massele *et al.*, 2013).

Although individual investment in the global stock market seems to bring about positive outcomes such as market liquidity and increased income among individuals, the findings show that individual investors prefer investing in fixed assets and various other securities over shares (Baig & El Zoubi, 2017). As a result, direct individual participants decline in number while institutional investor increases (Fichtner, 2020). Scholars reveal that economic aspects such as income and social interactions significantly affect individual participation in stock market investment (Khanam, 2017; Liu *et al.*, 2014; Kuchler & Stroebel, 2021). Similarly, Cheng *et al.* (2018) and Shanmughama and Ramya (2012) found that social interactions, the internet and relational factors (trust) affect the choice of an individual to invest in the stock market.

While the Johannesburg Stock Exchange (JSE) is one of Africa's best-performing stock exchanges, there is still a low level of domestic savings in the stock market. This situation hinders individual investment that promotes economic growth (Thomas, 2017). Similarly, the

Nigeria stock exchange reported that only 6% of individuals are participants, while the Nairobi stock exchange has only 4% of individual participants (Langat & Rop, 2019; Andow & David, 2016). Identified reasons behind low participation in Africa include; limited reliable sources of income, expected returns, social ties, and access to the internet (Gumbo & Sandada, 2018; Ndiege, 2012). On the other hand, Barayandema and Ndizeye (2018) insist that income is among the least influential factors for retail investors' participation in Rwanda Stock Exchange. Agyemang & Ansong (2016) also report similar findings and note that family security and a comfortable life contribute more to stock market shareholding than other factors.

The Dar es Salaam Stock Exchange (DSE) is a key component of capital formation for corporates in Tanzania, however, it has a limited impact on economic growth (Abbas *et al.*, 2016). The limited impact of DSE on economic growth can be linked to the illiquidity of the market and the low number of market participants (Massele *et al.*, 2013). Regardless of DSE's contribution to individual income and firms' capital formation, individual participation is estimated at 1 per cent (equivalent to 556,121 participants) of the population (DSE, 2020) compared to Kenya, which is rated at 4 per cent (Langat & Rop, 2019). Low individual participants can lead to a decline in stock price, a decline in household income, and reduced investment income in the stock market, affecting economic growth (Athreya, 2021; Abbas *et al.*, 2016).

DSE has implemented numerous efforts to increase individual participation, including training and awareness creation physically and through media. It further introduces a DSE online trading platform to facilitate easy securities trading (DSE, 2020). Additionally, DSE maintained the university challenge aiming at instilling investment knowledge among university students for future investment. Despite all the DSE's efforts to increase individual awareness and participation in the stock market, the number of direct individuals participating in the stock market is still low. As reported by different authors and echoed by Behnaz & Matos (2012), socioeconomic perspectives, including income generation, wealth, and socialisation, influence participation in the stock market.

Socio-economics is noted as a generic science intended to improve human living conditions and provide adequate supplementation of economics with other social sciences and humankind (Hellmich, 2015). Globally, socio-economic factors and how they affect stock

market participation have been broadly captured. However, socio-economic factors and their influence on stock market participation have been limitedly documented in Tanzania. Studies (Marobe, 2013) assessed economic factors (income and occupation), social factors (education, gender and age) and financial literacy as socio-economic factors. The author revealed that income, occupation, education, and age influence individuals' investment decision. On the contrary, Alliy (2015) assessed the influence of economic factors (interest, inflation, profitability, technology, and household saving) and socio-cultural factors (investors' behaviours, reference group, trust, and DSE attractiveness) on the development of DSE but excluded individual participation in the sector. Similarly, Epaphra & Kiwia (2021) identified income as among the economic factors influencing participation. However, previous studies used a limited number of individual participants and used different theories.

