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***RESEARCH ARTICLE***

# Self-Management of learning as a key predictor of Students Intention to Use M-Learning in Ugandan Universities.

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***Abstract:***
Self-Management of learning plays a fundamental role in higher learning by improving student's intention to use M-learning systems for academic purposes. The purpose of this study was to examine the influence of Self-Management of learning on the intention to use M-learning systems in Ugandan universities. A cross sectional survey methodology was employed to collect data from 370 students selected from two different universities in Ugandan universities on the variables of study. Results of correlation and regression analysis indicated that a positive and significant relationship exists between Self-Management of learning and intention to use M-learning systems. These findings have theoretical implications for intention to use M-learning systems by aligning Self-Management of Learning as a Significant Predictor of intention to use M-learning systems. The findings also have practical interventions designed at enhancing student's intention to use of M-learning systems which implies that universities should ensure that students are able to control their learning activities. The more the learner controls their own activities, the more successful learning will occur.

***Key Words:*** Self-Management of Learning, Intention to use, M-Learning, ICT, and MoES

## Introduction

In Uganda there has been liberalization of the economy and as a result, many sectors have been affected including the education sector with a rapid increase in the number of schools both private and public, from primary, secondary to tertiary institutions offering education services (MoES, 2009). Attempts have been made by the government of Uganda to improve education systems in the country. Such attempts include introduction of Universal Primary Education (UPE) and Universal Secondary education (USE) where all school going children enroll for free education (Kituyi and Kyeyune, 2012). These attempts have however led drastic increase in the number of students enrolling to study in Universities hence increasing pressure on the available resources such as limited and lecturer student ratios (MoES, 2009). This has consequently made it difficult for universities to sustainably teach and manage students on the available resources (Kituyi and Kyeyune, 2012). With regard to the above challenges, universities in Uganda are currently devising alternative technological ways of delivering education services to students. Tusubira et al (2013) reports that because of the rapid growth in access to mobile phones around the world and in the developing countries like Uganda in particular, M-Learning can be given much attention as an alternative learning to addresses the above challenges that would see new improvements in teaching, learning and institutional efficiencies that would enable national education system transformation.

The applause of mobile learning can partly be accredited to the high penetration of mobile technology and its availability for application penetration (Ryu and Parsons, 2009). It is a new phenomenon, which has evolved through the rapid growth of mobile ICT, which provides a learning experience that exceeds what the classroom is able to offer, with the latest generation of technologies, such as tablet PC, smart phone, and smart chips with input and output features including freehand annotations, picture snapshots and video and audio give a learning experience which is boundless.

## Literature review:-

**Self- Management of Learning:** Huang (2014) states that the more the learner controls their own activities, the more successful learning will occur. Self- management of Learning refers to the degree to which an individual perceives self-discipline and can engage in autonomous learning" Successful Self-management of Learning comes as a result of developing competence and skill in learning how to learn. In the context of M-learning, Prajapati & Jayesh (2014) urge that students must be the managers of their own learning because they are away from faculty, peers, and the institutional support. Self-management of Learning is a critical role in predicting adoption and students' Intention to use of M-learning in higher education. Further, Wang, et al (2012) states that that a person's level of self-management of learning has a positive influence on his or her behavioral intention to adopt mobile learning.

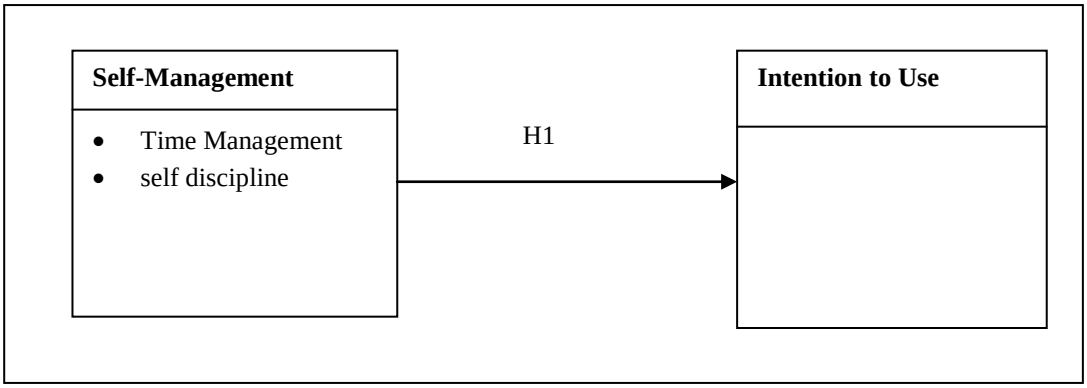
***H1: Self management is positively related to intention to use M-Learning Systems in Ugandan Universities***

