



Awareness of Electronic Crimes in E-Learning in Jordan Societal Motivation and Perspective of the Decision Model

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Abstract

Objectives: Within the context of the motivation and decision model, this study investigates the awareness of electronic crimes in the field of e-learning in Jordan. It aims to understand the motives and decision-making mechanisms behind unlawful online activities within the educational domain. As e-learning platforms continue to gain prominence in Jordan's educational landscape, the study addresses the urgent need for a comprehensive understanding of these emerging threats. The research encompasses various motivational factors, including financial incentives, personal recognition and ideological influences, and assesses their impact on individual choices to participate in electronic crimes.

Methods: This study utilizes quantitative methodologies to gain a comprehensive understanding of electronic crimes within Jordan's e-learning environment. It delves into quantitative data to uncover overarching trends and acquire insights for more in-depth exploration.

Results: The findings reveal intricate relationships among these variables, providing valuable insights into the complexities of electronic crimes within the e-learning sphere in Jordan. By elucidating the motives and decision-making processes of potential perpetrators, this research contributes to the development of strategies aimed at risk mitigation, the promotion of ethical online conduct, and the cultivation of a safer digital learning environment.

Conclusions: Educational institutions should commit to these initiatives and engage the wider community in debate about cybersecurity through awareness campaigns and outreach programs. This collective approach will create a safer digital learning environment, protect the integrity of Jordan's educational infrastructure and enhance the overall cybersecurity awareness within its academic community.

Keywords: Electronic crimes, Motives, Decision Model, Barriers in the Jordanian Context.

الوعي بالجرائم الإلكترونية في استخدام التعليم الإلكتروني في دافعية المجتمع الأردني ومنظور نموذج القرار

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ملخص

في سياق نموذج الدافع والقرار، تبحث هذه الدراسة في الوعي بالجرائم الإلكترونية في مجال التعلم الإلكتروني في الأردن. أهداف الدراسة: تهدف إلى فهم الدوافع وآليات صنع القرار التي تدفع الأفراد إلى الانخراط في أنشطة غير قانونية عبر الإنترنت في المجال التعليمي. ومع استمرار منصات التعلم الإلكتروني في اكتساب مكانة بارزة في المشهد التعليمي في الأردن، تتناول الدراسة الضرورة الملحة لفهم شامل لهذه التهديدات الناشئة. ويشمل البحث عوامل تحفيزية مختلفة، بما في ذلك الحوافز المالية، والتقدير الشخصي، والتأثيرات الإيديولوجية، وتقييم تأثيرها على خيارات الأفراد للمشاركة في الجرائم الإلكترونية.

الطريقة: استخدمت هذه الدراسة مناهج كمية للحصول على فهم شامل للجرائم الإلكترونية داخل بيئة التعلم الإلكتروني في الأردن. وتتعمق في البيانات الكمية لكشف الاتجاهات الشاملة واكتساب رؤى لاستكشاف أكثر تعمقاً.

النتائج: تكشف النتائج عن علاقات معقدة بين هذه المتغيرات، مما يوفر رؤى قيمة حول تعقيدات الجرائم الإلكترونية في مجال التعلم الإلكتروني في الأردن. من خلال توضيح الدوافع وعمليات اتخاذ القرار لدى الجناة المحتملين، يساهم هذا البحث في تطوير استراتيجيات تهدف إلى التخفيف من المخاطر، وتعزيز السلوك الأخلاقي عبر الإنترنت، وزراعة بيئة تعليمية رقمية أكثر أماناً.

التوصيات: على المؤسسات التعليمية الالتزام بهذه المبادرات وإشراك المجتمع الأوسع في الحوارات حول الأمن السيبراني من خلال حملات التوعية وبرامج التوعية. سيخلق هذا النهج الجماعي بيئة تعليمية رقمية أكثر أماناً، وحماية سلامة البنية التحتية التعليمية في الأردن وتعزيز الوعي العام بالأمن السيبراني في مجتمعها الأكاديمي.

