

A Survey on Factors of Information System Adoption Model

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ABSTRACT

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Many research has been found the result IS adoption model in different case studies in various companies. The result can be knowledge to support success of information systems adoption such as TAM that has been dominating in the use of the IS adoption model in many case studies. However, lack of research delivered a literature review to collect and gather information the factors and model to know the development and use of IS adoption model in this era. This paper attempted to present factors and model of the IS adoption model. The different this paper with previous research is the object of implementation which is the model that can implement to Enterprise 2.0. As the result, we found the main factors of IS adoption model are technology, organizational, competency, personal, environment and others. We also gathered several IS adoption model, including TOE Framework, Theory of use and non-use, TAM, the role of an affect; technology, management, and people perspective; socially drive characteristic; major characteristics of social software; TOS; Innovation diffusion theory and social capital theory; cultural and social dilemma, and UTAUT.

Keywords: Survey Paper, IS Adoption Model, Factors, Enterprise 2.0

I. INTRODUCTION

In recent years, many IS adoption model have been purposed to support success of information systems adoption (Fitrianah, Hidayanto, Zen, & Arymurthy, 2015) such as TAM that has been dominating in the use of the IS adoption model in many case studies. The characteristic of factors of TAM is the behavioral intention to use and user attitude (Davis, 1985). The other model named ECM (Expectation Confirmation

Model) with behavioral approach in the adoption of information systems focused on user satisfaction as important factor in the sustainability of a system (Bhattacharjee, 2012). Moreover, ECM is developed by refers to consumer satisfaction or dissatisfaction models (CS/D) (Liao, Palvia, & Chen, 2009).

Many studies have been delivered the finding and result IS adoption model in different case studies in various companies. For example, the previous study

regarding the finding of theory in explaining of the determinants factors of adopting IT (Liao et al., 2009) or an investigation of the factors that affect the sustainability of innovation IS within the organization (Liao et al., 2009). However, lack of research delivered a literature review to collect and gather information the factors and model to know the development and use of IS adoption model in this era.

This paper attempted to present factors and model of the IS adoption model by using systematic literature review approach. The different this paper with previous research is the object of implementation which is the model that can implement to Enterprise 2.0 such as including social networks, virtual community (group discussion), cyber meetings, online chat, enterprise social software, social commerce, Customer Relationship Management (CRM) and project management.

II. METHODS AND MATERIAL

The systematic literature review (SLR) method is a systematic process to identification, evaluation and interpretation all sources of research related to the research question or research topic (Kitchenham, 2004). Several stages of the systematic literature review were used in this study consists of three parts, including planning, implementation, and reporting, with the detail of each stage can be seen in Fig 1.

The planning review consists of two phases, identifying the purpose of doing SLR and developing the review protocol (Kitchenham, 2004). In this study, the main objective is to determine the factors that affect the implementation of enterprise 2.0 through IS adoption model. So that both the CIO and

developers can develop a useful and implementation of enterprise 2.0 in an organization.

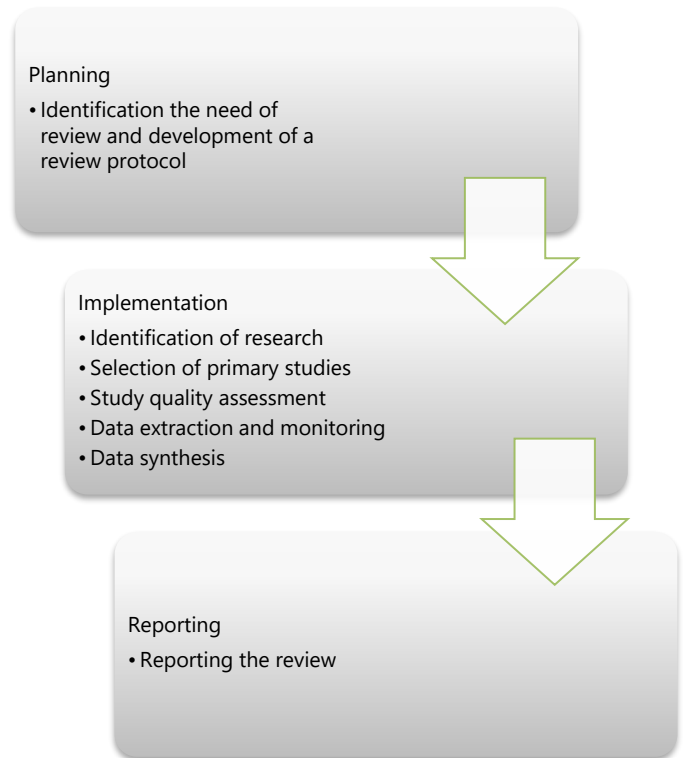


Figure 1. Phase of research methodology

The next stage is developing a protocol review that will determine the criteria and the research question. Criteria for research question can be seen in Table I. In formulating the research question, this study used the PICOC formula (Population, Intervention, Comparison, Outcome, and Context) by Petticrew and Roberts.

