International Journal Of Humanities Education And Social Sciences ***(IJHESS)*** *E-ISSN:* **2808-1765**
Volume 4, Number 3, December, *Page. 1354 – 1363*
Email : editorijhess@gmail.com

The Impact of Gender on Digital Stock Trading Literacy and Capital Market Discipline: A Moderating Perspective

Nurhidayah[1)], Mohamad Bastomi[2)]
[1,2)]Faculty of Economics and Business, Universitas Islam Malang, Malang, Indonesia

*Corresponding Author
Email: aya@unisma.ac.id

Abstract

The high sensitivity of investors to stock trading activities raises concerns that more and more investors are at risk of not understanding when is the right time to sell and buy stocks. This study introduces a new approach to comprehensively examine how male and female investors in Indonesia make better and more informed decisions by utilizing their understanding in the context of the digital era, especially during bearish and bullish markets. The central role of Gender will play an important role in facilitating the relationship between digital stock trading literacy and capital market discipline. An empirical online survey with a sample of 343 respondents in Indonesia is used as valid data in this study. Using the PLS-MGA model, our findings show the moderating role of Gender significantly found that digital stock trading literacy is able to influence market discipline in male and female investor groups, although male investors show a stronger influence than female investors. Male investors who have higher levels of digital stock trading literacy tend to be more disciplined in the market, while female investors, despite having high literacy, do not show the same market discipline due to other influencing factors.

Keywords: Digital Literacy, Stock Trading, Discipline Market, Gender

INTRODUCTION

The stock market plays an important role because it is able to drive growth through, such as liquidity creation, savings mobilization for the private and public sectors, risk diversification and dissemination of quality information (Toby & Dibiah, 2023), so that the stock market is one of the sectors with the largest contribution to a country's economic development (Ngong et al., 2022);Aregbeshola, 2016) No exception in the Indonesian stock market or IDX, Based on data from the Financial Services Authority or OJK (2024) the value of stock trading in 2023 reached IDR 2,568 trillion and as of March 2024 it was recorded at IDR 540.86 trillion and is predicted to continue to increase by the end of 2024. Next, the Single Investor Identification or SID demographics as of April 2024 showed a figure of 12.7 million investors, an increase of 5% from the data as of December 2023, which was 12.1 million investors. Of course, the increase in the number of investors is expected to be in line with the value of stock trading. Understanding how investor trading behavior and investor sentiment can move the value of stock trading is an interesting topic in finance, especially the capital market. Investor sentiment even causes an imbalance in the buying and selling relationship between investors and stock returns ((C. Yang & Zhou, 2015), and investors tend to demand higher returns (Demirgüç-Kunt & Huizinga, 1999). The high sensitivity of investors to stock trading activities requires good knowledge about when is the right time for investors to enter and exit the market, or borrowing a term in the banking sector, the need for market discipline due to the risks inherent in banking sector instruments (Hadad et al., 2011) (Nier & Baumann, 2006) (Haryanto et al., 2019) (Oliveira & Raposo, 2020) (Dewi & Wardhana, 2022) (Nguyen & Le, 2023), mutual funds (Widyastuti et al., 2021); and the development of fintech (Khai Nguyen & Cuong Dang, 2022). In recent years, many studies have focused on banking customers and mutual fund investors. The main reason is that these two groups often have a significant influence on market stability and investment decision making. However, research on market discipline by stock investors is still a relatively under-explored area in the literature, and this is the focus of our study.

