

# Foundations of IS (191863960)

## Final exam 3-11-2014

### 1. General concepts

- 1.1 Explain the concept of theory. What are its main components according to Gregor?
- 1.2 Compare the positions of Popper and Kuhn concerning the criterion for a piece of research to be scientific. Are Freud's theory of psychoanalysis and TAM scientific? Why?
- 1.3 Give a definition of IS, and of the concepts of reference discipline and cumulative tradition.
- 1.4 Is Benbasat and Zmud's nomological net a theory? If so, what type of theory is it according to Gregor's framework? Is it scientific?
- 1.5 Define the concepts: error of inclusion, error of exclusion, nomological density, degree of separation. Calculate these values for a theoretical model of your choice.  
(Figure 3: Research model given as example)

### 2. Theory mapping

- 2.1 Define 2 types of elements and 4 types of relationships that can appear in a theoretical model; illustrate them using a diagram.
- 2.2 Explain what is a moderating variable? Give an example from one of the models studied in the course. Can a moderating variable be both dependent and independent?
- 2.3 Define the characteristics of a good theory described in the research methods book and the lectures.
- 2.4 Extract from the abstract the underlying theoretical model of this research study (i.e. identify and define the constructs and their relationships) and map it using the diagrammatical notation used in lectures.

### 3. Measurement concepts

- 3.1 Explain what is meant by internal consistency and how it is measured.
- 3.2 Explain the convergent and discriminant validity.
- 3.3 Explain linear and multiple regression.
- 3.4 Explain what is meant by (a) the regression coefficient and (b) p-value. In the table below, what does the value inside the ellipse mean?

### 4. IS success

- 4.1 Draw a diagram of DeLone and McLean's original model of IS success (from 1992) using the notation described in lectures.
- 4.2 Indicate what were the points of critique mentioned in Seddon's paper with respect to the IS success model of De Lone and McLean's. What was the response to this critique in the 10-years update of the IS success model (published in 2003)?
- 4.3 Name the similarities and differences between TTM and TPC. Think of constructs, boundary conditions, relationships, etc.
- 4.4 Indicate what type of theory (in the sense of Gregor) are Goodhue and Thompson's TPC (task technology fit) model and DeLone and McLean's model of IS success.

## 5. Technology acceptance

- 5.1 Explain the similarities and differences between TRA, TPB, TAM and UTAUT with respect to constructs and boundary conditions. Make a table in which you show the correspondence.
- 5.2 How was the UTAUT model developed and tested?
- 5.3 In the empirical testing of which theoretical adoption models a clear distinction has been made between adoption and continued usage?
- 5.4 How does the Innovation Diffusion Theory defined by Moore and Benbasat (1991) relate to (a) the IT adoption across time model by Karohana, Straub and Chervang (b) UTAUT?

## 6. Design theory

- 6.1 Describe shortly the phases of the Design Science Research Methodology (DSRM) by Peffers et al. (you can use a diagram). Is this work by Peffers et al. a theory of its own? If yes, of what type? If no, why?
- 6.2 Below you can find the table with mandatory and optional components of a design theory, as indicated in Gregor (2007). Give an example of a design theory (presented during the lectures or elsewhere) and map it to Gregors table.
- 6.3 Explain the following items: descriptive theory, prescriptive theory, normative theory, kernel theory. Give an example for at least two of the above types of theories that you have seen during the course.
- 6.4 What is Gregor's argument against distinction between theories for products and design theories for processes?