

The Impact of Amman Stock Exchange Simulation Room on the Level of the Business College Students at Al-Zaytoonah University of Jordan (Predictive Approach)

Ayman Abdalmajeed Alsmadi
Alzaytoonah University of Jordan

Ala'a Fouad Al-dweik
Alzaytoonah University of Jordan

Hamad kasasbeh
Alzaytoonah University of Jordan

Since the mid-sixties of the twentieth century, interest in simulation has increased as an appropriate and effective method in the education process, especially after the advent of computers; The simulation process of concepts, activities and experiments is done through the computer, and it has an important and prominent role in the educational process. In the past, the theoretical aspects of education were the core of the education process for students, and this is certainly not enough to raise the level of students. Furthermore, understanding the handling and investing of securities is a challenging subject that requires students to understand and apply financial theories and models. Hence, this study pursued the influence of the Amman Stock Exchange simulation room on the student level of the College of Business at the Al-Zaytoonah University of Jordan through the predictive approach. The results show that the simulation education system may encourage students and increase their intellectual abilities, attracts the attention of the students as well as gives a great opportunity for students to acquire the skills of dealing with the financial market in a practical and applied manner by using a real trading system based on high technology performance which performed by Amman Stock Market.

Keywords: stock exchange, simulation room, predictive approach

INTRODUCTION

Forty percent of the 244 AACSB-accredited MBA schools surveyed by Baker and Schomburg (2003) include field studies designed to bring together classroom learning and real-world experience. Internet-based trading simulation games are a relative innovation in experiential teaching for college-level finance majors. More than 600 teachers at 600 different schools employ portfolio management simulations and stock market trading, according to research by McClatchey and Kuhlemeyer (2001).

Multiple writers have investigated the use of trading simulation exercises in finance courses. The immersive character of the simulation exercise helps student learning and enjoyment, according to a study

by Alonzi, Simkins, and Lange (2000), who examined student clarifications on the potential of trading simulation. Koppensvaer (1993) employs a similar methodology, consisting of student questionnaires, to assess the value of bank simulation programs. He observes that different software programs do not consistently evaluate the same learning outcomes. King and Jennings (2004) investigate the connection between student learning and trading simulation exercises to assess if trading simulation exercises supplement the learning of conventional chalk-and-talk pedagogy. Their research shows that incorporating trading simulations into classrooms as a kind of experiential learning improves students' grasp of the material. Using trading simulation software, Lekvin (2005) evaluates students' trading capabilities and looks for a correlation between trading ability and academic success. Using a trading simulation, Ascioğlu and Kugle (2005) evaluate both the effectiveness of their teaching methods and the degree to which their students enjoy the activity. A survey was distributed to all participants to determine whether or not the simulation successfully imparts the desired knowledge and enthusiasm to its target audience.

Piaw et al. (2019) investigated how stock market simulation can improve education by providing students with practical experience using real-time market data. However, the integration of stock market simulation into investment courses in Malaysia, notably at polytechnics, has been hindered by a lack of infrastructure and the associated costs. It is speculated that the low rate at which simulation is used as a pedagogical tool can be attributed, in part, to the paucity of studies documenting the benefits of stock market simulation (Cristianini, N. and Taylor, JS. 2000; Dobber, M., Zwart, R., Tanis, M., and van Oers, B., 2017; Dunis, C., Likothanassis, S., Karathanasopoulos, A., Sermpinis, G. and Theofilatos, K. 2013; Moffit, T et al., 2010). Based not on simulation performance or student comments but pre-and post-simulation matched pair exam results, this study intends to evaluate the impact of the Amman Stock Exchange Simulation Room on the level of Business College Students at the Al-Zaytoonah University of Jordan.

