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Developing an education model to improve Indonesian capital market literacy and inclusion

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Abstract: This study attempts to analyse the capital market literacy and inclusion in Indonesia. The total number of respondents was 495 college students in Java, the island with the most significant number of college students having 60.5% of the entire Indonesian college students. Studies have shown that the degree of literacy has had a beneficial influence on the engagement of students in the capital market, whereas the Indonesian student capital market literacy is poor on the basis of statistics. Students' primary weaknesses include practical understanding of the capital market, a material which is extremely important in promoting the engagement of students in the capital market. This research has established a realistic, inclusive, and collaborative model that teaches about the capital market, tackles the challenges, and can be implemented by IDX in its education program.

Keywords: investment; capital market literacy; capital market inclusion; law and public policy.

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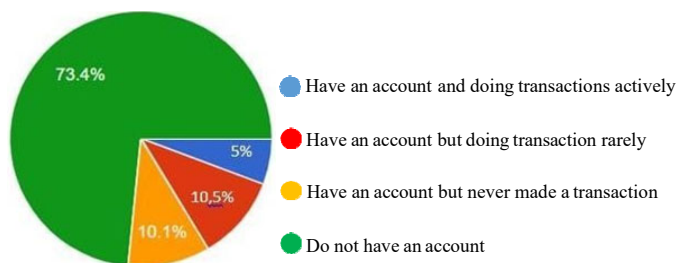
This paper is a revised and expanded version of a paper entitled ‘Developing an education model to improve Indonesian capital market literacy and inclusion’ presented at The 4th JBFEM Symposium: Ekuitas Award, Thailand, 29–30 July 2021.

1 Introduction

In recent years, Indonesia’s capital market has witnessed considerable expansion, given the increase of 42% of domestic capital market investors. This rise shows that varied IDX policies can promote public interest in investment in the capital market. However, there has to continue to be a good trend for the number of investors, as the figure is still small compared to the whole Indonesian population, which only amounts to 1.13%. Furthermore, as the Executive Director of the Bank of Indonesia’s Department of Financial Market Development, Donny Hutabarat, noted, the statistics are comparatively far short in comparison to neighbouring countries like Malaysia, 9%, and Singapore, 26%.

There has been minimal interest in the stock market due to the inadequate degree of society literacy. Students at universities are expected to promote capital market investments, but unfortunately their investment interests are very restricted, while suitable infrastructure and market access are available for them. Table 1 shows the initial survey of Java students’ capital market investment preferences.

Figure 1 Student interest results in a survey on the investment in capital markets on Java Island



Source: Processed survey data

In Java, 73.4% of students have no capital market account, 10.1% have accounts but have never used them for transactions, 10.5% have accounts but seldom make transactions, and just 5% trade frequently. These results demonstrate the low degree of student interest in investment in the capital market. Several research results related to capital market literacy conducted at universities in West Java also show that the level of capital market literacy is still deficient. Nidar and Bestari (2012) researched at Padjadjaran University in Bandung, concluding that financial literacy, especially in investment products, is still very low. Tanjung et al. (2020) found that the literacy of Widyatama Bandung students was still limited. Implementing an efficient capital market education strategy for higher education involves collaboration between universities and IDX partners, since literacy plays a key role in improving awareness of investments (Garc, 2013; Bianchi, 2018; Fadila et al., 2020).

In order to get further information about capital market literacy in Indonesian students, a larger sample must be investigated for these study questions. This study will thus take samples from Java Island universities.

Table 1 The number of students in Java

<i>Province</i>	<i>University</i>	<i>Institute</i>	<i>School of high learning</i>	<i>Academy</i>	<i>Community college</i>	<i>Polytechnic</i>	<i>Total</i>
DKI Jakarta	556,410	66,165	121,763	16,973	-	23,659	784,970
West Java	477,634	91,404	229,306	20,284	128	59,756	878,512
Banten	1,220,652	5,407	50,766	3,050	-	14,230	1,294,105
Central Java	455,491	60,611	82,751	13,062	239	32,529	644,683
DI Yogyakarta	314,804	20,889	49,036	7,584	30	7,261	399,604
East Java	653,727	142,580	135,079	11,446	447	51,408	994,687
<i>Total</i>							4,996,561

Notes: The number of students on the Indonesian Island of Java is the highest.

Furthermore, students are assisted in carrying out the learning process by better infrastructure.

Source: Ministry of Research, Technology and Higher Education (2019)

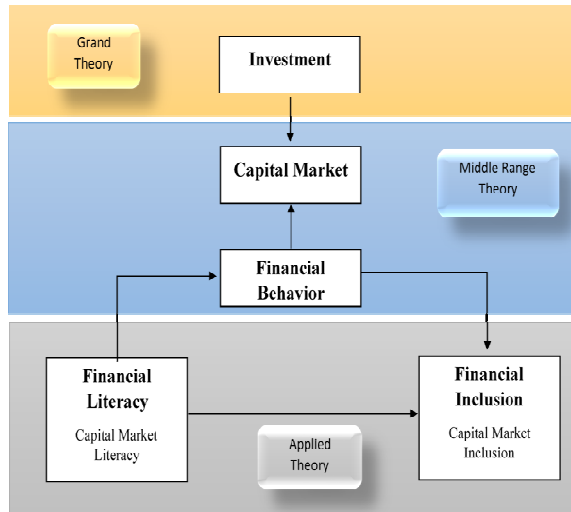
By taking a sample from the island of Java with the number of students in this region reaching 60.05% of the total students in Indonesia, this research provides a complete overview of Indonesian students' levels of capital market literacy and inclusion. In addition, the study will develop a capital market education model for universities to structure the capital markets learning process at universities, on the theoretical side, and to provide a practical setting for this educational model, in accordance with the regulations laid down for independent campuses by the Minister of Education and Culture No. 3 of 2020. The following are the research questions in this study:

- a How does literacy level affect the level of involvement of Indonesian students in the capital market (RQ1)?
- b What educational materials are appropriate in encouraging the involvement of Indonesian students in the capital market (RQ2)?
- c What is a good capital market education model for Indonesian students (RQ3)?