One of the factors that influences market discipline is financial literacy or stock trading literacy, the use of both is interchangeable or can be used for the same meaning as Ping et al., (2020) using the term stock trading literacy with capital market literacy as an equation for financial literacy (Junaidi & Nurhidayah, 2023). Regarding the contribution of digital financial technology, financial literacy in technology or digital financial literacy (OECD, 2018; (Setiawan et al., 2022) (Kass-Hanna et al., 2022), in this study the term digital stock trading literacy is used, becoming very important when associated with market discipline mechanisms (Soma et al., 2016). Complex stock instruments when combined with low levels of literacy require increased education for investors (Gallery & Gallery, 2010), and encourage protection through market regulations to avoid investment fraud (Williams & Satchell, 2011) (Hagen & Malisa, 2022). Investment fraud generally occurs by exploiting investor bias towards their investment instruments. Many investors do not understand the meaning of circulating information such as rumors in the capital market and advice from brokers to immediately execute the sale or purchase of their stock portfolio just because they are tempted by the promised returns. Therefore, it is advisable for investors to improve their literacy regarding responsibility and decision making. It is easy for investors in this digital era to update their understanding of stock instruments because digital media providing information provides an online discussion space between investors and issuers or fellow investors to share information and find solutions to various issues related to stock market dynamics. The occurrence of two-way communication certainly puts investors in a good position to make decisions and minimize biased behavior, because investors understand the information that is useful for them. Investors who have a good understanding will be able to analyze financial data and information better, so they can make decisions based on facts and mature analysis, not just based on intuition or incomplete information, so digital financial literacy is the key to helping all investors make better and more informed decisions. In addition to digital financial literacy, demographic factors, especially gender, also play an important role in facilitating the relationship between exogenous and endogenous variables. Research conducted by (Widyastuti & Soma, 2023) examines the differences in investment behavior between male and female investors, especially in the context of how both respond to market risk. Female investors tend to be careful in making decisions, and if they see a high potential for loss, they immediately withdraw their funds from the mutual fund pool as a risk mitigation measure. This is possible because the majority of women focus more on protecting capital and tend to avoid risks that are considered unnecessary. On the other hand, male investors tend to have a different view of risk, considering market fluctuations as temporary or insignificant in the long term. Therefore, male investors tend to maintain their investments in mutual funds even though there is high market volatility. Differences in behavior between men and women also occur when deciding to adopt banking services. Female customers will adopt banking services if they understand well how the service can provide direct benefits or solve the problems they face. In contrast, male customers are more interested in special features or advantages of banking services, and pay more attention to aspects such as the latest technology or advanced features (Stefanovic & Barjaktarovic, 2021). Overall, the findings of this study indicate the importance of considering gender factors in analyzing investment decisions. Based on the explanation above, this study will fill the gap in stock instrument research and identify whether there are differences in behavior between male and female investors. The main focus is on the attitudes and investment strategies they choose. This includes an analysis of how gender differences influence decisions and approaches to stock transactions.

RESEARCH METHODS

This study will examine the differences in behavior between male and female investors when trading stocks, thus using Partial Least Squares-Multi Group Analysis or PLS-MGA. PLS-MGA is used to analyze differences between groups in a structural model using PLS. This process involves data preparation, PLS model estimation, PLS-MGA implementation by separating data into groups, analyzing differences, and reporting results (Henseler, 2017). By following these stages, researchers will be able to identify differences in the behavior of male and female investor groups based on digital stock trading literacy and market discipline.