**Intention to Use M-learning:-**

This signifies an individual's intent to adopt M-learning if it is to be deployed (Abu-Al-Aish & Love, 2013). Iqbal & Qureshi (2012) defines the Intention to use as a person's relative strength to perform a certain behavior for example listening to podcasts on a mobile device. The factors for M-learning adoption lead to the meditating stage of determining individuals' intentions to use M-Learning services (Nassuora, 2012). The variable of Intention to use can be seen as a guide of how people are willing to try to perform a particular behavior. In a context of the adoption of mobile learning, Davis et al, (1989) has extended the Intention to Use to include the intention and willingness to use a new technology at the beginning of its introduction.

**The Relationship between self- management of learning and intention to use M-Learning:-**

According to Taleb and Sohrabi (2012), the need for self-direction or self- management of learning positively predicts intention to adopt mobile learning. Ryu & Parsons (2009) recommend that it is necessary to make students have a self control of their learning activities so as to promote their intention to use mobile learning due to a various demands during the process of learning. Wang et al., (2008) suggested that an individual's level of self-management of learning will have a positive influence on his or her behavioral intention to use mobile learning. Additionally, in the context of mobile learning, students may manage their own learning as they are sometimes separated from faculty, peers, and the institutional support. This autonomy entails an increased need for skills in critical thinking, identify learning needs, and locating and evaluating resources (Adedoja, 2013). Further, Wang, et al (2012) states that that a person's level of self-management of learning has a positive influence on his or her behavioral intention to adopt mobile learning. Figure one below illustrates a framework to guide this study




Source: (Venkatesh et al., 2003; Huang, 2014; Abu-Al-Aish and Love, 2013)

**Figure 1: Conceptual Framework**

## Methodology:-

For this study, a quantitative cross -sectional survey approach was conducted. This was because of the type of information that was required to test the model, the wide dispersion of respondents across Universities in Uganda, a questionnaire was considered as the most appropriate method of data collection.

**Study Population, Sample Size & Sampling Procedure:-**

The total population for this study was 11, 363 students selected from two different universities in Uganda. The population size was attained from Makerere University (2013) and Kampala University Strategic Planning Report

(2014). The sample size of the population was 370 respondents out of a population of 11, 363 and it was determined using the approved Krejcie and Morgan Table of sample size determination (1970). From the two selected Universities in Ugandan, the researcher used Purposive sampling for selecting the universities, simple random sampling for selecting respondents from the respective clusters in the universities. Cluster was used to divide the population into groups from which simple random sample of the groups were selected.

**Measurement of the Variables:-**

With the review of the existing literature, measurement of the variables was on the basis of the previous studies. Self-management of Learning was measured by two dimensions of Time Management and self discipline (Huang, 2014). The respondents assessed Self-management of Learning and intention to use M-learning systems on a five-point Likert-type scale, ranging from 5= strongly agree, 4= Agree, 3= Not Sure, 2= Disagree, 1= strongly disagree were used to determine respondents' level of agreement / disagreement with questions / subject matters

**Table 1: Measurement of the Variables**

| Variable | Factors to Measure Variable | Source |
|---|---|---|
| Self-management | Time Management, self discipline | Huang (2014) |
| Intention to Use | | Huang (2014); Abu-Al-Aish and Love (2013); Mtebe and Raisamo 2014); Vosloo (2012) |

**Data analysis Method:-**

Pearson correlation analysis method was used to identify the relationship between Self-management of learning and intention to use M-learning. The regression analysis method was used to establish the predictive potential power of Self-management of learning on the dependent variable of intention to use M-learning systems

**Reliability and Validity of the Questionnaire:-**

According to Carcary (2008), he stresses that validity and reliability tests are crucial in determining the suitability and consistency of a given research tool used for data collection. Table 3 presents validity and reliability results. Basing on the affirmations of Cronbach (1951) the results shown in Table 3 signify that the questionnaire was reliable given that all variables under the study had a Cronbach's a coefficient of 0.7. A Content Validity test on study variables revealed that all variables scored 0.6 and above, hence the questionnaire was valid (Krishnaveni and Ranganath, 2011).

