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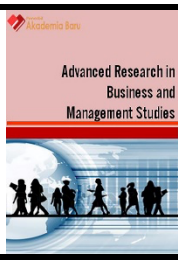

Factors influencing stock market participation intentions among millennials

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ABSTRACT

Stock market participation is an essential topic related to the level of financial literacy. This is because a high level of financial literacy is more likely to involve in stock market investment, which needs a good conceptual understanding of financial management, risk management, return of investment and money compounding. Millennials are the main workforce contributors to economic growth in Malaysia, while there is still low involvement in the stock market among them (stock market participation puzzle). This study integrated behavioural factors in the Theory of Planned Behaviour (TPB) and financial literacy toward stock market participation intentions. Therefore, this study aims to understand the relationship of behavioural factors with the presence of financial literacy as adding factor. This study quantitatively analysed the conceptual framework using Statistical Package for Social Sciences (SPSS) Statistics 27, SPSS AMOS 24 and SPSS PROCESS 4.1 among 308 respondents from millennial naval officers of the Royal Malaysian Navy (RMN). The results show that attitudes, subjective norms, perceived behavioural control and financial literacy are significantly related to stock market participation intentions. This study will provide a more likely bridge the gap between the stock investors and non-investors regarding financial literacy level comparison and moderation effects of financial literacy in understanding stock market participation puzzle phenomenon.

Keywords: Stock market participation; Stock market participation puzzle; Theory of Planned Behaviour; Financial literacy; Millennial

1. Introduction

There are many choices of investment instruments such as saving accounts, properties, commodities, bonds, mutual funds, and stocks withdifferent returns or risk to reward ratios [1]. Any investment instruments demand commitment or obligation such as capital, energy, and time to achieve a return of investment in profit or dividend [2]. The decision-making in investments such as stock market was influenced by behavioural factors relate to psychological effects that create biases and affect investors to invest irrationally [3]. The study provides understanding the relationship of behavioural factors and intentions toward stock market participation.

The stock market is one of the instruments in equity investments that involve a large amount of money from financial institutions and retail investors. The stock market is significantly important for developing countries as the centre of the capital market and portrays the country's economic

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performance in the eyes of foreign investors [4]. Millennials are the primary workforce contributing to Malaysia's gross domestic product (GDP) compared to Generation X and baby boomers [2]. The essential of stock market investment is reflected by the actions taken by the Malaysian government to attract more people to participate in Malaysia's stock market due to little returns offered by conventional saving instruments [5]. The stock market participation puzzle is crucial to be explored because low stock market participation can be translated as low wealth accumulation and purchasing power [6]. Stock participation among millennials is far less than Generation X in terms of central depository system (CDS) account holders and traded volume in Bursa Malaysia [7]. At the same time, relatively, there is sparse literature put non-investors as the subject in stock market participation studies [8]. Adil, Singh [9] suggested adopting the theory of planned behaviour (TPB) as the suitable theory to determine the relationship between the factors of attitudes, subjective norms, and perceived behavioural control towards investment intention. An additional factor which is financial literacy, can be added to TPB [9]. Financial literacy is important as the key factor when people are considering any financial activities [10]. This work focuses on identifying the factors that influence stock market participation intentions and analysing the level of financial literacy between stock investors and non-investors toward stock market participation intentions. Finally, this work also proposing whether there is a significant difference between perspectives of stocks investors and non-investors toward stock market participation intentions among millennial naval officers of the RMN.

Many cases of financial issues among Malaysians were reported, such as financial scams, bankruptcy-related to unpaid debt, and loan sharks. These happened due to a lack of awareness and no guidance by good financial literacy to justify their financial behaviours [11]. Based on the statistic reported by Malaysia Department of Insolvency [12], the total numbers of Malaysians bankrupt was 61,665 individuals from year 2017 until 2021. Majority of them came from the age group of 35 to 44 years old or known as millennials which consists of 22,458 individuals or 36.42 percent. Another financial issue happened among navy personnel is loan sharking. In 2012, there was 178 individuals of the Royal Malaysian Navy (RMN) involved and the total amount was RM 139,000.00 [13]. The former Chief of Navy emphasized the functions of divisional officers to advise their subordinates in terms of good financial management that required good financial management [14]. The major factors of these situations related to financial problems were unrealistic returns of investment, incontrollable debts, and overbudgeting due to a lack of financial knowledge and management [13]. As a further matter, 75 per cent of the workforce in Malaysia lacked awareness and was not well-prepared regarding retirement planning since they are truly dependent on retirement contributions such as Employer Provident Fund (EPF) after retirement [15]. Especially millennials, they faced many economic crises at the early age of 18 when they started job hunting in 1998 until 2021 [2]. These situations gave an impact in terms of their career and finances.

