The role of investment knowledge, student perceptions, and technological advances in affecting investment interests in sharia capital markets

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Abstract: This research aims to analyze the influence of investment knowledge, student perceptions, and technological advances on investment interests in Sharia capital markets. Employing a quantitative approach, the study utilizes non-probability sampling methods, specifically the convenience sample system, to select 312 active students from a total population of 5000 at Perbanas Institute. Double linear regression is employed for data analysis. The findings reveal significant implications for the role of technological advancements in shaping student investment interest in Sharia capital markets. Specifically, the study finds that the presence of technological advancements, such as applications and trading platforms, positively impacts student interest in investing in the Sharia market. However, contrary to expectations, investment knowledge and student perceptions do not demonstrate a significant influence on student investment interest in Sharia Capital markets. This suggests that despite possessing knowledge and certain perceptions, students' investment decisions in Sharia capital markets remain unaffected. The practical implications of these findings emphasize the importance for students to remain abreast of technological advancements to potentially enhance their investment interest in Sharia capital markets. This research contributes to understanding the multifaceted factors influencing investment decisions in Sharia-compliant financial environments and underscores the significance of technological integration in shaping investment behaviors among students.

Keywords: Investment interest, Investment knowledge, Sharia capital market, Student perception, Technological advances.

1. Introduction

Investment plays a pivotal role in the economy, especially for those aspiring to financial independence. It involves investing money in assets with the expectation of earning returns in the future [1]. In Islam, investment is considered a virtuous act as it brings profit and benefits to others [2]. The Sharia capital market offers opportunities for ethical investments, comprising products such as Sharia shares, Sukuk, and Sharia mutual funds [3, 4]. Indonesia, with its large Muslim population, has a thriving Sharia capital market, yet its participation remains modest compared to the overall capital market [5]. In 2000, the Jakarta Islamic Index (JII) was introduced to guide investors in Sharia-compliant investments [6].

According to World Bank data, the Sharia capital market in Indonesia has the most potential of all Muslim countries in the world. The fact is not surprising because Indonesia has 264 million Muslims, which is more than the combined population of eight countries with the highest Islamic financial assets in the world, including Malaysia, United Arab Emirates, and Saudi Arabia [7]. Another possibility is that Indonesia's Islamic economic assets are in seventh place globally, reaching US$ 81 billion in 2017, surpassing Turkey's US$ 49.5 billion, of which 87 percent of the population is Muslim and 68 percent are productive groups. Compared to the Indonesian capital market as a whole, Sharia capital market participation is still quite small. Currently, Indonesia's new capital market shares are around 15%. While about 400 or 60% of the shares listed on the Indonesian Stock Exchange (IDX) are sharia [5].
Despite the potential of the Sharia capital market, there are challenges. For instance, during the Covid-19 pandemic, the market experienced a decline in capitalization [6]. Hence, understanding factors influencing student interest in Sharia investments becomes crucial. Perception, influenced by individual interpretations of stimuli, and knowledge of Sharia capital market play significant roles [7-9]. Additionally, technological advancements enhance market efficiency and accessibility [10, 11]. However, conflicting findings exist regarding the impact of these factors on investment interests [8, 12, 13].

Addressing these gaps, this study investigates the influence of knowledge, student perception, and technological advancements on student investment interest in the Sharia capital market. By elucidating these factors, the study aims to contribute to enhancing understanding and participation in the capital market, particularly among students. The research questions guiding this inquiry are: How do knowledge, student perception, and technological advancements influence student investment interest in the Sharia capital market?

This paper is structured as follows: Section 2 reviews relevant literature, Section 3 presents the methodology, the remainder of Section 4 discusses the findings, and the remainder of Section 5 offers conclusions and recommendations.