In selecting the research, some journals are used in this research project, such as Science Direct, IEEEExplore, Proquest, Springer Link, EBSCOhost and Scopus. Studies that found in the journal database and then selected through several criteria based on Table III. The software in managing the stages of identification and selection using Mendeley.

Some of the keywords were used to search the relevant literatures. The keywords arranged into

boolean sentences with the composition: ((company OR enterprise OR organization) AND (enterprise 2.0 OR web 2.0 OR website 2.0 OR social software) AND (acceptance OR adoption OR approval) AND (model OR OR factor standard)).

We selected 15 papers that will be extracted to obtain data from each research results. The result of data extraction is used to answer the research question regarding factors, models and for IS model adoption.

The main objective in data extraction process is to take the information according to the research question in order to carry out the next stage, the synthesis of the data. Extraction of data from each study will be documented through a format template.

III. RESULTS AND DISCUSSION

Based on result of research, we found several IS model adoption, including TOE (technology, organization, environment) framework (Askool & Nakata, 2012; Soto-Acosta, Perez-Gonzalez, & Popa, 2014; Yan Xin, Ramayah, Soto-Acosta, Popa, & Ai Ping, 2014), Theory of use and non-use (Al-Ani, Wang, Marczak, Trainer, & Redmiles, 2012), TAM (Technology Acceptance Model) (Antonius, Xu, & Gao, 2015), the role of an affect (Hoong, Lim, & Aripin, 2013), technology, management, and people perspective (Husin, Evans, & Deegan, 2016), socially driven characteristic (Iglesias-Pradas, Hernández-García, & Fernández-Cardador, 2014), major characteristics of social software (Kim, 2012), TOS (Technology, Organization, Social) (Kügler, Smolnik, & Raeth, 2013), innovation diffusion theory and social capital theory, cultural and social dilemma (Kügler, Smolnik, & Raeth, 2012), and UTAUT (The Unified Theory of Acceptance and Use of Technology) (Peris, Blinn, Nüttgens, Lindermann, & Von Kortzfleisch, 2013; Taylor, Wang, Jung, Kang, &

Chung, 2013). The complete list of IS adoption model can be seen in Figure 1 below.

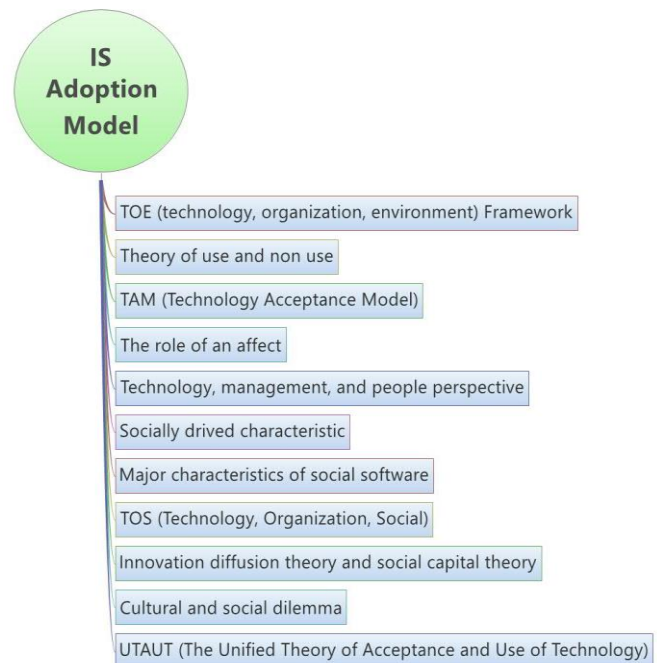


Figure 2. IS Adoption Model

Moreover, we also derived main factors of IS adoption model from systematic literature review are technology, organizational, competency, personal, environment and others. Those factors are grouped by several theories such as TOE (Technology, Organizational, Environment), UTAUT (The unified Theory of Acceptance and Use of Technology), TOS (Technology, Organizational, and Social), and also technology, management and people perspectives. The complete main factors and sub factors can be seen in Figure 3 below.

The sub factors of technology are work and technology alignment (Al-Ani et al., 2012), complexity (Antonius et al., 2015), resources/infrastructure (Husin et al., 2016; Peris et al., 2013), usefulness of social work performance (Husin et al., 2016; Peris et al., 2013; Yan Xin et al., 2014), perceived compatibility (Iglesias-Pradas et al., 2014; Kügler et al., 2012, 2013), ease of use (Kügler et al.,

2012, 2013; Peris et al., 2013; Yan Xin et al., 2014), technology integration (Soto-Acosta et al., 2014).

The sub factors of organizational are organizational use policy (Al-Ani et al., 2012; Husin et al., 2016), organizational culture (Antonius et al., 2015; Husin et al., 2016), knowledge strategy (Antonius et al., 2015), organizational structure (Askool & Nakata, 2012; Yan Xin et al., 2014), employee freedom in corporate decision making (Hoong et al., 2013), organization commitment (Hoong et al., 2013; Soto-Acosta et al., 2014), organization management (Hoong et al., 2013; Mukkamala & Razmerita, 2014; Yan Xin et al., 2014) and management support (Husin et al., 2016; Yan Xin et al., 2014).