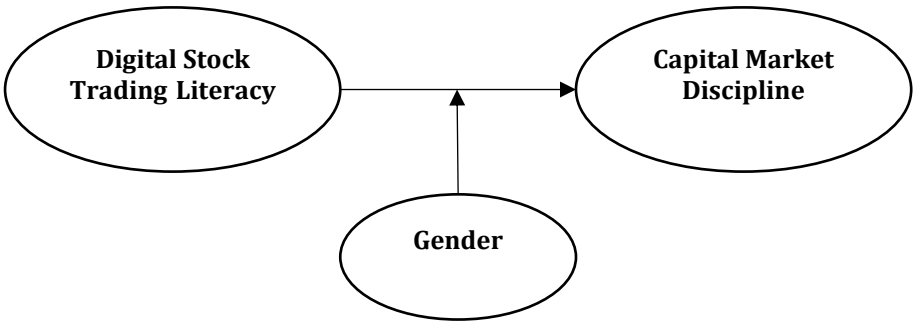

Figure 1. Conceptual Framework

To obtain a representative sample size according to the focus of the research, the researcher used a purposive sampling technique. In the data collection process using Google Form distributed to social media and stock investor communities that are members of WhatsApp groups and personal connections, 343 qualified respondents were collected. Table 1 shows the demographics of 343 respondents related to gender, age, and stock transaction experience. The number of male respondents was 72 percent, twice the number of female respondents at 28 percent. There are several factors that cause men to transact stocks more often than female investors, including men being more confident in their ability to choose profitable stocks (Barber & Odean, 2005) and male investors being more willing to take risks than women (Gneezy & Croson, 2009). The next factor according to (Jianakoplos & Bernasek, 1998) is that female investors tend to choose conservative investment strategies such as buying and holding stocks for the long term, unlike men who tend to use more active and even speculative strategies so that they are more active in stock transactions.

Demographically in terms of age, the majority of respondents were aged 25 to 35 years, namely 91 percent. Individuals in the age range of 25 to have often achieved better economic stability than younger age groups so that they have the capacity to invest in stocks. Most respondents have 1 to 5 years of stock trading experience, namely 63 percent. In recent years, technology and easily accessible investment platforms have increased participation in the stock market. User-friendly stock trading applications and low transaction costs have encouraged more people to start investing. According to a report from McKinsey & Company (2023), technological advances and the emergence of innovative trading platforms have made it easier for anyone to start investing, so they often start their experience in the last 1 to 5 years.

Table 1. Profil Respondent

Characteristics	Number of respondent	Percentage (%)
Gender:		
Male	247	72
Female	96	28
Age:		
25 – 35 years old	312	91

>35 – 45 years old	24	7
>45 years old	7	2
Experience trading:		
< 1years	74	22
1 – 5 years	219	63
>5 years	50	15
Total respondent	343	100

This study uses primary data that examines the role of digital stock trading literacy with gender moderation on market discipline in the context of stock transaction activity. Digital stock trading literacy is measured by seven items developed by researchers based on studies conducted by (J. Yang et al., 2023); (Kumar et al., 2023). Market discipline is measured by six items and all items are adjusted to the research object, this shows that these items are designed or modified to suit the specific needs of implementing market discipline in the context of stock transactions. To find out the respondents' responses, the variables are measured using a 5-point Likert scale starting from strongly disagree to strongly agree. The loading factor for each indicator is presented in Table 2. If the loading factor is more than 0.6, it can be concluded that the indicator is valid and can be included in the data analysis (Usakli & Kucukergin, 2018). The average variance extracted or AVE is the second criterion used to test convergent validity. An AVE value of more than 0.5 indicates that the latent construct effectively explains the indicator variance, and the construct is convergently valid.

Table 2. Loading Factor

Variable		Items	Loading Factor
Digital stock trading literacy	DSL1	I am able to identify the Double Candlestick pattern based on the stock price movement chart.	0.692
	DSL2	I am able to predict the next stock price movement based on the Double Candlestick pattern.	0.850
	DSL3	I am able to identify the stock price movement based on the Morning Star Candlestick pattern.	0.681
	DSL4	I am able to predict the next stock price movement based on the Three White Soldiers Candlestick pattern.	0.746
	DSL5	I am able to evaluate the bullish reversal pattern from the bearish trend based on the Bullish Hammer Candlestick.	0.774
	DSL5	I am able to identify the Bullish Engulfing Candle pattern and assess the strength and relevance of the bullish reversal signal given by the pattern.	0.825
	DSL7	I think cut-loss is the right solution to minimize losses due to the on going bearish trend.	0.890
Capital market discipline	CMD1	I set a stop-loss to limit losses on each stock transaction position.	0.791
	CMD2	I will diversify my stock portfolio by selling to reduce capital loss.	0.850

CMD3	I will diversify my stock portfolio by selling to pursue capital gain.	0.846
CMD4	I will diversify my stock portfolio by buying for capital gain.	0.875
CMD5	I set a maximum loss limit that can be accepted for each stock transaction.	0.775
CMD6	I will take a wait and see attitude if there is a movement in the stock price.	0.800

Next, the method of evaluating discriminant validity in factor analysis, using the Fornell-Larcker criteria and based on Table 3, it can be ascertained that the measurement model has good discriminant validity, namely that each construct is measured uniquely and differently from other constructs.