2 Theoretical framework and empirical study

A number of theories will be used for the creation of a framework and model for research.

The concepts and hypotheses in this study are mapped as in Figure 2.

Figure 2 Mapping theory (see online version for colours)

Source: Processed by authors

This study utilises investment theory as a grand theory, since it may encompass research and form the foundation of the theory of research. The capital market is an alternative investment (middle range theory). The behaviour of individual financial management becomes essential while making investment selections (middle-range theory). Several variables impact financial behaviour, including financial literacy (applied theory). Good financial literacy will form healthy financial behaviour and cause individuals to make investment decisions/financial inclusion (applied theory).

2.1 *Investment and capital market*

Van Horne and Wachowicz (2009) Investment understanding is an activity that uses existing funds to achieve future benefits. Investment is defined as a present promise to profit for some fund in the future (Tandelilin, 2017). The conclusion is drawn from the view of the two experts above that investment is an undertaking or sacrifice to make a profit in the future from a number of resources, both financial and non-financial. Capital market is an option for investing in financial assets. The capital market is a transaction mechanism for capital products (securities) between sellers and purchasers on or outside of the bourse. The mechanism between the supply and demand sides is another approach to the definition of the capital market. Those with surplus cash are termed investors, whereas those without funding are called issuers (Abdalloh, 2018). The IDX school book of 2014 indicates that there are two functions performed by the capital market. Firstly, the economic role of the capital market is to bring together investor and issuer interests. Secondly, the capital market's financial role generates revenue prospects.

Base on the statements above, we may describe the capital market as a mechanism for transferring securities from firms to finance their activities and public investment facilities which can offer advantages. Unfortunately, in Indonesia, most individuals do not completely comprehend the capital market; literacy and community engagement in

the capital market are still low. Various parties must be involved in order to stimulate investment in the capital market through educational programs or other incentives.

Many variables can stimulate community participation in the capital market. Malmendier et al. (2020) stated that educational aspects that are practical in character and give actual experience might enhance investor trust in capital market investing. The appropriate government policy may also be appealing to investors (Latipulhayat, 2012). Pocius et al. (2014) Numerous variables that investors evaluate while investing, such as the legal, economic, and tax environment, information availability, market participant behaviour and knowledge, rivalry with other markets, market depth and liquidity, and globalisation all play a role. Albu et al. (2015) indicated that consumer perceptions of capital market risk influence investment performance in the capital market, and that innovation and the availability of sharia products in the Malaysian capital market influence public investment interest (Shafron, 2019). According to Jalilvand et al. (2018), conducting research in Iran found that good financial education will improve the quality of individual investment decision-making and increase investor confidence and participation in the capital market. Chen et al. (2021) performed a study utilising US data that demonstrated that macroeconomic variables and corporate performance had a substantial effect on market sentiment. According to the findings of a study done by Debata et al. (2021), monetary policy has an impact on market sentiment. Furthermore, Wang et al. (2021) assert that the availability of knowledge and economic advantages have a significant impact on investment decisions. Que and Zhang (2021) discovered that the price rise variable was heavily weighted in the minds of investors when making investment decisions. Other variables influencing investment decisions include investment planning, corporate governance, and the image of a company's social responsibility (Gao et al., 2020; Shahid and Abbas, 2019).

2.2 Financial behaviour

The allocation of cash for investment is one of the hallmarks of good financial behaviour. Financial behaviour is human behaviour connected to money management skills. Cash, credit, and saving activities in the community are popular ways to use the idea of financial conduct (Xiao, 2008; Robb and Woodyard, 2011; Chen and Volpe, 1998). They show that financial literacy has a connection to financial behaviour. Furthermore, Chen and Volpe (1998) stated that there is good money management for students with a decent degree of financial behaviour. The conclusion of behavioural finance is a hypothesis based on numerous assertions explaining how people conduct themselves in the management of their finances. Financial conduct is linked to financial (financial) knowledge – greater financial knowledge and improved financial behaviour. According to Jurevičienė et al. (2014), healthy financial conduct is important at both the individual and business levels. When discussing capital market investment, it cannot be isolated from the behavioural component of investors; numerous studies illustrate how investors behave in the capital market. According to Buchner et al. (2020), in the capital market, aside from literacy and other basic variables, there is herding and speculative behaviour that frequently leads to investors making incorrect judgments. Hirshleifer and Teoh (2009) show that herding behaviour exists in the capital market. Katahira et al. (2019) explain capital market participants' speculative behaviour. Yousaf et al. (2018) describe herding behaviour in the stock market during Ramadan and in times of crisis. The

existence of such conduct necessitates the necessity of excellent literacy for capital market investors in order for them to create appropriate financial behaviour, which in turn can increase the quality of capital market investment decision making. Gray et al. (2021) emphasises the significance of adequate financial education policies in fostering healthy financial behaviour. The higher a person level of financial literacy, the better his or her financial conduct (Morgan and Long, 2020).

2.3 Financial literacy

Financial consumers/investors improve their understanding of financial products and concepts and, through information, instruction and/or advice, develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial wellbeing [OECD, (2005), p.26]. People require a strong financial understanding to create good financial behaviour. Substantial financial activity can drive public investment objectives. Several studies, like Lusardi and Mitchell's (2014), show that fundamental financial knowledge encompasses mathematics, compound interest, inflation, time, money-value and the illusion of money. The advanced literature on financial matters covers stocks, shares, mutual funds, bonds, other securities, interest rates for securities, prices for securities and risk returns. Meanwhile, Zait and Berteau (2014) state "the ability to understand, evaluate, and manage personal financial circumstances that impact material wellbeing" in financial literacy. The features of high financial literacy in its article are the capacity of financial concepts for decision-making to be understood and utilised (Remund, 2010). Cole et al. (2011) maintained that a strong level of financial learning promotes excellent management of finance. Financial literacy, according to them, comprises financial planning, distribution, and judgment in decision-making on the development of solid financial resources. Oehler and Horn (2019) found households with financial knowledge are more likely to make profitable investments. Financial knowledge, financial attitudes, and financial conduct all have a symbiotic connection (Garg and Singh, 2018). While financial inclusion is typically addressed by improving the financial infrastructure, we show that a higher degree of financial literacy also has a clear beneficial effect (Grohmann et al., 2018). Improving financial literacy amongst the poorest (individual with low income) would clearly be welfare enhancing, helping them to make better use of their money, reducing the likelihood that they will make inappropriate decisions or ill-informed choices and potentially help them to identify ways of increasing their income (Kimiyağhalam and Yap, 2017). Financial literacy is more closely related to financial behaviour (Fernandes et al., 2014). Furthermore, Karakurum-Ozdemir et al. (2019) demonstrate that not only is the duration of the educational program essential, but so is the quality of the program. Furthermore, high financial literacy is essential for people to be able to organise their finances effectively (Hung et al., 2011). Financial education is critical in order to discern between various suppliers, products, and services as a method of achieving financial security (Wagland and Taylor, 2009).