The DSE is growing in the number of listed companies and in the market capitalisation, partly contributed by equity shares acquired by individual investors. Literature reporting that demographic factors and income are limiting factors for individual participation (Epaphra & Kiwia, 2021; Marobe, 2013) may mislead policymakers and DSE in implementing strategies for increasing individual participation. Individuals' decisions to participate in the stock market may be associated with factors other than economic, including income and social factors such as the participation of family members in the stock market. Therefore, this study goes beyond the expected dividend, capital gain, occupation, and wealth, which were the economic factors considered by Epaphra & Kiwia (2021) and Ndiege, (2013). It categorised socio-economic to include economic factors (investment preference and level of income) and social factors (social interaction, family participation and access to internet technologies).

Furthermore, the study broadens the scope and includes direct individual participants and non-participants in assessing the influence of socio-economic factors on individual participation in the DSE. This is because the stock exchange is seen as a system of human connection where investors engage in information exchange and discussion about investment avenues with their neighbours, relatives, friends and co-workers (Shanmughama & Ramyab, 2012). In addition, clarification of the existing contradictions between income and its influence on participation in the stock market is needed. Thus, this study intends to determine the influence of investment preference, income, social interaction, family participation and access to the internet technologies on DSE individuals' participation.

## **2.0 THEORETICAL REVIEW**

The study is guided by two theories, namely the Socioeconomic theory and the Cultural risk theory. The choice of these theories stems from the fact that individuals are influenced by the intermix of economic and non-economic factors (Hellmich, 2015).

### **2.1. The Socio-Economic Theory**

Non-economic activities have some influence on the costs and methods available for economic activities because the former is considered an intermixed (embedded) of economic and non-economic activities (Granoveretter, 2005). As Granoveretter (ibid) assumed, economic interaction is mixed in the market's normative, cultural, structural and environmental contexts. When players seek economic gains through non-economic institutions, they presumptively attain savings. Savings through social groups foster trust and accountability among members, encouraging friends and family to lend a hand to one another. Granoveretter (2005) explores further that market prices become stable when small groups, as opposed to larger groups for the stock exchange, perform trades. Because security price volatility increases in larger groups than in small groups due to communication problems and trust, social and economic forces feed into one another.

The theory is appropriate for the study as it includes economic activities that are income generating, security investments through groups and saving among group members. These economic activities must be embedded (intermixed) with social, cultural and environmental factors to attain economic goals. Thus, social factors such as social group, access to technology and social interaction foster trust among individuals and facilitate the attainment of economic goals such as stock market investing. Because social interactions shape individual preferences in making choices (Hellmich, 2015); as a result of trust developed from social connectedness and the sharing of investment information leading to participation in the stock market. Thus, variables such as participation in social groups, access to internet technologies, and income were adopted from the theory. However, the theory did not consider an individual's decision-making process, which social and cultural factors might influence; therefore, cultural risk theory was found necessary to be included.

### **2.2 The Cultural Risk Theory**

The cultural risk theory focuses on decision-making, which is associated with risk and over substantive issues of risk quantification (Tansey & O'riordan, 1999). The theory implies that

the characteristics of the social group in which an individual is a member shape their opinions on certain issues. The degree to which people feel attached to a wider social group determines which organisations, peer groups or other authorities make up these social groups. Thus, cultural relationships, specifically the expectations and value systems of people who belong to diverse groups, shape attitudes and judgements about risk and the pattern of social fairness.

The theory is appropriate to the current study because individuals make decisions on investments associated with taking risks. Individuals perceive the stock market as risky, making investing difficult for risk-averse individuals and normal for risk-takers. Therefore, investing in a group is viewed as a means of neutralising the risk associated with share acquisition and encouraging investment. Hence, individuals' decision to take risks is highly influenced by the social group, peer group or entities to which they feel bonded. Seeing group members investing in shares and benefiting from a positive return motivates others to invest and become risk-takers. Therefore, an individual can decide to invest in risky assets such as shares by trusting peer groups or friends who invest in the same because the peers have assessed the risks involved. As a result, variables such as the type of investment preferred and social interaction were adopted from the theory.