الكلمات الدالة: الجرائم الإلكترونية، الدوافع، نموذج القرار، العوائق في السياق الأردني



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1. Introduction

Conviviality of technology in learning system in the present society has created several benefits on learning process and acquisition of knowledge. Of this type of education, only one type has gained certain importance: e-learning, which turns out to be essential in countries such as Jordan that extensively relies on education in order to form the nation's future. Nevertheless, this innovative change has at the same time brought social issues, mainly the rate of e-crimes. But in as much as technology is bringing these positive impacts reflected in how lessons and learning processes are carried out, one must also understand that it has also birthed a new age to criminal conducts, which are commonly referred to as electronic crimes or cybers crimes. Cyber criminality falls under the electronic crimes which are indicated as a Group of unlawful activities that occur in the cyberspace and this may encompass hacking, identity theft, fraud, and cyber harassment among others. All these offenses are lethal to various individuals, educational institutions, and the society in general. To Jordan's consistent attempt to enhance the educational system, e-learning platforms have been widely enhanced across the country. However, these platforms have one or the other benefits they possess the certain risks which are related to the electronic crimes and flourish with same effects over the students, educators and the institutions. Maintaining security and safety in tungs has been deemed to be an aspect of significant importance than before in digital learning environment (Eke and Odoh 2014, Alexei and Alexei 2021). Despite the undeniable advantages of E-learning in Jordan, a significant gap exists in our understanding of the motivations and decision making procedures behind electronic crimes within the educational sector. Electronic crimes pose a real threat to the integrity of digital learning environments, yet there is a lack of research examining these threats from a motivational perspective, particularly within Jordan's context. As Jordan continues to invest in its education infrastructure, the prevalence of E-learning platforms has grown substantially (Al-Gahtani 2016, Alawamreh and Elias 2016, Jordan 2022). However, this growth has its challenges and the limited insights into the motivations behind electronic crimes and the decision-making processes of potential perpetrators leave educational institutions, students, and educators exposed to various cyber threats . Furthermore, existing research on electronic crimes mainly focuses on general cybercrime trends or international contexts, often overlooking the unique factors at play within the specific realm of E-learning in Jordan. Additionally, while cybersecurity awareness campaigns are in place, their effectiveness and alignment with the motivations of potential cybercriminals remain largely unexplored. This study tackles the urgent matter of electronic crimes within the framework of Electronic learning in Jordan, utilizing the Motivation and Decision Model as a framework (Ismail and Aamar 2019). This model offers a valuable framework for comprehending why individuals might engage in electronic crimes, the motivating factors behind their actions, and their decision-making processes regarding such activities. By delving into the motivations and decisions of potential perpetrators, our aim is to illuminate the underlying factors contributing to electronic crimes within the educational sphere. Additionally, this study will examine the role of awareness as a pivotal element in mitigating the risks associated with electronic crimes (Fahlevi, Saparudin et al. 2019). It is essential to provide students, educators, and institutions with the knowledge and tools needed to recognize, prevent, and respond effectively to electronic crimes. Through heightened awareness and a deeper understanding of these threats, we can empower the E-learning community in Jordan to safeguard themselves and their educational pursuits in the digital landscape.

2. Research Objectives

The main goal of this study is to enhance our comprehension of the awareness surrounding electronic crimes within the realm of E-learning in Jordan. Specifically, it seeks to examine these issues through the Motivation and Decision Model. The study aims to reveal the hidden motivations and decision-making mechanisms influencing individuals to partake in unauthorized online activities within the educational domain. With the growing prominence of E-learning platforms in Jordan's education sector, there is a critical need for comprehensive insights into the emerging threats in this domain. The study intends to investigate various motivators, including financial incentives, personal recognition, and ideological influences, and assess their impact on individuals' decisions to partake in electronic crimes. Furthermore, the research seeks to analyze the roles played by barriers and educational interventions, evaluating how these factors can either discourage or encourage such activities. By shedding light on the intricate interplay among these variables, this study aims to provide

valuable insights into the complexities of electronic crimes within the E-learning landscape of Jordan. Ultimately, the findings from this investigation are expected to inform the development of strategies for risk mitigation, the promotion of ethical online behavior, and the creation of a safer digital learning environment in the country.