LITERATURE REVIEW

For many years, simulations have been a staple of finance education. It is an excellent way to improve students' learning through experience since it is an active learning plan that lets students apply financial ideas in real-time. According to research by Wolmarans (2005), student enthusiasm and engagement are increased by using simulation. Recent research has shown that using simulations in the classroom can help students become more interested in and invested in their studies (Steven & Mark, 2011; Carneys, Moya & Vila, 2017; Marriott, Tan & Marriott, 2015; Sharma, Robson, Charity, and Lillystone, 2017; Hanafiah & Jamaluddin, 2018; Hessels, A.J., Robinson, B., O'Rourke, M., Begg, M) The benefits of stock simulation on students' knowledge and learning performances have been documented in another study (Harter & Harter, 2010; Moffit, Skull & McKinney, 2010; Stewart, Houghton & Rogers, 2012; Carensys, Moya & Vila, 2017; Dung, D. T. H. 2020; Torres Martín, 2021). As a result of applying classroom concepts in a real-world context, they show that students learn more from stock market simulations and become more familiar with real-time stock market data.

In addition, Steven & Mark (2011) argue that stock trading simulation should be used because it has a beneficial effect on students' knowledge (Faria, Hutchinson, & Gowing, 2011; Liew et al., 2019) show that students' knowledge and ability to apply accounting and finance principles improve after participating in simulations (Nugent, M. & Stoyanov, S. 2019; Parle, G. & Laing, G.K. 2017; Ronald A. Berk 2005; Sharma, S. & Charity, I. & Robson, A. & Lillystone, S. 2017). In addition, Parle and Laing (2017) found that students' understanding was bolstered by the opportunity to apply classroom knowledge in a simulated stock market setting. This boosts student interest in studying, improving their stock market literacy and decision-making abilities. More recent research by Nugent & Stoyanov (2019) confirms that students who finish the simulation with financial content achieve higher learning outcomes.

METHOD

Research Population

There are a variety of data gathering instruments available, including interviews, questionnaires, and observations, but because the required research is quantitative, the questionnaire is chosen.

Technique and Sampling

The term “population” describes the whole sample used for a study. The predictive analysis relies on assessing the connection between the variables of interest. University students serve as the data collection population throughout the project. The sample is a selection of people, and reliable sampling is essential for reliable results. Students in the business college at al-zaytoonah university in Jordan make up the study’s target sample size of 150.

RESULTS AND DISCUSSION

An interactive session is the independent variable of interest since it may be used to measure the efficiency of instruction and the influence on students’ education and development. Because predictive analysis is the foundation of this study, correlation, and regression models are used to examine the data and make projections about the future in light of the anticipated outcomes.

Reliability Analysis

Cronbach’s Alpha is a measure of dependability that describes how consistently a test’s results can be expected. The significance of the outcome we want as proof of the correctness of our answers. Any Cronbach Alpha rating above 0.7 is considered to be reliable. The matter must always be less than 1 in our universe.

Cronbach’s Alpha has a typical value of .89, which is substantially greater than 0.7 in a good analysis. It specifies that the sentiments of members are genuine. Contrary to popular judgment, the outcomes are unimportant if the value is below 0.7. The test size and examination approach substantially affect the reliability score.

Regression Analysis

The relationship between two variables can be assessed by using regression analysis. Adjusted R square indices of .810 for model 1 and .717 for model 2 demonstrate statistical significance in the desired investigation. The best regression model in R-Squared shows a close relationship between the dependent and free components. Components are the best fit to the relapse line results if their R-squared quality is more than 0.5, and the optimal value is .717. If the quantity is less than 0.5, an increase in one variable will result in a reduction in another.

