A Typology of Methods for E-learning Assessment

Mariusz Grabowski

CRACOW UNIVERSITY OF ECONOMICS

Department of Computational Systems

E-learning

- Pervasive and ubiquitous
- Used in higher education
- Applies to all of us
- Praised and criticized
- Needed to be researched in order to improve
  - E-learnig
  - Traditional education

Disruptive Innovations Theory

- DIT in general
  - C.M. Christensen (1997) *The Innovator's Dilema. When New Technologies Cause Great Firms to Fail*, Harvard Business Review, Press, Boston.
  - Przykłady: PC, fotografia cyfrowa, tanie linie lotnicze, …
- DIT in education
  - C.M. Christensen, C.W. Johnson i M.B. Horn (2008) *Disrupting Class: How Disruptive Innovation Will Change the Way the World Learns*, Mc Graw Hill, New York.
  - P. Hyman (2012) *In the year of disruptive education*, „Communication of the ACM", Vol. 55, No. 8, pp. 26-28.
  - F.G. Martin, (2012), *Will massive open online courses change how we teach?*, „Communication of the ACM", Vol. 55, No. 12, pp. 20-22.

E-learning (quality) assessment

- No explicit definition of quality exists
- Different perspectives
  - Institution
  - Tutor
  - Trainee
- Problems in defining what is assessed:
  - Course
  - Tutor
  - Platform
- Different models for quality assessment

E-learning system

A specialized educational web service, consisting of publically accessible portal-informational part and a restricted area offering access to knowledge resources and communication facilities including the following functionalities:

- providing dedicated content to authorized users,
- offering the tools to implement the learning process,
- enabling tracking and evaluating the progress in the learning process,
- allowing management of teaching content, users and their groups, access rights as well as generate reports

(Dąbrowski, 2013, p. 207)

E-learning quality

- Quality dimensions (Sun at al., 2008): learner, instructor, course,technology, design, environment
- Critical factors that influence the **learner satisfaction**
  - learner computer anxiety,
  - instructor attitude toward e-learning
  - e-learning course flexibility
  - e-learning course quality
  - perceived usefulness
  - perceived ease of use
  - diversity in assessments

Literature study

- Keyword-based search
- Bibliographic databases: *ACM Digital Library*, *EBSCO*, *Science Direct*, *JSTOR* + Internet
- Selected papers: 18
- Categories assigned
  - Theory-based
  - Institutional
  - Standard-based

