STID3113

CONFIDENTIAL

UUM
Universiti Utara Malaysia

FINAL EXAM
FIRST SEMESTER SESSION 2011/2012

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<tr>
<th>COURSE CODE / NAME</th>
<th>STID 3113 RESEARCH METHODOLOGY IN IT</th>
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<td>DATE</td>
<td>4 JANUARI 2012 (WEDNESDAY)</td>
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<tr>
<td>TIME</td>
<td>8.30 PM – 11.00 PM (2½ HOURS)</td>
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<td>VENUE</td>
<td>DSB K.TM, KIA &amp; KYM</td>
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INSTRUCTION:

1. This exam paper contains FIVE (5) questions in FIVE (5) printed pages, excluding the cover page.
2. Answer ALL QUESTIONS on the answer sheets provided.
3. Begin each question on a new answer sheet.
4. You are NOT ALLOWED to remove the exam paper from the examination hall.

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LECTURER: PROF. DR. ZULKHAIRI BIN MD. DAHALIN

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DO NOT OPEN THIS EXAMINATION PAPER UNTIL INSTRUCTED

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1. State the meaning of the following terms:
   a) Research
   b) Basic Research
   c) Applied Research
d) Replicable
e) Generalisable
f) Incremental
g) Doable
h) Deductive approach
i) Inductive approach
j) Causal research

   (20 MARKS)

2. This question consists of FOUR (4) parts. Each part is a one-paragraph excerpt representing a section of an article. Read the excerpts carefully and give your evaluation by identifying FIVE (5) critiques for each excerpt.

   a) Braun and Winter finally have dealt that “based on importance of EA for organizational engineering and the increase importance of service orientation in IT Management as well as in organizational design, the paper aimed at integrating ITSM and SOA into EA. I propose a meta model extension that integrate service oriented concepts and relate them to EA key elements”.

   (5 MARKS)

   b) In my study, 1 external IT service provider has been selected. As I reported in chapter 4, I have conducted 6 interviews in this large scale organization which providing services in the field of IS and IT. The participants of these interviews were IT managers and some IT specialist in related domain of study.

   (5 MARKS)

   c) Agile, according to Pattel (2011), has proven itself as the most used process in software development industry. It is characterized by multiple characteristics, making it an ideal alternative to conventional development methods. While the conventional methods pay a great focus on “process and tools” in development, Agile emphasizes “teams, working software, customer collaboration, and responding to change” and these are the key benefits of agile over other methodologies [20, 21, 22].

   (5 MARKS)
d) Some previous work in software innovation is Hao, Zhengang, Chunpei, and Zhu (2008) that see innovation of OSS community is nurtured through the relation of production that builds up the OSS community economic foundation and dissipative mechanism, supporting the study by Raymond (2001) that underlined the circulation of ideas and knowledge freely within the bazaar-based production consequently builds up a suitable environment for innovation.

(5 MARKS)

3. Describe the (a) problem statement, (b) data collection methods (including population, sample, sampling frame and unit of analysis) and (c) data analysis (including independent and dependent variables) for a research that involves the study of the application of the Unified Theory of Acceptance and Use of Technology (UTAUT) Model on User Acceptance of Telecentre. Consider the following scenario of the research.

Scenario:
Currently, there are over 2500 telecentres (TCs) throughout the country, which mostly are located in the rural areas. The aim is to bring access to ICT within reach of the rural population, thereby addressing the digital gap between rural and urban communities. However, whilst broadband penetration per household nationwide has increased tremendously from 22.5% in the previous two years to over 55.6% this year, there has been a small increase in broadband penetration in the rural areas, particularly in underserved areas where TCs are not available. A study by Zulkhairi et al. (2009) among rural communities in the northern region found less than one percent broadband penetration. The government, through the Universal Service Provision fund, a public fund under the Communication and Multimedia Act (1998) makes it mandatory for telecommunication companies to contribute. The fund is managed by the Malaysian Communication and Multimedia Commission (MCMC), being utilized to roll out telecommunication infrastructures including broadband technologies throughout the nation to ensure that all citizens have equal access to ICT, irrespective of socio-economic status and locality. However, the main issue is the extend the technology push has benefitted the rural people, as it has benefitted the urban community. Previous studies on technology acceptance have been much focussed on the organizational context and based on a modern, knowledge-based and urban society. This study therefore aimed to apply the UTAUT model into the rural community to study whether there are significant difference with respect to the rural community acceptance and use of the ICT made available through the TCs. Among the factors to be analysed include Gender, Age, Experience, Voluntariness, Facilitating Conditions, Social Influence and Behavioural intention. Since actual usage behaviour is difficult to study, past studies have resort to Behavioural Intention as respondents’ perception to acceptance and use of the ICT facilities.
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a) Problem statement: (5 MARKS)

b) Data collection: (5 MARKS)

c) Data analysis: (10 MARKS)