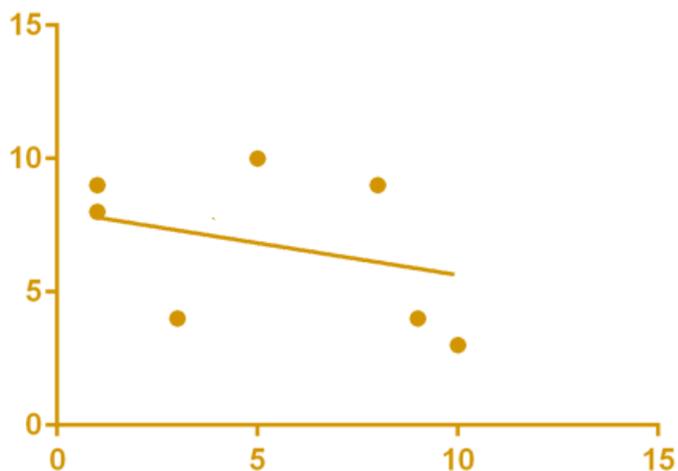
ANOVA

The analysis of variance (ANOVA) is unquestionably the examination of fluctuation since it shows the variations in the mean of independent components (Rouder, 2016). Significant enough implications to warrant testable explanations are indicated by sig upsides of 0.000. Differential factors from the mean are depicted via ANOVA. It also catalyzes the elucidating proof of errors. When the value is .000, here, we know that the results are reliable and applicable.

Regression Graph

Since most values are along the regression lines, it is clear that the regression results are significant, as shown by the graph.

FIGURE 1
LINEAR REGRESSION



DISCUSSION, CONCLUSION, AND IMPLICATIONS

This is a technological age in which interactive learning is essential. Students like to learn about real-world applications rather than abstract ideas. In addition, students at the university level want to learn from each other because they want to use what they learn in their future professions. Technology enhances education since it facilitates information transfer from instructor to student and enables two-way communication in the form of questions and comments from the latter. On the other hand, the researchers voiced concerns about the necessity of interactive sessions in higher education. However, they are not a replacement for conventional classroom instruction because students still need exposure to the theory before being shown how to apply it in practice. In addition, several fields of study, including Mathematics and Accounting, require more traditional analysis techniques. Further, the researchers argued that not all students and teachers benefit from participating in interactive sessions.

This research fills a gap in the existing literature by examining the usefulness of a simulated stock market for undergraduates. Thanks to simulation, students can experience the thrill and excitement of investing in a risk-free environment. Making learning enjoyable and enjoyable has been shown to increase students' motivation to learn and thus their academic success. Using simulations, students can better apply what they learn in class to real-world scenarios. This improves their knowledge of how the share market operates and the factors influencing stock values. This is extremely important but has not received sufficient prioritization in the past because of financial and logistical limitations.

This paper's findings will persuade teachers to use a stock market simulation in their lessons. If pupils don't know what's expected of them, they might not give the simulation their full attention. Longitudinal studies conducted over numerous academic semesters at multiple schools might strengthen the transferability of future research.

RECOMMENDATIONS

The emphasis on creating laboratories to serve as training and development centers for workers at research institutions and universities is noteworthy. Complexity exists in knowledge acquisition and dissemination if the educator is unfamiliar with the new pedagogical paradigm. It is also essential to organize a program to raise students' level of consciousness to encourage them to embrace an interactive learning environment.