Tabel 3. Discriminant Validity – Fornell-Larcker Criterion

Variable Latent	Digital Stock Trading Literacy	Capital Market Discipline
Digital Stock Trading Literacy	0.780	
Capital Market Discipline	0.370	0.819

RESULT AND DISCUSSION

Table 4 presents the results of reliability tests for various constructs in the model. If the composite reliability value is more than 0.5 and Cronbach's Alpha is more than 0.8, then all constructs tested in this study are reliable, meaning that the instrument used to measure the construct is consistent and reliable. Based on the data analysis in Table 4, there is a significant positive effect between digital stock trading literacy and market discipline, with the results of the analysis showing that the path coefficient is 0.370 with a p value of 0.000. Based on this analysis, the first hypothesis can be accepted at a significance level of 5 percent. Multi-group analysis was conducted to test how digital stock trading literacy affects market discipline by considering differences between gender groups, namely male investors and female investors. The results of the analysis show that digital stock trading literacy affects market discipline in the male investor group, this is evident in the path coefficient for the male investor group of 0.290 which indicates that there is a significant influence of digital stock trading literacy on market discipline. Hypothesis 2a proposed in this study can be accepted at a significance level of 5 percent.

Table 4. Reliability and Hypotheses Testing

		All	Group 1 (Male)	Group 2 (Female)
Latent variables:				
Digital stock trading literacy	Composite reliability	0.917***	0.920***	0.805***
	AVE	0.560***	0.571***	0.520***
	Cronbach’s Alpha	0.870***	0.875***	0.821***
Capital market discipline	Composite reliability	0.925***	0.957***	0.840***
	AVE	0.550***	0.551***	0.370***
	Cronbach’s Alpha	0.941***	0.950***	0.785***
Sample size (n)		343	247	96
Path coefficient:	Digital stock trading literacy => Capital market discipline	0.370***	0.790**	0.450***
t-statistics		0.450	2.310	2.475

p-value	0.000	0.022	0.015
R-square	0.139***	0.071*	0.540***

Notes: * p > 0.05,** p < 0.05,*** p < 0.010

Next, the test of Hypothesis 2b was accepted at a significance level of 5 percent with a path coefficient of 0.751 with a t-statistic of 2.475 and a p-value of 0.015, which means that there is a positive influence of digital stock trading literacy on market discipline in the group of female investors. To analyze the differences in path coefficients between male and female investor groups, three criteria are used, namely the parametric test with homoscedasticity (equal variances assumed), the parametric test with heteroscedasticity, and the non-parametric PLS-MGA. The use of bootstrap resampling to estimate the distribution of path coefficient estimates by resampling the data with returns, using 5,000 samples will provide a robust path coefficient distribution estimate. Table 5 presents the results of statistical tests to answer hypothesis 2c regarding the differences in path coefficients between groups. Hypothesis 2c proposed whether there is a difference in path coefficients between male and female investor groups. Table 5 shows the results of hypothesis testing based on the three established criteria. The test results show that the p value of each criterion is less than the significance level of 0.05, which means that hypothesis 2c is accepted that there is a difference in path coefficients between the two gender groups studied. Gender can have a moderating effect on the relationship between digital stock trading literacy and market discipline.

Table 5. Test of Difference based on Multi Group Analysis: Male vs Female

Hypothesis	Statistical test	p-value (one-sided)
Digital stock trading literacy => Capital market discipline	Parametric test - homoscedasticity	0.040
	Parametric test - heteroscedasticity	0.037
	Non-parametric PLS-MGA	0.015