3. Literature Review

a. The concept of Electronic Crimes in E-learning

The element of technology in education has shifted paradigm in helping students to learn through E-learning and in making education interactive. However, this shift has come with new trials especially the electronic crimes through which dangers to the educational ecosystem are pegged. Thus, in this her literature review she will look at the extant research geared towards understanding electronic crimes in the system of E-learning particularly with regard to motivations, decision-making processes and measures of prevention with regard to Jordan. E-learning has brought great improvement to pragmatic education as it is flexible, easily accessible, and relatively cheaper. It includes elements such as synchronous and asynchronous learning, MOOC, and environments that combine both synchronous and asynchronous learning. The effects of E-learning are widely known to be enhanced accessibility, individualized learning environment, and the opportunity to adopt several learning styles. Cyber criminals, in reference to E learning encompasses what may be referred to as acts of electronic crimes, which consist of hacking, identity theft, fraudulent schemes as well as tendencies of harassing and intimidating victims on the cyberspace. Such crimes can alter the educational process, infringe on an individual's rights to privacy, and result in the loss of money. As for the prevalence rates of electronic crimes, latest studies prove that its trend is rather on the rise, with educational institutions being of the most attractive objects of the cybercriminals due to the data they store (Alawamreh, Obeidat et al. 2023)

b. Motivations Behind Electronic Crimes

Thus, knowledge of motivators of electronic crime is an important precondition for creating strategies that would help to prevent them. People are motivated towards such activities by factors such as, in order to; earn a living, to gain recognition, to support personal ideologies and for the fun of it. Of course, the ultimate reason is the financial benefit because hackers can sell stolen information or Chaos threaten to stop work for money (Abu Huson, Aljawarneh et al. 2024). Also, some participants are intrinsically motivated because they pursue the attention they receive from peers or because they want to test their technical ability. Ideological reasons for the commission of electronic crimes are also seen, for instance in hacktivism.

c. Electronic Crimes in Jordan

Another emerging industry that has been growing in Jordan is e-learning due to the efforts in developments of technology and people embracing online classes. However, this has also posed the educational sector to electronic crimes. Foresight surveys reveal that multiple uncertainties are troubling educational institutions in Jordan, and these are phishing, data breach, and cyber harassment. The highlighted socio-cultural and economic situation in Jordan suggests the specific conditions that define the approaches and prospects of combating electronic crimes in E-learning (ALHATMI, EISHEH et al. 2024).

d. Theoretical Framework

The Motivation and Decision Model framework gives a strong background for explaining the psychological and environmental states controlling people to engage in electronic crimes in the context of E-learning in Jordan. Based on psychological and socio-cultural approaches, this model looks at the relationships between different courses of action and antecedents that influence behaviors. The analysis of this model within the context of Jordan's socio-cultural and technological context allows for an investigation of the antecedents of electronic crimes more effectively as well as creates the foundation for implementing the proper preventive measures. Thereafter, theoretical frameworks from psychology include the Electronic version of Maslow's Hierarchy of Needs and Bandura's Social Learning Theory expound on reasons behind electronic criminality. According to Maslow, people are motivated by a need to satisfy a hierarchical of needs which starts with the basic necessities in life to intellectual needs. In the docket of electronic crimes, power to gain which is one of the functions of crime as well as material and non-material values which can also be regarded as an effort to meet these

needs. Bandura's Social Learning Theory prescribes the notions of observational learning and imitation as well as modeling in learning. This theory posits that people may use computers to perform criminal activities following their perception of the benefits and applauds that come with computer criminality observed from other people's or groups' conduct (Svenson 2002, Al-Qudah, Obeidat et al. 2020).

