User friendly electronic modules for AIMS

■ K. Keerthi **and** P. Amala Kumari

■**ABSTRACT :** Digitization in education industry has totally changed the learning and also the teaching process to a very great extent. For the first time with an innovative idea the College of Home Science, Professor Jayashankar Telanagna State Agricultural university with enthusiastically started a digital application called Academic Information Management System (AIMS) which is Student Academic Performance Repository (SAPR). The frequency of usage of internet marketing is also fast spreading. Moreover, access to digital devices to seek information is also towering. This sort of information seeking behavior may not be an extraordinary feature of the stakeholders of College of Home Science. Hence electronic module was chosen as the curtain raiser method to create awareness and motivation to login to the web portal SAPR. The six variables *viz.*, self-efficacy, perceived satisfaction, interactivity in portal, perceived usefulness, perceived ease of use and behavioral intention that influence the use of multimedia based instructions in learning management systems. Before execution of the checklist, the reliability was computed through Cronbach's alpha, which is a measure of internal consistency to conclude how closely a set of items are related. It is considered to be a measure of scale reliability. The α of the checklist, developed to measure the user friendliness of electronic modules was found as 0.89, which was an indication of good intercorrelations among items. The indicator self-efficacy was the stakeholders' judgment of their capabilities to organize and execute action required according to the Electronic Module (EM) for attaining desired performance, while perceived satisfaction was the level of comfort during practicing the activities prescribed in EM. Interactivity was the interaction between the learners and the system's sources, the communication between the instructor and the learners, as well as the collaboration among the learners supported by the system under use and perceived usefulness was intention to use e-learning systems. The results were indicative of user friendliness of EM. Comparatively the indicators perceived satisfaction and perceived usefulness scored high than the other four indicators. Also the indicators perceived ease of use and behavioral intention scored less compared to other four. It is suggested that an increase in the multimedia features and interactivity of the system could lead to higher perceived usefulness and ease of use among stakeholders, and both factors add to stakeholders' perceived satisfaction which in turn increases their engagement.

■ **KEY WORDS:** Electronic module, Student repository, Digitization, User friendliness, Satisfaction

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Information technology has reformed each sector. It has grasped and it is currently in the promising phases of altering academia. In the coming decades if information technology has its approach in education industry, education will be far changed, more immersive and hopefully more constructive to the people than it is today. Digitization in education industry has totally changed the learning and also the teaching process to a very great extent. For the first time College of Home Science, Professor Jayashankar Telanagna State Agricultural University enthusiastically started a digital application called Academic Information Management System (AIMS). In which academic repository was maintained from the registering of the student in the college till receiving the certificates like semester wise grade point average to final marks transcript, provisional and migration certificate.

In the scenario of digitalization, there were many self learning tools like videos, digital apps etc. entered the market for promotion of products or services. The frequency of usage of internet is also fast spreading. Moreover, access to digital devices to seek information is also towering. This sort of information seeking behavior may be an extra feature of the stakeholders (Administrator (Admin), Head of the Department (HOD), Faculty, Advisor, Student and Parents.) of College of Home Science. Hence electronic module was chosen as the curtain raiser method to create awareness and motivation among the stake holders to use the web portal Student Academic Performance Repository (SAPR).

Electronic Module (EM) was operationally defined as a self explanatory Portable Document File (PDF). EM information provided in power point format is aptly animated to explain the process of operation of SAPR, to seek/upload/verify/ edit/approve or reject information related to web portal by the stakeholders. This was intended to provide assistance on the portal features available to the web portal user. The portal admin is the primary user who has access to the portal. The portal admin may perform all portal related functions, including grant and control portal access to others. Therefore five electronic modules namely Admin, HOD, Faculty, Advisor, Student and Parent were developed for easy use.

RESEARCH METHODS

The locale of the study was purposive, as Student Academic Performance Repository (SAPR) web portal was developed for College of Home Science, Professsor Jayashankar Telangana State Agricultural University, Hyderabad at Telangana, India.

Ninety stakeholders *i.e.* teachers inclusive of HoDs, faculty and advisors, students and parents @ 30 each were selected following successive random sampling method to measure the user friendliness of electronic module on the operation of web portal, which was exclusively developed for the purpose of the study. Checklist was developed to measure user friendliness of electronic module.

Cigdem and Ozturk (2016) reported six variables *viz.*, self-efficacy, perceived satisfaction, interactivity in portal, perceived usefulness, perceived ease of use and behavioral intention that influence the use of multimedia based instructions in learning management systems. In the present study, the user friendliness of the respective electronic modules as perceived by the stakeholders after using it was measured by, execution of checklist with five point continuum *i.e.*, strongly agreed, agreed, neutral, disagreed and strongly disagreed, with six indicators mentioned above. Before execution of the checklist, the reliability was computed through Cronbach's alpha, which is a measure of internal consistency to conclude how closely a set of items are related. It is considered to be a measure of scale reliability. The α of the checklist, developed to measure the user friendliness of electronic modules was found as 0.89, which was an indication of good intercorrelations among items.

RESEARCH FINDINGS AND DISCUSSION

This section describes the User friendliness of electronic modules perceived by the stakeholders in the following Table 1.