REFERENCES

- Abdellatif, M., Sultan, A.B.M., Jabar, M.A., & Abdullah, R. (2011). *A technique for quality evaluation of E-learning from developer's perspective*.
- Al Soub, T.F., & Amarin, N.Z. (2021). The reality of using Moodle in a distance education program. *Cypriot Journal of Educational Sciences*, 16(5), 2173–2192. <https://doi.org/10.18844/cjes.v16i5.6237>
- Al-Bashayreh, M., Almajali, D., Altamimi, A., Masa'deh, R.E., & Al-Okaily, M. (2022). An Empirical Investigation of Reasons Influencing Student Acceptance and Rejection of Mobile Learning Apps Usage. *Sustainability*, 14(7), 4325.
- Alkhattabi, M., Neagu, D., & Cullen, A. (2010). Information quality framework for E-learning systems. *Knowl. Manag. E-Learn. Int. J.*, 2(4), 340–362.
- Alla, M.M.S., Faryadi, Q., & Fabil, N.B. (2015). The impact of system quality in E-learning system. *Int. J. Comput. Sci. Electron. Eng.*, 3(1), 37–42.
- Al-Okaily, A., Al-Okaily, M., & Teoh, A.P. (2021). Evaluating ERP systems success: Evidence from Jordanian firms in the age of the digital business. *VINE Journal of Information and Knowledge Management Systems*. <https://doi.org/10.1108/VJKMS-04-2021-0061>
- Al-Okaily, A., Al-Okaily, M., & Teoh, A.P., & Al-Debei, M. (2022b). An Empirical Study on Data Warehouse Systems Effectiveness: The Case of Jordanian Banks in the Business Intelligence Era. *EuroMed Journal of Business*. <https://doi.org/10.1108/EMJB-01-2022-0011>
- Al-Okaily, M. (2021). Assessing the effectiveness of accounting information systems in the era of COVID-19 pandemic. *VINE Journal of Information and Knowledge Management Systems*. <https://doi.org/10.1108/VJKMS-08-2021-0148>
- Al-Okaily, M., Alqudah, H., Al-Qudah, A.A., Al-Qadi, N.S., Elrehail, H., & Al-Okaily, A. (2022a). Does financial awareness increase the acceptance rate for financial inclusion? An empirical examination in the era of digital transformation. *Kybernetes*. <https://doi.org/10.1108/K-08-2021-0710>
- Al-Qudah, A.A., Hamdan, A., Al-Okaily, M., & Alhaddad, L. (2022b). The impact of green lending on credit risk: Evidence from UAE's banks. *Environmental Science and Pollution Research*, pp. 1–13. doi: 10.1007/s11356-021-18224-5
- Alrawashdeh, N., Alsmadi, A.A., & Anwar, A.L. (2022). FinTech: A Bibliometric Analysis for the Period of 2014-2021. *QUALITY Access to Success*, 23(188).
- Alsaad, A., & Al-Okaily, M. (2022). Acceptance of protection technology in a time of fear: The case of Covid-19 exposure detection apps. *Information Technology & People*. <https://doi.org/10.1108/ITP-10-2020-0719>
- Alshirah, M., Alshirah, A., & Lutfi, A. (2021a). Audit committee's attributes, overlapping memberships on the audit committee and corporate risk disclosure: Evidence from Jordan. *Accounting*, 7(2), 423–440.
- Alsmadi, A., Al-Gasaymeh, A., Alrawashdeh, N., & Alhwamdeh, L. (2022). Financial supply chain management: A bibliometric analysis for 2006-2022. *Uncertain Supply Chain Management*, 10(3), 645–656.
- Alsmadi, A.A., & Alzoubi, M. (2022). Green Economy: Bibliometric Analysis Approach. *International Journal of Energy Economics and Policy*, 12(2), 282–289.
- Alsmadi, A.A., Al-Dweik, A.F., Alrawashdeh, N., & Al-Assaf, M. (2022). Cryptocurrencies: A bibliometric analysis. *International Journal of Data and Network Science*, 6(2022), 619–628.
- Alsmadi, A.A., Shuhaiber, A., Alhwamdeh, L.N., Alghazzawi, R., & Al-Okaily, M. (2022). Twenty Years of Mobile Banking Services Development and Sustainability: A Bibliometric Analysis Overview (2000–2020). *Sustainability*, 14(17), 10630. <https://doi.org/10.3390/su141710630>
- Alsmadi, A.A., Al-Gasaymeh, A., & Alrawashdeh, N. (2022). Purchasing Power Parity: A Bibliometric approach for the period of 1935-2021. *Quality - Access to Success*, 23(189), 260–269.