2. Review of the Literature

2.1 Overview of Stock Market

The definition of the stock market is the place where transactions of buying and selling shares take place [16]. The transactions can be done with the help of stockbrokers after investors' approval, which runs under specific regulations. A country's economy cannot function properly without a thriving stock market as one of its fundamental building blocks. Vestman [17] stated that when investors buy stocks, they are actually buying shares and become the shareholder of the listed company and have certain rights subject to the amount or percentage of the shares bought. Globally, stock markets are continuously growing with the increasing of listed companies and investors, which have an important role in developing and developed countries. The individual can learn about the

opportunities from peers who have already learned about the stocks. Awareness through good financial literacy is a persuasive factor for the participants in the stock market because stock investment is the riskiest instrument [18].

2.2 Stock Market Participation and Stock Market Participation Puzzle

In academic papers, stock market participation is determined as participation in stock investment among investors, either retailers or financial institutions [19]. On the other hand, the stock market participation puzzle included stock market non-participants related to a low rate of stock investment in the study for understanding the gaps between the phenomena [20]. Furthermore, both phenomena are in the same area of knowledge. Only the conditions of participation are different that related to samples, whether respondents or participants.

Based on the past researchers that used Malaysians as samples, such as Jaiyeoba, Adewale [21], Zaidi and Tahir [22], Rahman and Gan [2], and Yang, Abdullah Al [5], mentioned that stock market participation among Malaysians behaviours are interesting to be explored where there are factors and perceptions influenced. Besides, there were studies in the same context using different samples from India [9, 10], Ghana [23], The United States of America [24, 25], Europe [26], Sivaramakrishnan, Srivastava [10] and China [27]. On the contrary, the knowledge area of the stock market participation puzzle contributed by Paron [20] in The United States of America, Mauricas, Darskuviene [6] in Lithuania, and Naudon, Tapia [28] in Chile. The main concerns of these researchers are to explore the relationship of determining factors that influence stock market participation or the stock market participation puzzle.

2.3 TPB

TPB was developed and improved by Ajzen [29] from the previous theory, which was the theory of reasoned action (TRA) found by Fishbein, Davidson [30]. TRA was objected to due to the absence of perceived behavioural factors that affect individual intention and can directly affect behaviour [29]. In addition, the other factors that could directly affect intention but not behaviour are attitude and subjective norms. TPB is very popular and believed to be the most reliable theory in predicting human behaviour and is accredited with about 90,000 citations cited in previous studies by past researchers [31]. According to this theory [32], the factors that determine intentions are an individual's attitudes, subjective norms, and perceived behavioural control. Attitudes reveal the extent to which an individual evaluates behaviour, which can be viewed in a positive or negative light by the individual. Subjective norm is experienced as a form of social pressure from people surrounding when executing or refraining from a particular behaviour. Perceived behavioural control refers to the degree of motivation or confidence (easy or difficult) that an individual feels when performing a particular behaviour.

2.3.1 Attitudes (AT) Toward Stock Market Participation

Attitude refers to the way people think and feel when they express their opinions on various things, such as whether something is favourable or unfavourable [32]. An individual's attitude might assist them in determining whether or not to pursue a specific activity by assessing its positive and negative effects. In this sense, the individual's positive or negative judgment of a particular behaviour is a factor in determining behavioural intentions. Having a good outlook on life directly affects one's

behaviour. The more negative an individual's attitude, the less likely they will take action due to low intention.

Additionally, the attitudes of investors toward a certain financial product may be used to forecast their investment behaviour, such as in the stock market [33]. The researchers believe that an investor's mindset may impact their decision to participate in the stock market Individuals' attitudes have a significant influence on stock market participation [34, 35].

