

The Development Of Asset Liquidity Management Learning Based On Online Research And Trade As A Financial Inclusion Strategy For Students

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ABSTRACT: The aim of this study was to study research-based learning and online trading by utilizing virtual laboratories as literacy learning models for liquidity management (ALMA) and capital markets in the Indonesia Stock Exchange. The research sample was 169 students from the IAIN Jember Faculty of Economics and Islamic Business who were and had taken the ALMA and Capital Market Courses. The analytical method with a behavioral approach adopts the use of Technology Acceptance Models (TAM) and descriptive statistical analysis techniques. The results of this study showed that students were easy to use, easy to learn, and quickly became proficient and easier than theory (more than 50%), consequently, the learning became more interesting, it is not boring and effective to motivate the research and capital market certification.

Index Terms: Online trading, research, Technology Acceptance Model (TAM)

1. INTRODUCTION

As a technology revolution phase, the 4.0 industrial has changing people ways in scale, scope, complexity and transformation previously life experience. Even, human will live in a global uncertainty, consequently they must be able to predict a drastic change future. Each country must respond these change in an integrated and comprehensive manner. The response is involving all global political stakeholders, ranging from a public, private sector, academia, to civil society. Therefore the challenges of industry 4.0 could be managed as an opportunity. The Emergence of 4.0 industry revolution is also influencing an education management, such as in a learning method. A Higher education of finance and banking's learning methods are often implemented in the form of face-to-face classes between students and lecturers. A Lecturer plays the main role in delivering material sources and references are conducted by the discourse method. In these classical conditions, students have not gotten an appropriate picture of how to manage banking operations and transact a trade-securities in the capital market and money market optimally. Even though, the content of finance and banking courses is very dynamic data and information, it changes very quickly, consequently students do not have learning experience in financial decision making. The various challenges in the practice of the business world, especially at capital markets and banking require innovation in learning strategies. A practical learning in the real business context is needed [25],[31], so that students get the true financial concept.

Such learning conditions for finance, capital markets and money markets courses need to be redesigned to suit the current business development. Banking and others financial institutions have adopted internet-based information technology. Today, the banking services and the capital market trading system with supporting of information technology, are easily accessible to anyone, anytime and anywhere. The growth of this internet-based information technology system is well utilized by banks and capital market players, both capital market authorities, in this case the Indonesia Stock Exchange and securities companies as the members of the stock exchange [41]. The complexity of the capital market environment is also influenced by the use of information technology that has developed rapidly. The impact of information technology on the development of capital markets has become one of the main topic at this time [6]. The use of internet and smartphones has made the capital market as a high risk business and has price volatility in the short term [44], [40], [6]. The practice of the business world is facing to various challenges, especially capital markets and banking, that require innovation in learning strategies. The match learning to the original business context is needed, so that students get real financial concepts (8). This is based on the theory that good knowledge is developed from activities conducted in business commonly. An accounting and financial learning approaches have been developed to equip students with practice-based knowledge, including experiential learning [24] and oriented learning problem solving with holistic knowledge [36], [7], [33]. A reinforcing education system element need newness movement to respond 4.0 industry era. One of the movement declared by government was a new literacy movement as a reinforce even shifted the old literacy movement. The new literacy movement is intended to focus on three main literacies namely a) digital literacy, b) technology literacy, and c) human literacy (4). These three skills are predicted to be skills that are needed in the future or in the 4.0 industrial era. The objectives to be obtained from this study were: 1) to study learning outcomes and student perceptions on the application of research-based learning and online trade simulation through a virtual laboratory; 2) to study the effectiveness of learning in finance and banking courses with research-based and online trading as a financial inclusion strategy; 3)

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to assess student learning motivation on the application of research-based learning and online trading through a virtual laboratory.

2. LITERATURE REVIEW

An Effective Learning Techniques

There are many educational experts who define the learning process. [47],[10] defines learning as a relatively permanent change that occurs in all kinds of behavior of an organism as a result of learning. According to [9], learning is limited to two kinds of formulas. The first formulation of learning is the acquisition of behavior changes that are relatively settled as a result of practice and experience. The second formulation of learning is the process of obtaining responses as a result of special training. [21] affirm that a change that occurs in an organism, human, or animal, is caused by experience that can affect the behavior of the organism.