2.4 Financial inclusion

Financial integration is a way for everyone in the community to benefit, at an affordable price, based on their specific needs and capabilities, from a range of legal, quality, fast,

efficient, and safe financial services in accordance with Presidential Regulation 82 of 2016 (Ameliawati and Setiyani, 2018). With regard to the presence of socialisation, positive financial conduct certainly attractiveness investors to increase financial literacy and improve behaviour. Therefore, GIBEI (Indonesia Stock Exchange Investment Gallery) was developed to encourage financial literacy to produce strong management practices and produce a less consumptive society.

As previously said, the level of participation of Indonesians in the capital market remains relatively low. According to Sarma and Pais (2008), the Asian area has a medium degree of financial inclusion, whereas nations in South East Asia have the lowest level, with Indonesia being one among them. The low level of literacy is considered to be the reason for poor financial inclusion.

Previous research has also identified a number of variables that may contribute to low financial inclusion. Ozili (2020) discovers that levels of financial innovation, poverty rates, financial sector stability, economic circumstances, and financial literacy all influence and are influenced by financial inclusion. The government's involvement in developing regulations and providing infrastructure to promote financial inclusion is critical (Mader, 2018).

The more one's income, education, and age, the greater one's level of financial inclusion (Fungáčová and Weill, 2015). The level of financial inclusion was discovered to be substantially impacted by a region's economic growth and economy (Chakravarty and Pal, 2013). Kim et al. (2018) discovered a strong association between financial inclusion and economic development in OIC nations, but they also discovered significant variations in the amount of financial inclusion in each country. This is related to disparities in religious knowledge, financial literacy, interest rates, gender disparity, income levels, and legislation. Socio-economic variables, infrastructure, income, literacy, urbanisation, and physical and information infrastructure all have a role in attracting public investment (Sarma and Pais, 2008). Furthermore, the investment climate is crucial in recruiting investors (Prihandono, 2014).

3 Method

This study employs methods of description and verification. The method describes the level of literacy and inclusion in the capital market. The verification technique, on the other hand, will use the regression method to assess the influence of literacy on the inclusion of capital market. The additional test is carried out and the literacy variables are divided into two literacy groups; the basic theoretical literacy (level 1) and the advanced practical literacy group (level 2). The regression test will be performed on the market inclusion factors for the two sets of literacy variables. The additional test may be used to deepen the knowledge of the literacy characteristics that impact the implications of respondents in the capital market in developing appropriate content in the model of capital market education.

3.1 Sample

The research took a sample of students from the largest population in Indonesia. The overall Java student population is 4,996,561, compared with Indonesia's total student

population of 8,314,120; the Java-Indonesia student ratio is therefore 60.09%. Java Island can represent its students in Indonesia with a large number of students and superior infrastructure than the other islands in Indonesia. The Slovin technique is the approach utilised in this investigation. Slovin’s formula enables researchers to determine how accurately the population is measured (Ellen, 2022).

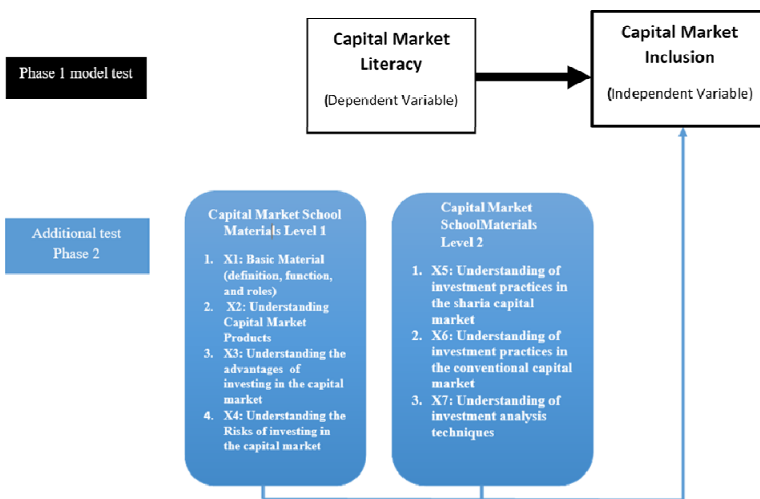
$$n = N / (1 + N \cdot (e)^2)$$

The minimum necessary sample is 399.97 respondents based on sample calculation using the Slovin algorithm. In this study, 455 Java Island respondents as samples reached the quantity necessary.

3.2 Data analysis test

This study will rely on original data derived from survey findings. A questionnaire is meant to gather data on the degree of literacy and participation in the capital market. The degree of capital market literacy and inclusion is measured using a Likert scale ranging from 1–4. According to Sutrisno (1991), modifications to the Likert scale range 1–4 are intended to eliminate the weaknesses contained on a scale of five, namely the undecided category, which has multiple meanings; it can be interpreted as being unable to decide or provide an answer (according to the original concept); it can also be interpreted as neutral, or hesitate. This type of many meaning answer (multi-interpretable) is not expected in an instrument. The availability of a middle response causes a central tendency impact, especially for those who are confused if the respondent’s view is agreeing or disagreeing. The presence of multi-interpretable replies will delete a large amount of research data, lowering the amount of information that respondents can gather. Because the answers to each question indicate a level, with 1 being very terrible, 2 being awful, 3 being good, and 4 being very good, the Likert scale is categorised as an interval scale (Ghozali, 2006).