2.3.2 Subjective Norms (SN) Toward Stock Market Participation

Subjective norm is a term used to describe the perceived effect that important individuals have on the intentions and actions of a person [32]. Subjective norms exist as an assessment of the social impacts on a person's intentions toward behaviour or actions exerted by people surrounding such as family and friends.

According to [34], it was discovered that there was a positive relationship between subjective norms and the intention to invest in the stock market. In contrast, [33] discovered that the subjective norms of a group had a favourable influence on the use of online stock trading. A person's attitude on life may be significantly influenced by their social circles, including their family and friends. This influence can also work in the other direction. A person buying or investing in investment products is directly correlated to the level of popularity that investment products delight among their peers. The process of making investment decisions relied heavily on input from relevant peers. Despite the fact that the stocks investment is dangerous, investors appeared to be looking for acceptance from others in their selections. While Pascual-Ezama, Gil-Gómez de Liaño [36] revealed that subjective norm is not positively related to investors' intentions to participate in the Spanish Stock Market, it is possible to happen which people were less attracted to the stock market because of a lack of influence from family or friends.

2.3.2 Perceived Behavioural Control (PBC) Toward Stock Market Participation

Ajzen [32] stated that perceived behavioural control refers to an individual's estimation of how easy or difficult it is to carry out the behaviour that is of interest to them. It reflects their level of confidence and motivation to perform the desired action, whether go through the intention or not.

There are adequate empirical shreds of evidence to show that perceived behavioural control significantly impacts behavioural intention. Past studies by Gopi and Ramayah [33] and Lin [37] were conducted in various situations, and these studies have shown that perceived behavioural control plays a significant role in behavioural intention. The study of stock market participation by Mahastanti and Hariady [38] found that perceived behavioural control was the only significant predictor of stock market participation intention among investors in Indonesia. Furthermore, the concept of behavioural control is something that can be utilised to explain the actions of Vietnamese investors in the stock market of Vietnam. They went on to stress that prior experiences, information obtained from relatives, family, and friends, as well as the availability of resources, may all affect the perceived behavioural in investing behaviours [39]. In investment decision-making studies, previous studies [34, 40] have proved that perceived behavioural control is significantly related as a predictor. Whilst, a study by Ibrahim and Arshad [41] described an insignificant relationship between perceived behavioural control and intention to participate in the stock market.

2.3.3 Financial Literacy (FL) Toward Stock Market Participation

Financial literacy is the collection of information, skills, and attitudes of persons who need to ensure their financial security for the current and future [42]. They actively participate in the financial instruments and services sector. At the same time, Lusardi and Mitchell [43] defined financial literacy as understanding basic financial investment knowledge and concepts such as interest rate, inflation, and compounding. Financially literate persons comprehend money and pricing concerns effectively and can manage their personal or family budget responsibly, including managing financial assets and responsibilities during the varying stages of maturity [42]. Financial literacy is a more specific part of economic literacy as a whole. Economic literacy includes finding a way to make money, thinking about how decisions affect current and future income, knowing how to find a job, making spending decisions, and other related things.

The level of financial literacy of an individual impacts their ability to make comprehensive financial decisions. People with a low level of financial literacy are statistically less likely to engage in financial activities such as investing in the stock market and buying and selling shares [44, 45]. However, in recent years, market liberalisations and structural changes in pensions and social security schemes have driven people to become more responsible for their financial well-being. This is a result of the fact that individuals are now more financially independent [44]. Even though many researchers discuss the need to have a basic understanding of finance to participate in the stock market and the relevance of the former, the participation rates in the stock market remain very low [8].

Recent research identified financial literacy as one of the most important factors influencing stock market investment intentions [10, 46]. Individuals with strong financial knowledge and financial literacy are better at financial management, which leads to risk diversification by dividing their resources over numerous investment outlets [43]. Past studies show that financial literacy significantly impacts individual intentions regarding stock market involvement [47]. Raut [48] discovered that financial literacy influences attitude, perceived control behaviour, and stock market investment intentions associated with TPB.