Learning

According to [11], a learning strategies in the education world, strategy is defined as a plan, method, or series of activities designed to achieve a particular educational goal. Thus, the learning strategy can be interpreted as a series activities of learning that designed to achieve certain educational goals. There are two things that we need to look at from the above understanding. First, the learning strategy is an action plan (series of activities) including the use of methods and the use of various resources in learning. Second, strategy is designed to achieve certain goals. [39] suggest that learning strategies are specifications for selecting and sequencing learning events for learning activities in a lesson. Their opinion emphasize that the learning events must be passed by students in learning. On the other hand, learning can not be separated from plans, activities and learning objectives. According to [14], learning strategies are all plans and activities to attain learning goals, including the intermediary goals achievement and learning activities that bring students to reach their learning goals.

Virtual Laboratory

According to [35],[37],[38],[45] Virtual Laboratory is one of the eminent product that resulting from information technology and laboratory sophistication. [32] states that a virtual laboratory is defined as an interactive environment for creating and conducting simulation experiment. virtual laboratory is a system that can be used to support a practicum which runs conventionally. While [16], [19],[20] revealed that virtual laboratory is a practicum that does not use actual a tool and material laboratory. Furthermore, we conclude that the virtual laboratory is a program used to execute practical activities using computer assistance that can be done conventionally.

Theory of Reasoned Action (TRA)

Theory of Reasoned Action (TRA) is the most basic of human behavior theory and has been widely applied in several fields including a marketing and an information system fields [23]. TRA was developed by Fishbein and Ajzen in 1975. This theory was derived from previous studies which examined attitudinal and behavioral

theories. In subsequent research, TRA is a reference for developing other human behavior theories, such as the Theory of Planned Behavior and the Technology Acceptance Model. The TRA model involves several constructs. The constructs are: 1) Behavior, 2) Behavioral intention, 3) Attitude toward behavior and 4) Subjective norm.

Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) is one theory about the utilizing of information technology systems that are considered very influential and generally used to explain individual acceptance of employing information technology systems (23). TAM was developed by Davis (12) based on the Theory of Reasoned Action (TRA) model. The most important advantage of TAM is as a parsimony model, which is a simple but valid model. In addition, TAM has also been tested with a lot of research which results in TAM being a good model especially when compared to the TRA and TPB models.

Financial Inclusion

[28] explained that financial inclusion is the antithesis of financial exclusion. The financial exclusion process makes the poor unable to access benefits from the financial sector due to lack of access, guarantees, credit history, and networks. In Indonesia, financial inclusion is a national strategy to encourage economic growth through equitable income distribution, poverty alleviation and financial system stability [17]. The right of each individual is guaranteed to be able to access all coverage of the financial services at an affordable cost. The target of this policy is to consider to low-income people, productive poor communities, migrant workers, and remote areas communities [5].

3. RESEARCH METHODS

The type of this research is a explorative descriptive research through quantitative and qualitative approaches. Data was obtained by distributing questionnaires to the Islamic Banking students who had taken Asset Liquidity Management (ALMA) and Capital Market courses. These data was used to measure how students perceive the use of online trading information systems and internet network usage, by the Technology Acceptance Model (TAM) approach. A Quantitative data analysis of information system usage behavior is processed within descriptive statistical model. This data is needed to describe and assess how much benefits are obtained and the ease in operating aids for research simulation and online trading. This study adopted the information system usage behavior questionnaire, through the Technology Acceptance Model approach [12]. There are three constructs that determine the use of an information system, namely perceived usefulness, perceived ease of use and attitude toward using. Those variables were measured and adapted using a questionnaire instrument's Davis [13] and [1], which consists of six items question. The construction of perceived ease of use (PEU) shows a person's level of confidence that the use of information system is easy and does not require the effort of the user. The construction attitude toward using (ATU) shows positive or negative feelings from someone if they have to do the determined behavior. This variable was measured and adapted from [2]

questionnaire instruments, which consisted of four questions. The research population were students of the Islamic Banking Program which were currently taking courses in the finance and banking (Asset Liquidity Management / ALMA). Based on interview and direct observation, the number of students who had been and were currently taking ALMA and Capital Market courses were 480 students. By determining the sample using the Slovin formula, the sample size was 218 students.