Justification based on socio cultural theories such as TPB where peoples' decisions to engage in electronic crimes are influenced by their perceived behaviour control and social network theory that explains the strategies that criminals use in the commission of the crimes. In the TPB, it is illustrated that attitudes, subjective norms, and perceived control influence intentions and behaviour. This research also established that in Jordan there exists a strong relation to cultural Acceptance and practise of Societal expectations which determines the perceptions towards electronic crimes. The Social Network Theory also stresses on the importance of social relations in the spread of behaviours and norms. Through the Motivation and Decision Model, it was possible to include the interconnection of these theories to achieve a broad understanding regarding the different factors that may result to either electronic crimes commissioning or environmental factors that may discourage such activities in Jordan's E-learning sphere. The theoretical framing of this study not only helps explain the communication phenomenon more capably, but also enables the identification and development of practical preventive strategies and informational campaigns for creating and sustaining safe and responsible users of computer technologies (Obeidat, Wahiby et al. 2021, Ballard, Neal et al. 2022).

e. Motivation and Decision Model in Jordan

The Motivation and Decision Model serves as a valuable framework for comprehending the psychological and environmental elements motivating individuals to commit electronic crimes. When applied within the distinctive context of Jordan, this model enables a more in-depth exploration of the motivations and decision-making dynamics of potential perpetrators, taking into account the country's unique socio-cultural and technological landscape (Fields 2006, Al-Abbadi and Agyekum-Mensah 2022).

- **Motivators**

In the context of Jordan, the drivers of electronic crimes in the E-learning sphere are complex and often intertwined with broader social and economic dynamics. Although financial gain remains a significant incentive, as observed in many regions, the socioeconomic disparities in Jordan may magnify the attractiveness of illicit online activities for those seeking economic empowerment. Furthermore, the aspiration for personal recognition and status in online communities can serve as a compelling motivator, especially among younger individuals. In a region where online discussions often intersect with sensitive political and social topics, political or ideological motivations may also come into play (Fields 2006, Ballard, Yeo et al. 2016). Peer pressure and social networks can additionally incentivize involvement in electronic crimes. To comprehensively tackle electronic crimes in Jordan's E-learning environment, it is crucial to comprehend the intricate interplay of these motivators and formulate strategies that effectively deter and counterbalance their allure. Simultaneously, efforts to promote ethical online behavior and raise awareness about cybersecurity are essential (Fields 2006, Ballard, Yeo et al. 2016, Al-Smadi 2020).

H1: motivators have a significant effect on awareness

- **Decision**

In Jordan's dynamic educational landscape, decision-making processes concerning electronic crimes within the framework of Electronic learning are shaped by a diverse array of factors. As students, educators, and institutions navigate the digital terrain, their choices regarding engagement in electronic crimes or avoidance thereof are guided by considerations of perceived advantages, potential risks, and available opportunities (Ballard, Yeo et al. 2016). Elements such as the accessibility of digital tools and platforms, the level of awareness regarding cybersecurity, and the enforcement of policies and consequences all exert significant influence on these decisions. Additionally, social and peer dynamics, cultural norms, and individual ethical considerations contribute to the decision-making framework. Understanding this intricate web of influences within the Jordanian context is essential for crafting effective interventions and protective measures that promote responsible online behavior, mitigate electronic crime risks, and create a safer digital learning

environment for all stakeholders involved (Alanzeh, Al-Badarnah et al. 2019, Alrousan, Al-Adwan et al. 2021).

H2: decisions have a significant effect on awareness.

- **Barriers in Jordan's Context**

In the framework of the Motivation and Decision Model, applied to electronic crimes in Jordan's E-learning sphere, barriers assume a pivotal role in shaping individual choices and behaviors. These obstacles can manifest in various ways, encompassing technological, legal, and social dimensions (Ballard, Yeo et al. 2016). Technological barriers pertain to the presence of robust cybersecurity measures and protective mechanisms, making it more challenging for potential cybercriminals to exploit vulnerabilities. Legal barriers revolve around the enforceability and credibility of cybercrime laws and penalties in Jordan, serving as deterrents when perceived as robust. On the other hand, social barriers encompass community norms discouraging illicit online activities and peer influences discouraging participation in electronic crimes. Acknowledging and addressing these barriers are essential in fostering a secure E-learning environment, as they serve as protective shields against the motivations that might otherwise drive individuals toward electronic crimes (Ballard, Yeo et al. 2016, Al-rawahna, Chen et al. 2019, Al Balkhy, Sweis et al. 2021).