## **2.3 Hypotheses development**

### **2.3.1 Social Factors and Participation in Stock Market**

Investors usually learn from financial advisors, financial analysts, advertisements, friends and family before deciding to invest or trade, which makes the process interactive. According to Liu *et al.* (2014), social connection positively impacts stock market involvement. Both conventional and modern social interactions influence individual investors' stock trade decisions. However, as Kuchler & Stroebel (2021) argue, that peer participation increase market attractiveness and increase participation among individuals. Therefore, it is not about social interaction alone but also about how friends, family or colleagues are involved. Li *et al.* (2014) focused on how parents/family enhance participation in the stock market and found that family likelihood to enter the stock market is 30% higher if parents participated in previous years. Elsewhere, Wazal & Sharma (2017) reveal that; cultural ways of saving affect individuals' participation decisions in India. This finding is echoed in Tanzania, where individuals prefer to save in informal savings systems such as VICOBA and mobile phones. Studies showed that almost 48 per cent (48.6%) of the Tanzanian population use mobile

savings, 6.7 per cent use the informal system, and only 16.7 per cent use formal financial services (FinScope, 2017).

Therefore, scholars have divided opinions and methods on the influence of social factors on individual decisions to invest in the stock market; hence it cannot be concluded which social factors are most influential. Hence, this study will contribute to the discussion and add new inputs to the body of knowledge on what influences an individual's decisions to invest in the stock market. Arts (2018) observes that social factors affecting participation might vary between countries, geographical locations or cultural practices. Studies (Wazal & Sharma, 2017; Liu *et al.*, 2014) focused on a few social factors and did not consider the use of internet technologies and social media as essential in accessing information and socialising. They also did not include family participation, the type of social group individuals prefer and the use of online applications. The only exception is Cheng *et al.* (2018) and Liu *et al.* (2014), who examined internet technologies and modern socialisation and recommended further research. Conversely, both socioeconomic and cultural risk theories assume that social interaction influences individual engagement in a favourable way. Hence, the study finds the need to assess the influence of social factors such as family background, participation in social groups, the influence of family, friends, and access to the internet on individual participation in stock market investment. Thus, the establishment of hypothesis  $H_{01}$  is as follows:

*H<sub>01</sub>: Social factors do not influence individual decisions to invest in the stock market.*

### **2.3.2 Economic Factors and Stock Market Participation**

Before investors decide to invest, they usually assess the type of investment (shares, bonds, options, mutual funds, etc.) and the future economic outcome, which may include dividends, future earnings, risks and returns. According to Barayandema & Ndizeye (2018), economic factors such as expected earnings and a company's ownership structure are the most influential factors in individuals' decisions to acquire stocks. Income was included as a demographic factor and found to have little influence on the investment decision in security markets. Similarly, Ndiege (2012) examined variables affecting teachers' decisions to trade on the Nairobi stock exchange and discovered that anticipated dividends, capital gains and share prices influence investment decisions. In addition, Ndiege identified social and behavioural factors such as friends' and co-workers' recommendations as affecting investment



decisions. Therefore, the decision to invest does involve not only economic factors but also social, cultural and behavioural factors.

On the other hand, Agyemang & Ansong (2016) revealed that family security (future protection of loved ones) and a comfortable life (financial soundness and satisfaction) play an important role in investment decisions in Ghana. Thus, individuals invest not only for economic gain but also for their family's future gain. However, Mauricas *et al.* (2017) insist that higher expected returns increase participation in domestic fixed-asset investments but not in risky financial assets, including shares. Then, economic factors such as returns influence investment in less risky assets and not shares. The socioeconomic theory also suggests that economic factors positively influence individual investment, but these factors must be intermixed with social factors. Hence, researchers have mixed opinions on variables measuring economic factors but also differing opinions on investment preferences. Additionally, they did not consider other important economic factors nationwide. Looking at DSE as an emerging market, factors such as investment preference, economic activities of individuals, and the level of income provide an economic picture of current and prospective investors. Furthermore, the theory suggests a positive influence of economic factors on investment, but empirical literature contradicts this depending on the variables used. Therefore, this study examines further economic factors such as income level, economic activities, and investment preferences and their influence on participation. Thus, hypothesis  $H_{02}$  was formed:

*H<sub>02</sub>: Economic factors do not influence individual decisions to invest in the stock market.*

### **3.0 METHODOLOGY**

The study used a cross-sectional approach since the outcome (dependent variable) and exposures (predictor variable) were measured simultaneously. In addition, the description of the population's demographic characteristics was possible and facilitated the use of different modes, from data collection to analysis. A mixed approach was used simultaneously in analysing the relationships between the variables (participation and socio-economic factors). The approach was applied because qualitative and quantitative data may be used to comprehend the research problem (Creswell, 2009). A quantitative method was used to test the hypotheses by measuring the relationship between socioeconomic factors and participation. The qualitative analytical approach was employed to complement the



quantitative data analysis and interpretation, leading to the generalisation of results (Apuke, 2017).

The study area was the Dar es Salaam region because that is where DSE and all 15 Brokers are based. Moreover, Dar es Salaam is among the fastest-growing cities, a leading commercial centre and an economic hub in Tanzania (Msuya *et al.*, 2019). The study population was 3,599,412 individuals engaged in income-generating activities (NBS, 2020). Among the study population, individual participants totalled 556,121 (DSE, 2021) were also included. Snowballing sampling was used to select individual participants because their physical locations were not identifiable from the DSE repository. However, purposive sampling was used to select six (6) key informants considered experts. The key informants were interviewed, and the information collected was used to supplement quantitative data. The sample used for the study included participants and non-participants because the study intended to examine whether participating or not participating in the stock market is affected by socio-economic factors. The Slovin (1960) formula was used to get the sample size.

$$n = N/1+N(e^2).....(1)$$

$$n = 3,599,412 /1+3,599,412 (0.05)^2 = 400$$

**Whereby;**  $n$  =Sample size,  $N$  =Working population,  $e$  = Sampling error (0.05) at 95% CI.

Therefore, the sample size included 200 participants and 200 non-participants having similar characteristics, meaning the distribution ratio is 1:1 (Etikan &Bala, 2017). The data were collected using a structured questionnaire, and interview guide for six key informants considered experts in the stock market. Pre-testing of the questionnaire was done on 30 individuals apart from those involved in the main data collection to measure the validity and reliability of the questionnaire. Problems, suggestions, recommendations, and observations related to questions in the questionnaire were improved and incorporated for final data collection. Acquired data were put through a reliability test, and Cronbach's Alpha coefficient test result was 0.806, regarded as adequate and acceptable (Livingston, 2018).

Qualitative and quantitative data were analysed, whereby qualitative data were analysed using thematic analysis as adopted and improved from Salleh *et al.* (2017). The process involved reading transcripts and interviews from key informants and then manual coding. Sorting coded information followed to get potential themes and sub-themes based on

importance, relevance, and relation to the theory and objectives of the study. The identified themes were therefore linked with the objectives to supplement quantitative results. Conversely, quantitative data were analysed using descriptive statistics and Binary Logistic regression as adopted and improved by Arts (2018). The model was selected because the dependent variable was dichotomous (Msemo *et al.*, 2018). Hence, participation as a dependent variable adapted from Radtke *et al.* (2018) is represented in the model (Equation 2) as  $\text{Log } P/(1-P)$ . It shows the odds of 1 versus 0 at any value for  $x$  because it is a dichotomous variable with participating or not participating options. Participation in the stock market was measured against socio-economic variables to show the causal relationship (Table 1). Therefore, the model was as follows:

$$\log\left(\frac{P}{1-P}\right) = \beta_0 + \beta_1, \text{Age} + \beta_2, \text{Sex} + \beta_3, \text{Ms} + \beta_4, \text{Edu} + \beta_5, \text{Fp} + \beta_6, \text{Si} + \beta_7, \text{Int} + \beta_8, \text{Inv} + \beta_9, \text{Inc} + \dots \varepsilon_i \dots\dots\dots(2)$$

Whereby:  $P$  = Likelihood of participation in DSE;  $\beta_0$  = Constant coefficient  $\beta_1$  ----  $\beta_k$  = coefficient of explanatory variables; and  $\varepsilon$  = Error term = 0.05.