4. DISCUSSION

The instrument that used in this study was a questionnaire, the number of 16 statement items consisting of 6 construct statements for the Perceived Ease of Use (PEU) variable, 6 items of construct statements for the variable Perceived of Usefulness (PU) and 4 statements for the variable Attitude Toward Using (ATU). Therefore the total number of statements are 16 statements. The Questionnaires distributed to respondents (students) contain statements about the perception of ease of learning by using web-based and android-based technology simulations.

Table 1 Reliability Test Results

No	Variable	Cronbach Alpha	Cronbach Alpha Required	Conclusion
1.	Perceived Ease of Use (PEU)	0.797	0.60	Reliable
2.	Perceived Usefulness (PU)	0.778	0.60	Reliable
3.	Attitude Toward Using (ATU)	0.622	0.60	Reliable

The table data clearly shows that all variables are declared reliable because cronbach alpha is more than 0.60. So it can be concluded, the items of variable measurement from the questionnaire are reliable. [18],[22],[42]. Research-based learning and online trading through a virtual laboratory is a way of delivering teaching material through electronic media. If it is associated with current technological developments, online learning tends to be interpreted as learning with the support of computers and networks (intranet or internet). According [28], industry 4.0 was marked by an increased manufactur digitalization driven by four factors: 1) data volume enhancement, computing power and connectivity; 2) the emergence analysis, capability and business intelligence; 3) the occurrence of new forms of interaction between humans and machines; and 4) improvement of digital transfer instruction to the physical world, such as robotics and 3D printing. [29] adding, the basic principle of industry 4.0 is the integration of machines, workflows and systems, by applying intelligent networks along the chain and production processes to control each other independently. The sources of material to support learning materials are very much available on the internet. However, for an educational institution, it would be better if there is a special website or a kind of virtual laboratory to manage learning activities. Consequently, the use of the internet can be optimized, not just a collection of learning resources that are only downloaded any time but also a process of communication and interaction on it. The Islamic banking study program at IAIN Jember has a number of subjects whose learning

process will be more optimal if emphasizing practicum, including the Asset Liquidity Management, Financial Management and Capital Market course. The Islamic banking study program does not yet have its own learning portal or has not used Learning Management System (LMS) that has open source characterized. For material sources and online learning applications still use partial sources. The lecturers provide learning resources in the form of historical annual reports of national sharia commercial banks, IDX statistics or Indonesian stock exchanges and the publication reports of Indonesian banks that can be downloaded by students in the application Drop-Box prepared by lecturers. For learning applications in Islamic Banking Study Programs, the lecturers who teach the above courses also adapt to the current typology of students, including the millennial generation. Some of the Android applications that are downloaded from the play store can be utilized, among others, the application of Forex Exchange Rates, Bank Indonesia Exchange Rates, Indonesian Stock Data, Ipot Ultima and Ipot Go. For online trading also use the application from one of securities company Indopremier, which is quite user-friendly for beginners. In applying new technology, of course, it requires an adaptation process for its users, including the application of research-based learning and virtual laboratories at the Islamic Banking Study Program. However, its application in learning has not been as expected. Research-based online and virtual laboratory online learning requires various kinds of equipment such as PC computers or laptops and internet networks. In addition, the online application learning requires the role of the lecturer as a facilitator. So, students participate actively in the learning process. If the lecturer does not want to take the utilize of online learning, students will not automatically use it. Aspects of behavior influence Lecturers and students to take harness of the development of the internet and digitalization. To analyze the learning process that tries to utilize the development of internet technology at Islamic Banking Program of IAIN Jember, it necessary "model of user acceptance". One model that can be used is the Technology Acceptance Model (TAM). The assessment of information technology adoption process by end users uses many behavioral theories, including Technology Acceptance Model (TAM), Theory of Reason Action (TRA), Theory of Planned Behavior, and Task-Technology Fit Theory. Model (TAM) is the most extensive research model used to examine information technology adoption [3]. [27] and [28] explained that TAM was a popular model and was widely used in various researches especially in the process of adopting information technology. According to [9], [43] stated that in the TAM model there are two determinants in the use of the system, namely perceived ease of use and perceived usefulness.