Figure 3 Research model (see online version for colours)



Source: Processed by authors

Model testing in two stages is used to analyse data. The first step examines the impact of literacy variable (independent variable) on inclusion (dependent variable). Then it is important to know what educational materials should be in the educational model in order to construct an educational model. To do this, further testing must be conducted by breaking down the literacy elements into seven variables. This is based on IDX instructional materials, the findings of an Indonesian university poll, and earlier research. According to the study model:

- Research model phase 1:
 Capital market inclusion (dependent variable)
 = a + b capital market literacy (independent variable)
- Research model phase 2:
 Capital market literacy = a + b₁X₁ basic material
 +b₂X₂ understanding capital market products
 +b₃X₃ understanding the advantages of investing in the capital market
 +b₄X₄ understanding the risks of investing in the capital market
 +b₅X₅ understanding of investment practices in the sharia capital market
 +b₆X₆ understanding of investment practices in the conventional capital market
 +b₇X₇ understanding of investment analysis techniques

4 Discussion (research question – “how does literacy level affect the level of involvement of Indonesian students in the capital market?”)

The results of the descriptive test on the capital market reveal that in Java, with an average of 2, 2,497, the level of student capital market literacy is still poor (grade 4: very good – grade 1: extremely poor). When Java students have inadequate market understanding of capital, thus, students are likely to have a similar problem in other provinces or worse than in Java, because Java has better capital market infrastructure and access to it. In their research, the provinces of Java Island, Faradis and Afifah (2020) discovered that the quality of their infrastructure exceeds the national average. Table 2 explain the capital market literacy and inclusion descriptive test.

Table 2 Descriptive test of capital market literacy

	Literacy (X)	Inclusion (Y)
Mean	2.2497	1.6088
Standard error	0.0314	0.0476
Median	2.08	1
Mode	2.06	1

Notes: Table 2 is a descriptive test result that displays the mean, median, and mode values of literacy level and capital market inclusion among Java students. On average, students in Java have a poor level of literacy and participation in the capital market.

Source: Survey results on students in Java Island (2020)

The descriptive test results reveal that the average capital market inclusion score is 1.6088, and hence that low literacy for Indonesian students is the reason for low capital market inclusion. Regression tests on these two variables have been carried out to enhance descriptive test findings. Table 3 explains the regression test results for the Indonesian student capital market literacy and the inclusion.

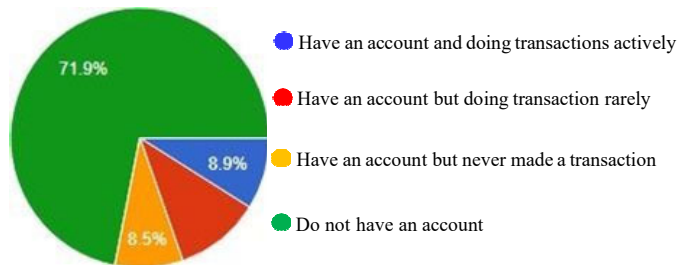
Table 3 Regression test result capital market literacy to capital market inclusion

	<i>Coefficients</i>	<i>Standard error</i>	<i>t stat</i>	<i>P-value</i>
Intercept	-1.1156	0.1003	-11.1270	0.0000
Capital market Literacy	1.2113	0.0427	28.3534	0.0000

Notes: The findings of the regression test of the capital market literacy variable on capital market inclusion demonstrate that the degree of literacy has a substantial impact on promoting capital market involvement.

Source: Processed survey data (2020)

Figure 4 Results of survey of account ownership and active transactions in the capital market



Source: Processed survey data

The regression test reveals that capital market literacy (x) has a positive effect on the variables of capital market inclusion. As the degree of knowledge of the capital market improves, student participation in the capital market also increases via transactions and investing. Also, the good role of literacy in investing activities is evident from prior study results (Anderson et al., 2017). It is argued that inadequate literacy produces a false understanding and aversion to financial advice for financial goods. Andreou and Anyfantaki (2020) found a strong relationship between the level of literacy and the frequency of use of financial products. Jiang et al. (2020) found that a good literacy level can minimise costs and losses in investing. van Rooij et al. (2011) Individuals with low literacy will invest less in stocks. Das (2019) stated that if the levels of financial literacy low, it will encourage involvement in the capital market also low. Von Gaudecker (2015) nearly all households that score highly in financial literacy or rely on professional or personal contacts for advice achieve reasonable investment returns. However, this group lost the predicted 50 bps on average in comparison to groups of families with less than average financial literature that simply utilise their capacity for decision-making.

Since the inclusion of capital markets is influenced by financial literacy, the IDX must continue to carry out education and socialisation in the capital market. The results of the study reveal that just 8.9% of respondents have an account for transactions, 10.7%

have accounts but seldom have transactions, 8.5% have an account but it has never been used for transactions, and 71.9% do not have a capital market account.

The results of this test provide input for the IDX to continue conducting training and socialisation to improve literacy and integration into the capital market. One of the educational programs is the establishment of investment galleries at various universities. Although the investment gallery is expected to provide benefits for understanding and inclusion of the capital market, the public, especially students, are still not very involved in the capital market. Further testing is needed to develop a successful capital market education model.

5 Additional test (research question – “what educational materials are appropriate in encouraging the involvement of Indonesian students in the capital market?”)

Additional tests will be conducted to assess the sub variables that comprise the education variable, which relates to the IDX education program and the capital market course content at Indonesian institutions in general. IDX splits the education curriculum into two levels known as the level 1 and 2 capital marketschools. The information on education levels 1 and 2 provided by IDX in Table 4.

Table 4 Educational materials held by IDX

<i>Level</i>	<i>Educational material level 1</i>	<i>Educational material level 2</i>
Materials	An overview of investing in the Indonesian capital market	Fundamental analysis
	Explanation of stocks and stock trading mechanisms	Technical analysis
	Explanation of investor identity card	Stock investing tips and tricks
	Explanation of opening a stock account	Stock transaction simulation
<i>Sharia capital market</i>		
Materials	Sharia investment in the capital market	Fundamental analysis
	Sharia stock transaction mechanism	Technical analysis
	Fiqh fundamentals of investment in the capital market	Islamic stock investing tips and tricks
		Sharia stock transaction simulation

Notes: This table describes IDX capital market education materials, which are divided into two (two) levels for conventional and Islamic capital markets.

