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Factors affecting the success of VR-learning implementation in institutes of higher learning in Jordan

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Abstract

The goal of this study is to determine the importance of IS success and its relationships with the intent to use, utilization, user happiness, and net benefits of VR-learning at six Jordanian universities. This study focuses on the use of cultural and social elements that have been identified as important in improving students' learning processes, with the goal of persuading university administrators to pay attention to factors that influence the usage of VR-learning. At Jordan, however, there has been little success with VR-learning adoption in higher education institutions. In addition, only a few research have looked at the aspects that influence the success of VR-learning deployment.

Keywords: Virtual Reality; HEIs; Success; Jordan

1. Introduction

Several studies have found that numerous shortcomings with the present DeLone and McLean information system success model still need to be addressed. This is because most studies based on the model focus on just one aspect of success and rely on personal judgments to determine how an application's success is measured [1-8]. The lack of proper, necessary assessments is a major hindrance to developing successful VR-learning programs, as these programs must be evaluated on a regular basis to guarantee that they meet the needs of users. Universities are unwilling to invest in technology without such assessments. As a result, there are no objective definitions of success in the development process, which stymies growth [9-15]. As a result, the current research will look at the applicability of DeLone and Mclean's concept to different cultures, particularly Jordan's. As a result, the findings of this study, which aims to broaden comparative assessments of using Dealone and Mclean's model in developing nations, will assist other research studies exploring cross-cultural aspects and those in the meta-assessment field. This study also aims to determine the significance of technological attitudes and their relationships with VR-learning intent, usage, user satisfaction, and net benefits [10-18].

2. Research Studies

Innovations of technology keep expanding particularly within the sector of virtual reality and this have sparked competition, transforming the manner of businesses operation. This has stimulated the acceptance towards virtual reality learning in developing nations in the Middle East[19-25]. Accordingly, the factors impacting consumer acceptance of virtual reality learning are examined in this study, which will further expand the current knowledge particularly on what motivates individuals to utilize virtual reality. A quantitative strategy supports this study and the Unified Theory of Acceptance and Use of Technology (UTAUT) was utilized in deciding the components influencing the reception of people towards virtual generated reality learning[26-33]. An online survey was performed in the Middle

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Eastern developing countries to gather data from sample obtained through the technique of snowball sampling. The 432 valid obtained responses were analyzed using SPSS. Scale reliability, normality, correlation and multiple linear regressions were tested for conceptual model establishment. The model was tested for fit by comparing the observed results from the survey tool. The results show that the intent of a person to accept virtual reality learning was significantly impacted by (according to their succession of influencing strength), Execution Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Personal Innovativeness (PInn). This examination clarifies how segment factors and factors sway the reception of virtual reality learning administrations in developing countries. This consequently will greatly contribute to increased acceptance level of virtual reality learning in these regions. Furthermore, behavioral intention was significantly impacted by Personal Innovativeness (PInn) on actual acceptance Use behavior[34-41]. Hence, educational bodies in the Middle East should consider investing massively in virtual reality learning and in other innovations of information technology to increase their support towards efficient service delivery while also increasing the services of virtual reality learning[42-48].

Several authors have investigated (or included characteristics) that may have an impact on VR-learning and long-distance learning, as well as their success in academic institutions. Service Quality [49] [50], Information [51], System Quality [52], Culture Factor [53], Net Benefits [54], Social Influence, Intention to Use/Usage [55] , and User Satisfaction [55]. Despite its flaws, several authors have begun to use re-specified editions of the D&M IS Success Model for institutional assessment [56]. [57]formulated and verified a measurement founded on the D&M IS Success Model for the VR-learning framework, [58] utilized constructs from previous IS studies.

This paper provides the Framework Methodology of the Autism Children -Vibratory Haptic Interface (AC-VHI) conducted on the mild autism children who have impairment in social interaction. This paper has exclusively explored problems faced by Malaysian autistic children in a National Autism Society at Kuala Lumpur, Malaysia. It also has been conducted at two locations: the classroom and the court of the National Autism Society in Malaysia (NASOM), Kuala Lumpur, Malaysia. The paper has sampled 20 children with mild autism, who have impairment in social interaction, based on the records of the National Autism Society of Malaysia. The sample collection method followed the purposive sampling approach, which is a form of non-probability sampling that allowed us to choose a case, because it illustrates some features or processes, in which we are interested. The framework included three main three process which are Process one, process Two and Process Three. This's three processes of the framework was suitable with the area of research and could to accomplish objectives of this research in helping the autism children to interact and communicate effectively with their families, friends and the broad community. The framework included three main three process which are Process one, process Two and Process Three. This's three processes of the framework was suitable with the area of research and could to accomplish objectives of this research in helping the autism children to interact and communicate effectively with their families, friends and the broad community.