H3: Barriers have a significant effect on awareness

f. Education and Training as Integral Components of Jordan's Motivation and Decision Model

Education and training are core components of the Motivation and Decision Model within the context of Jordan. These elements serve as proactive strategies to combat electronic crimes in the realm of E-learning (Fields 2006, Samanez-Larkin and Knutson 2015). Empowering students, educators, and institutions with the knowledge and competencies required to identify, prevent, and respond to digital threats is imperative. Jordanian educational institutions possess a unique opportunity to incorporate cybersecurity awareness into their curricula and offer specialized training programs to enhance digital literacy and promote ethical online conduct. This approach equips individuals with the means to make informed choices and strengthen their defenses against cybercrime temptations. Effective educational and training initiatives also extend to fostering a culture of responsible digital citizenship, emphasizing the significance of online ethics and integrity. In Jordan's evolving E-learning landscape, these endeavors are pivotal in cultivating a safer and more secure digital environment, fostering collective commitment to online security, and diminishing the allure of electronic crimes (Fields 2006, Dunne 2009, Samanez-Larkin and Knutson 2015).

H4: Education and training have a significant effect on awareness.

4. Methodology

This study utilizes quantitative methodologies to gain a comprehensive understanding of electronic crimes within Jordan's E-learning environment. It delves into quantitative data to uncover overarching trends and acquire insights for more in-depth exploration.

The research process typically begins with formulating questions or hypotheses that can be tested using data. It's crucial to consider sample size and selection to ensure results are representative and applicable to a broader context (Mohajan 2020). In quantitative research, data collection methods often include surveys, experiments, and structured observations. In the present study, a cross sectional approach was employed for collecting data from a sample of participants, all of whom were university students from Zarqa University and Al-Zaytoonah University in Jordan. This approach allows for gathering information at a specific point in time to gain insights into participants' characteristics, attitudes, or behaviors. Involving students from both universities ensures diverse representation and enhances the findings' generalizability. Therefore, the questionnaires' validity and reliability were rigorously established before conducting the survey (Al-Mawdieh 2020, Shahzad and Iqbal 2020, Al-Mawadie, Shdaifat et al. 2022, Al-Zu'bi, Al-Mseidin et al. 2022).

5. Data Analysis and Findings

Smart PLS analysis proves to be a robust approach when dealing with intricate, high-dimensional data by identifying pivotal factors impacting both independent and dependent variables. It streamlines data interpretation, facilitates the

development of predictive models, and contributes to enhanced decision-making and progress in various fields (Henseler, Hubona et al. 2016). For this work, we adopted a survey-based approach to gather data from 200 students across both universities. After handling 29 missing and unanswered responses, 171 complete and appropriate responses remained for analysis.

A. Assessment of the Measurement Model

Following the notation, by Hair Jr, Hult et al. (2016), The evaluation of the questionnaire's suitability for constructing the measurement model was a component of the PLS technique. This evaluation included both reflective and formative constructs, with reliability and validity serving as crucial benchmarks to gauge the quality of the measures. Reliability involves scrutinizing the consistency of an instrument in measuring a designated aspect. Meanwhile, validity entails assessing how effectively the instrument captures the intended concept (Sekaran and Bougie 2016).

As portrayed in the diagram 1, the measurement model was assessed using 19 reflective indicators. Notably, it was observed that item MO5 exhibited a factor loading below the threshold of 0.50. As recommended by Hair, Ringle et al. (2011) and Henseler, Ringle et al. (2009), In the case of items with factor loading standards reaching from 0.40 to 0.70, the decision to retain or eliminate these indicators hinges on whether their exclusion would elevate the composite reliability beyond the recommended threshold. Consequently, in this investigation, the PLS system test was employed to discard these indicators.