**Table 2: Content Validity**

| Variable | Number of Items | CVI |
|---|---|---|
| **Self-management** | 8 | .784 |
| **Intention to use** | 5 | .845 |

**Table 3: Reliability analysis**

| Construct | Number of Items | Cronbach's Alpha coefficient |
|---|---|---|
| **Self-management** | | |
| Time Management | 4 | .766 |
| Discipline | 4 | .749 |
| **Intention to use** | 5 | .798 |

Source: Primary data

## Findings:-

**Background characteristics:-**

The results in the table **4** below were generated to explore the distribution of the demographic characteristics of the respondents.

**Table 4: Descriptive statistics of the sample in terms of frequencies and percentages**

| Variable | Value | Frequency | Percentage |
|---|---|---|---|
| Gender | Female | 101 | 43.5% |
| | Male | 131 | 56.5% |
| **Total** | | **232** | **100.0** |
| Duration of using mobile Devices | 0-2 years | 31 | 13.4% |
| | 3-4 years | 70 | 30.2% |
| | 5-7years | 77 | 33.2% |
| | 8 years & above | 54 | 23.3% |
| **Total** | | **232** | **100.0** |

*Source: Primary data*

The demographic characteristics of the respondents indicate that 56.5% of the respondents were males whereas 43.5% were males. Hence we can conclude that the intention to adopt and use M-learning systems is irrespective of their gender.
Regarding the usage of mobile devices, respondents who had used the devices between 5-7 years represented the largest part of the sample of 33.2%, followed by 3-4 years standing at 30.2%.
Implying that most of our respondents have used mobile devices for a long period hence the intention to use M-learning is directly proportional to the mobile devices usage.

**Factor Analysis:-**
Factor analysis of the principal components was conducted to determine the internal structure of the questionnaire items.

**Rotated Component Matrix[a] Rotated Component Matrix[a] for Self-Management of Learning:-**
Factor analysis was used to extract factors that measure self-management of learning using the principal component analysis and varimax rotation methods as illustrated in table 5.

**Table 5: Rotated Component Matrix[a] for Self-Management**

| | Component/Dimensions | |
|---|---|---|
| | 1 | 2 |
| I believe that using M-learning will help me accomplish my studies at a time that is convenient for me. | .816 | |
| I believe that availability of the M-learning system will promote my learning activities anytime anywhere. | .809 | |
| I believe that using M-learning system will help me set aside reading and homework time. | .687 | |
| I believe that using M-learning system will help me in managing study time and schedules effectively and complete assignment on time | .636 | |
| I believe that using mobile learning will enable me control my learning process and choosing what I want to learn. | | .838 |
| I believe using mobile learning will help me in fulfilling learning goals for the course. | | .747 |
| Mobile learning will improve my self-discipline. | | .688 |
| I am compelled to use the system because of recognition | | .580 |
| **Eigen Values** | **2.217** | **2.079** |
| **% of variance** | **27.711** | **25.993** |
| **Cumulative variance %** | **27.711** | **53.705** |
| *Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. a. Rotation converged in 3 iterations.* | | |

*Source: Primary data*

**Key**
1- Time Management
2- Discipline

Time Management. Four items for measuring this factor were loaded and these include; I believe that using M-learning will help me accomplish my studies at a time that is convenient for me (.816), I believe that availability of the M-learning system will promote my learning activities anytime anywhere (.809), I believe that using M-learning system will help me set aside reading and homework time, (.687), and believe that using M-learning system will help me in managing study time and schedules effectively and complete assignment on time(.636),

Discipline. Four items for measuring this factor were loaded and these include; I believe that using mobile learning will enable me control my learning process and choosing what I want to learn (.838), I believe using mobile learning will help me in fulfilling learning goals for the course (.747), mobile learning will improve my self-discipline (.688), and I am compelled to use the system because of recognition (.580).
Exploratory factor analysis was further used to extract factors that measure facilitating conditions. Only values with a loading over 0.5 and Eigen values in excess of 1 were retained for analysis. Factor analysis yielded two components which were interpreted as time management (27.711%) and compatibility (25.993%) explaining 53.705% of the variance in self-management.