The results of this study prove that digital stock trading literacy can explain market discipline. This finding supports research conducted by (Soma et al., 2016); (Setiawan et al., 2022); (Kass-Hanna et al., 2022), although in a different context, that the knowledge possessed by both groups of investors is able to direct investors to make decisions that do not harm themselves. With digital, all information regarding stock performance can be easily obtained by investors so that it will increase investor understanding regarding market performance by relying on technical analysis. This allows investors to identify price patterns repeatedly, which will provide clues to see whether the market is in a bullish, bearish, or sideways trend (Edwards et al., 2012). If the market is in a bearish condition, then it is a signal for investors to consider diversifying their portfolios and perhaps selling stocks that are experiencing a decline in value. These steps are taken to reduce potential losses and protect their investments from further declines. But at the same time, there are investors who consider bearish performance to be the right time to enter the market because they have the opportunity to buy stocks at low prices. This finding also supports the opinion of (Guo et al., 2022) about the importance of digital technology in the financial market. With digital technology, investors have easier and faster access to market information and financial data, including stock price data, trading volume, economic news, and market analysis (Wang et al., 2023). With better access to information, investors can make more informed decisions about asset allocation and investment strategies. This allows investors to optimize their stock portfolios to avoid losses in rapidly changing market situations and quickly adjust their strategies based on market changes. Digital literacy increases investors' access to relevant and up-to-date information. So it can be concluded that Investors who are skilled in using digital platforms can quickly access financial reports, market news, and stock analysis. This increases market transparency and allows investors to make more informed decisions. With

better information, markets become more efficient because stock prices tend to reflect fundamental values more accurately.

Next, based on the path coefficients in each group, it can be concluded that the path coefficient for men is higher than for women, this indicates that digital literacy has a greater impact on market discipline for male investors compared to female investors. Male investors are more influenced by digital literacy in making decisions that support market discipline, and conversely, the path coefficient for female investors is lower so that digital stock trading literacy has a smaller impact on market discipline for women. Female investors may need additional approaches or factors to achieve the same impact. The ability of male investors to identify stock performance, whether bullish or bearish can be seen from one of the technical analyses, namely "Bullish Engulfing Candle" and assessing the strength and relevance of the bullish reversal signal given by the pattern (Edwards et al., 2012). When the market is in a bearish phase and is about to end, investors may act excessively, causing unreasonable price changes. Then, when the market begins to recover and enters a bullish phase, sharp and rapid price changes can occur as a form of adjustment from the previous excessive investor reaction. Excessive investor behavior at the end of the bearish phase and the beginning of the bullish phase is influenced by mass psychology, uncertainty, and market adjustment. Overreaction during the bearish phase can cause extreme price declines, while when the market begins to recover, rapid reactions and buybacks can cause sharp price movements and significant corrections, reflecting the adjustment process from previously unbalanced market dynamics. However, not a few investors, especially female investors, take a wait and see position if there is a movement in stock prices and tend to avoid risks (De Sa et al., 2024). In contrast to male investors who are more confident about their knowledge of stock investment (Baker et al., 2019), so that male investors become active in stock transactions (Chen, 2022). The results of this study also show that gender is significantly in all models able to explain the volatility of investment portfolios and investor preferences for stock transactions will significantly increase along with increasing understanding of stock market performance. The findings of this study also provide a signal that women tend to avoid high-risk investments. However, they have a greater preference for sustainable finance than men and therefore tend to invest in companies or projects with a good track record in terms of social and environmental responsibility (Aristei & Gallo, 2024).

CONCLUSION

Gender can act as a moderator variable in the relationship between digital stock trading literacy and market discipline. This finding indicates that there is a different influence between male and female investors, where male investors with a high level of literacy will be more disciplined in trading stocks. However, this condition does not apply to female investors who tend to be less disciplined even though they have high literacy. This difference in findings indicates that gender factors can moderate or influence how effectively digital stock trading literacy plays a role in influencing investor market discipline.

This study provides a deeper understanding of how personal aspects, such as gender, can determine the relationship between digital literacy and market discipline in the capital market. This finding opens up opportunities for further research on other factors that may play a role in regulating the relationship between literacy and market discipline, subsequent researchers can consider the variable of investor investment experience.