2.3.4 Millennials and Stock Market Participation Puzzle

Millennials are defined as people born between 1980 and 1996 [49]. They are the next legacy after Generation X and baby boomers. Generally, they are more familiar with technology instruments. Generation Y members are digital natives rather than digital immigrants [50]. According to [51], Generation Y is the first generation to have spent their entire lives in digital, and information technology significantly impacts their routines and decision-making. This higher intensity of exposure to technology may create a gap between them and other generations, mostly in behaviours [5]. By 2025, millennials are expected to have the biggest labour market share and be the top spenders [52]. As a result, millennials' financial behaviours must be understood since they have a greater effect on a country's economy than earlier generations. On the contrary, data from SC shows that the numbers of investors among Generation Y are less than Generation X in terms of CDS account holder [7]. In 2021, millennials only dominated less than 25 per cent of stock market participation and less than 50 per cent of traded volume by retail investors in Bursa Malaysia. The major dominator contributed by retail investors aged 40 to 60 years old. This situation also happened in Indonesia which the stock market participation among millennials was less than 40 per cent and considered low [42].

3. Methodology

3.1 Research Design

This study was conducted as cross-sectional research design by implementing quantitative approach to explore the relationship of behavioural factors in TPB with the presence of financial literacy towards stock market participation intentions among millennial naval officers of the RMN. Initially, conceptual framework that has been developed as shown in Figure 1. Further, comparison was made to examine the difference of financial literacy level between stock investors and investors. Financial literacy as moderator on the interaction between AT, SN and PBC with ItSMP also determined (See Figure 3).

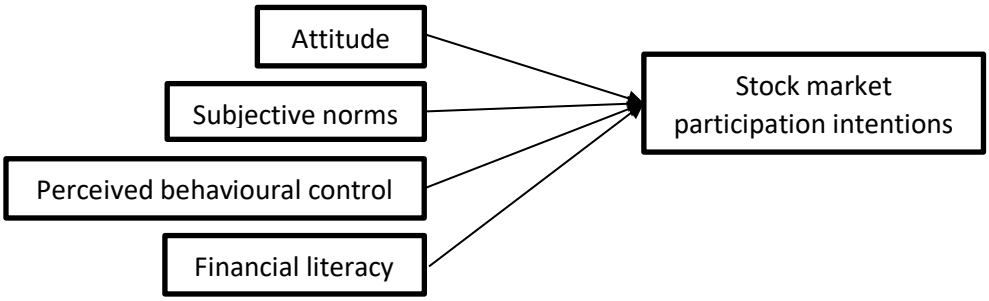

Fig. 1. Conceptual Framework

For undertaking this study, the questionnaires were distributed to the identified sample group for survey purposes using Google Form. In the RMN, there are 1509 millennials out of 1910 overall naval officers. The empirical data gathered was analysed using SPSS Statistics 27, SPSS AMOS 24 and SPSS PROCESS 4.1 by Hayes [53]. Millennial naval officers of the RMN were approached with the prepared questionnaire. Based on the analysis done using the RMN Bluelist of Mac 2022 there is a total of 1,509 millennial naval officers in the RMN [54]. This study involved 308 millennial naval officers of the RMN as respondents without missing data as recommended by Krejcie and Morgan [55]. The stock investors consist of 39 respondents while 269 respondents are non-investors of stocks market.

3.2 Questionnaire

Structured questionnaire was prepared, and circulated among the identified sample size. The questionnaire was first prepared and circulated among a pilot group of 33 respondents and then the responses were reviewed to obtained the reliability value of Cronbach's Alpha (α). Once deemed reliable, the questionnaire was then circulated to the group of respondents (308 of them, and none was involved in the pilot study) for them to participate in. Confirmatory Factor Analysis (CFA) model was developed using SPSS AMOS in identifying reliability and validity of the data further. Established questionnaires were used in this study with a tad bit of adjustment from previous studies by to fit the environment. Table 1 shows the questionnaire formulated by adapting model from previous studies of Chen [56], Van Rooij, Lusardi [44] and Adil, Singh [9]. New items as measurement variables are formulated from past studies in the form of questions to measure the respondents' level of insight in terms of each construct. The measurement variables are grouped and the given coding are based on constructs' codes.

A five-point Likert scale was used, ranging from 1 being strongly disagree to 5 being strongly agree. This five-point scale is deemed enough in providing adequate choices for respondents to

reflect their true beliefs. The questionnaire consists of positively words to avoid disturbance of rhythm when respondents answering the questions and correlated with the scale of the answers.