4. Write a brief research proposal based on the outline below. You are to use your own term project. For each outline (section), briefly describe its purpose and provide one example.
   a) Title
   b) Introduction
   c) Problem Statement
   d) Objectives
   e) Scope
   f) Significance of Study
   g) Literature Review
   h) Research Methods
   i) Expected Results
   j) Contribution and Conclusion (20 MARKS)

5. Consider the following case study scenario.
Case: Poverty Alleviation. The State of Kedah is one of the poorest states in Malaysia with 80% of its population of 2 million people live under the poverty line. Efforts have been made by federal and state governments, including NGOs and private corporations to address the problems of poverty in the state. The federal government created rural development programs such as infrastructural and relocation schemes and provides subsidies and incentives to the poorest of the poor. Whilst the state government manages the tithe (Zakat) and provides land for agriculture, NGOs and private corporations establish foundations and micro credit facilities to help the poor into business. These numerous aids and programs to eradicate poverty are handled at the district level, where agencies are established representing the ministries, departments and organizations at the federal and state level. Altogether 12 agencies are involved with each agency having their own profile of the poor people living in the district. The agencies are: Ministry of Rural and Regional Development (MRRD), Ministry of Agriculture (MOA), Ministry of Women, Family and Community Development (MWFC), Muda Agriculture Development Authority (MADA), Kedah Regional Development Authority (KEDA), Federal Land Development Authority (FELDA), Rubber Industry Smalholders Development Authority (RISDA), Federal Agriculture Marketing Authority (FAMA), Amanah Ikhtiar Malaysia (AIM), TEKUN, Department of Zakat, and Farmers'
Association Board. Managing and implementing aids to the poor have been a major problem to all the agencies concerned. There is a lack of coordination among the agencies, even with the establishment of a registration system, e-Sinar, has not solved the problem. Among the problems and issues identified were:

Problems and issues:

- Each agency keeps its own list of poor people, with its own format and selection criteria. This results in duplications where the same recipient gets more than one aids (some managed to become rich from getting numerous aids from different agencies).

- There were no mechanism to track previous aids given to recipients, and how those aids have benefitted them. As a result the same recipients will apply for the same aids using the same tactics year after year, even though a person may no longer qualify for such aids.

- Fraud reporting was rampant as applicants for aids did not disclose their true income. Most knew that the poverty line to qualify for aids was below RM677 for normal poverty and below RM466 for hardcore poverty. So they use these as a benchmark to calculate their household income. If one were to calculate a person’s with 5 dependent monthly expenditure: an average person will spend RM2.50 for breakfast, RM3.50 for lunch, RM1.50 for afternoon tea, and RM3.00 for dinner. That totals to RM10.50 per day per person. For 5 persons, RM52.50 per day. For 1 month, the family will have to spend RM1575! (and that was only for food). That is far off from what the applicant stated in his/her application form.

- E-Sinar is a portal system for the poor, developed by the Kedah State government with the aim to keep records of poor household living in Kedah. It is an electronic registration system, where poor families need to submit their particulars endorsed by the village headman in order to receive aids from the state. The system may solve the problem of duplication at the state agency level, but its lack of integration with other federal agencies and NGOs has not made the system foolproof. Moreover, fraud is still penetrable as village headmen find it difficult to verify the validity and reliability of the applicant’s data.

Answer the following five questions:

a) What would be a suitable IT-based research to propose to address the problem of duplication across state and federal agencies? Your answer should highlight on the research contribution as opposed to system/database development.

(4 MARKS)

b) If you were to carry out a research to detect fraud, describe what process and/or technology would you use to address this problem?

(4 MARKS)
c) Assume that a system is well in place to eliminate duplicates and frauds. If the government decides to give one PC to a poor family, a criterion to be considered would be the possibility that the PC would not be sold for cash. What would be a causal relationship that would have an influence on the criterion?  

(4 MARKS)

d) Describe the possible meaning of this hypothesis: "A strong positive correlation exists between the existence of duplicate records and attempted frauds."

(4 MARKS)

e) Describe the possible meaning of this hypothesis: "A negative correlation exists between knowledgeable person and aids recipients."

(4 MARKS)

END OF QUESTION