



The Role of a Modified Technology Acceptance Model in Explaining Internet Usage in Higher Education in Thailand

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ABSTRACT

This article describes research which modelled adoption of Internet technology by academics in Business Schools in Public Universities in Thailand. It begins by reviewing prominent theories of technology acceptance. Formulation of the research model was based mainly on TAM and its derivatives. Survey methodology was used to collect primary data from academics in Thailand and the survey yielded 455 usable questionnaires. Analysis was performed using Structural Equation Modelling. The study generated a research model: 'The Internet Acceptance Model' which demonstrates that only perceived usefulness, perceived ease of use and self-efficacy significantly influence actual usage behaviour. This model is found to be both parsimonious and theoretically justified. Significantly, not only is it capable of specifying general determinants of Internet acceptance and usage in higher education but it can also be used and applied to explain or predict individual behaviour across a broad range of Internet technologies and user groups.

Keywords: academic work; Internet; Internet Acceptance Model; technology acceptance model

UNIVERSITIES IN THAILAND AND THE INTERNET

The Thai public university sector is supported by the government and Thai higher education institutions are under the supervision of the Office of the Higher Education Commission, Ministry of Education (Commission of Higher Education, 2007). These universities can be

classified into four types with specific patterns of coordination and institutional governance (SEAMEO RIHED, 2007):

1. public universities and institutes,
2. private universities and colleges,
3. other institutes and colleges,
4. specialised training institutions.

Even though worldwide use of the Internet began to grow less than two decade ago (Hyperdictionary, 2006) it is now very popular in many countries. Despite this popularity world Internet penetration (percentage of the population that use the Internet) is still quite low. Only 15.7% of all people in the world use the Internet, accounting for 1,023 million people from a total population of 6,500 million ("Internet Usage Statistics-The Big Picture " 2006). The low Internet penetration rates in some countries raises questions on what determinants influence use of the Internet and how to motivate people to make full use of this technology in their work.

With a penetration rate of 12.7%, Internet usage in Thailand is lower than the world average and cannot be compared with that of the U.S. (68.6%) ("Internet Usage Statistics for the Americas," 2006) and Australia (68.4%) ("Internet Usage and population in Oceania," 2006). The total population of Thailand is 66.6 million, and Internet users make up only 8.4 million people ("Internet Usage for Asia," 2006). Despite the low overall penetration rate, the Internet is most widely used in the central part of Thailand especially in Bangkok – the capital, and the cities around Bangkok. Other than this, the Internet is also widely used in the big cities (or provinces) in other part of the country (Students of the World, 2006). The usage growth in Thailand from 2000-2006 was 266.1% (Internet World Stats, 2006). Noticeably, each Thai public university is located where the Internet is widely used. The Thai government has a policy of supporting IT to facilitate teaching and learning processes (Government of Thailand, 2001) and so there are networks that link to all state universities around the country. All Thai Public Universities have computer facilities and networking including intranet, extranet and the Internet to facilitate the teaching and learning environment.

Thai National Plans (NECTEC, 2001; Office of the Education Council, 2004) have consistent targets and aim to use Internet technologies to support continuous learning. The critical issues of how to increase usage and make

full use of ICT are important national concerns. It is seen as essential for all academics in higher education to use ICT, and especially the Internet as most students already do so (Office of the Education Council, 2004).

An understanding of the determinants of usage behaviour will enable higher education institutions to better plan policies and design organisational interventions to increase user acceptance and usage of Internet technologies.

TECHNOLOGY ACCEPTANCE MODELS

An important area of research in information systems is that of technology acceptance – the adoption and use of specific technologies. The research described in this article (Kripanont, 2007) involved coming up with a modified model to best describe the adoption of Internet technologies by academics in Business Schools in Thai Public Universities. Several models could have been used to investigate and explain technology acceptance, and the first step was to consider the theoretical perspectives of these in order to formulate the theoretical framework for this study. These technology acceptance theories are as follows.

- a. **Innovation-Diffusion** comprises five functions or stages (Rogers, 1983, 1995): knowledge, persuasion, decision, implementation and confirmation. In the persuasion stage, five attributes that persuade an individual to adopt the innovation are: relative advantage, compatibility, complexity, trialability, and observability.
- b. **Social Cognitive Theory**, by Bandura (1986), views: (a) personal factors in the form of cognition, affect, and biological events, (b) behaviour, and (c) environmental influences that create interactions that result in a triadic reciprocity.
- c. The **Theory of Reasoned Action** (TRA) (Ajzen and Fishbein, 1980) postulates that beliefs influence attitude and social norms which in turn shape a behavioural intention

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