- Al-smadi, A.A.A., Almsafir, M.K., & Husni, N.H.H.B. (2018). Trends and Calendar Effects in Malaysia's Stock Market. *Romanian Economic and Business Review*, 13(2), 29–36
- Alzoubi, M., & Kasasbeh, H.A. (2021). The investment-saving puzzle in mena countries: Disentangling gross saving. *Ekonomski Pregled*, 72(5), 774–795.
- Baleni, Z.G. (2015). Online formative assessment in higher education: Its pros and cons. *Electronic Journal of e-Learning*, 13(4), 228–236.
- Berk, R.A. (2005). *International Journal of Teaching and Learning in Higher Education*, 17(1), 48–62.
- Büyüközkan, G., Arsenyan, J., & Ertek, G.(2010). Evaluation of E-learning Web sites using fuzzy axiomatic design based approach. *Int. J. Comput. Intell. Syst.*, 3(1), 28–42.
- Chong, T.T-L., & Ng, W-K. (2008). Technical analysis and the London stock exchange: Testing the MACD and RSI rules using the FT30. *Applied Economics Letters*, 15, 1111–14.
- Cristianini, N., & Taylor, J.S. (2000). *An introduction to support vector machines and other kernel-based learning methods*. New York: Cambridge University Press.
- Dobber, M., Zwart, R., Tanis, M., & van Oers, B. (2017). Literature review: The role of the teacher in inquiry-based education. *Educational Research Review*, 22, 194–214.
- Dung, D.T.H. (2020). The advantages and disadvantages of virtual learning. *IOSR Journal of Research & Method in Education*, 10(3), 45–48.
- Dunis, C., Likothanassis, S., Karathanasopoulos, A., Sermpinis, G., & Theofilatos, K. (2013). A hybrid Genetic Algorithm-Support Vector Machine Approach in the task of forecasting and trading the ASE 20. *Journal of Asset Management*, pp. 1–20. doi: 10.1057/jam.2013.2
- Dunis, C.L., Rosillo, R., De la Fuente, D., & Pino, R. (2012). *Forecasting IBEX-35 moves using support vector machines. Neural Computing and Applications*. DOI: 10.1007/s00521-012-0821-9
- El-Qirem, I.A., Alsmadi, A.A., & Al-Lozi, E. (2022). Impact of Interactive Education on the Learning Outcomes and Quality Assurance. *Journal of Higher Education Theory and Practice*, 22(5), 151–160.
- Engle, R.F., & Patton, A.J. (2001). What good is a volatility model? *Quantitative Finance*, 1, 237–245.
- Evgeniou, T., Pontil, M., & Poggio, T. (2000). Regularization networks and support vector machines. *Advances in Computational Mathematics*, 13, 1–50.
- Fernández Rodríguez, F., González Martel, Ch., & Sosvilla Rivero, S. (2000). On the profitability of technical trading rules based on artificial neural networks: Evidence from the Madrid stock market. *Economics Letters*, 69, 89–94.
- Garcia-Gonzalez, H., Gayo, J.E.L., & Paule-Ruiz, M. (2017). Enhancing Elearning content by using semantic web technologies. *IEEE Transactions on Learning Technologies*, 10(4), 544–550.
- Ghazinoory, S., & Afshari-Mofrad, M. (2012). Ranking different factors which affect E-learning outcomes. *Int. J. Comput. Theory Eng.*, 4(2), 234–237.
- Gigantesco, A., Palumbo, G., Zadworna-Cieślak, M., Cascavilla, I., Del Re, D., & Kossakowska, K. (2019). An international study of middle school students' preferences about digital interactive education activities for promoting psychological well-being and mental health. *Annali dell'Istituto Superiore di Sanità*, 55(2), 108–117.
- Hasan, L., & Abuelrub, E. (2011). Assessing the quality of Web sites. *Appl. Comput. Informat.*, 9(1), 11–29.
- Hessels, A.J., Robinson, B., O'Rourke, M., Begg, M.D., & Larson, E.L. (2015). Building interdisciplinary research models through interactive education. *Clinical and Translational Science*, 8(6), 793–799.
- Huang, S., & Sun, Z. (2001). Support vector machine approach for protein subcellular localization prediction. *Bioinformatics*, 17, 721–728.
- Huang, W., Nakamori, Y., & Wang, S.Y. (2005). Forecasting stock market movement direction with support vector machine. *Computers & Operations Research*, 32, 2513–2522.
- Hung, M.L., & Chou, C. (2015). Students' perceptions of instructors' roles in blended and online learning environments: A comparative study. *Computers & Education*, 81, 315–325.