Table 1
Measurement of Constructs and References

Constructs	Measurement variables	References
AT	AT1: Investing in stock market is a good idea. AT2: Investing in stock market is a wise choice. AT3: I like the idea to invest in stock market.	Adil, Singh [9], Chen [56]
SN	SN1: My family and/or friends are investing in stock market. SN2: My family and/or friends have important influence on me to invest in stock market. SN3: Their opinions and advices have important influence on me to invest in stock market.	Adil, Singh [9]
PBC	PBC1: If I want, I know how to buy stocks. PBC2: If I want, I can invest in stock market conveniently. PBC3: If I want, I can make good judgement to identify profitable stocks.	Adil, Singh [9]
FL	FL1: The stock market is riskier than unit trust. FL2: The stock market normally gives higher return than unit trust. FL3: Normally stocks have higher fluctuation over time compare with unit trust. FL4: If someone buys stocks of company AAA, he owns a part of company AAA.	Adil, Singh [9], Van Rooij, Lusardi [44]
ItSMP	ItSMP1: I will learn how to invest in stock market. ItSMP2: I will encourage my family and/or friends to invest in stocks market. ItSMP3: I will invest in stock market in near future.	Adil, Singh [9], Chen [56]

4. Results

4.1 Respondents' Background

Table 2 shows the respondents' background obtained from 308 respondents. The sample consists of 259 male respondents as majority represents 84.1%. All of them are millennials aged 26 to 42 years old in the year of 2022. Only two groups of educational level involved in this study, 69.8% are bachelor's degree and the rest are master degree holders. In terms of marital status 94.5% are married 5.5% are single. The current study involved stock investors and non-investors. The sample consists 94.5% of the total respondents were non-investors and only 17 of them are investors.

Table 2
Respondents' Background

Item	Range/Classification	Frequency	Percentage (%)
Gender	Male	259	84.1
	Female	49	15.9
Age	26 to 42 years old	308	100
Education level	Bachelor's degree	215	69.8
	Master degree	93	30.2
Marital Status	Married	291	94.5
	Single	17	5.5
Stock market participation status	Investor	291	94.5
	Non-investor	17	5.5

4.2 Model Measurement: CFA Model Fit Tests, Reliability, Validity, and Normality

4.2.1 CFA Model Fit Tests

CFA model was developed using SPSS AMOS (See Figure 2) to measure for model fit indices and confirmation of the validity and reliability of the data. Adjustment of the relationship between unobserved variables within the same group of constructs was made to get higher and adequate fit indices values [57]. Table 3 shows the results obtained for the CFA based on Model 1. The results of good of fitness index (GFI) = 0.87, comparative fit index (CFI) = 0.89, and Tucker-Lewis index (TLI) = 0.86 almost achieved the recommendation values (≥0.90) as suggested by Bagozzi and Yi [58]. While the value of CMIN/df = 4.00, it is significantly fit and within the range of recommended value of 1-4 [59]. Furthermore, the value incremental fit index (IFI) = 0.9 and root mean square error (RMSEA) = 0.09 also significantly fit for the model.

Table 3
CFA Fit Indices

Model	CMIN/DF	GFI	CFI	TLI	IFI	RMSEA
CFA	4.00	0.87	0.89	0.86	0.9	0.09
Recommended Value	1-4	≥0.90	≥0.90	≥0.90	≥0.90	≥0.05