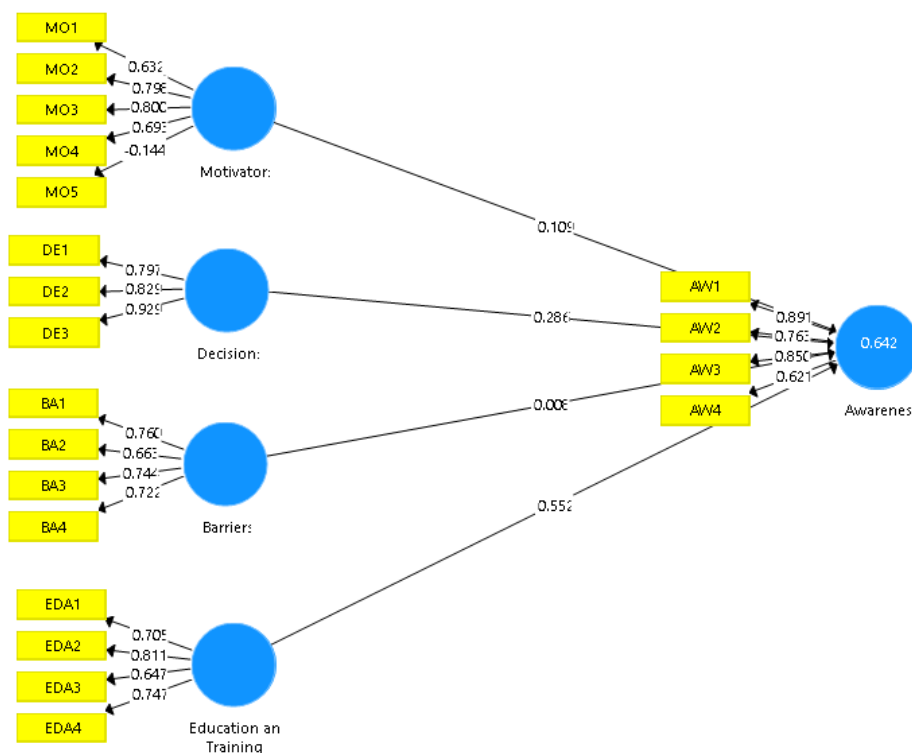


Figure (1): Measurement Model

As demonstrated in Table 1, the assessment of convergent validity for per construct was conducted using the Average Variance Extracted. Convergent validity refers to the extent to which a measure exhibits a positive correlation with other measurements of the same construct. (Hair Jr, Hult et al. 2016). In this work, 0.5 was adopted as the satisfactory minimum value of AVE as recommended by previous studies (Hair Jr, Hult et al. 2016, Ramayah, Ling et al. 2016). The findings reveal that while decisions attained the highest AVE value (0.728), motivators obtained the lowest but still acceptable AVE value (0.435). In summary, all these values met the acceptable standards for their respective convergent validity.

Furthermore, Table 1 displays the CR values used to assess the internal consistency of the respective constructs. While

the recommended benchmark suggests a minimum value of 0.70, a advanced CR value is considered preferable. For every construct, their CR values span from 0.732 to 0.889, all surpassing the benchmark threshold. In accordance with these benchmark values, it can be affirmed that the variables have met the standards for convergent validity.

Table (1): Presents the outcomes of the measurement model analysis.