2. Literature Review

2.1. Sharia Capital Market

A concrete or abstract concept of the capital market connects the provision of funds and the need for money in the medium as well as long term [1]. The Sharia capital market itself can be defined as financial activity that trades securities in accordance with Sharia investments, i.e., shares, bonds, and sharia funds [5]. The Sharia capital market caters to the investment needs of Indonesian Muslims [8]. It operates under the Capital Market Act regulations, ensuring compliance with Sharia principles regarding products and transaction mechanisms [14]. Sharia Capital Market offers various instruments and investment opportunities, including Sharia shares, Sukuk, Sharia funds, Sharia assets, and Sharia Real Estate Investment Funds. The Financial Services Authority (FSA) identifies two key roles of the Sharia capital market: (a) providing financing for business development through the issuance of Sharia-compliant securities; and (b) serving as an investment avenue for investors [4].

2.2. Investment Knowledge

Investment is the action of delaying consumption to obtain greater profits as expected in the future [1, 2]. Investment knowledge is one factor that could increase public interest in investing. We can explain investment knowledge as information that guides the wise use of money or other resources to generate substantial profits in the future. Investing knowledge can also be defined as the level of an individual's understanding of information about the concepts, benefits, and effects of an investment and how to maximize existing resources for future profit. Individuals can obtain this information from a variety of sources and store it in their memories. To succeed in investment, you should have good information about it. This knowledge will be useful to understand what's going on and make the right investment decisions [15].

2.3. Student Perception

Perception involves the cognitive process through which individuals organize and interpret sensory inputs, enabling them to articulate their viewpoints to others. It is also characterized as the stage where individuals make sense of their surroundings by organizing and interpreting sensory impressions [7]. Additionally, Malik defines perception as the process by which individuals select, translate, and arrange information to create a coherent understanding of the world [16]. Different individuals can form varied perceptions from the same information. Positive perceptions can lead to motivation, pride, satisfaction, and interest in a subject [17-19].
2.4. Technological Advances

Similar to subsystems, the emergence of new technology as a new subsystem will have an impact on society, and the existing subsystem needs to adjust to the development of technologies. The use of technology can change the way people live their daily lives. Technology can serve as a symbol of progress, enabling anyone with access to it to make numerous advancements. Technology offers ease, increased productivity, change, and progress [20]. Through technology, humans can create new life innovations that lead to various social transformations. Yusuf [20] asserts that advances in science and technology significantly shape the investment interest of Millennials in the stock market. Because of the convenience, security, and accessibility that modern technology brings to all layers of society, as well as the accessibility of information and insights about investing in capital markets, people's interest in investing, especially in the capital market, can increase. Furthermore, if the millennial generation would be more interested in investing in the stock market if they had more knowledge about it, and a solid education could help them acquire that knowledge. In this study, technological advancements allow anyone and anywhere to innovate the investment system. This is due to the availability of internet-based platforms and applications, such as online trading and stock purchase systems, as well as the emergence of user-friendly stock broker applications listed on the Indonesian Stock Exchange that streamline public investment transactions.

2.5. Investment Interests

Interest is a high inclination, enthusiasm, or great desire for something [21]. Interest serves as a psychological factor that motivates an individual to engage in activities aimed at achieving a desired goal [22]. Growth, maturity of thinking, learning, and experience shape the formation of interest. Interests can change according to a person's development and growth phases. Interest begins with intention. Intention is something that motivates someone to act [23]. An investment interest can grow in the consciousness of someone who wants to achieve financial freedom. Investing involves exchanging money for various assets, like stocks or real estate, with the anticipation of holding them over a period of time to yield returns [8].

2.6. Hypothesis Development

Investment knowledge is an individual’s understanding of information about an investment’s concepts, benefits, and effects, as well as how to maximize existing resources to generate future profits. This is proven by the research of Albab and Zuhri [24], Kurniawan [8] and Yusuf [20]. They explain that knowledge has a positive and significant influence on investment interests.

Perception is the stage of an individual interpreting and translating information from the outside to form an understanding and picture of it himself. That means everyone can have a different perception of the same information received. The stronger a student's perception of investment, the more inclined they are to invest in the Sharia capital market. This assertion is supported by the research conducted by Dihini [25], Paendong [26] and Sufidiana [27] who found that student perceptions exert a positive and notable influence on investment interests.

Technological progress is a system that emerges as a result of scientific advances that bring changes, ease, progress, and more benefits to mankind through innovations that can solve existing problems. The more technology advances, the more people are interested in investing their money. This is supported by the research conducted by Wibowo [28] and Yusuf [20] where they elucidate that technological advancements exert a positive and significant impact on investment interests.