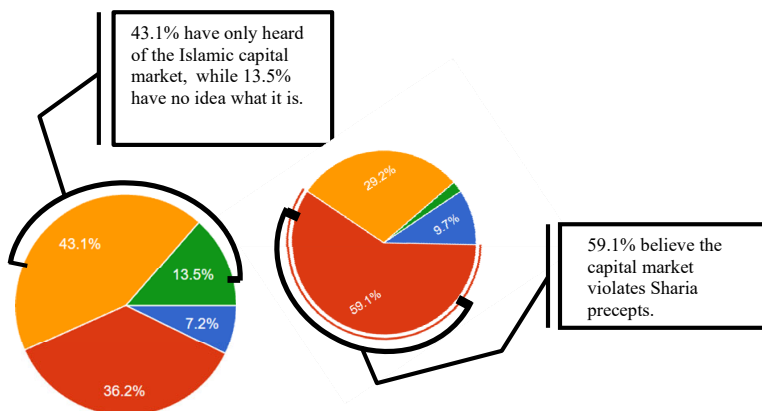
Source: <https://www.idx.co.id/investor/sekolah-pasar-modal/>

Meanwhile, according to the findings of surveys and observations on capital market teaching materials at 25 universities, 17 of them (68%) utilise the following capital market lecture materials: definition, structure and role, advantages, risks, and capital market products (basic material). Students study this basic subject at the meeting before the midterm exam. Following the midterm exam, students in Indonesia will generally study more advanced and practical materials such as fundamental and technical analysis. In the meantime, transaction practises and Islamic capital market materials are not taught

by all universities, but according to the results of a survey of 154 students, 59.1% believe capital markets are highly speculative and unpredictable, which they believe is contrary to sharia principles.

The findings of this survey are consistent with the findings of a subsequent survey of 459 students, which revealed that 13.5% knew nothing about the Indonesian Islamic capital market and 43.1% had just heard of it but did not comprehend it. The engagement of Indonesian students, who are typically Muslims, is likely limited due to the poor literacy of the Islamic capital market. Furthermore, prior research, such as that done by Shafron (2019), indicated that the availability of sharia goods encouraged Malaysians to engage in the capital market. As a result, in this study, the Islamic capital market literacy variable will be evaluated against capital market inclusion; if it has an effect, then Islamic capital market content should be included in educational programs at Indonesian institutions.

Figure 5 Results of the survey on the literacy level of the Islamic capital market (see online version for colours)



Source: Processed survey data

The literacy-forming variables are classified based on the IDX education program and capital market course materials frequently studied in Indonesia.

- a Capital market school literacy material level 1 (one):
 - X_1 : Basic material (definition, function, and roles).
 - X_2 : Understanding capital market products.
 - X_3 : Understanding the advantages of investing in the capital market.
 - X_4 : Understanding the risks of investing in the capital market.
- b Capital market school literacy material level 2:
 - X_5 : Understanding of investment practices in the sharia capital market.
 - X_6 : Understanding of investment practices in the conventional capital market.
 - X_7 : Understanding of investment analysis techniques.

The descriptive test for each variable literacy reveals that Indonesian students usually have a good understanding of the subject group at level one. An average literacy level of

3.4824 is high as regards the basic understanding of defining the role and function of the capital market (X_1). The average score for the material on capital market products is 3.34505 (X_2), which means that students comprehend this topic well. Students also grasp the benefits (X_3) and the risks (X_4) of participating in the capital market with an average score of 3.3890 and 3.2967.

In contrast, the MSS level 2 material group is rather limited. Indonesian students lack good knowledge of transaction processes, both in the Islamic (X_5) and conventional (X_6) capital markets. In addition, the investment analysis technique with a score level of 2.1121 indicates that it is still poorly understood (X_7). The following table displays the results for each variable in the descriptive test.

Table 5 Descriptive test results for educational material

	X_1	X_2	X_3	X_4	X_5	X_6	X_7
Mean	3.4824	3.34505	3.3890	3.2967	2.2396	2.2484	2.1121
Standard error	0.0348	0.04394	0.0441	0.0457	0.0350	0.0435	0.0410
Median	4	4	4	4	2	2	2
Mode	4	4	4	4	2	2	2
Minimum	1	1	1	1	1	1	1
Maximum	4	4	4	4	4	4	4
Largest (1)	4	4	4	4	4	4	4
Smallest (1)	1	1	1	1	1	1	1

Notes: Table 5 summarises the descriptive test findings for each educational material variable for two (two) levels of capital market education, X_1 – X_4 being level 1 material and X_5 – X_7 being level 2 educational material.

The basic concepts and general understanding of the educational content group at level 1 were clearly comprehended. The more practical and analytical level 2 content group was, however, not generally comprehended. In order for students to be more engaged in investment, there needs to be a better grasp of fundamental and technical analytical approaches, transaction procedures, and understanding of the sharia capital market. By understanding fundamental analysis, students will know how to pick the proper enterprise, while students will better understand at what price level to purchase or sell shares for profit via technical analysis. Meanwhile, knowing the Islamic capital market would inspire Muslim students in Indonesia, who are Indonesia’s majority, to participate, as until now it has still been assumed that involvement in the capital market violates Islamic law. The results of the study reveal that 10.9% of respondents still believe that capital market operations constitute gambling. This assumption is minimised by the Islamic capital market.

In order to assist descriptive analysis, a regression test of the literacy variables X_1 to X_7 was performed on the capital market inclusion variable (Y). Table 6 is the regression test outcome.

The findings of the regression test demonstrate that the material group of the level 1 (X_1 – X_4) does not have a significant effect on the inclusion of capital markets (Y). The average responder understands this content well, but it is not sufficient for student participation to encourage activity in the capital market, with an average score above 3 for each variable (1–4). It is possible that students only memorise materials and rarely

practice transactions. Student orientation to good grades in capital market courses, without motivation and awareness to explore and utilise knowledge.