REFERENCES

Aregbeshola, R. A. (2016). The role of local financial market on economic growth: A sample of three African economic groupings. *African Journal of Economic and Management Studies*, *7*(2). https://doi.org/10.1108/AJEMS-06-2014-0048

Aristei, D., & Gallo, M. (2024). Gender-related effects of financial knowledge and confidence on preferences for ethical intermediaries and sustainable investments. *International Journal of Bank Marketing*, *42*(3). https://doi.org/10.1108/IJBM-06-2023-0355

Baker, H. K., Kumar, S., Goyal, N., & Gaur, V. (2019). How financial literacy and demographic variables relate to behavioral biases. *Managerial Finance*, *45*(1). https://doi.org/10.1108/MF-01-2018-0003

Barber, B. M., & Odean, T. (2005). Boys will be Boys: Gender, Overconfidence, and Common Stock Investment. *SSRN Electronic Journal*, *September*. https://doi.org/10.2139/ssrn.139415

Chen, J. Y. (2022). Influence of terror perceptions on individual investment behaviors: examining the moderating effects of present hedonic time perspective and consumer gender. *Review of Behavioral Finance*, *14*(3). https://doi.org/10.1108/RBF-11-2020-0281

Demirgüç-Kunt, A., & Huizinga, H. (1999). Market Discipline and Financial Safety Net Design. *Policy Research Working Paper No. 2183*, *World Bank*, *2*(September).

Dewi, V. I., & Wardhana, L. I. (2022). The nexus of financial literacy and depositor discipline in commercial banks. *Managerial Finance*, *48*(9–10). https://doi.org/10.1108/MF-09-2021-0445

Edwards, R. D., Magee, J., & Bassetti, W. H. C. (2012). Technical Analysis of Stock Trends. In *Technical Analysis of Stock Trends*. https://doi.org/10.1201/b14301

Gallery, G., & Gallery, N. (2010). Rethinking financial literacy in the aftermath of the global financial crisis. *Griffith Law Review*, *19*(1). https://doi.org/10.1080/10854667.2010.10854667

Gneezy, U., & Croson, R. (2009). Gender Differences in Preferences. *Journal of Economic Literature*, *47*(2).

Guo, C., Wang, X., & Yuan, G. (2022). Digital Finance and the Efficiency of Household Investment Portfolios. *Emerging Markets Finance and Trade*, *58*(10). https://doi.org/10.1080/1540496X.2021.2013197

Hadad, M. D., Agusman, A., Monroe, G. S., Gasbarro, D., & Zumwalt, J. K. (2011). Market discipline, financial crisis and regulatory changes: Evidence from Indonesian banks. *Journal of Banking and Finance*, *35*(6). https://doi.org/10.1016/j.jbankfin.2010.11.003

Hagen, J., & Malisa, A. (2022). Financial fraud and individual investment behavior. *Journal of Economic Behavior and Organization*, *203*. https://doi.org/10.1016/j.jebo.2022.09.015

Haryanto, S., Chandrarin, G., & Bachtiar, Y. (2019). Bank Size, Risk and Market Discipline with A Deposit Insurance: Evidence of Banking in Indonesia. *AFRE (Accounting and Financial Review)*, *2*(2). https://doi.org/10.26905/afr.v2i2.3717

Henseler, J. (2017). New developments in partial least squares (PLS) path modeling. *Industrial Management & Data Systems*, *116*(9).

Jianakoplos, N. A., & Bernasek, A. (1998). Are women more risk averse? *Economic Inquiry*, *36*(4). https://doi.org/10.1111/j.1465-7295.1998.tb01740.x

Junaidi, J., & Nurhidayah, N. (2023). Social media impact on trading behavior: An examination among Indonesian young adult investors with capital market literacy as a mediator. *JEMA: Jurnal Ilmiah Bidang Akuntansi Dan Manajemen*, *20*(1). https://doi.org/10.31106/jema.v20i1.19687

Kass-Hanna, J., Lyons, A. C., & Liu, F. (2022). Building financial resilience through financial

and digital literacy in South Asia and Sub-Saharan Africa. *Emerging Markets Review*, *51*. https://doi.org/10.1016/j.ememar.2021.100846

Khai Nguyen, Q., & Cuong Dang, V. (2022). The effect of FinTech development on financial stability in an emerging market: The role of market discipline. *Research in Globalization*, *5*. https://doi.org/10.1016/j.resglo.2022.100105