H1: Investment knowledge has a positive and significant effect on investment interest.
H2: Student perception has a positive and significant effect on investment interest.
H3: Technology advances have a positive and significant effect on investment interest.

Figure 1 illustrates the conceptual framework of the study.
3. Methods

3.1. Research Design
We employed quantitative methods to investigate various objective theories by examining relationships between variables [29, 30]. The study focused on active students at Perbanas Institute who were at least 19 years old.

3.2. Participants
The analytical unit in this study is an active student of Perbanas Institute with a minimum age of 19 years. The population under investigation comprised 5,000 Perbanas Institute students. Convenience sampling was utilized to select easily accessible individuals [31]. The Slovin formula was applied for sample selection with a 5% error tolerance [32], resulting in a sample size of 312 respondents.

3.3. Data Collection Tool
Data were collected using questionnaires with a Likert scale ranging from 1 to 5, distributed to respondents via Google Form. The collected data included quantitative and primary data obtained directly from respondents through interviews, questionnaires, and observations [33, 34].

3.4. Analysis Technique
Double linear regression analysis was employed to test the research hypotheses. This model allows for the examination of relationships between multiple independent variables (investment knowledge, student perception, technological advancements) and a dependent variable (investment interest).

3.5. Introduction of the Model
The double linear regression model utilized in this study extends beyond simple linear regression by incorporating multiple independent variables to predict the dependent variable. Unlike past studies that may have focused on individual factors influencing investment interest, this model allows for the simultaneous consideration of investment knowledge, student perception, and technological advancements.
advancements, providing a more comprehensive understanding of their collective impact.

4. Results and Discussion

4.1. Results

A validity test is utilized to assess the accuracy of questionnaire indicators, while a reliability test is employed to gauge the consistency of research instruments [29, 35]. The validity test results presented in Table 1 deem the indicators in this study valid, as their r-count values surpass the r-table threshold (0.113). Similarly, the reliability test results in Table 1 indicate that the variables in this research are reliable, as they exhibit a Cronbach’s alpha value exceeding 0.7 [29, 35].

<table>
<thead>
<tr>
<th>Variable</th>
<th>Alpha cronbach</th>
<th>R-count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment knowledge (X₁)</td>
<td>0.775</td>
<td>0.344 - 0.450</td>
</tr>
<tr>
<td>Student perception (X₂)</td>
<td>0.746</td>
<td>0.240 - 0.611</td>
</tr>
<tr>
<td>Technology advances (X₃)</td>
<td>0.782</td>
<td>0.320 - 0.844</td>
</tr>
<tr>
<td>Investment interest (Y)</td>
<td>0.755</td>
<td>0.518 - 0.607</td>
</tr>
</tbody>
</table>

We conduct normality tests to determine whether the data follows a normal distribution [29, 35]. The normality test results, shown in Figure 2 through the p-plot, indicate that the data clusters around the normal line and aligns with the graph’s diagonal direction. Therefore, we can infer that the data is normally distributed and aligns with the assumptions of normality [29, 35].

The multicollinearity test assesses whether there is a correlation among independent variables within
a regression model [29, 35]. Based on the multicollinearity test results in Table 2, it is observed that all variables have a variance inflation factor (VIF) smaller than 10. This indicates that each variable does not exhibit multicollinearity symptoms [29, 35].

<table>
<thead>
<tr>
<th>Variables</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment knowledge (X₁)</td>
<td>1.009</td>
</tr>
<tr>
<td>Student perception (X₂)</td>
<td>1.066</td>
</tr>
<tr>
<td>Technology advances (X₃)</td>
<td>1.074</td>
</tr>
</tbody>
</table>

To determine whether there is uneven variance in residuals or between individual observations within a regression model, researchers employ the heteroscedasticity test [29, 35]. Ideally, a regression model should exhibit homoscedasticity, where the variance of residuals remains constant across observations. According to the heteroscedasticity test results shown in Figure 3, the scatterplot graph does not display any discernible patterns of regularity, such as waves spreading and narrowing. Instead, an unclear pattern scatters the data points both above and below the y-axis. Therefore, we can deduce that there are no signs of heteroscedasticity [29, 35].