Ethical consideration was observed from data collection to analysis, whereby participants were subjected to no harm, and the researcher obtained informed consent from respondents before data collection. Data collection ensured the privacy, confidentiality and anonymity of research participants as the names of the respondents were not disclosed. Furthermore, deceptions, exaggeration and plagiarism were avoided.

**Table 1: Definition and Variable Measurement**

Variables		Variables description and Measurements
<b>Dependent Variables</b>		
P/(1-P)	Dependent Variable Participation in Stock Market	Ownership of shares in different companies listed at DSE 1= Participating in the stock market; 0= Not participating
<b>Independent Variables</b>		
Age	Age of respondents	1= Elder >35 years; 0 = Youth 18-35 years
Sex	Sex of respondents	1= Male; 0 = Female
Ms	Marital Status	1= Married; 0 = Otherwise
Edu	Education Level of respondents	1= High education level (Degree); 0 = Otherwise
Fp	Family participation in SM	1 = Yes; 0 = Otherwise
Si	Social interaction	1 = Yes; 0 = Otherwise
Int	Access to Internet technologies	1 = Yes; 0 = Otherwise
Inv	Type of investment preferred	Invest in bonds 1= Yes; 0= Otherwise Invest in non-current assets 1= Yes; 0= Otherwise
Inc	Income level of individuals	1 = High income earner >TZS 10,000,000; 0 = Otherwise

**Source:** Literature review (2022)

## 4.0 RESULTS AND DISCUSSION

### 4.1 Economic and Social profile of Respondents

Individual participants and non-participants invest their portfolios in different areas and have different social and economic profiles. This section (Table 2) provides a descriptive analysis of the respondents' economic profiles, including income levels, economic activities and investment preferences. It also includes social profiles such as access to internet technologies and membership in social groups.

**Table 2: Economic and Social Profile of Respondents**

Variable	Categories	Total Freq (400)	Percent (TotalFreq /400) (%)	Non-part (Freq)	Non-Part/2 (00 (%)	Part (Freq)	Part/200 (%)	Chi-square
Investment preference	Bonds	97	24.3	53	26.5	44	22	0.294
	Mutual Fund	51	12.8	13	6.5	38	19	0.000
	Shares	218	54.5	22	11	196	98	0.000
	Non-current Assets	182	45.5	156	78	26	13	0.000
Economic activities	Government employee	94	23.5	62	31	32	16	0.000
	Private employed	50	12.5	32	16	18	9	0.000
	Self Employed	305	76.3	138	69	167	83.5	0.000
Income	TZS50,000-5,000,000py*	143	35.8	106	53	37	18.5	
	TZS5,100,000-10,000,000py	93	23.3	38	19	55	27.5	
	TZS10,100,000-100,000,000py	164	41	56	28	108	54	0.000
Family Participation	Yes	276	69	98	49	178	89	0.000
	No	124	31	102	51	22	11	
Involved in Social group	Yes	310	77.5	125	62.5	185	92.5	0.000
	No	90	22.5	75	37.5	15	7.5	
Type of social groups	VICOBA	208	52	71	35.5	137	74.1	0.000
	Men/Women group	94	23.5	47	23.5	47	23.5	1.000
	Regional/Tribe group	73	18.3	22	11	51	27.6	0.000
Access to Technologies	Yes	331	82.8	138	69	193	96.5	0.000
	No	69	17.3	62	31	7	3.5	

**Source:** Litertature review (2021) Primary Data collected \*Py = Per Year

Results in Table 2 show that individuals can save and invest in more than one mode due to their social group membership, investment preferences and economic activities. In addition, other individuals who are employees in different organisations are privately involved in other economic activities, such as owning a school or a company. Furthermore, 54.5 per cent of the respondents preferred shares investment, while 45.5 per cent preferred non-current assets. Shares were preferred by 98 per cent of the participants, and non-current assets were preferred by 78 percent of non-participants. Pearson's chi-squared results indicated a positive association with a P-value of 0.000. Therefore, the mode of investment preferred by an individual is associated with participation.

