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Challenges of Integrating Emotion into a Theoretical Framework in a Higher Education Investment Course

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Abstract

COVID-19 has changed many aspects of our daily life. In order to minimise the spread of the virus, social interaction was restricted, and as a result, community gatherings became less than before. The social restriction has created an opportunity in the digital economy; specifically, it has boosted the number of retail investors in Indonesia. Investment is a compulsory subject taught to business students, and the emergence of retail investors deserves special attention in our syllabus. However, fundamental theories of investment that are being taught in current education systems only focus on the cognitive aspect and theoretical framework to measure investment risk without any learning experience on the emotional part. This research argues that without emotion, the investment framework is not complete. Therefore, this research aims to evaluate the ongoing investment course at Pradita University and provide suggestions for a future class. An independent t-test is conducted to measure the perceived emotional feeling between a group of students with trading or simulation experience and the inexperienced group. The outcomes of this research could contribute to the body of knowledge to build a proper syllabus for investment courses for higher education.

Keywords: Higher Education Investment Course, Emotional Learning, Behaviour Finance, Retail Investors, Disposition Effect, Investment Decision

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1. Introduction

The social restriction has made a significant shift in our daily interactions. New habits and work styles emerged as a result of the COVID-19 outbreak. Some people lose their jobs, while others need to adapt to working from home. However, this change also comes with a new opportunity in the digital economy. The digital economy has direct implications for investment, and investment is essential for the digital development of the economy. COVID-19 has significantly increased the number of retail investors. President Director of the Indonesia Stock Exchange described that the proportion of retail investors' transactions was 55% in September 2021, which was expected to be higher in the future (Budiarso, 2021).

The year 2021 was the right momentum as both information technology and pandemic conditions support retail consumers to spend their money on mobile phones. The number of unique investors IDs reached 5.7 million in June 2021, and Pradita University pays attention to investment courses because of the complexity of teaching this subject. Retail investors faced a severe problem in their investment decision as behavioural biases were found occasionally due to a lack of emotional control when facing market volatility (Paisarn et al., 2021). The fear and asymmetric information also played a pivotal role in causing this behaviour (Shiva et al., 2020). Therefore, behavioural finance becomes relevant to the investment course since it provides a strong theoretical model to explain these biases.

Pradita University's mission is to deliver academic and real-industry practices to our students so the students would be empowered with practical skills before joint the workforce. Bridging university with industrial collaboration was essential to nurture, test and contribute to industrial needs (Shams & Thrassou, 2019). However, combining academic and industrial points of view is problematic because it takes adjustments from both parties before creating synergistic collaboration. In this research, we used investment class as an object of observation to map the challenge in installing proper emotional knowledge in higher education students. The university realised that the syllabus in the investment course was heavily concentrated on classical theory in measuring risk. Therefore, this theory was insufficient because, in the investment process, students will be exposed to a dynamic environment (the market) that could affect their investment decision. This situation could be troublesome from a behavioural finance perspective because the market's volatility without proper emotional knowledge would result in several biases in investors' decisions (Kahneman et al., 1991; Monteiro & Bressan, 2021; Paisarn et al., 2021).

This research investigates the importance of emotional knowledge in investment decision-making. The main objective of this article is to search for initial validation on the importance of behavioural finance in investment courses and map the challenge of teaching emotional knowledge in investing without any actual practices of stock investment or trading simulation. This article suggests developing a better investment syllabus by integrating emotional decision-making into the learning process.

2. Literature Review

Higher Education Services Quality

The higher education industry is one of the essential services in the modern world. It prepares the labour forces with skills to support the other sectors, so the nation remains competitive in the economy. Education in Indonesia is a crucial requirement for a better workforce opportunity. Despite the change in the industrial landscape due to the advancement of technology and several critics in the productivity of bachelor graduates, a degree from a university remains a favourable choice for most firms. As the industries evolve, the requirement for employment skills nowadays focuses on more collaboration, problem-solving, critical thinking, and soft skills to support teamwork.

This task depends not solely on higher education institutions but on several stakeholders such as the governments and industrial partners. In Nigeria, the collaboration among these parties was minimal, resulting in underdeveloped pedagogy for their students (Nwajiuba et al., 2020). In the European region, after the Bologna Declaration, the United Kingdom has made significant progress in standardisation to maintain the competitiveness of European higher education institutions (Allan, 2002). In the USA, industrial partnership with higher education was encouraged in manufacturing education to provide a clearer understanding of the industrial black box (Bosman et al., 2021). From these three different places, the author understood that higher education institutions need collaboration with industry, good standardisation, and quality assurance to maintain competitiveness in the global economy.