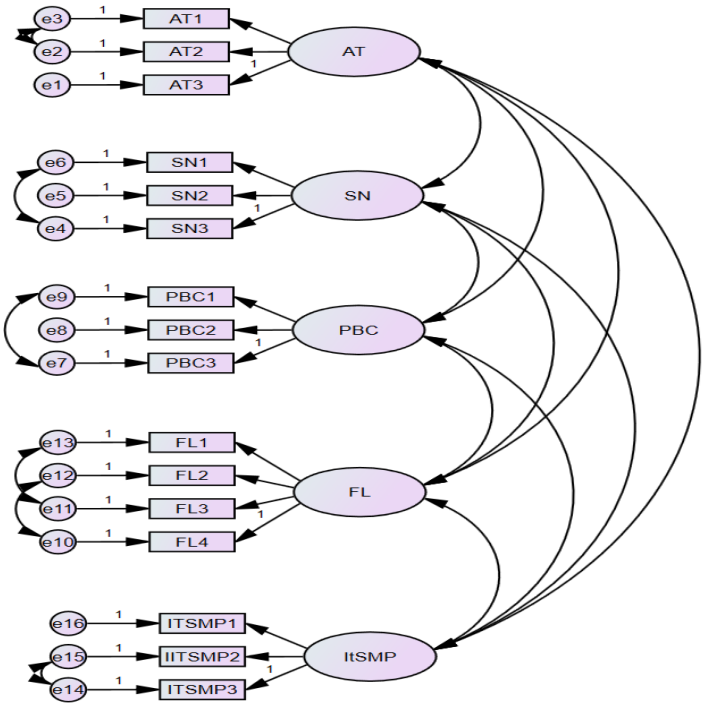

Fig. 2. CFA Model

4.2.2 Reliability Test

Composite reliability (CR) and Cronbach's Alpha (α) values are taken into consideration in determining the reliability of constructs. Table 4 reports the reliability values. As recommended by Ursachi, Horodnic [60], the Cronbach's Alpha (α) range lies between 0.63 and 0.87 fulfils the requirement of reliable constructs. Added by Bagozzi and Yi [58], the value of CR more than 0.6 for

each constructs will be considered satisfactory. The five constructs in this study fulfil the reliable condition with the values lies between 0.73 and 0.86.

4.2.3 Validity Test

Two factors which are CR and average variance extracted (AVE) shown in Table 4 were taken into consideration in determining the validity. To fulfil the condition, the values of CR should be greater than 0.6 [58]. The CR values obtained for all constructs were fulfilled the condition ranging from 0.77 to 0.86. Whilst, all values of AVE qualify discriminant validity except the financial literacy with AVE is 0.41. The value should be higher than 0.5 [61]. Malhotra, Hall [62] argue that AVE is often too strict and reliability can be established through CR alone. Hence, the model is appropriately valid.

4.2.4 Normality Test

Skewness was taken into consideration in confirming the data used in this research are normal which should in range of -2 to +2 for all constructs [63]. Table 4 shows that the skewness values ranging from -0.36 to 0.14 for five constructs.

Table 4
Reliability and Validity Analysis

Construct	Pilot Study	Actual Study		
	Cronbach Alpha (α)	CR	AVE	Skewness
AT	0.81	0.86	0.68	-0.36
SN	0.63	0.77	0.56	-0.23
PBC	0.87	0.83	0.65	0.14
FL	0.71	0.73	0.41	-0.33
ItSMP	0.70	0.78	0.55	-0.25

4.3 Correlation Analysis

Table 5 shows the individual relationship between the constructs. From the results, the maximum correlation was determined between AT and ItSMP with value 0.63, while the minimum value of 0.22 was determined between SN and FL. This Pearson Correlation results can be deduced that all the constructs are significantly correlated with each other with the level of significance value was set as 0.01, with p less than 0.01. Besides, all the relationships between two constructs have positive value of Pearson Correlation, a positive correlation exists when a construct tend to increase the other construct increases and *vis-à-vis*.

Table 5
Correlations

	AT	SN	PBC	FL	ItSMP
AT					
SN	0.35**				
PBC	0.40**	0.25**			
FL	0.57**	0.24**	0.22**		
ItSMP	0.63**	0.38**	0.47**	0.52**	

**Correlations are significant at 0.01 level of significance, i.e. **p < 0.00

4.4 Multiple Regression Analysis

Table 6 results the model summary obtained from this test in SPSS whereby referring to the adjusted R square, it can be deduced that 51.8% of variance in stock market participation intentions are explained by the independent variables (AT, SN, PBC, and FL) of this study. Table 7, the analysis of variance (ANOVA) table shows that upon analysis, a F test value of 83.47 and significant value (p) of 0.00 was obtained. The set significant value for this study is 0.05, where since the obtained p value = 0.00 is lesser than the set significant value, the regression model is deemed appropriate for study.

Table 8 summarises the coefficients obtained, which would help in the identification of influencing factors which are affecting the stock market participation intentions among millennial naval officers of the RMN. Based on the table, the coefficients obtained shows that AT, SN, PBC, and FL are significant toward stock market participation intentions with the values of p are 0.00 (less than 0.05).