Table 6 Regression test results of educational materials on capital market inclusion

<i>Variables</i>	<i>Unstandardised coefficients</i>		<i>Standardised coefficients</i>	<i>T</i>	<i>Sig.</i>
	<i>B</i>	<i>Std. error</i>	<i>Beta</i>		
X ₁	0.0440	0.0430	0.0320	1.0090	0.3140
X ₂	-0.0190	0.0340	-0.0180	-0.5610	0.5750
X ₅	0.3320	0.0430	0.2440	7.7620	0.0000
X ₆	0.5010	0.0420	0.4570	12.0500	0.0000
X ₃	-0.0670	0.0370	-0.0620	-1.8180	0.0700
X ₄	0.0080	0.0370	0.0080	0.2220	0.8240
X ₇	0.3460	0.0430	0.2970	8.0980	0.0000

Notes: The results of the regression test for the variable capital market education material on the variable student engagement in the capital market. The regression findings decide the capital market content incorporated in the education model.

Source: Processed survey data (2020)

On the other hand, the variables of Islamic capital markets (X₅), conventional capital market investment practices (X₆), and technical analytics of capital market investment variables (X₇) all influence student participation in the capital market considerably, with every variable having a sig. value of 0.000 being significantly below 0.05. The X₅, X₆ and X₇ variables are analytical and practical material variables. Thus, students are not instantly invited to participate in the capital market by learning materials without being matched with appropriate experience. Universities can work with IDX and securities companies in laboratories or create capital market investment galleries. In order to exchange knowledge and expertise in terms of investment in the capital market, it also needs a community of investors and practitioners. Thus, students get information and experience that is not just theoretical and conceptual application.

The findings of this study are consistent with prior research indicating a reciprocal link between financial knowledge, financial attitudes, financial behaviour and financial inclusion (Garg and Singh, 2018; Grohmann et al., 2018; Ozili, 2020; Fungáčová and Weill, 2015; Kim et al., 2018; Sarma and Pais, 2008). In addition, Malmendier et al. (2020) state that material based on effective practise reduces a person's fear of investing. The government's participation in initiatives to enhance capital market literacy in the community is equally critical (Mader, 2018). The Indonesian government, via the ministry of education, has established a policy known as the 'independent campus program', which provides practitioners an opportunity to teach in a classroom, might assist students with economic and non-economic backgrounds to better understand capital market activity. It also allows non-economics students to take capital market classes in other academic programs or institutions. Currently, the necessary thing is a uniform structured learning method for every university. To tackle this problem, the research team developed an educational model.

6 Findings and solutions (research question – “what is a good capital market education model for Indonesian students?”)

Research shows the importance of good literacy in the capital market for student involvement. At present, however, Indonesian students’ levels of literacy in the capital market remain inadequate. In addition, the theoretical and conceptual materials did not inspire students to get more involved in the capital market. By contrast, students have not grasped practical capital market materials, while the materials do more to encourage students to enter the capital market. Based on these conditions, we developed a more applicable and collaborative capital market education model.

This capital market education approach was created in response to the research problem, which was a lack of capital market literacy among Indonesian students. An additional test on capital market education materials was conducted to determine which materials were beneficial in stimulating student engagement in the capital market. This instructional material was created using a variety of materials, including capital market literacy indicators from this study, IDX capital market material, and the previous capital market education model, which was also the outcome of research done in 2019 and released in 2021. The distinction is seen in the early education model. The capital market does not specify the specifics of educational content and is more appropriate for the general public who do not have a background in management and economics, whereas the second model is more suited for use in higher education learning programs. Figure 6 depicts the development of educational models 1 and 2.

The second capital market education model is separated into three stages: diagnosing the root of the problem, developing an education model to fix the fundamental problem, and offering capital market education benefits. Figure 7 depicts the processes of the educational model implementation process, beginning with the root of the problem and progressing through the stages of delivering learning materials and the values originating from the implementation of this educational model.

6.1 Root of the problem

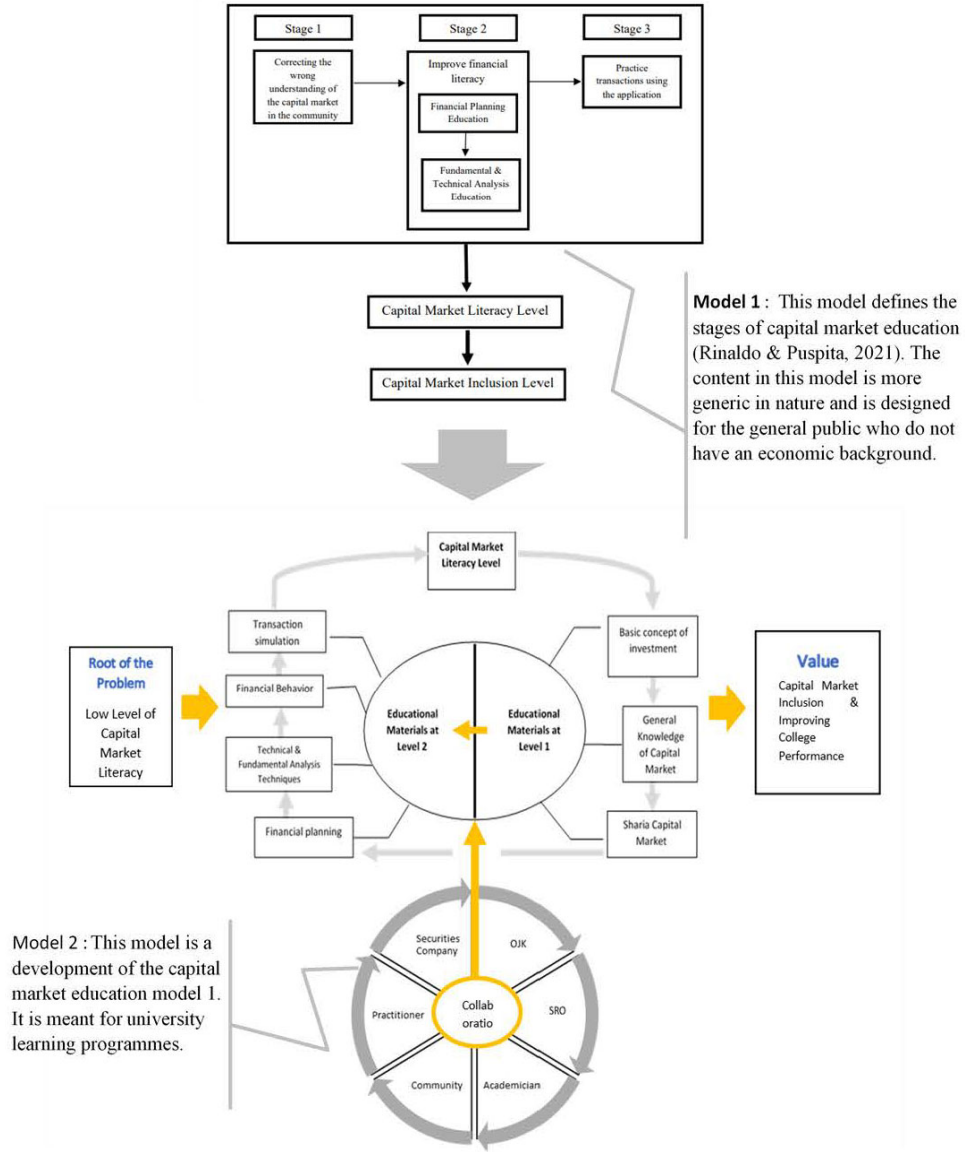
After determining the source of the problem through an investigation of the degree of capital market literacy, the influence on capital market inclusion is tested. The analytical results demonstrate that the level of capital market literacy in Indonesia remains poor and has a major impact on capital market inclusion, indicating that low literacy is at the root of the problem. Furthermore, this study also revealed that students could not understand advanced educational content, which is usually practical, and this sort of material significantly encourages student participation in the capital market. However, this does not indicate that the materials at primary level need not be examined.