COVID-19 outbreak has forced higher education institutions to adapt and implement e-learning through their education services. Higher education needs to pay attention to the quality of learning experience, system and information quality during the courses, and it was investigated by (Shahzad et al., 2021). In Brazil, an attribute-based framework (HEADSQUAL) was developed to assess higher education institutions' quality and administrative services (Steppacher et al., 2021). In the future, the higher education industry will be transformed into futuristic nurturing services with reliable resources for information sharing between the university, industry and government (Compagnucci & Spigarelli, 2020). Therefore, sustainable higher education would need to develop good lecturer teams and IT infrastructure for the future.

Indonesia, especially the Jakarta region, faced a problem with too many higher education institutions but low-quality assurance. This phenomenon happened because of the high demand for diploma degrees and easy regulation to set up higher education institutions. The result was many higher education institutions without proper quality services. Nowadays, the regulator (DIKTI) and quality assurance for Indonesia Higher Education (BAN-PT) has started implementing a new policy to merge several higher education institutions so the uncompetitive institutions would be better due to pooled resources with the competent institutions. This phenomenon has been predicted by (Taousanidis & Antoniadou, 2010), which stated in developing countries, quality assurance could be a threat for low investment institutions.

Several Phenomena in Investment & Emotional Knowledge

Investment is a commitment of the investors to buy the assets (financial or tangible) over some time (Jones, 2004). This process requires a sacrifice of current consumption, compensating with interest rate. Because of this, the early section of our students' courses is the time value of money and can also be found in well-known corporate finance textbooks (Ross et al., 2012). In the current curriculum, the students should complete the fundamentals of corporate finance before proceeding to an investment course, and both subjects are compulsory for business students.

Pradita University's investment course consists of the building block of classical financial theory, which heavily emphasises portfolio theory and valuation (stocks and bonds) based on the time value framework. However, these theories are not complete without emotional knowledge to make "unbiased" decisions for their investment because some researchers have found exciting phenomena in the investment decision (Frydman & Camerer, 2016; Kahneman et al., 1991; Moreira Costa et al., 2021; Sarin & Chowdhury, 2017; Valcanover et al., 2020).

It is crucial to handle the bias in investment decisions. One of the causes of these biases is the emotional reaction of the investor when the market is volatile (Hameleers, 2021; Rau, 2015; Zahera & Bansal, 2018). Moreover, behavioural biases and emotional intelligence affected the investment decision (Raheja & Dhiman, 2020). Therefore, this paper's emotional knowledge means the set of knowledge to avoid behavioural biases such as the disposition effect, status quo bias, and endowment effect.

The disposition effect is when investors sell the winner stocks but hold the loser. This phenomenon was discussed by (Weber & Camerer 1998) and remained a puzzle on how to minimise it. The stop-loss approach was implemented, but the effect only worked to a certain extent (Talpsepp & Vaarmets, 2019). Many theories tried to explain the disposition effect (Zahera & Bansal, 2019), yet there is no consensus on how it occurs. This disposition effect was found in unprofessional retail investors and professionals who make daily investment decisions (Bodnaruk & Simonov, 2015).

Status quo bias is the tendency of investors to maintain the status quo when exposed to uncertainty. This phenomenon also occurs when people try to avoid the pain of losing and are reluctant to sell the loser asset (Kahneman & Tversky, 1979). It also links with the previous phenomenon, the disposition effect. The status quo bias was discussed by (Samuelson & Zeckhauser, 1988) from risk and uncertainty. Some behavioural experiments also confirmed the existence of this phenomenon (Kiky, 2021; Li et al., 2009), and it was not irrational because the subjects bounded with their cognitive limitation and rationality (Nebel, 2015).

The endowment effect is another phenomenon found in investment and is also related to status quo bias. The endowment effect refers to the situation when the investors tend to overvalue their belonging (assets), influencing their willingness to sell to other people (Drouvelis & Sonnemans, 2017). This phenomenon was initially explored by (Kahneman et al., 1990) and was further discussed in later research (Kahneman et al. 1991). This phenomenon remained open to investigation, and some behavioural research expanded the possible explanation (Ashworth et al., 2019; Dong & Zhang, 2016). Lately, the endowment effect of the mask during the early COVID-19 outbreak was also found in university students (Kiky, 2020).

The disposition, endowment, and status quo bias are several missing phenomena in classical finance and investment theories. Prospect theory by (Kahneman & Tversky, 1979) has provided the fundamental idea to understanding how people evaluate risk and uncertainty, and the scope of this subject comes from behavioural finance. Therefore, investment courses should consist of theoretical investment theory and behavioural finance. And the second objective of this article is to seek preliminary validation for this argument by comparing students' perception of emotional questions regarding particular investment conditions.