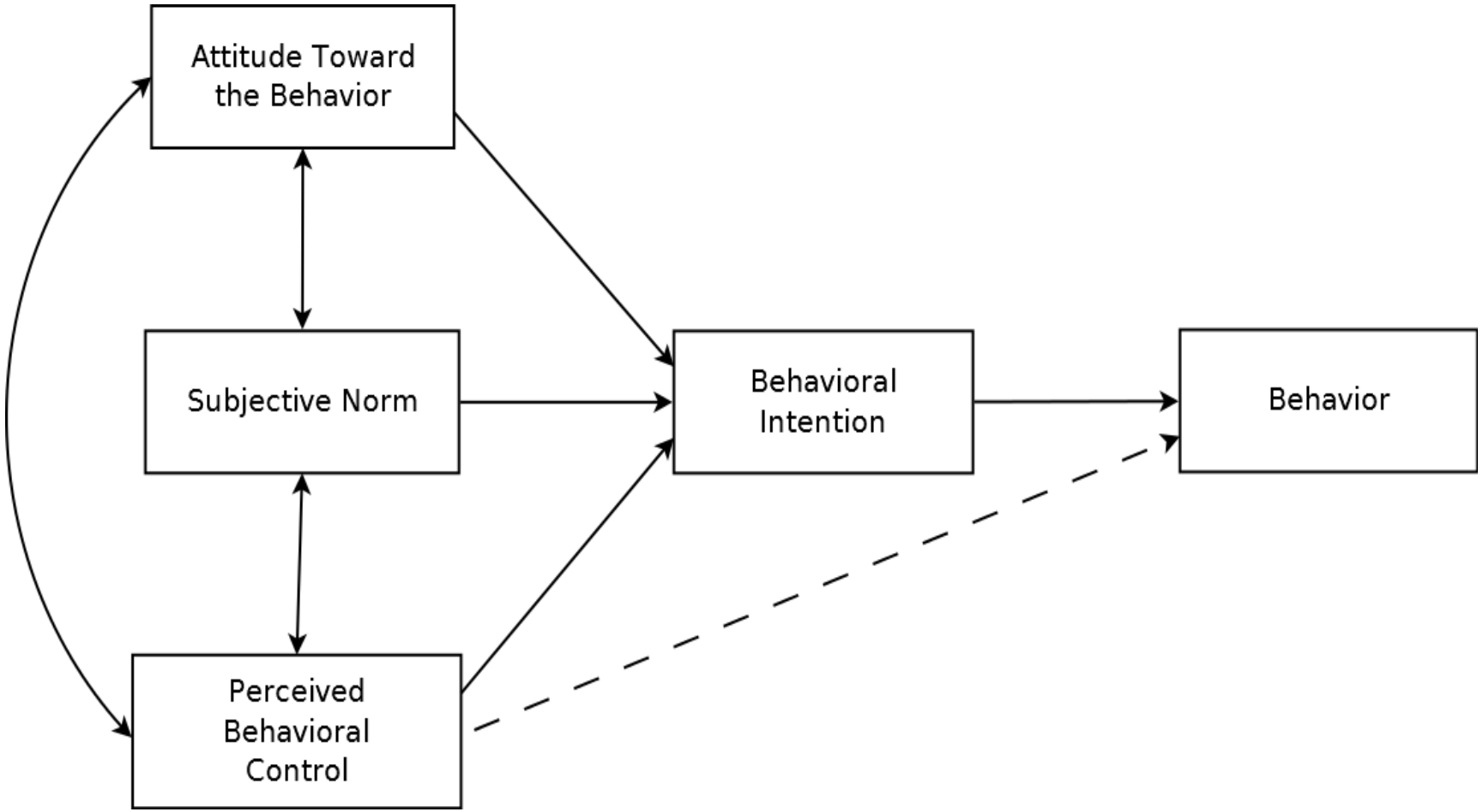
E-learning assessment typology

CATEGORY	CONCEPT	EXTENSION	REFERENCES
Theory-based	TAM		Capece and Campisi (2013), Kim et al (2013), Tselios, Daskalakis, and Papadopoulou (2011),
		Extended by additional construct(s) derived form S-ET, E-CT, SERVQUAL, OL, PIA, usability and MRT	Buche Davis and Vician (2012), Liao and Liu (2012), Cheng (2011), Islam (2011), Martinez-Torrez et al (2008), Read and Leavy (2008), Sun at al (2008), Wong and Huang (2010), Wu and Hwang (2010), Wu, Hiltz and Bieber (2010)
	SCT	S-ET	Santhanam, Sasidharan and Webster (2008)
		AST	Gupta and Bostrom (2012)
Institutional	Benchmark		Williams, Kear and Rosewell (2012)
	Checklist		NHS (2009)
Standard-based	ISO/IEC 19796-1		Pawlowski (2007)