6.2 Capital market literacy level

After confirming that capital market literacy is the fundamental cause of poor capital market inclusion, an additional test is performed on each capital market literacy material to evaluate which content is beneficial in enhancing student engagement in the capital market. According to the research, most level 1 materials have a favourable effect on students’ engagement in the capital market, but level 2 materials have a more substantial

influence in promoting student participation in the capital market. Therefore, both materials should be understood by students. In capital market education, the items listed below will be presented in the order listed.

Figure 6 Capital market education model (see online version for colours)



Source: Processed survey data

6.2.1 Level 1

Although the results of the study showed a good level of understanding on the level 1 material, it did not have a significant impact on student interaction in the capital market,

but the effect was still positive as indicated by the constant value of each variable. Therefore, this material must still be presented as basic knowledge and its weaknesses in stimulating will be balanced by level 2 material which will later involve capital market stakeholders in the learning process in the classroom on a regular basis.

- *The basic concept of investment:* The basic principles of investing must be explained so that students understand the importance of investing. The basic contents that will be provided include the concept of investment, motivations for investing, benefits of investing, and investment tools. The relevance to the educational model of this content is also based on the study findings, According to the data, only 8.9% of the 455 respondents are actively investing. This circumstance demonstrates that many students are still unaware that they have begun to invest early. People are ill-equipped to make financial management judgments unless they comprehend the fundamental principles (Klapper and Lusardi, 2020).
- *General knowledge of capital market:* The following content covers a broad understanding of the capital market. After students understand the concept of investing, they will learn about the capital market's role as an alternative investment in this part. Research shows that basic knowledge of the capital market generally has a positive effect on the level of involvement, Thus, while the effect is not too significant, students nevertheless need to be taught this information as the basis for their comprehension of advanced and practical materials. Furthermore, the findings of a study of respondents revealed that 20.8% of respondents did not comprehend how the capital market worked, 19.6% of respondents do not understand the distinction between stocks and mutual funds, and 37% are unfamiliar with the risks associated with investing in stocks in the capital market.
- *Sharia capital market:* The knowledge of the Islamic capital market has a major influence on the inclusion of the capital market, based on study results. Moreover, the survey findings also demonstrate that a misunderstanding still exists that involvement in the capital market goes against the Islamic notion. According to the study's findings, 56.6% of respondents are unfamiliar with the Islamic capital market. This assumption may surely be dismissed by the establishment of a sharia capital market.

6.2.2 Level 2

- *Financial planning:* When students are aware of the fundamental principles of investment and the capital market, they should study financial planning to determine the amount of money that will be invested in the capital market. The level of financial knowledge (Robb and Woodyard, 2011) is extremely significant in terms of healthy financial conduct. Financial know-how, such as financial planning, will influence the conduct of sound financial management and encourage investment interests. According to the survey results, 71.9% of students do not have a capital market account, indicating that their understanding of financial planning is still relatively poor. In fact, the regulator has enacted regulations that make it simpler for students with limited financial resources to engage in the stock market. Investors in Indonesia can genuinely invest in the capital market with as little as IDR100,000 (about \$7–\$8).