Table 2 also indicates that 305 respondents were self-employed, while 94 were government employees. About 138 of the self-employed were non-participants, and 167 were participants in the stock market. The high participation of self-employed individuals could be attributed to their ongoing search for new sources of income, financial capacity or risk diversification from other sources. These results are supported by chi-squared results, which showed a P-value = 0.000, meaning that the economic activities of an individual are associated with participation in the stock market. About 54 per cent of participants earned an annual income of TZS 10,000,000 to TZS 100,000,000, while only 28 per cent of non-participants earned that amount. About 53 per cent of non-participants had an annual income of less than TZS 5,000,000. Individuals' Chi-square results showed the association between income earned and participation in the stock market with P-value = 0.000.

Regarding social factors, Table 1 shows that 89 per cent of individual participants have friends and family members who own shares, while only 49 per cent (49) of non-participants have friends or family members who own shares. In addition, individuals participate in different social (sports) and economic groups such as VICOBA. Hence, socialisation with family, friends and colleagues who are participants motivates others to invest. Chi-square results with a P-value of 0.000 confirmed this. The results align with Kuchler & Stroebel (2021) who noted that social interaction significantly influence participation. Furthermore, access to the internet and mobile technologies was also among the social factors associated with participation. Access entails using websites, DSE applications, mobile phones and online trading to access DSE information. An increase in participants' use of technology-enabled media indicates a high usage of modern socialisation platforms to access information for investment decisions (Hu *et al.*, 2021).

#### **4.2 Influence of Socio-Economic Factors on Participation**

Binary logistic regression results are presented in general, including variables of both social and economic factors, then discussed separately to examine which variables influence participation. The model is significant because the model fit test has P-value = 0.000. Nagelkerke, Cox, and Snell R square show the model has good explanatory power as it exceeds 50 Per cent. Hosmer and Lemeshow's test shows P-value = 0.244 confirming the model as reliable. The results are presented in Table 3.

**Table 3: Binary Logistic Regression on Socio-Economic Factors influencing participation**

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	-1.976	0.524	14.236	1	0.000	0.139
Sex of respondent	-0.708	0.389	3.312	1	0.069	0.493
Marital status	0.696	0.452	2.364	1	0.124	2.005
Education	0.427	0.456	0.880	1	0.348	1.533
Family participation	-1.258	0.454	7.665	1	0.006	0.284
Social Interaction	-1.084	0.453	3.172	1	0.027	0.338
Access to internet technologies	-2.142	0.614	12.170	1	0.000	0.117
Invest in bonds	1.620	0.419	14.954	1	0.000	5.054
Invest in Non-current assets	4.218	0.499	71.578	1	0.000	67.871
Income	-0.948	0.444	4.554	1	0.033	0.388

**Source:** Litertaure review (2021)

*Omnibus test, P-value = 0.000, Cox & Snell = R square = 0.571, Nagelkerke R square = 0.761 Hosmer and Lemeshow test (chi-value = 10.307, df=8, p=0.244*

### 4.3 Demographic Factors

Table 3 revealed that individuals' age is likely to influence individuals' decision to participate in the stock market, as P-value is 0.000, which is less than 0.05. Therefore, an increase in age decreases individual involvement in DSE activities by 0.139 times. The results are aligned with Fagereng *et al.* (2017), who noted that young individuals participate more than those approaching retirement age. The results imply that young working individuals are more likely to participate in the stock market than older people. Their participation is due to the fact that young individuals are highly working groups looking for investment opportunities for future economic gain. In contrast to Marobe's (2013) findings, other demographic characteristics, including sex, marital status, and education, are less likely to influence an individual's engagement in the stock market. Thus, individuals' decision to invest is not only about demographic factors but also social, economic and behavioural factors, as Ndiege (2012) suggested.