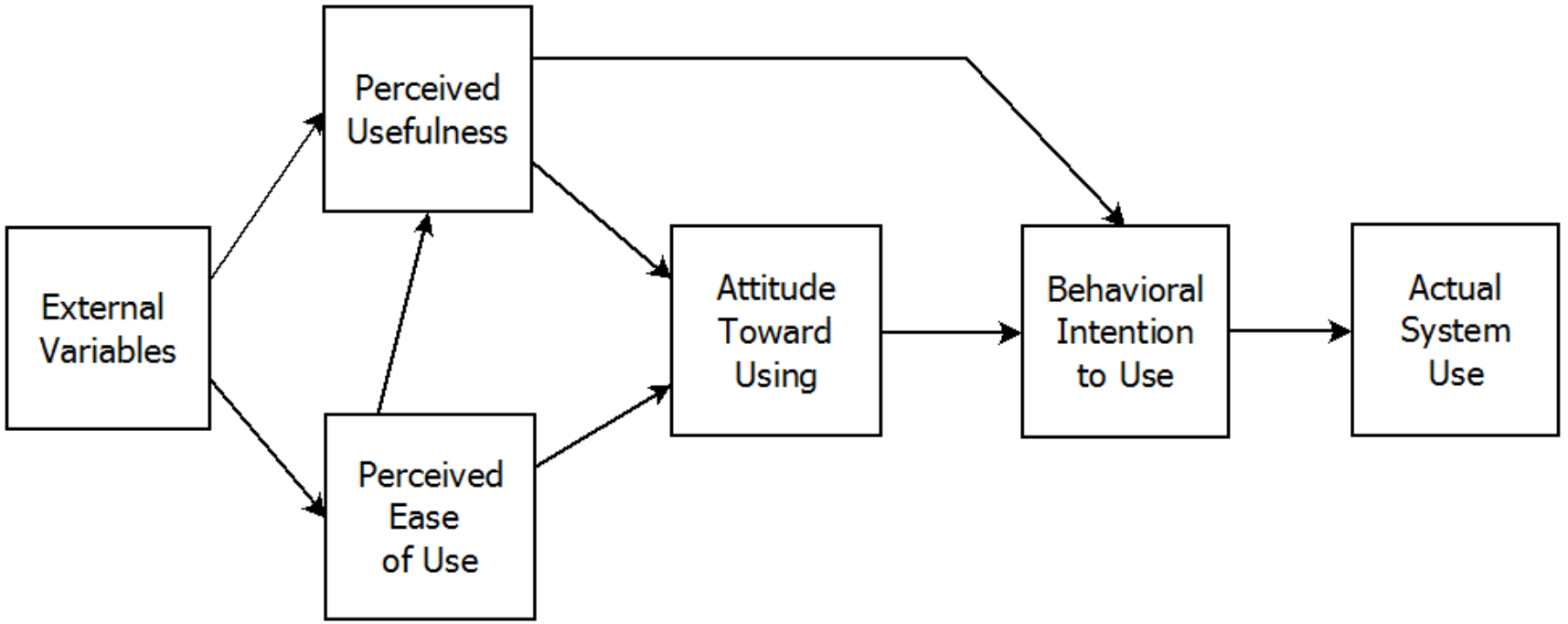
Technology Acceptance Model

- TAM (Davis, 1989; Davis, Bagozzi i Warshaw 1989) originates from Theory of Reasoned Action (TRA) (Fishbein i Ajzen, 1975, 1980) and Theory of Planned Behavior(TPB) (Ajzen, 1985, 1991)
- Constitutes one of the most influential developments of TRA i TPB
- Is commonly used in technology acceptance and use research
- Modifications: TAM2, TAM3, UTAUT

Theory of Planned Behavior



Technology Acceptance Model



Conclusion

- E-learning assessment is still an open question and needs further study
- E-learning assessment methods typology enable to define the appropriate context of use for the described methods
- Theory-based category is aimed at assessing the quality of existing e-learning systems. TAM and its derivatives are the most widely used theoretical concept in e-learning assessment scholarly literature
- Institutional category should be used in the definition phase of e-learning courses
- Standard-based category is aimed at defining the specific quality e-learning system for any institution

Thank you

Mariusz Grabowski, Ph.D.
Department of Computational Systems
Cracow University of Economics
Rakowicka 27, 31-510 Kraków, Poland
E-mail: Mariusz.Grabowski@uek.krakow.pl