Kumar, P., Pillai, R., Kumar, N., & Tabash, M. I. (2023). The interplay of skills, digital financial literacy, capability, and autonomy in financial decision making and well-being. *Borsa Istanbul Review*, *23*(1). https://doi.org/10.1016/j.bir.2022.09.012

Ngong, C. A., Thaddeus, K. J., Asah, L. T., Ibe, G. I., & Onwumere, J. U. J. (2022). Stock market development and agricultural growth of emerging economies in Africa. *Journal of Capital Markets Studies*, *6*(2). https://doi.org/10.1108/JCMS-12-2021-0038

Nguyen, D. T., & Le, T. (2023). The interrelationships between bank risk and market discipline in Southeast Asia. *Studies in Economics and Finance*, *40*(2). https://doi.org/10.1108/SEF-02-2022-0122

Nier, E., & Baumann, U. (2006). Market discipline, disclosure and moral hazard in banking. *Journal of Financial Intermediation*, *15*(3). https://doi.org/10.1016/j.jfi.2006.03.001

Oliveira, V. B., & Raposo, C. (2020). How did regulation and market discipline influence banking distress in Europe?: Lessons from the global financial crisis. *Studies in Economics and Finance*, *37*(1). https://doi.org/10.1108/SEF-03-2019-0123

Setiawan, M., Effendi, N., Santoso, T., Dewi, V. I., & Sapulette, M. S. (2022). Digital financial literacy, current behavior of saving and spending and its future foresight. *Economics of Innovation and New Technology*, *31*(4), 320–338. https://doi.org/10.1080/10438599.2020.1799142

Soma, A. M., Primiana, I., Wiryono, S. K., & ... (2016). Determinant analysis of financial literacy affecting market discipline performance. *International Journal of …*, *IV*(12).

Stefanovic, N., & Barjaktarovic, L. (2021). Gender makes the difference: the moderating role of gender on the relationship between management structure and performance in banking. *Gender in Management*, *36*(1). https://doi.org/10.1108/GM-09-2019-0162

Toby, A. J., & Dibiah, S. (2023). Financial Intermediation and Economic Growth in Nigeria. *WORLD JOURNAL OF FINANCE AND INVESTMENT RESEARCH*, *6*(2). https://doi.org/10.56201/wjfir.v6.no2.2022.pg1.15

Usakli, A., & Kucukergin, K. G. (2018). Using partial least squares structural equation modeling in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, *30*(11). https://doi.org/10.1108/ijchm-11-2017-0753

Wang, Q., Liu, C., & Lan, S. (2023). Digital literacy and financial market participation of middle-aged and elderly adults in China. *Economic and Political Studies*, *11*(4). https://doi.org/10.1080/20954816.2022.2115191

Widyastuti, U., Febrian, E., Sutisna, S., & Fitrijanti, T. (2021). Market discipline in the behavioral finance perspective: a case of Sharia mutual funds in Indonesia. *Journal of Islamic Accounting and Business Research*, *13*(1). https://doi.org/10.1108/JIABR-06-2020-0194

Widyastuti, U., & Soma, A. M. (2023). The Islamic financial literacy and market discipline: Does gender have the moderating role? *Jurnal Keuangan Dan Perbankan*, *27*(1). https://doi.org/10.26905/jkdp.v27i1.8297

Williams, O. J., & Satchell, S. E. (2011). Social welfare issues of financial literacy and their implications for regulation. *Journal of Regulatory Economics*, *40*(1). https://doi.org/10.1007/s11149-011-9151-6

Yang, C., & Zhou, L. (2015). Investor trading behavior, investor sentiment and asset prices. *North American Journal of Economics and Finance*, *34*, 42–62. https://doi.org/10.1016/j.najef.2015.08.003

Yang, J., Wu, Y., & Huang, B. (2023). Digital finance and financial literacy: Evidence from Chinese households. *Journal of Banking and Finance*, *156*. https://doi.org/10.1016/j.jbankfin.2023.107005