### 4.3 Economic factors and participation

#### 4.3.1 The income level of respondents

Table 3 shows that individuals' annual income has a high likelihood of influencing participation as the P-value = 0.033 (P 0.05). Impliedly, an increase of 1 unit per year increases the likelihood of an individual participating in the DSE by 0.338 times. As a result, the null hypothesis was rejected, meaning that economic factors (income) are likely to

influence individual participation in the stock market. These findings are consistent with socio-economic theory, Barayandema, & Ndizeye's (2018) results, who found that high income influences individual participation in the stock market. Income influence participation because, as one's annual income increases, alternative chances of an individual's decision to invest in shares also increase. In contrast, the findings revealed that increasing income, at any level, is likely to influence individual participation. Low-income and high-income earners are likely to participate in the stock market if they have additional income. This is because practically all disposable income after meeting consumption needs can be invested variably, including share acquisition.

### **4.3.2 Type of investment preferred and participation**

Results in Table 3 show that investing in government or corporate bonds and fixed assets is highly likely to influence participation as the P-value = 0.000. Hence, investing in bonds and fixed assets increases participation in the stock market by 5 and 67 (respectively) times more than other investments. Therefore, we fail to accept the null hypothesis and conclude that economic factors (type of investment preferred by an individual) increase the likelihood of individual participation in the stock market. The findings align with Mauricas *et al.* (2017), who noted that individuals prefer investing in fixed assets with high returns over other risky assets. Impliedly, owning bonds and fixed assets by an individual is likely to influence participation because they are less risky investments than shares, which have an unpredictable expected return. These findings support government efforts to encourage individuals to own companies' shares (URT, 2016). If individuals can invest in bonds and fixed assets, the probability of investing in shares also increases. These results align with cultural risk and socio-economic theories whereby individuals can invest in different areas based on trust. Therefore, one can invest in any securities and still invest in shares, as it was noted during data collection whereby one of the key informants stated,

*"...Individuals learned about share acquisition after investing in UTT/Umoja fund and benefited from them then decided to invest in other companies like Tanga Cement Company Ltd (TCCL)...". (Field Data, Dar es salaam, May 2020).*

### **4.3.4 Social factors and participation**

#### **4.4.1 Social Interaction and Participation**

Findings in Table 3 revealed that people who participate in social groups are much more likely to acquire stocks, with a P-value = 0.027. Therefore, the null hypothesis is not accepted

as an increase in socialisation increases participation by 0.380 times compared to those who do not participate. These results are consistent with the results in a study by Wong and Yap (2019). Similarly, results align with Granovetters' socio-economic theory, Liu *et al.* (2014), cultural risk theory, and Kuchler & Stroebel (2021) findings revealing that social interaction affects stock market participation and trading behaviours of individuals. The results imply that social interaction is likely to motivate individuals to save and invest by learning from their colleagues. Moreover, the findings imply that social groups establish different modes of saving and investment to facilitate economic advancement among members. The results support the DSE policies in encouraging share acquisition through registered groups.

#### **4.4.2 Family Participation**

Members of the family, close friends and peer groups who invest in the stock market are likely to persuade other family members to do the same. The findings in Table 3 demonstrate that participation in the stock market is probably influenced by family and friends who are investors, with a P-value = 0.006 (< 0.05). As a result, the null hypothesis is not accepted, and the alternative hypothesis that social factors (family participation) influence individual participation in the stock market is accepted. Findings are consistent with Shanmughama & Ramyab (2012) and Li (2014), who noted that family likelihood to enter the stock market is high if parents entered the market in previous years. Practically, these results imply that having friends and family participating in the DSE increases the trust of prospective shareholders. As a result, family participation motivates additional family members to participate by 0.284 times more than those without family participants. The findings are also consistent with the notions of cultural risk theory and socio-economic theory because members of the family, friends, and peer groups who invest in the stock market encourage other family members to do the same. Furthermore, the participation of family members can also be associated with inheriting shares from parents, as noted by one of the key informants,