Hypothesis Development

This research aims to check whether there is a difference in perceived emotion between students with simulation or real trading experience and those who did not. The author believed that when the students are exposed to either simulation or trading experience, they will firmly express their emotions (disappointment or overconfidence) in the specific investment decision. Two investment decisions that will be asked for the subjects' perceived emotions are selling and holding decisions. The main inspiration for this research is the phenomenon known as the disposition effect (Weber & Camerer, 1998). The disposition effect is the situation when investors sell their winner stock too soon and keep holding losing stock due to the high expectation of future price. If the investors sell the investment assets too fast while the assets keep increasing, they will feel great disappointment in their decision. Some researchers believe regret aversion bias is the main cause of this decision (Costa et al., 2021; Toma, 2015; Zahera & Bansal, 2019). If the stocks' price plummets, they will hold the loser asset and expect the price to be corrected. For this decision, overconfidence bias could be caused (Barber & Odean, 2001; Kinari, 2016; Paisarn et al., 2021). Therefore, the emotion of disappointment and overconfidence is the concept of perceived emotion observed in this research.

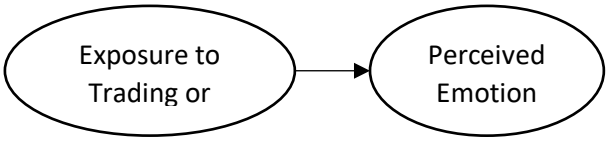

Figure 1- Research Steps

3. Method

This research was started after the authorisation from the vice-rector of academic affairs. Before receiving the approval, the researchers should present the research idea and methodology in front of the board of internal reviewers and meet the code of conduct of the researcher at Pradita University. The author believes that without real experience or simulation in the investment transaction, the students would not understand some emotional experiences in investing, such as disappointment and overconfidence. Therefore, the author used a quantitative approach to validate the hypothesis and gathered primary data. Before the final exam, the author distributed a questionnaire for this objective and recorded the students' responses to two emotional feelings in investing

(disappointment and overconfidence). At the end of the questionnaire, the author also asked about the difficulty of selecting the asset. The samples would be grouped into two categories (experienced and inexperienced), and the answers were analysed using the independent t-test. Table 1 describes the research question on this aspect:

Table 1- Research Questionnaire for Students' Responses to Certain Emotions

Variable	Dimension	Research Questionnaire
Perceived Emotion	Perceived Disappointment	Please rate your feeling of disappointment when you sell an investment asset too soon and the price keeps appreciating in the future.
	Perceived Overconfidence	Please rate your confidence when you hold an investment asset and the current market price is below your purchasing price, but you believe it would return to the initial point.
Experience in Investment or Simulation	Experienced	Do you have any investments in the stock or bond market? Do you have any experience in a stock trading simulation?

4. Result and Discussion

Perceived Emotion of Students

Table 2- Respondents' Experience in Real Investment or Simulation

Real Investment	Simulation		Total
	Yes	No	
Yes	(Q1) 2	(Q3) 16	18
No	(Q2) 3	(Q4) 36	39
Total	5	52	57

The author categorised the students into four quadrants to capture the variability in perceived emotion in the investment, as shown in table 2. The first quadrant was the students with both real investment and simulation experience. The second and third quadrants were for the students with either real investment or simulation experience. The fourth quadrant was the students with no real investment and simulation experience. Then, the fourth quadrants were considered inexperienced, and the rest was experienced. The summary of this classification can be found in table 3 below.

Table 3- The Frequency of Grouped Students

Group	N
Experienced	21
Inexperienced	36
Total	57

Table 4- Perceived Emotion for each Quadrant

Quadrant	Disappointment		Overconfidence	
	Mean	Std. Dev	Mean	Std. Dev
Q1	6.50	0.71	5.50	0.71
Q2	5.33	2.89	4.50	0.71
Q3	4.71	1.86	4.88	1.50
Q4	3.56	1.56	3.42	1.63

We used seven points scale to measure perceived emotion (disappointment and overconfidence). The greater the score means, the stronger the respondents feel about disappointment or overconfidence. This descriptive result showed that the students' perceived emotion was the strongest (disappointment and overconfidence) in the first quadrant.

Table 5- The Result of Levene's Test for Equality of Variance

Perceived Emotion	Levene's Test	
	F	Sig
Perceived Disappointment	1.559	0.219
Perceived Overconfidence	1.232	0.273

Table 6- The result of the Independent t-test

Perceived Emotion	Independent t-test		
	t	df	Sig (2-tailed)
Perceived Disappointment	-2.730	42	0.009*
Perceived Overconfidence	-3.259	44	0.002*

Before proceeding with the independent t-test, we checked the variance equality using Levene's Test. The result in table 5 showed equal variance was assumed as the p-value was more than 0.05. The independent t-test from table 6 indicated that experienced and inexperienced students' perceived emotions differed. Both perceived disappointment and overconfidence were more potent in the group with at least one experience (real investment or simulation).