Perceived ease of use(perceived ease of use /PEU)

The findings research based on the answers of respondents to the six indicators are answered agree with frequencies above 50%. However, 3 (three) interrelated indicators are that research-based learning and online trading are "easy to learn", "easy to understand", and "easy to become proficient" the number of respondents who answered "doubtful" is still quite large at 20.7% for easy indicators studied, 26% for indicators are easy to

understand and 31.4% indicator for rapidity for advancement. This is in line with the Theory of Reason Action (TRA) revealed by [15]) that individual behavior is determined by one concern to show behavior. According to [29],[30] TRA studied social psychological models that were considered by determining consciously expected behavior. a person's performance from a specific behavior is determined by behavior intention to show behavior. A behavior intention is determined by one's attitude and subjective norm.

Perceived ease of use(perceivedof Usefulness /PU)

In the variable perceived of Usefulness, researchers used six indicators that have quick access, improve performance, effective, easier than theory, usable and useful. Base on that six indicators, the answers of respondents who answered agree on average were above 50%, except for the indicator of "quick access". Only 32.7% of respondents answered agree because almost 29.6% of respondents answered disagree. Interview result showed the respondents answered disagree because there was no space in Islamic business and economics faculty building IAIN Jember which provided a hotspot or WIFI network that could be accessed by students. Overall indicators of variable perceived of Usefulness (PU), The respondents are still many who answered the doubtful. The quick access indicator showed 24.9% doubtful. A total of 14.2% was found in indicator improve performance that answered hesitantly. In an effective indicator of 18.9% of respondents also still answered in doubt, as well as in indicators easier than theory, there were 20.1% who answered doubtful. However, in the useful indicator, almost 77% of respondents answered agree because many students got benefit from understanding research-based learning processes and online learning, especially in capital market transactions. This condition can be explained by the Theory of planned behavior (TPB) developed by Ajzen in 1988. The theory is a further development of the theory of reasoned action (TRA). The basic assumption of TPB is not all behaviors under full control of an individual, so it is necessary to add the concept of behavioral control or perceived behavioral control (PBC).

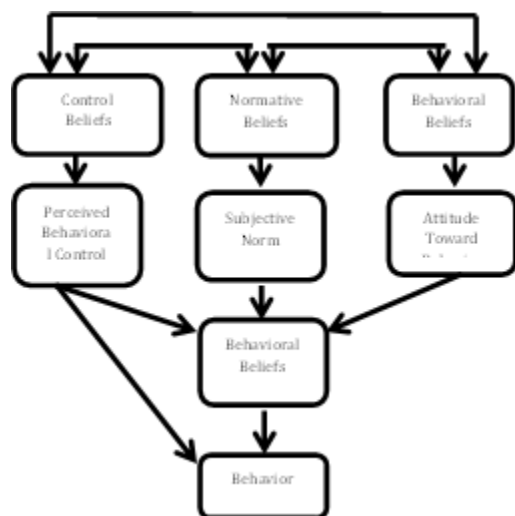


Figure 1 Theory of Planned Behavior Model (Jogiyanto, 2008: 69)

In the context of online learning at the Islamic Banking Study Program IAIN Jember, when the institution does not facilitate computer laboratories that have adequate internet and intranet networks, lecturers do not initiate digital technology utilization and the internet as a form of behavioral control. Subsequently, students will have unfamiliar behavior and no adapt to the use of technology. In accordance with the concept of [9], Learning is limited to two-type of formulas. The first learning formulation is the acquisition of behavior changes that are relatively settled as a result of practice and experience. The second formulation of learning is the process of obtaining responses as a result of special training.