*"...there are individuals who participate in the stock market after inheriting shares and bonds from their parents and later decide to acquire more shares after realising the benefits associated with share acquisition....". (Field Data, Dar es Salaam, May 2020).*

#### **4.4.3 Access to Technology**

Access to technologies like the internet, social media, and DSE applications were found to have a strong possibility of influencing individual decisions to participate in the stock market



as the P-value = 0.000 ( $< 0.05$ ). As a result, the null hypothesis is not accepted, and the alternative that social factors (access to internet technology) influence individual stock market involvement was accepted. Therefore, increased access to internet technologies is 0.117 times more likely to influence individual decisions to invest in the stock market. Hence, greater access to the internet may cause an individual to learn and access information relating to DSE and sharing trading. The findings relate to Cheng *et al.* (2018) and Liu *et al.* (2014), who noted that internet technologies and modern and traditional socialisation affect stock market participation. These results imply that, due to the current use of online trading and online access to information, the need for internet technologies to access information about the DSE also increases. The availability and accessibility of DSE information through internet technologies show DSE activities' efficiency, fairness, and transparency as per the investment policy review (UN, 2002). These results are consistent with information from one of the key informants,

*".....due to increased use of internet technologies, DSE Mobile application was established to enable easy information accessibility and share trading....". (Field Data, Dar es Salaam, May 2020)*

## **5.0 CONCLUSIONS AND RECOMMENDATIONS**

The study examined the socio-economic factors that explain the individual's decision to participate in DSE. The study revealed that due to the continuous quest for alternative sources of income, individuals invest in different assets. In addition, membership in various social groups and access to internet technologies have a higher probability of influencing individuals' participation in the stock market due to continuous interaction with friends, family and peer group members. It was further revealed that individuals with different income levels have a high probability of investing in different assets. High income increases the probability of diversifying their portfolio, thus increasing their likelihood of participating in the stock market. Likewise, socialisation (traditional and modern) with friends and family members who are participants is likely to increase trust in other family members who are non-participants, hence increasing the likelihood of their participation.

Theoretically, the findings indicated that non-participants being part of social groups and having relatives and friends who own shares are motivated to invest in the stock market, which relates to socio-economic and cultural risk theories. The relationship to the theories is because individuals are shaped by the nature and trust of their social groups. Hence, share

trading is an interactional process involving social factors such as social interaction, social groups, and economic factors. However, modern technologies and online social groups should be considered in improving the theories.

The results indicated that social interaction in peer social groups or through internet technologies (WhatsApp, Instagram, Twitter, DSE Mobile) might influence participation; hence, they can be used by DSE to create awareness among the public and to access prospective shareholders. Through this, prospective shareholders residing in different parts of the country can be located and accessed. Similarly, as individual preference in bonds indicates a probability of share ownership, government and corporate organisations can introduce bonds with a small value to provide investment opportunities for small investors with different income levels.

Regarding policy implications, policymakers and financial regulators should enhance supervision and quality monitoring of social groups' operations and management of funds contributed by individuals. For example, currently, DSE has established share acquisition through registered financial groups; hence, savings from local/small social groups should be protected for future investment. Furthermore, DSE should also consider extending their services by improving its policies and establishing share acquisition through small social groups, which built trust among them and formally operated their activities. Investing through social groups provides investment opportunities for potential investors lacking the confidence to invest in the stock market individually.

## **6. LIMITATIONS AND AREAS FOR FURTHER STUDIES**

The study on which the presented results are based had primary data collected in the Dar es Salaam region only due to the location of DSE and brokers. Apart from that, the study used socio-economic theory and cultural theory. Therefore, future researchers can examine individuals' participation in other regions different from Dar es Salaam. In addition, researchers can assess the behavioural and psychological factors influencing individual participation because an individual's decision to invest might be behavioural or psychological and not only influenced by social or economic factors.

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