Variable	Items	Factor Loading	CR	AVE 50%
Motivators	MO1	0.632	0.732	0.435
	MO2	0.798		
	MO3	0.800		
	MO4	0.693		
	MO5	0.444		
Decisions	DE1	0.797	0.884	0.728
	DE2	0.829		
	DE3	0.929		
Barriers	BA1	0.760	0.814	0.523
	BA2	0.663		
	BA3	0.744		
	BA4	0.722		
Education and Training	EDA1	0.705	0.819	0.533
	EDA2	0.811		
	EDA3	0.647		
	EDA4	0.747		
Awareness	AW1	0.891	0.866	0.621
	AW2	0.763		
	AW3	0.850		
	AW4	0.621		

The contemporary work applied the Fornell and Larcker (1981) and Henseler, Ringle et al. (2015) The criteria used to assess discriminant validity in the examined constructs entail comparing the average square root of the extracted variance with the correlation values of all variables. If a specific construct exhibits an average square root of the extracted variance that exceeds the correlation values of all variables, it is considered to have discriminant validity (Hair Jr, Hult et al. 2016, Alawamreh, Almhasneh et al. 2023). The outcomes in Table 2, following the Fornell and Larcker criterion, substantiate the adequate discriminant validity for each construct. This is evident in the squared correlation for each construct, which is lower than the average variance extracted. Furthermore, the Heterotrait-Monotrait Ratio, serving as an estimate of the correlation between constructs in accordance with disattenuated construct mark conception, adheres to a predefined threshold of 0.9. As highlighted in Table 3, the outcomes of the study suggest no indications of inadequate discriminant validity, with all constructs meeting the predefined criteria.

Table (2): Displays the evaluation for discriminant validity (Fornell and Larcker 1981)

	Awareness	Barriers	Decisions	Education and Training	Motivators
Awareness	0.788				
Barriers	0.636	0.723			
Decisions	0.579	0.683	0.854		
Education and Training	0.740	0.668	0.418	0.730	
Motivators	0.573	0.579	0.507	0.567	0.660

Taking into consideration their parameter evaluations and statistical significance, the finding for the constructs imply that they serve as valid measures of their respective concepts. In conclusion, the comprehensive findings propose robust empirical support for the measurement model in this study, confirming its reliability, discriminant validity, and convergent validity.

b. Assessment of the Structural Model

In this study, the structural model's assessment, often referred to as the inner model, portrays the cause-and-effect relationships among the examined constructs. Consequently, the assessment of the structural model involves scrutinizing the research hypotheses that underlie the proposed connections or impacts among these constructs. To achieve this, the current study employed path coefficient (β) criteria to assess six research hypotheses. Path coefficients have standardized values ranging from -1 to +1. A path coefficient value that is close to +1 signifies a robust positive relationship between two constructs, whereas a value near -1 suggests a strong negative relationship (Hair Jr, Hult et al. 2016). Once determining the significance of path coefficients, a t-value exceeding a set threshold (e.g., $t > 1.96$) indicates significance at a specific error probability (e.g., $p < 0.05$). The assessment of the effectiveness of the structural model depends on critical factors like the coefficient of determination and the interpretation of path coefficients (beta values). A greater adjusted value suggests an increased ability of endogenous variables to explain compared to exogenous ones, signifying a more resilient structural equation (Hair, Ringle et al. 2011, Alawamreh and Elias 2016, Alramammnh, Al-Sabayleh et al. 2024).

The assessment of study hypotheses depicted in Fig (2) and Table (3) yields a diverse array of results, encompassing both accepted and rejected hypotheses. Notably, the findings reveal that motivators exhibit no significant positive influence on Awareness ($\beta = -0.010$, $t = 0.158$, $p < 0.05$). Consequently, H1 lacks support, aligning with findings observed in prior studies. Conversely, the second hypothesis suggests that Decisions have a positive impact on Awareness ($\beta = 0.316$, $t = 5.549$, $p < 0.05$), lending strong support to H2. However, the results also indicate that Barriers fail to exert a significant positive influence on Awareness ($\beta = 0.030$, $t = 0.436$, $p < 0.05$), resulting in the non-support of H3, consistent with earlier research. Additionally, the findings emphasize that Education and Training significantly and positively influence Awareness ($\beta = 0.517$, $t = 13.607$, $p < 0.05$), offering robust support for H4.

