Journal of Information Engineering and Applications
ISSN 2224-5782 (print) ISSN 2225-0506 (online)
Vol.4, No.12, 2014

Mobile Phone Application for Student`s Tuition Management of Kampala International University: Design, Development and Implementation

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Abstract
This study investigated the Existing Tuition Management in Kampala International University (KIU) which laid a foundation of the requirements for the design, development and implementation of a Mobile Phone Application. The study objectives were To identify the demographic characteristics of the respondents in terms of: Gender, Age, Qualification and Experience, To examine the existing tuition management system in finance department at KIU in regard to performance expectancy, effort expectancy, social influence and facilitating conditions, To design the mobile phone application to aid tuition management and instant clearance alerts and To determine the significant difference between the existing tuition management and the Mobile phone application for students` tuition management To test the null hypothesis of (i) no significant difference in the level of assessment of the Existing Tuition Management System in Finance department and the Proposed Mobile Phone Application (MPA). Quasi Experimental design was employed specifically (pretest) and (post test) and the data collected was analyzed using relative frequencies, means and t-test. Findings revealed that, there was a significant difference in the level of assessment before and after the implementation of the proposed Mobile Phone Application. It was concluded that the proposed Mobile Phone Application was effective. The model was also validated. Based on the findings, this study recommended that full support by management of KIU should be accorded to the proposed Mobile Phone Application to enable its sustainability. The need to take advantage of technologies familiar with students for social interaction, especially Mobile Phone based SMS texting. `
Keywords: Mobile Technology, Finance Management, UTAUT Model, Mobile agent technology

1 Introduction

Webster University (2011), tuition management system allows students view their e-statements and make payments online through Webster University's Bursar webpage through the Connections Portal. All students receive e-statements, regardless of the selected payment option. E-statements are online student statements that display student account activity such as tuition, fees, housing, insurance, financial aid and payments. Greer & Klein (2010) proposed a new public corporation to replace the diminished state of investment in public colleges and Universities like New Jersey and surrounding states to help generate new revenue and enhance transparency, accountability and public trust. Ahmed Patel (2011), explored how Mobile agent technology has attracted a lot of interest that is why researchers have continuously proposed useful technology for developing mobile agent-based e-marketplaces. He further emphasized a number of advantages of mobile technologies like autonomy, flexibility, efficiency and effectiveness. Universities world over aim at providing quality services through teaching and research, while Provision of genuine statement of accounts to students is one of the facilitating factors universities need not to neglect. This statement reflects any carry forward balance, new charges and credits, anticipated financial aid, and any amount budgeted under a Transaction Management System payment plan. Higher Institutions of learning in Uganda especially Universities have experienced students` grievances due to intricacies associated with tuition management. The Independent (2011).

1.1 **Mobile technology**

Mobile technology has been more prominent in social development and constructive use of mobile for a positive social change (Dinesh,(2008)). These can further be based on personal or social usability and it pays great dividends to the company in terms of business and customer satisfaction. Dinesh,(2008). He further emphasized that mobile communication has given boost to all types of business activities. West (2012) findings on the exploration of mobile applications designed to engage voters and attract supporters recorded great success especially among the republicans in USA. Mobile technologies have opened new channels of communication between people and governments, potentially offering greater access to public information and basic services to all. No other technology has been in the hands of so many people in so many countries in such a short period of time (World Bank 2008). Robin (2011) study revealed that Performance Expectancy, Effort Expectancy Social Influence and Perceived playfulness of learning were significant in determining the college students to use mobile learning. Tibenderana (2010) evaluation on the end-user acceptance model of e-library services using the UTAUT model constructs was equally significant. The adoption and appropriation of Mobile Phone

Technologies by staff and students of Malaysia indicated that all individual characteristics were found significant determining the use of Mobile technology. Keller Christina (2008) carried out an investigation on the then ongoing cross-cultural study exploring implementation of Virtual Learning Environments (VLEs) in higher education and findings gave evidence that a high degree of performance expectancy among university staff seems to enhance the implementation process while effort expectancy and facilitating conditions are experienced to a lower extent.

1.2. **Finance management**

Leila, & Laily (2011) Examined the determinants of one's financial well-being which is influenced by four major factors like financial attitude, financial socialization, financial socialization agents and financial knowledge. Children learn financial management behavior through participation and observation and through intentional instruction by socialization agents such as peer groups and the media (Danes 1994). Singh and Griffiths (2008), study on the role of computer usage in the availability of credit for small business and the study suggested that computer usage has virtually no effect in the determination of credit by financial service providers and that credit analysis and risk measures dominate the decision-making process. Halkos & Trigon (2010), explored financial development and economic growth in European Countries and the findings indicated that the size of the financial system does not directly seem to affect growth, although its increase seems to lead to an increase in the deposit rate and consequently to a decrease in real GDP per capita. Singh and Griffiths (2008), investigated on the role of computer usage in the availability of credit for small business and the study suggested that computer usage has virtually no effect in the determination of credit by financial service providers and that credit analysis and risk measures dominate the decision-making process.

1.3. **Null Hypothesis**

The null hypothesis postulates that there is no significant difference in the levels of assessment of the Tuition Management System before and after the Mobile Phone Application.