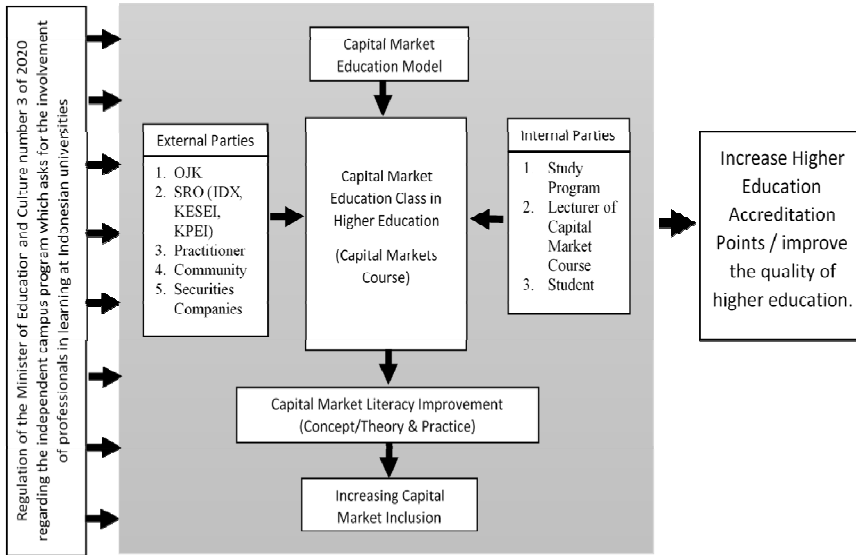
- *Technical and fundamental analysis techniques*: Students need to understand investment strategies after understanding how much money they invest in the capital market. Students lack knowledge of analytical procedures based on research results. It was found by Sulistiawan et al. (2020) that technical analysis enables investors to make better capital market choices. The findings show that 71.4% of respondents do not understand technical and fundamental analytical techniques. Our research also reveals that students who use both approaches are more likely to be actively involved in the capital market. Therefore, it is necessary to understand the implementation of technical and fundamental analysis techniques to participate in the capital market.
- *Financial behaviour*: Students must learn the concept of financial behaviour in the capital market to reduce the risk of investing in the capital market. Asab et al. (2014) shows that behavioural variables successfully influence the decision making of market participants in investing. This study shows that 10.9% of those surveyed believe that capital market investments are unpredictable (like gambling). This situation can be explained by behavioural finance theory. In the practice of the capital market, ordinary people often invest only in reckless and participatory capital, without analysis and looking for accurate information as a basis for making decisions. As a result, they bear losses due to dilution, as described in the theory of financial behaviour.
- *Transaction simulation*: Now is the time for students to simulate transactions in the capital market after they understand various concepts and theories. The research indicated that students had insufficient understanding of capital market transaction procedures and the impact of practical knowledge on students' participation in capital markets was substantial. Various stakeholders must participate in the development of an educational program on the capital market. The following parties are:
 - 1 The IDX as a regulator.
 - 2 Securities companies which can allow a system of transactions so that students may exercise and simulate capital market transactions.
 - 3 Academician as parties who can teach the practice in the capital market based on theory and concept.
 - 4 Practitioners that can share their knowledge and experiences as investors in the capital market.
 - 5 An investor community that can assist and facilitate education for students and assist them in the early stages of investing in the capital market.
 - 6 And media that can disseminate information related to capital market investment.

6.3 *Value creation*

After students comprehend and immediately apply their knowledge of the capital market, they will be aware of the necessity of participating in the capital market, which may provide them with several financial benefits, hence driving greater capital market involvement in society. Students are likely to have limited funds to invest, but once they graduate and get a good job, having a high level of knowledge and awareness of capital

market investment will undoubtedly encourage them to invest a portion of their funds in the capital market, which is what we hope to achieve through this model of “good literacy creates high capital market inclusion.”

Figure 7 The process of implementing the capital market education model in Indonesian universities



Source: Processed survey data

Another advantage of using this approach is that it can increase the quality of higher education (college accreditation). Universities have met one of the most significant criteria for accreditation by including practitioners in their teaching. Regulation of the National Accreditation Board for Higher Education No. 1 of 2020 Concerning the Accreditation Mechanism for Accreditation Conducted by the National Accreditation Board for Higher Education Article 3 Paragraph (7), which authorises the Executive Board of BAN-PT to determine the necessary instruments to support the monitoring mechanism. This instrument includes accrediting factors for practitioners’ participation in learning at Indonesian institutions.

This model’s application will involve a variety of stakeholders providing capital market education in colleges. This is quite likely because, in accordance with the minister of education’s decision, Indonesia has established a program known as ‘Merdeka Belajar’. This program strongly encourages external parties, such as practitioners, financial services authorities (OJK), self-regulatory organisations (SROs) comprised of the Indonesian Central Securities Depository (KSEI), the Indonesian Clearing Guarantee Corporation (KPEI), the investor community, and securities companies, to participate in university-based learning. External members of the teaching team will be involved in the classroom learning process. Lecturers who support capital market courses will be assigned as course coordinators, with assistance from external parties such as OJK, SRO, practitioners, communities, and securities firms. External parties will provide more material on capital market practises, while internal parties, in this case, lecturers, will provide material on fundamental concepts and theories.

Through educational programs such as this one, students will completely comprehend both concepts and theories as well as investing practises in the capital market as a result of this partnership, and enhancing capital market literacy among students will stimulate student participation in the capital market. Professional engagement in the learning process is a distinct point for enhancing higher education quality since it is regarded to fulfil the regulations from the ministry of education and culture connected to the 'Merdeka Belajar' program as well as the points of college accreditation evaluation. Figure 7 depicts the implementation of the 'capital market education model' at universities.

7 Conclusions

This study examines the importance of literacy in the increased participation of students in the capital market. The results indicate that student involvement in the capital market is strongly influenced by literacy degree (RQ1). However, this study indicated that the degree of capital market literacy and involvement in the Indonesian student remains low. For this, an efficient education model has to be developed.

Additional test findings also revealed that the educational materials at level 2 had a significant impact on students' involvement in the capital market, while the materials at level 1 had a positive but not significant impact (RQ2) this level 1 content covers more capital market principles and theories that are theoretical rather than practical. Students in Indonesia typically understand this subject, but in fact, they are relatively poor in practical material at level 2, but study results show that students who master the content at level 2 are actively participating in capital market investing.

As a result, if you want to improve capital market inclusion, you must modify the capital market learning approach in higher education. Practical materials that have been lacking in the past must be improved, and various parties must be involved, including OJK, SRO (IDX, KSEI, and KPEI), securities firms, practitioners, and communities. Aside from being beneficial to students, the involvement of external parties assists the institution in meeting the rules and policy requirements set by the Minister of Education and Culture No. 3 of 2020 regarding the 'Merdeka Belajar' program, which mandates professional involvement in the learning process in higher education, on this basis, a capital market education model was formed and found in the study, This model may be utilised in capital market courses at various Indonesian universities, as well as in IDX to educate the public (RQ3). Currently, IDX is carrying out the capital market education program extremely actively. This approach is intended to assist the government and IDX in attaining the success of the capital market education program and consequently increase community participation in the capital market. The effectiveness of this educational model has to be tested through experimental methods at multiple universities in order to be studied further.

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