Table (3): Hypothesis Testing

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Barriers -> Awareness	0.030	0.033	0.070	0.436	0.663
Decisions -> Awareness	0.316	0.312	0.057	5.549	0.000
Education and Training -> Awareness	0.593	0.594	0.044	13.607	0.000
Motivators -> Awareness	-0.010	-0.004	0.060	0.158	0.875

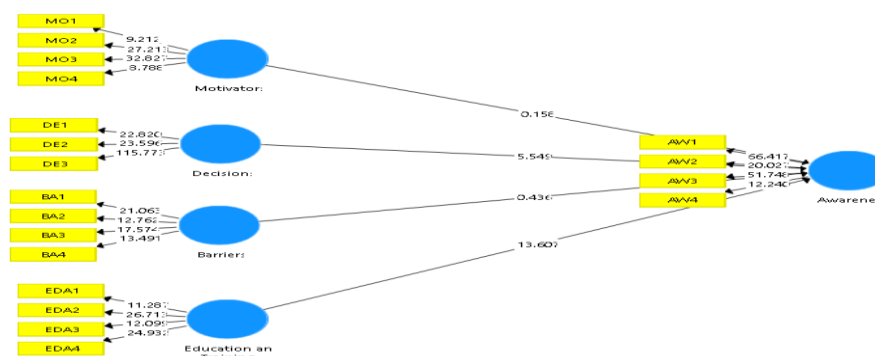


Figure (2): Structural Model

6. Theoretical and Practical Contributions

In a practical context, this study has the potential to significantly increase the cybersecurity and overall safety of the E-learning environment in Jordan. These practical findings may lead to the implementation of more robust strategies aimed at safeguarding students, educators, and institutions from cyber threats, ultimately creating a more secure digital learning environment. As seen from the study results, it can be concluded that motivators and barriers do not affect awareness to a considerable extent, while decisions moderate awareness, and education and training affect awareness substantially. Since decisions play a noteworthy role in the level of awareness (H2), educational administrators and policymakers should pay special attention to the improvement of decisions concerning cybersecurity. This can be done by incorporating notable protective courses in the curriculum with containing all the necessary information and safety procedures for students and educators. By integrating the above principles into the educational system, organizations are able to create awareness which is essential when it comes to making sound decisions, thus improving the overall institutions' awareness and the ability to block electronic crimes.

Moreover, the reliability of the measures for H4 strengthens the understanding of the effect of education and training in promoting awareness of the electronic crimes. There is a strong suggestion that professional development programs ought to be ongoing in nature and aimed at teachers and the administrative staff of the school. Pertaining to the matters of cybersecurity, they should be updated more often and about the threats at present and precaution measures that could be taken. Moreover, holding everyday workshops, seminars, simulations, etc., will assist students and the staff in being aware of the new threats and countermeasures to encounter them. Consultations with cybersecurity specialists and associations can yield up-to-date information and references to guarantee that all of the training requirements are incorporated. These efforts along with other strategic initiatives such as focusing on the provided awareness and initiatives increase the E-learning community awareness and preparedness in Jordan.

7. Conclusion

In order to address electronic crimes in Jordan's e-learning industry, a thorough and multidimensional strategy including all stakeholders is required. A key strategy is the integration of decision-making frameworks into educational curricula, equipping students and educators with critical thinking skills tailored to cybersecurity. Continuous professional development for educators and regular cybersecurity training for students are essential to keep the academic community informed about evolving threats. By incorporating dynamic workshops and simulations, institutions can foster a culture of responsible online behavior and enhance their capacity to respond to cyber incidents effectively.

Collaboration between policymakers and educational institutions is vital for the successful implementation of these strategies. Policymakers should establish robust cybersecurity policies, allocate resources for training programs, and foster partnerships with cybersecurity experts. Meanwhile, educational institutions must commit to these initiatives and engage the wider community in dialogues about cybersecurity through awareness campaigns and outreach programs. This collective approach will create a safer digital learning environment, protecting the integrity of Jordan's educational infrastructure and enhancing the overall cybersecurity awareness of its academic community.

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