To determine whether an independent variable significantly influences a dependent variable, researchers employ statistical tests like the t-test [29, 35]. This decision-making process involves comparing the calculated t-value (t count) with the critical t-value (t table). If the t count exceeds the t table value, it indicates that the independent variable has a significant effect on the dependent variable. Conversely, if the t count is lower than the t table value, it suggests that the independent variable does not have a significant effect on the dependent variable, considering a significance level of 0.05 [29, 35].
Table 3.
Describes the results of significance test.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized coefficients</th>
<th>Standardized coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Collinearity statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. error</td>
<td>Beta</td>
<td></td>
<td>Tolerance</td>
</tr>
<tr>
<td>(Constant)</td>
<td>17.286</td>
<td>11.895</td>
<td>-</td>
<td>1.453</td>
<td>0.157</td>
</tr>
<tr>
<td>Investment knowledge</td>
<td>-0.142</td>
<td>0.354</td>
<td>-0.050</td>
<td>-0.401</td>
<td>0.691</td>
</tr>
<tr>
<td>Student perception</td>
<td>0.269</td>
<td>0.201</td>
<td>0.172</td>
<td>1.334</td>
<td>0.192</td>
</tr>
<tr>
<td>Technology advances</td>
<td>0.882</td>
<td>0.170</td>
<td>0.672</td>
<td>5.201</td>
<td>0.000</td>
</tr>
</tbody>
</table>

1) The results of hypothesis test 1, as shown in Table 3, revealed a significance value of 0.691. Therefore, H₁ was not supported, indicating that investment knowledge does not significantly impact investment interests in the Sharia capital market.

2) In hypothesis test 2, presented in Table 3, the significance value of the t-test was found to be 0.192. As a result, H₂ was not supported, indicating that student perceptions do not significantly influence investment interest in the Sharia capital market.

3) In hypothesis test 3, also presented in Table 3, the significance value was found to be 0.000. Consequently, H₃ was supported, indicating that technological advances have a significant positive influence on investment interest in the Sharia capital market.

Table 4.
Illustrates the F test results.

<table>
<thead>
<tr>
<th>ANOVAa</th>
<th>Model</th>
<th>Sum of squares</th>
<th>df</th>
<th>Mean square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Regression</td>
<td>815.896</td>
<td>3</td>
<td>271.965</td>
<td>11.473</td>
<td>0.000b</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>711.163</td>
<td>30</td>
<td>23.705</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1527.059</td>
<td>33</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: In the F test, a notation of "0.000b" in the Sig column indicates that the p-value is less than 0.001, which is commonly denoted as "b" in statistical reporting.

Table 5’s determination coefficient test yields an R-square value of 0.534, indicating that knowledge, student perceptions, and technological advancements influence student investment interest in the Sharia capital market by 53.4%, with other variables excluded from this study influencing the remaining 46.6%.

Table 5.
Explains the results of determination coefficients.

<table>
<thead>
<tr>
<th>Model summaryb</th>
<th>Model</th>
<th>R</th>
<th>R square</th>
<th>Adjusted R square</th>
<th>Std. error of the estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0.731a</td>
<td>0.534</td>
<td>0.488</td>
<td>4.870</td>
</tr>
</tbody>
</table>

Note: In the coefficient of determination test, the notation "0.731a" in column R signifies that the coefficient of determination (R-squared) is 0.731, and the "a" notation typically indicates statistical significance at the 0.01 level. Then, the "b" suffix in 'Model summary' refers to the batch size, which is the number of samples processed in one iteration during training.
Based on the results of the tests presented in Table 3, the double linear regression equation for this research is: \( Y = 17.286 - 0.142 X_1 + 0.269 X_2 + 0.882 X_3 \). This illustrates that the constant coefficient value is 17.286, whereas the regression factor value of the knowledge variable \( (X_1) \) is -0.142, the regression factor of the students perceptions \( (X_2) \) is 0.269, and the regression factor of technological advances \( (X_3) \) is 0.882.