The majority of educators consider problem solving as one of the most crucial learning outcomes. However, the instructional design models prescriptions for designing problem-solving instruction and engaging learners are still very limited. The design model process involved two instruments which were used to design model. The instruments used in this paper to analyse children who have mild autism and children who have impairment in social interaction.This paper depicts the workflows process design of the Vibratory Haptic Interface Model (VHIM) with the objective of gaining a comprehension on items of favourites among autistic children such as, colours, games and shapes. The information gained assists in the creation of the Vibratory Haptic Interface Model (VHIM) design, which incorporates favourite shapes, colours, and 3-D Game. This paper attempts to design the Vibratory Haptic Interface Model (VHIM) appropriate for specific disabilities in learning such as emotional and behavioural disorders, which also comprise of autism and Attention Deficit Hyperactivity Disorder. With regard to the model for resolving well-structured problems, it is formulated in accordance to learning's information processing theories. The VHIM model presented in this paper is valuable for enhancing social interaction and practice throughout disciplines.

To address numerous environmental factors, [59] advised that a more thorough investigation be conducted. Despite the fact that research has developed in terms of using the D&M IS Success Model to evaluate VR-learning, they have yet to conduct more review in terms of determining how the model is integrated in a VR-learning framework and how it is measured.

Through techniques such as Motor Movement, 3D virtual learning environment (3D VLE), Virtual Peers (VPs), 3D generic virtual environment platform, students are able to manage their daily activities better. In relation to this, numerous researchers have conducted studies on the aforementioned techniques for instance, [60], Morne Edward [61-65]). Nonetheless, these aforementioned techniques are still lacking in terms of effectiveness. In particular, the haptic interface with vibration which can be integrated in a virtual 3-D environment had not been added to these previous techniques. The creation of a technique that uses a haptic device with vibration which can be included in a virtual 3-D

environment for assisting children with autism would be valuable and in fact, many researchers such as [66-69]have mentioned this.

3. Proposed Model

All of the concepts, meanings, and propositions are linked to the research questions, according to the research framework, which serves as the foundation for the study problems. Despite modern technological advancements, this research suggests that DeLone and McLean's IS Success Model has remained a main reference to the success-measurement concept that has been widely used in the body of research since its publication in 1992 [70] and continues to be an effective gauging of IS success. Recently, there has been a need to recognize the need for assessment approaches that are appropriate for the evaluation process of technologies, including VR-learning. The idea is that by combining aspects of traditional DeLone & McLean's assessment criteria, a newer, more refined, and updated edition of the DeLone & McLean's IS Performance Model may be utilized to measure VR-learning success in the university context.

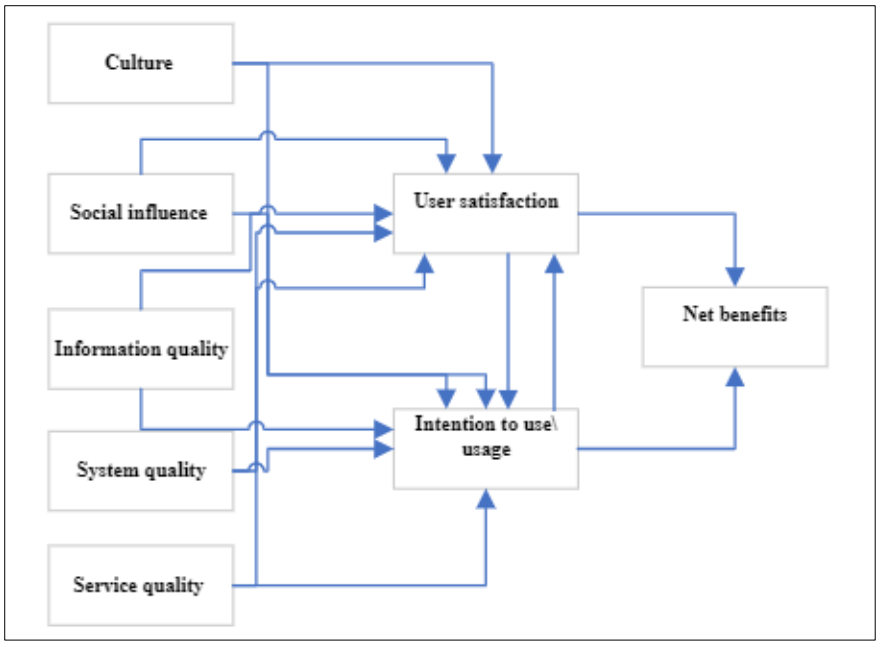

Figure 1 Study framework

4. Conclusion

Despite the existence of several factors (culture, social, service quality, system quality, and information quality) in past studies, no completed model has been developed to assess the intricate relationships among these factors and the net benefits of a VR-learning system for university and college students. As a result, the practical outcomes of this current study, which employs a more comprehensive model, are that it will provide new ideas for implementing VR-learning in the context of students.

Compliance with ethical standards

Acknowledgments

The paper leading to the proposed model VR-learning.

Conflicts of Interest

The author declare that there is no conflict of interest regarding the publication of this paper.

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