5. Discussion

This research aims to investigate the importance of emotional knowledge in an investment decision, which is shown by the difference in perceived emotion between students with simulation or real trading experience and those who did not. If the students have been exposed to either actual trading or simulation, they will exhibit stronger feelings of disappointment or overconfidence, and this feeling might affect their investment decision. The result of the independent t-test (Table 6) confirmed this hypothesis. The students with either real trading experience or simulation showed a difference in perceived emotions of disappointment and overconfidence. Table 4 also presents both emotions (disappointment and overconfidence) are stronger in students with both real trading and simulation experience (1st quadrant) than in the group with either simulation or real-trading experience (2nd and 3rd quadrant) and no experience (4th quadrant). This finding is also related to (Costa et al., 2021); more salient payment methods used by the investors (for example, cash payment), more behavioural biases would have occurred. The author concludes

from tables 4 and 6 that we will need at least a simulation as a complementary part of the investment course to teach emotional knowledge. However, the author notices several challenges in combining a theoretical investment framework with the simulation's emotional learning.

The first challenge is defining learning outcomes in the emotional knowledge in the investment decision. The theory has the capital asset pricing model for the traditional investment framework, and it can be assessed through mathematical expression or data testing. However, the nature of emotion is entirely different from the risk that is considered using the mathematical framework. The simulation approach could enhance the perceived emotion in investment, but knowing these feelings (disappointment and overconfidence) is not enough to avoid emotional bias in the investment decision. Retail investors are usually prone to emotional bias (Paisarn et al., 2021; Zahera & Bansal, 2018) evolved into fear of missing out as social media information drives their investment decision (Shiva et al., 2020). Specifically, in behavioural finance, two emotional biases related to this research are regret aversion and overconfidence bias, which are well documented in empirical findings (Fishburn, 2013; Jain et al., 2021; Quaicoe & Eleke-Aboagye, 2021; Shah & Malik, 2021). Therefore, to evade the harmful impact of emotional bias, we will need the proper set of strategies (algorithm), which eventually lead to the second challenge.

The second challenge is developing an excellent algorithm to avoid emotional bias and increase the investment result. The research on emotional bias comes from behavioural finance, psychology and neuroscience. Although behavioural finance has attention from various scholars worldwide, specifically the disposition effect, the solution's effectiveness in improving the investors' wealth and avoiding the disposition effect leaves room to be enhanced (Talpsepp & Vaarmets, 2019). For example, the disposition effect resulting from the emotional bias can only be reduced to a certain extent using a stop-loss order (Talpsepp & Vaarmets, 2019). And yet, for the disposition effect itself, there are about twelve theories to explain this bias, and future research could focus on measuring the disposition effect based on the actual behaviour of the investors (Zahera & Bansal, 2019). In other words, there is no clear answer to solve this problem before we can derive a proper set of learning outcomes for students.

The third challenge is whether investment courses should wait for the progress in research on the emotional bias before developing the specific learning outcome to overcome the problem or doing its analysis using the class simulation to find the solution. Lately, the investigation in behavioural finance has started to grasp the idea of heuristic decision-making (Howard, 2013; Otuteye & Siddiquee, 2015). Several prominent investors or traders have shown the ability to make an investment decision at the heuristic level (Howard, 2013). And neuroscience has expanded into neuro-finance specifically to observe and investigate the potency of developing quick investment decisions based on installed cognitive and emotions in the subconscious mind (Frydman & Camerer, 2016; Miendlarzewska et al., 2019). Therefore, investment courses could be in a rush to catch and implement the research finding into a real learning experience to help students make better investment decisions. The progress in answering emotional bias no longer belongs to the specific scholar in behavioural finance but the researchers interested in developing practical pedagogy in teaching emotion. Therefore, it extends the study of behavioural finance to the perspective of educators.

Lastly, if there is significant progress in finding a solution to emotional bias and educational institutions can deliver reliable pedagogy under limited scenarios or simulations, the actual markets are still beyond that. A restricted environment or simulation could serve as a safer place to train. But it is not guaranteed to be completely free from emotional bias despite the effort to teach the emotion to the students. From this point forward, the journey becomes very personal to the subject of learning.

6. Conclusion

This research detects stronger emotional experiences after the students are exposed to simulation or actual trading. Making an investment decision is not about risk measurement but also needs good emotional control to avoid bias. The perceived emotion of disappointment and overconfidence are part of learning outcomes, which should be integrated into the investment courses. However, this preliminary finding also maps the future challenge in bringing emotional learning into pedagogy and learning outcomes in the higher education investment syllabus. This challenge will open the future expansion of behavioural finance into educational research.

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