Positive and Negative Feelings (Attitude Toward Using/ ATU)

In Attitude Toward Using variable, the researcher used 4 indicators namely pleasure, informative, enjoyment and boredom. Invariables Attitude Toward Using, the researcher used 4 indicators namely pleasure, informative, enjoyment and boredom. For indicators of boredom that reflect the negative feeling, the respondent's answers were balanced, 39.5% answered agree, 32.3% answered doubtfully and 15.6% answered disagree. In a follow-up interview, respondents answered feeling bored and hesitated because they did not have an internet data package and there was no free wifi network in their faculty, so they could not learn with totality. Digital literacy is directed at the goal of increasing the ability to read, analyze, and use information in the digital world. Technology supports literacy program to provide an understanding of the workings of machines and applications of technology, and human literacy is directed at improving the ability to support and master design knowledge [4]. The new literacy is expected to complete competitive competitions with the old literacy movement which only focuses on improving reading, writing and math skills. The adaptation of the new literacy movement can be integrated by adjusting the curriculum and learning system in response to the 4.0 industrial era. The learning response that needs to be developed for high education is 21st-century learning.

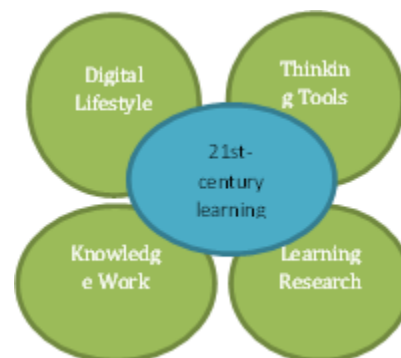


Figure 2. 21st-century learning

The above figure suggests that 21st-century learning is oriented towards digital lifestyles, thinking tools, learning research and how knowledge works [47]. Three of the four 21st century learning orientations are very close to vocational education, namely how to work knowledge, strengthening thinking tools, and digital lifestyle. The

workings of knowledge are the ability to collaborate on teams with different locations and different tools, strengthening thinking tools is the ability to use technology, tools, and services digital. The digital lifestyle is the ability to use and adapt to the digital era [34], [46]. The content of 21st-century learning must adjust to changes in the 4.0 industrial era. The content of learning is expected to be able to fulfill 21st-century skills; 1) learning and innovation skills include mastering diverse knowledge and skills, learning and innovation, critical thinking and problem-solving, communication and collaboration, creativity and innovation, 2) digital literacy skills including information literacy, media literacy, and ICT literacy, 3) career and life skills include flexibility and adaptability, initiative, social and cultural interaction, productivity and accountability, and leadership and responsibility [47].

5. CONCLUSIONS

The research findings reveal that Perceived ease of use (PEU) variables, Perceived usefulness (PU) variables, Attitude toward using (ATU) variables, which have 16 question indicators. Respondents perceive that the use of online trading research and simulation methods by using a virtual laboratory especially for indicators easy to use, easy to learn, easy to be proficient and easier than theory, they answer agree above 50%. However, the most answer is doubt, because the attitude of the use of technology requires no control process only from internal of the students but also external factors such as facilities from the institution and support from lecturers. Nevertheless, it can be seen that the use of research-based learning method and online trading through virtual laboratories is very effective. Students are more actively involved in the learning process because they get material resources that are more up to date and more complete than textbooks, and get more benefits for student research materials. The main problem of the students is the speed of access, unavailability of adequate computer laboratories and the absence of hot spots or free wifi network that can be accessed by students in the Faculty of Islamic Business and Economics, Jember State Institute of Islamic Studies (IAIN Jember).

Recommendations

Research-based learning and online trade should be continuously developed not only utilize the applications available in the play store and other applications on the internet partially but must be developed into an online learning portal managed by a team formed by the faculty. In Addition, the faculty management should equip adequate laboratory facilities and internet networks that can be accessed free of charge by students in all space of the faculty.

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