Table 6
Model Summary of Multiple Regression

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.72	0.52	0.51	0.54

Predictors: (Constant), AT, SN, PBC, FL

Table7
Analysis of Variance (ANOVA)

Model		Sum of Squares	df	Mean Square	F	Significant (p)
1	Regression	97.68	4	24.42	83.47	0.00
	Residual	88.64	303	0.29		
	Total	186.33	307			

Dependent Variable: ItSMP; Predictors: (Constant), AT, SN, PBC, FL

Table 8
Coefficients of the Regression

Model		Unstandardized Coefficients		Standardized Coefficients Beta	t	Significant (p)
		β	Std. Error			
1	(Constant)	0.092	0.227		0.404	0.687
	AT	0.380	0.052	0.376	7.309	0.000
	SN	0.111	0.036	0.131	3.055	0.002
	PBC	0.250	0.041	0.259	6.052	0.000
	FL	0.254	0.057	0.215	4.457	0.000

Dependent Variable: ItSMP

4.5 T-Test Analysis

The independent T-test analysis ran in SPSS using the Levene's Test for equality of variances where the level of significance set is at 0.05. Table 9 and Table 10 detail that there are significant differences in the scores of stock investors (mean score=4.73, standard deviation=0.38), which are higher than non-investors (mean score=4.08, standard deviation=0.65) with t(74.15)=8.82, significance value, p=0.00 with F=19.04. It can be assumed that there is a significant difference in financial literacy level between stock investors and non-investors as the significance value, p is less than 0.05.

Table 9
Mean Score, Standard Deviation, and Interpretation of Financial Literacy Level Between Stock Investors and Non-Investors

Stock market participation status		N	Mean	Std. Deviation	Interpretations
FL	Investor	39	4.73	0.38	Very high
	Non-investor	269	4.08	0.65	High

Table 10
Overall Independent Sample Test for Financial Literacy

		Levene's Test for Equality of Variances		T-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
FL	Equal variances assumed	19.04	0.00	6.05	306	0.00	0.64	0.10	0.43	0.86
	Equal variances not assumed			8.82	74.15	0.00	0.64	0.07	0.50	0.79

4.6 Moderation Analysis

By using SPSS PROCESS with 5000 bootstrapping effects, the effects of financial literacy as moderator among AT, SN and PBC toward ItSMP were determined (See Table 11) based on conceptual diagram as shown in Figure 3. It can be deduced that financial literacy is insignificantly moderates the effect between AT and ItSMP with p value greater than 0.05. While, financial literacy significantly moderates the interaction between SN and ItSMP with p less than 0.05 with coefficient of -0.26. Higher FL, weaker the association, *vice versa*. Likewise, financial literacy also significantly moderates the association between PBC and ItSMP with p less than 0.05 with coefficient of -0.2. It also gives sign of negative impact to the association which high FL, weaker the association between PBC and ItSMP.

This current study explored in deep why the outcomes were not as expected. By using the same conceptual diagram and tool, both groups were tested separately between stock investors and non-investors. For investors, the results show that there is only significant moderation effect of FL on interaction among AT and ItSMP with coefficient of 0.51. Higher the financial literacy, stronger the interaction of AT and ItSMP, if lower the FL, the interaction will be weakened. For interactions among SN, PBC and ItSMP, there are insignificant moderation effect of FL, since the value of p are greater than 0.05. By looking the significant value, results show for non-investors are most likely to overall's results. There is insignificant moderation effect of FL for interaction between AT and ItSMP since the value of p is 0.09 and greater than 0.05. The moderation effects of FL among SN to ItSMP and PBC to ItSMP are significantly moderate the interactions with coefficient values of -0.39 and -0.22 correspondingly. The negative sign of the coefficients shows that there are FL moderates the interactions negatively. For instance, higher the FL, weaker the interaction between SN and ItSMP, *vis a vis* for interaction of PBC and ItSMP. Hence, the result of overall may represent as the stock market participation situation since the majority of respondents are non-investors.

