CEF 512: ERP System Engineering

Presenting the paper: *BARRIERS TO OPEN SOURCE ERP ADOPTION IN SOUTH AFRICA*

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Outline

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- Research methodology

- Research Findings and Analysis

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Abstract

- Orgs in SA and other Economically developing countries don't maximize the use of ERP systems

- Cost, major factor for implementing ERP in orgs

- OS ERPs are available offering same benefits at low cost to orgs

- Empirical study was done using online survey and a focused group discussion.

- Understanding the dynamics of market requirements is crucial for OS ERP vendors to develop effective strategies.

ERP adoption factors in SA

- Criteria for selecting an OS ERP in SA include;
  - Evaluation, functionality of proposed system
  - Technical aspects of the ERP system.
- Customization of source codes often caused problems so its best to choose a software which is best suited for the orgs needs
- This is due to lack of both skills and technical support from most vendors.
- This research also shows that vendors have minimal influence on the adoption decisions made by the org since its mostly made before the vendors are approached.

Theoretical framework

- Three theoretical frameworks used in this paper;
    - TOE (Technology-Organization-Environment)
    - TAM (Technology Acceptance Model)
    - SIT (Social Identification Theory)
- From these frameworks, appropriate constructs as potential barriers to OSS ERP adoption where identified.

TOE (Tech-Org-Env)

- An org functions along 3 dimensions of technology, organization and environment.

- TOE has been used to understand how orgs adopt technology.

- Technology dimension focuses on;
  - Factors of cost, reliability, compatibility, complexity
  - Performance expectancy

- Organization dimension focuses on;
  - Human and financial resource
  - Innovativeness and competitiveness

- Environmental dimension focuses on;
  - Industry, competition, government, suppliers and customers.

TAM (Tech Acceptance Model)

- Two behavioral constructs

  - Perceived usefulness (PU)

  - Perceived ease of use (PEOU)

- They determine the intention of an individual to use a specific technology and subsequent usage behavior of the technology.

SIT (Social Identification Theory)

- Its important to understand OSS adoption from individuals perspective.

- Adoption of OSS is voluntary and not influenced by subjective norm pressure but rather the communal OSS nature.

- A model was developed from SIT and TAM for OSS acceptance.

Research Methodology

- Research used inductive and deductive methods to test the constructs of existing theories.

- Data for the study was collected in Nov 2011

- The study engaged a mixed method (quantitative and qualitative) approach to incorporate both ind and ded approaches in the theory dev of OSS ERP adoption.

- The Inhibitor Determination Methodology(IDM) was used.

Research Methodology

- IDM model has 4 phases

  - **Phase 1A**: Identify the population of inhibitor factors through a literature review and questionnaire survey.

  - **Phase 1B**: Focus groups of relevant practitioners and decision-makers rank and analyze the key inhibitors identified in Phase 1A.

  - **Phase 2A**: Group Decision Support Systems (GDSS) - facilitated groups of IS practitioners and decision makers ranked the factors associated with each prime inhibitor identified in Phase 1.

  - **Phase 2B**: The same GDSS groups commented through synchronous topic discussion on the highly ranked factors identified in Phase 2A.

Research Findings and Analysis

- There were 158 survey respondents from a broad spectrum of industries ranging from agriculture, auto industry, mining, retail, financial services, to manufacturing.

- Coefficient of correlation was 0.9268

Discussion and Conclusions

- Generally, the OSS adoption barriers identified for SA are similar to those of economically developing countries in literature.

- This research highlighted that the generally accepted adoption factors associated with OSS might not apply to OSS ERP systems due to the unique nature of the application type.

- The main limitation for this study was time.