**Correlations Analysis:-**
A two tailed Pearson correlation analysis was used to establish the relationship between self-Management of and intention to use M-Learning systems.

**Table 6: Correlation Analysis**

| Study Variables | Self-management | Intention to Use M-learning |
|---|---|---|
| Self-management | **1** | |
| Intention to Use | .514** | **1** |
| ***. Correlation is significant at the 0.01 level (2-tailed).* | | |

*Source: Primary data*

**Relationship between Self- management and the intention to use M-Learning**:-
Findings from table 4.8 show that was a significant positive correlation between self- management and the intention to use M-Learning ($r = .514^{**}$, $p<0.01$). This means that self- management is associated with the intention to use M-Learning. Self- management of Learning has a significant positive effect on the intention to use M-Learning. In addition, this means that an improvement in self- management is correlated with an improvement in the intention to use M-Learning. Likewise, low levels in self- management are associated with low levels in the intention to use M-Learning systems.
*This concurs with H1 which states that Self-Management of Learning is positively related to the intention to use M-learning systems in Ugandan universities.*

**Regression analysis**:-
**Table 7: Regression analysis for Self-Management of learning on the intention use M-learning systems**

| Model | | *Unstandardized Coefficients* | | *Standardized Coefficients* | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | 1.097 | .374 | | 2.936 | .004 |
| | Self Management | .247 | .092 | .151 | 2.680 | .008 |

*Source: Primary data*

***a. Dependent Variable: Intention to Use***
The results of the study in table above revealed that the intention to use M-learning systems in Ugandan Universities was notably subjective to self-Management of learning (beta = .159, $p<0.01$, Sig =.008), This signifies that Self Management of learning is one of the predictors to students intention to use M-learning that should therefore be highly considered by the University authorities as one of the paramount strategies of enhancing students intention to adopt and use M-learning systems in Ugandan Universities.

## Discussion of findings:-

**The relationship between Self- management and the intention to use M-Learning in Ugandan Universities:-**

Findings from the study indicate that there was a significant positive correlation between self- management and the intention to use M-Learning systems. This means that self- management is associated with the intention to use M-Learning systems. Self-Management of Learning has a significant positive effect on the intention to use M-Learning systems. In addition, this means that an improvement in self- management is correlated with an improvement in the intention to use M-Learning systems. Likewise, low levels in self- management are associated with low levels in the intention to use M-Learning systems. This is in line with the findings of Taleb and Sohrabi (2012) who stated that need for self-Management of learning positively predicts intention to adopt mobile learning. Ryu & Parsons (2009) supported this that that it is necessary to make students have a self control of their learning activities so as to promote their intention to use mobile learning systems due to various demands during the process of learning. Wang et al., (2008) suggested that an individual's level of self-management of learning has a positive influence on a behavioral intention to use mobile learning. Additionally, Adedoja (2013) agrees that students may manage their own learning as they are sometimes separated from faculty, peers, and the institutional support. This autonomy entails an increased need for skills in critical thinking, identify learning needs, and locating and evaluating resources. Further, Wang, et al (2012) states that that a person's level of self-management of learning has a positive influence on his or her behavioral intention to use mobile learning systems.

## Conclusion and recommendations:-

The findings from this study revealed that there was a significant positive relationship between self- management and the intention to use M-learning systems as seen with statistical details in correlation table. This is an indication that the self- management directly affects the intention to use M-learning systems. A detailed factor analysis and Rotated Component Matrix for self- management showed that all the self- management factors such time management and discipline all had a positive relationship with the intention to use M-learning systems. Hence this signifies that self-management of learning is one of the predictors that can enhance students intention to use M-learning systems in Universities.

Universities should ensure that students are able to control their learning activities. The more the learner controls their own activities, the more successful learning will occur. Students must be the managers of their own learning because they are away from faculty, peers, and the institutional support. Therefore, an individual's level of self-management of learning has a positive influence on his or her intention to use mobile learning systems. In addition, mobile learning designers have to design mobile learning systems and applications that are easy to use and improve students' self control. Student's self-direction of a mobile learning system can add value to the existing learning management system through improvement of learning and enhancement of student's acceptance toward M-learning systems.

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