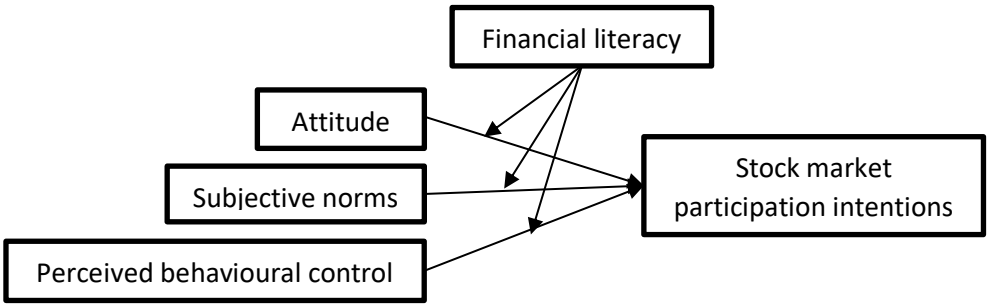

Fig. 3. Conceptual Model for Moderation Effects

Table 11
Moderation Effects of Financial Literacy among AT, SN and PBC toward ItSMP

		Overall		**Investors**		**Non-Investor**	
Independent Variable	Dependent Variable	Coefficient (Estimate)	Significant (p)	Coefficient (Estimate)	Significant (p)	Coefficient (Estimate)	Significant (p)
AT x FL →	ItSMP	-0.02	0.67	0.51**	0.02	-0.13	0.09
SN x FL →	ItSMP	-0.26**	0.00	-0.41	0.37	-0.39**	0.00
PBC x FL →	ItSMP	-0.20**	0.00	0.41	0.12	-0.22**	0.02

**Coefficients are significant at 0.01 level of significance, i.e. **p < 0.00

6. Conclusions

The factors TPB with the presence of FL were tested by applying multiple regression analysis to identify the factors that influence the stock market participation intentions. The result shows that AT, SN, PBC, and FL are significant toward ItSMP. The result of attitudes aligned with previous research by Adil, Singh [9], Gopi and Ramayah [33], Raut [48], and Zandi, Torabi [64]. Whilst the factor of SN is parallel with result obtained by Adil, Singh [9], Akhtar and Das [35], Raut [48], and Zandi, Torabi [64]. In terms of PBC, the outcome has similarly with Adil, Singh [9], Gopi and Ramayah [33], and Phan, Rieger [39]. As an extension for FL as adding factor in the TPB, this study attained a result that aligned with the study conducted by Adil, Singh [9], Soekarno and Pranoto [42], Raut [48], and Arts [8]. By observing and understanding these factors, this study believes that stock market participation intentions could be evolved mostly among millennials through proactive approach by the people surrounding and the management of the organizations where they work to encourage them to participate in the stock market. On the other hand, stock investment is a long-term commitment and needs gradual process to understanding deeply what stock market is all about and take advantage of the information provided to get high return of investment to achieve financial well-being. To achieve that, FL among individuals can be developed when they at institution of higher education before starting their careers.

This study found that there is a significant difference of financial literacy level among millennial naval officers of the RMN toward stock market participation intentions. The expectation was proven by conducting T-test analysis of two groups of stock investors and non-investors. Hence, stock investors' level of financial literacy is higher compare with non-investors. In terms of their financial literacy, the gap of level between them are not wide. The level of knowledge on stock market among non-investors could be increased with continuous promotion in terms of knowledge and awareness campaign by the government and financial institutions. Nowadays, any information relates with stock market shared through world wide web (www) and up to the millennials whether want to make good use of it or not.

By going in deep by comparing of both groups of stock investors and non-investors among millennial naval officers of the RMN, the role of FL as moderator of interactions among AT, SN and PBC toward ItSMP can be portrayed as phenomenon of stock market participation puzzle. Nevertheless, this study strongly believes that the effect of higher FL could increase the intention to participate in stock investment directly but not give expected effects of belief, surrounding people's influence and motivation toward intention to invest in stock market.

6. Limitations and recommendations

There are some limitations of this study. This study adopts TPB as main theory with the presence of FL. Future researchers could include other behavioural and psycological factors in determining the impact to stock market participation intentions. Besides, the items for FL were based on basic understanding of stock investment. Further, advance questions relate with stock investment could be tested. Different group of samples in terms ages, regions, educational level and demographic factors could give better insight for comparison.

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