4.2. Discussion

The research results show that knowledge has no impact on Perbanas Institute students’ investment interest in the capital market. It shows that the knowledge of investment management and capital markets that students gained during college was not a matter of consideration for students when deciding to invest their money in the capital market. This is due to the presence of other factors that influence investment interest in the sharia capital market, such as the level of investor confidence, the level of risk that investors have, the purchasing power of students, and so on. Knowledge variables are only responsible for providing information about investment instruments on the Sharia capital market, not directly affecting its interests. Knowledge cannot guarantee that investors will invest in the sharia capital market. This result is in line with research by Isticharoh and Kardoyo [12] and Listyani, et al. [36] which described that knowledge did not have a significant impact on investment interests in capital markets. However, things are not in accordance with research from Wibowo [28] and Hidayat, et al. [37] who shared opinions that knowledge has a positive influence on investment interest in the capital market.

Research results show that student perceptions have no influence on student investment interests at Sharia capital market. Students' perceptions about Sharia capital market did not affect their investment interests because they did not have sufficient insight into the Sharia capital market and its available products. In addition, students may be less experienced in terms of financial management and lack the ability to take the risk necessary to invest at the Sharia capital market. It may be because the students do not have initial capital needed to invest at Shariah capital market, which may diminish their interest. This statement is in line with Radja [13] and Kaidah [38] who declared that perceptions have no significant impact on investment interest at the capital markets. However, Sufidiana [27] and Budiarta and Suardikha [39] stated the opposite, which is that students perceptions have a positive influence on investment interests at capital market.

Research findings indicate that students' investment interests in the Sharia capital market are significantly positively impacted by technological advancements. Thanks to technology, investors can make better choices and track stock movements more easily, and they can access information about Sharia capital markets anytime they want through the Internet. Now, businessmen are beginning to offer ease of access through the features of the online sharia sale system. We can also disseminate information and insights about investing in capital markets, thanks to current technological advances that offer convenience, security, and accessibility to all segments of society, thereby attracting people to invest, particularly in the capital market. These findings demonstrate that the availability of tools and facilities significantly influences students' interest in investing. This is in line with Yusuf [20] who explained that technological advances have a significant impact on investment interest in the capital markets. However, this is contrary to the statement from Tandio and Widanaputra [10] which stated that there is no significant influence between technological advances and investment interests at the capital markets.

5. Conclusions

5.1. Conclusion

Based on the data collected from 312 respondents using SPSS Statistics 25, we can conclude the following: 1) Knowing about the Sharia capital market doesn't really change how interested Perbanas Institute students are in investing there. Whether they know a lot or a little, it doesn't make a big difference. 2) What students think about investing in the Sharia capital market doesn't affect whether they want to invest there or not. 3) However, when it comes to new investment technology, like apps and online
platforms, it does make a difference in how interested Perbanas Institute students are in investing in the Sharia capital market.

5.2. Limitation
In conducting this research, the authors experienced some limitations during the research process and data collection. The author restricts this research to three major variables: three free variables (knowledge, student perception, and technological advances), and three bound variables (investment interest in the Sharia capital market). Of course, there are many other factors that influence investment decisions in the Sharia capital market.

5.3. Suggestion
The author offers several recommendations based on the above results: 1) Due to the results from this study's determination coefficient test, which obtained an influence of 53.4%, we need to add some new variables for further research so that the results vary. Furthermore, it can employ other research methods to obtain more in-depth data and research results. 2) As a related stakeholder, the college or university can make regulations and policies that encourage students to increase their interest in investing in the Sharia capital market. 3) To enhance their understanding of investment, students should hone their knowledge of the latest technology, with a particular emphasis on the Sharia capital market, its various benefits, and its associated risks, as this will significantly boost their interest in the market.

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**Transparency:**
The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

**Competing Interests:**
The authors declare that they have no competing interests.

**Authors’ Contributions:**
Both authors contributed equally to the conception and design of the study. Both authors have read and agreed to the published version of the manuscript.

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The influence of capital market training, returns, risk perception, gender, and

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