Acceptance and Use of E-Library Services in Ugandan Universities

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Background

- Increased use of ICT in University libraries results in hybrid systems
- Donors provide funding to support ICT infrastructure in university libraries in Developing Countries (DC) such as Uganda
  - has enabled university libraries to provide e-services to end-users.
The Problem

- People think that introducing new technology results in its use.
  - Technology acceptance research show that there are other factors.

- Lack of evaluation models for library ICT use even in developed countries.

- Absence of tested and validated technology acceptance models under conditions prevalent in DCs (Baba & Broady, 1998).
Study Objective

➢ To develop a model for measuring end-users’ acceptance and use of e-library services with special reference to universities in Uganda.
Technology Acceptance Model (TAM). (Davis, 1989)

Perceived Usefulness

Perceived Ease of Use

Behavioral Intention To Use

Actual Use of Technology
Theoretical Model: UTAUT (Vanketesh et al, 2003)

Performance Expectancy
Effort Expectancy
Social Influence
Facilitating Conditions

Behaviour Intentions
Use Behaviour

Gender Age Experience Voluntariness
Motivation

- UTAUT provided the motivation for this study because it:
  - Provides determinants of non-acceptance and non-use
  - Has demonstrated up to 70% accuracy predictive levels
  - One of the latest A & U models

- Vanketesh’s directive for further research
Modifications to Model

- Replace: *Effort Expectancy* with *Relevance*
  - Rationale: A service must be appropriate to attract usage

- Replace: *Voluntariness* with *Awareness*
  - Rationale: No compulsory use in a library setting; users require to know about availability of the services
The Study Hypotheses

H1. End-users in Universities accept and use e-library services.

H2. Relevance demonstrates an effect on behaviour intention to use e-library services.

H3. Relevance moderated by awareness demonstrates an effect on behavior intention to use e-library services.

H4. The SOUTAUT constructs account for a significant percentage of variance on user intention to use e-library services.

H5. Behaviour usage account for a significant percentage of variation of perceived benefits.
Methodology

- Develop study tool based on UTAUT model
- Validate instrument using data from cross sectional survey

- Survey Population: 2 Universities in Uganda
- Sample Population: 20 regular end-users of e-library services

- Use data collected to provide evidence for or against each hypothesis
Instrument Design

- Based on UTAUT Model instrument
- 39 items in the study constructs.
- 11 demographic questions with one variable in each.
- 8 study constructs
  - 5 from UTAUT without major changes.
  - 3 additional constructs with new statements.
  - All statements in study constructs approved by two scholars.
Analysis of Pre-test Study

- Data collected from 20 respondents at two sites in April 2007
- Analysis performed on data using SPSS, STATA & PLS-Graph
- Courtesy of Prof. W.W. Chin for providing free PLS-Graph software.
Pilot Construct Validation

- Factor loadings & factor scores generated
- Constructs evaluation for ICFL
  - Constructs with less than 0.6 loading were dropped
- 12 of the 39 statements were removed
- Awareness, Relevance & Social Influence constructs most affected.
Modified Model Results from Pretest: SOUTAUT

- Performance Expectancy
- Relevance
- Social Influence
- Facilitating Conditions
- Gender
- Age
- Experience
- Awareness

Behaviour Intentions
Use Behaviour
Expected Benefits
Testing the Hypothesis (1)

H1. Library end-users in Univs. accept & use e-library services.

SUPPORTED
Positive beta coefficients for BI construct account for 11% UB for 41% EB for 81% all total 133% variances. The piloted end-users significantly accept and use e-library services.
Testing the Hypothesis (2)

- H2. Relevancy demonstrates an effect on behavior intention to use e-library services.
  - Rejected
  - Relevancy contributes negative coefficient of 7% towards A. & U. of e-library services.
  - This hypothesis is not supported.
Testing Hypothesis (3)

H3. Relevance moderated by awareness demonstrates an effect on behavior intention to use e-library services.

- SUPPORTED
- Positive beta coefficients of relevance moderated by awareness at 10.54 and significant (p<0.01).
Testing the Hypothesis (4)

H4. SOUTAUT model constructs account for a significance % of variance on user intent to use e-library services.

- SUPPORTED

Positive beta coefficients for BI constructs account for 11%, UB for 41%, EB for 81%; and all total to 133% variances.

Study data of 20 end-users accept and use e-library services.
Testing the Hypothesis (5)

H 5.BU account for a significant percentage of variation of perceived benefits.

- SUPPORTED

- Behavioral usage positively contributes 90% towards expected benefits.

- This hypothesis is significantly supported.
Moderator Variables

- Gender moderates PE, Re and SI
- Age moderates all four constructs
- Experience moderates Re, SI & FC.
- Like Experience, Awareness moderates Re, SI & FC

Moderation in varying degrees yet to be established.
Limitations

- Very few respondents, knowledgeable about e-library services.
- Respondents from Uganda only.
- Self reporting instrument
- Results may not be representative of Uganda & Developing Country.
Summary & Conclusion

- Results of Pre-Test direct main study.
- A model and accompanying tool to measure levels of end-users’ acceptance and use of technology services has been developed.
- The preliminary results of SOUTAUT model predict 133% of end-users’ acceptance and use of the new technology. Improvement of UTAUT
- Main study of 8 universities: targeting three faculties and sampling 494 subjects underway.
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