- Kazancoglu, Y., & Aksoy, M. (2011). A fuzzy logic-based quality function deployment for selection of E-learning provider. *Turkish Online J. Educ. Technol.*, 10(4), 39–45.
- Liew, Zawawi, & Bujang. (2019). The Impact of Stock Markets Simulation on Diploma Level Students. *International Journal of Education*, 1(3), 11–16.
- Lui, R.W.C., Lo, K.K.Y., & Yiu, S.M. (2013). Evaluating and adopting Elearning platforms. *Int. J. E-Educ. E-Bus. E-Manag. E-Learn.*, 3(3), 229–233.
- Lutfi, A. (2022). Understanding the Intention to Adopt Cloud-based Accounting Information System in Jordanian SMEs. *Int. J. Digit. Account. Res.*, 22, 47–70.
- Lutfi, A., Al-Khasawneh, A.L., Almaiah, M.A., Alsyouf, A., & Alrawad, M. (2022). Business Sustainability of Small and Medium Enterprises during the COVID-19 Pandemic: The Role of AIS Implementation. *Sustainability*, 14(9), 5362. doi.org/10.3390/su14095362
- Moffitt, T., Stull, C., & McKinney, H. (2010). Learning through equity trading simulation. *American Journal of Business Education (AJBE)*, 3(2), 65–74.
- Mohamed, M.A., Abdel-Fattah, M.A., & El-Gaber, S.A. (2015). Constructing multi-dimensional criteria model for evaluating E-learning systems efficiency in the higher educational. *Int. J. Adv. Res. Comput. Sci. Softw. Eng.*, 5(1), 59–65.
- Mohammad Abduljawad, et al. (2020). Evaluating and Adopting E-learning Systems in Al-Zaytoonah University of Jordan. *Int. J. Advance Soft Compu. Appl*, 12(3).
- Nilashi, M., & Janahmadi, N. (2012). Assessing and prioritizing affecting factors in E-learning websites using AHP method and fuzzy approach. *Inf. Knowl. Manag.*, 2(1), 46–61.
- Nugent, M., & Stoyanov, S. (2019). Using Assessment to Measure the Effectiveness of a Financial Simulation. *Developments in Business Simulation and Experiential Learning*, 46, 187–198.
- Oudat, M.S., Alsmadi, A.A., & Alrawashdeh, N.M. (2020). Foreign direct investment and economic growth in Jordan: An empirical research using the bounds test for cointegration. *Revista Finanzas y Politica Economica*, 11(1), 55–63.
- Parle, G., & Laing, G.K. (2017). Investment Portfolio Simulation: An Assessment Task in Finance. *e-Journal of Business Education & Scholarship of Teaching*, 11(1), 118–126.
- Rifai, F., Ramadan, B.M., Yousif, A.S.H., Al-Dweiri, M., Alsmadi, A.A. (2021). The impact of using outsourcing strategy by humanitarian organizations on logistical performance: An empirical investigation from a developing country. *Journal of Governance and Regulation*, 10(2), 118–133.
- Sharma, S., Charity, I., Robson, A., & Lillystone, S. (2017). How do students conceptualise a “real world” learning environment: An empirical study of a financial trading room? *The International Journal of Management Education*, 16(3), 541–577.
- Steven, D.D., & Mark, K.P. (2011). The Influence of Simulation Performance on Student Interest. *Journal of Economics and Economic Education Research*, 12(3), 35–48.
- Stewart, A.C., Houghton, S.M., & Rogers, P.R. (2012). Instructional Design, Active Learning, and Student Performance: Using a Trading Room to Teach Strategy. *Journal of Management Education*, 36(6), 753–776.
- Torres Martín, C., Acal, C., El Homrani, M., & Mingorance Estrada, Á.C. (2021). Impact on the virtual learning environment due to COVID-19. *Sustainability*, 13(2), 582.
- Wellington, W.J., Faria, A.J., Hutchinson, D., & Gowing, M. (2011). An Interdisciplinary Study of The Impact of Playing a Marketing Simulation Game on Student Knowledge of Management Accounting/Finance Principles. *Developments in Business Simulation and Experiential Learning*, 38, 21–32.