The indicator self-efficacy was the stakeholders' judgment of their capabilities to organize and execute action required according to the Electronic Module (EM) for attaining desired performance, while perceived satisfaction was the level of comfort during practicing the activities prescribed in EM. Interactivity was the interaction between the learners and the system's sources, the communication between the instructor and the learners, as well as the collaboration among the learners supported by the system under use and perceived usefulness was intention to use e-learning systems. Perceived ease of use was users' perceptions on the

ease of adopting a system. Behavioral intention was to examine the predictors of the learners' behavioral intention to use the EM.

The results were indicative of user friendliness of EM. Comparatively the indicators perceived satisfaction and perceived usefulness scored high than the other four indicators. Also the indicators perceived ease of use and behavioral intention scored less compared to other four. Faculty and students were almost equal, while parents had experience comparatively low user friendliness.

Table 1: User friendliness of electronic modules perceived by the stakeholders		$(n_1=30, n_2=30, n_3=30)$		
		Means score		
Sr. No.	Item	Faculty N_1	Student N_2	Parents n_3
Self-Efficacy				
1.	I feel confident using electronic module	4.83	4.67	4.00
2.	I feel confident operating functions of electronic module.	4.17	3.77	4.00
3.	I feel confident using contents of electronic module.	4.83	4.17	3.97
		13.83	12.60	11.97
	Total mean	(92.22)	(84.00)	(79.78)
Perceived satisfaction				
4.	I am satisfied with using electronic module as a learning assisted tool	4.70	4.67	4.33
5.	I am satisfied with using functions of electronic module	3.87	4.73	4.37
6.	I am satisfied with text media instructions in electronic module	4.67	4.67	3.53
7.	I am satisfied with interactivity in electronic module	4.20	4.57	4.07
		17.43	18.63	16.30
	Total mean	(87.17)	(93.17)	(81.50)
Interactivity				
8.	I would like to share my e-learning experience	4.63	3.57	4.63
9.	I believe electronic module can assist the instructor- learner interaction	3.90	3.87	3.90
10.	I believe electronic module can assist the self learning interaction	4.43	3.80	4.27
		12.97	11.23	12.80
	Total mean	(86.44)	(74.89)	(85.33)
Perceived usefulness				
11.	Using electronic module gives me greater control over my work	4.47	4.20	3.93
12.	Using electronic module improves my performance	4.83	4.90	3.80
13.	Using electronic module makes it easier to do my job	4.97	4.47	3.60
14.	I believe electronic module contents are useful	4.77	4.77	3.37
		19.03	18.33	14.70
	Total mean	(95.17)	(91.67)	(73.50)
Perceived ease of use				
15.	Learning to operate electronic module would be easy for me	4.67	4.70	3.40
16.	I would find it easy to get electronic module to do what I want it to do	4.50	3.77	3.73
17.	I would find the electronic module easy to use	4.63	4.03	3.50
		13.80	12.50	10.63
	Total mean	(92.00)	(83.33)	(70.89)
Behavioural intention				
18.	I intend to use electronic module to assist my learning	4.57	4.57	3.53
19.	I intend to use electronic module as an autonomous learning tool	3.53	3.73	3.67
20.	I would like to see electronic module functions implemented further for other modules	4.63	3.13	3.30
		12.73	11.43	10.50
	Total mean	(84.89)	(76.22)	(70.00)

Figures in parentheses are percentages
n_1: Faculty (five HoDs, 10 faculty and 15 advisors), n_2: students n_3: Parents

As frequent use of EM has increased in many educational institutions, EM technologies such as video productions have also developed. If we are to satisfy our students with the EM and increase their engagement with distance learning, we need to use the interactivity and multimedia options of the systems more frequently and improve the interaction facilities within the sytem through frequent feedback on the works of the students and provision of support and responses to their questions. Besides, we need to reconsider and extend the multimedia features of the system so that we could increase the usefulness of the system among the participants.

It can be concluded that multimedia instruction had a direct influence on perceived usefulness and perceived ease of use, while interactivity had a direct influence only on perceived satisfaction. Perceived satisfaction was also affected by perceived usefulness and perceived ease of use. Perceived ease of use exerted a direct influence on perceived usefulness, as well. Moreover, perceived usefulness had a great influence on behavioral intention to use EM. It is suggested that an increase in the multimedia features and interactivity of the system could lead to higher perceived usefulness and ease of use among learners, and both factors add to learners' perceived satisfaction which in turn increases their engagement.

Conclusion :

It is concluded from this study that digitalization is possible in education industry. Comparatively the indicators perceived satisfaction and perceived usefulness scored high than the other four indicators. Also the indicators perceived ease of use and behavioral intention scored less compared to other four. Moreover, perceived usefulness had a great influence on behavioral intention to use EM. It is suggested that an increase in the multimedia features and interactivity of the system could lead to higher perceived usefulness and ease of use among learners, and both factors add to learners' perceived satisfaction which in turn increases their engagement.

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■ **REFERENCES**
Cigdem, Harun and Ozturk, Mustafa (2016). Factors affecting students' behavioral intention to use LMS at a Turkish Post-Secondary Vocational School. *Internat. Rev. Res. Open & Distributed Learning*, **17**(3) : 277-295.

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