The sub factors of competency are experience with distributed system development (Al-Ani et al., 2012), technology competence (Askool & Nakata, 2012; Taylor et al., 2013), knowledge exchange amongst employee (Hoong et al., 2013) and knowledge sharing (Hoong et al., 2013; Kim, 2012).

The sub factors of personal are age (Al-Ani et al., 2012; Peris et al., 2013), individual factor/behavior (Antonius et al., 2015; Barron & Schneckenberg, 2012; Husin et al., 2016; Kim, 2012; Mukkamala & Razmerita, 2014), private social software experience (Kügler et al., 2012, 2013; Peris et al., 2013) and gender (Peris et al., 2013).

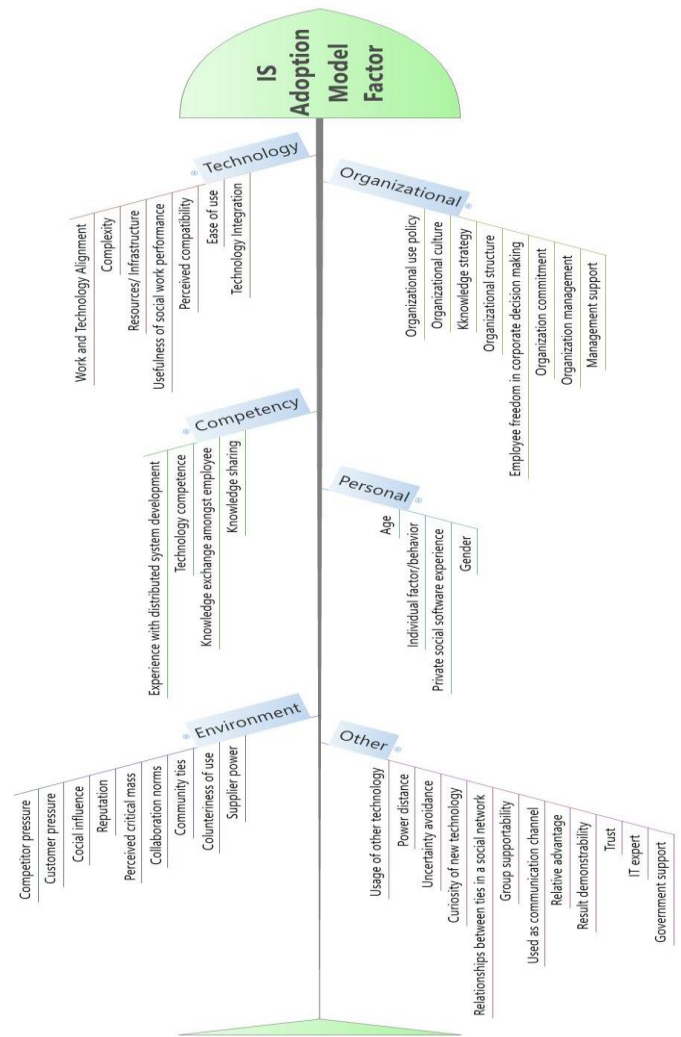


Figure 3. IS Adoption Model Factors

The other sub factors of usage of other technology (Al-Ani et al., 2012), power distance (Barron & Schneckenberg, 2012), uncertainty avoidance (Barron & Schneckenberg, 2012), curiosity of new technology (Barron & Schneckenberg, 2012), relationships between ties in a social network (Hoong et al., 2013), group supportability (Iglesias-Pradas et al., 2014), used as communication channel (Kim, 2012), relative advantage, result demonstrability, trust (Kügler et al., 2012, 2013), it expert (Peris et al., 2013) and government support (Yan Xin et al., 2014).

The sub factors of environment/ social are competitor pressure (Askool & Nakata, 2012; Yan Xin et al., 2014), customer pressure (Askool & Nakata, 2012;

Soto-Acosta et al., 2014; Yan Xin et al., 2014), social influence (Al-Ani et al., 2012; Peris et al., 2013; Taylor et al., 2013), reputation, perceived critical mass, collaboration norms, community ties (Kügler et al., 2012, 2013), colunteriness of use and supplier power (Peris et al., 2013).

The most common factors in IS adoption model are individual behavior and ease of use. These variables influence the personal and technology factor of enterprise 2.0 adoption model. In the adoption of enterprise 2.0, these factors must be highlighted as the strongest factors that contribute in many adoption models.

IV. CONCLUSION

As conclusion, we found the main factors of IS adoption model are technology, organizational, competency, personal, environment and others. We also gathered several IS adoption model, including TOE Framework, Theory of use and non-use, TAM, the role of an affect; technology, management, and people perspective; socially drive characteristic; major characteristics of social software; TOS; Innovation diffusion theory and social capital theory; cultural and social dilemma, and UTAUT.

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