Methodology

This study utilized quasi-experimental method specifically before and after or pretest (assessment of the existing Tuition management system) - post test design (after the implementation of the Mobile Phone application). A quasi-experiment is one where the treatment variable is manipulated but the groups are not equated prior to manipulation of the independent variable. Using Sloven` formula, a minimum sample size of 402 was attained, though 560 questionnaires were administered to the respondents where 62% (346) of the questionnaires were retrieved. The Cronbach`s alpha coefficient test indicated that the questionnaires were acceptable at above 0.5 (0.9). The data were analyzed using summary statistics such as means and ranks. The null hypothesis was tested using the t-test, and analysis of variance (ANOVA).

Findings

Table1

Summary on the Level of Assessment of the Existing Tuition management system by Both Students and finance staff

Indicator	**Respondents**		**Mean**	**interpretation**	**Rank**
	Students	**Finance staff**			
Performance expectancy	2.83	2.83	2.83	High	1
Effort expectancy	2.69	2.70	2.69	High	2
Social influences	2.69	2.54	2.61	High	3
Facilitating factors	2.64	2.22	2.43	Fair	4
General mean	**2.71**	**2.57**	**2.64**	**High**	

Mean Range	**Response**	**Interpretation**
3.26-4.00	Strongly Agree	Very High
2.51-3.25	Agree	High
1.76-2.50	Disagree	Fair
1.00-1.75	Strongly Disagree	Very Low

The overall assessment for both students and staff was high. This was evidenced with average mean of 2.64. The best evaluated construct was Performance Expectancy at 2.83 and facilitating conditions 2.43 thus

implying that the current system is effective but it can perform better when the facilitating conditions are improved. Therefore, Performance Expectancy for the current system is the strongest predictor of intention and remains significant at all points of measurement in both voluntary and mandatory settings Venkatesh (2003).

Table 2

Summary on the Level of Assessment of the Proposed Mobile Phone Application by Both Finance Staff and Students

Indicator	**Respondents**		**Mean**	**interpretation**	**Rank**
	Finance staff	**Students**			
Performance expectancy	3.55	3.35	3.45	Very satisfactory	1
Effort expectancy	3.32	3.34	3.33	Very satisfactory	4
Social influences	3.46	3.34	3.4	Very satisfactory	3
Facilitating factors	3.5	3.34	3.42	Very satisfactory	2
General mean	**3.46**	**3.34**	3.4	Very satisfactory	

Mean Range	**Response**	**Interpretation**
3.26-4.00	Strongly Agree	Very High
2.51-3.25	Agree	High
1.76-2.50	Disagree	Fair
1.00-1.75	Strongly Disagree	Very Low

From the table 2, it is observed that both students and Finance staff respondents found the system very good with mean of (3.4).Performance Expectancy ranked first with 3.45 implying that the MPA was satisfying the users` needs, there was easy access to information, transparency through provision of information at a time when it is needed as well as providing a faster approach to getting students` tuition details. Facilitating conditions was evaluated second at 3.42 (very good) indicating that when with the MPA had changed conditions which were favorable for both students and the finance department staff. Such a relation between Performance Expectancy and Facilitating conditions is supported by Venkatesh et.al (2003) that when both performance expectancy and effort expectancy are present (follow each other in evaluations), facilitating conditions become no significant in predicting the intention.

The indicator of effectiveness of the Mobile Phone application is shown by the summary following table.

Table 3

Significant difference between the existing tuition management system and the proposed Mobile Phone Application before and after implementation

Category	**Period of assessment**	**Mean**	**t-value**	**Sig. Value**	**Interpretation of Difference**	**Decision on Ho**
Level of Assessment	Before	2.68	38.26	.000	Significant	Rejected
	After	3.4	107.71	.000		

The summaries presented in table above reveal that there was a significant difference in the level of assessment before and after the implementation of the Mobile Phone Application. It further showed that the computed t-value was significant at a sig. value less than 0.05% hence rejecting the null hypothesis. The mean before the implementation of the Mobile phone Application was 2.68 (High) and the mean after implementation of the MPA was 3.4 (Very High). Such mean differences implied that the Proposed MPA was effective. The findings agreed with Rooyen (2010) whose conclusion stated that using mobile technology can enhance the learning experience of accounting students and provide them with a more satisfying and successful experience. Schierz, Schilke, and Wirtz (2010) study also found that there is a positive relationship between perceived ease of use of mobile payment services and the attitude toward using the services.

Conclusions

The study significantly was able to improve that effective Tuition management is possible through design, development and implementation of a Mobile Phone application for students` tuition management is possible. The discussion from findings affirm that the null hypothesis was rejected therefore accepting the alterative hypothesis which states that there is a significant difference in level of assessment of the existing Tuition Management System and the proposed Mobile Phone application before and after implementation. This study further proved that through use Mobile Phone application the students` needs are realized at the same time finance department effectiveness is improved. Providing an SMS service for students to text the Finance database for information can help our clients in a number of ways that traditional office routine is not able to do at minimal time. SMS can alleviate spoken language difficulties for the many international students enrolled at KIU by using SMS language instead of more formal English. It also offers an on the go, inexpensive, easily accessible alternative to e-mail with students using a technology that most are extremely familiar with and have readily available.

Recommendations

From the observations made from the above findings and conclusions the researcher recommends that full support by management of KIU should be accorded to the proposed Mobile Phone Application because the study findings have proved beyond doubt that the proposed system can work well with the existing system to improve work effectiveness of the finance department. The researcher highly recommends taking advantage of technologies familiar with students for social interaction, especially mobile phone based like SMS texting appropriate. Thus evolving a new opportunity to reach out and connect with users in multi-lingual community.

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