



The acceptance and use of customer relationship management (CRM) systems: An empirical study of distribution service industry in Taiwan

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ARTICLE INFO

Keywords:

Customer relationship management (CRM)
Unified theory of acceptance and use of technology (UTAUT)
Task-technology fit (TTF)
Structural equation modeling (SEM)

ABSTRACT

With the rapid change of business competitive environment, enterprise resource integration and innovative issues of business operation have gradually become the most important issues for businesses. Furthermore, many enterprises have implemented novel information technology and developing the innovative e-business applications systems such as enterprise resource planning (ERP), customer relationship management (CRM), knowledge management (KM) and supply chain management (SCM) to enhance their competitive advantages. CRM systems can help organizations to gain the potential new customers, promote the existing customers' purchase, maintain good relationship with customers as well as to enhance the customer value, thus can improve the enterprise images. Moreover, the development and applications of CRM systems have also been considered as important issues for researchers and practitioners in recent years. For Taiwan's industry, it has been gradually transferred from manufacturing-oriented to a service-oriented. Thus, the service industry has higher percentage in the GDP and in which the distribution service industry is the biggest one and be a core industry in the whole of service industry. The main purpose of this study is to explore the factors affecting the acceptance and use of CRM systems. Furthermore, the proposed research model was built on the basis of unified theory of acceptance and use of technology (UTAUT) and task-technology fit (TTF) framework as well as technological and managerial theories. The implications of findings for practice will be discussed.

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1. Introduction

E-business has become a global trend and there are a variety of studies exploring the issue; especially, the research on how to implement technology acceptance model into customer behavior pattern, is very much respected by general enterprises. According to the report proposed by Market Intelligence and Consulting Institute (MIC) in 2006, it pointed out that "electronic sophistication of Taiwan's large-scale enterprises has been increasing: Manufacturing sector is currently at 55%, and the remaining (including service-oriented sector) is currently at 45%". The same report also pointed out that enterprise resource planning (ERP) and customer relationship management (CRM) systems are commonly implemented in businesses, also, BI system is gradually becoming more and more popular. In addition, the Small and Medium Enterprise Administration, Ministry of Economic Affairs began issuing the "Industry-specific e-Commerce Promotion Program" since 2002; up to now, there are over 4000 enterprises which have employed e-business

programs, representing popularity and proven performance of the various programs. Such is the iron-clad proof of how important e-business is today.

According to statistics issued by Directorate-General of Budget, Accounting and Statistics of Executive Yuan (2007) in Taiwan, pointing out that "the proportion of service product value to GDP is up to 72.91%, with a working population standing at 5.91 million persons; especially, for the production value of distribution service industry (which includes wholesale, retailing, catering and logistic) has shown significant performance and that proportion is up to 26.7%, with a working population standing at 2.91 million persons". Thus, it can be seen that the distribution service industry has become a mainstream player in service-oriented development in Taiwan. However, in the related literatures of CRM, very few studies have been conducted on discussion of distribution service industry. For this reason, the main purpose of this study hopes to explore exactly how distribution service industry utilizes the CRM system, and try to execute analysis regarding the appropriateness of the application of unified theory of acceptance and use of technology (UTAUT); finally, to provide reference data for industries which still have not yet applied any e-business programs.

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As mentioned above, this study uses the theory of UTAUT and TTF to explore the acceptance and use of CRM system in distribution industry. The aim of this paper is therefore twofold:

- (1) Analyzing the variable in the theory of UTAUT and TTF theory, and reorganizing key factors affecting user acceptance of newest information technology, for realizing the user's behavioral intention of employing the CRM system.
- (2) Providing valuable reference for businesses which intend on implementing or upgrading e-business systems in the future.

2. Literature review

2.1. Customer relationship management (CRM)

Customer relationship management (CRM), a derivative of the earlier American term of “contact management” (during the 1980s). From the report of Spengler (1999), one can find out that extended functions of “Contact Management” are: Customer data collection, as well as gathering and application of useful information. It further developed to be the call center, representing the unit or research tool to analyze customer data. To understand CRM system from the aspect of marketing, its ultimate target also involves of how to fit the customer's requirement; with quest to achieving the objective of establishing the “Relationship Marketing”, in other words, a long-term customer relationship. The only differentiation is in the application of information technology enhancing its effectiveness (Ryals & Payne, 2001).

Kalakota and Robinson (1999) considered that customer relationship management (CRM) can be seen as the consistent organizational activity under usage of integrated selling, marketing and service strategy. That is, trying to define the real need of the customer, by the enterprise integrating various process and technology, in asking internal product and service improvement, in order to dawn effort of enhancing customer satisfaction and loyalty. In 2001, they also offered the concept of CRM system to synthesize with functions of sales, customer service, and marketing activity, all based on customer orientation. The same idea also served as the developmental foundation of CRM system upgrades in the present (Kalakota & Robinson, 2001).

The benefits of CRM implementation not only can assist the enterprise to locate the profitable market (or business opportunity), but it also improves the competitive advantage, through lowering cost and gaining higher customer value, in comparison with the competition. However, a real successful CRM should integrate information technology (such as basic installation, applicable system, etc.), information resource (such as customer data base, interview record of salesman, well interaction with customer, and so on), as well as organizational resource (for example, customer-oriented business culture, etc.); all these can actually exert the best effectiveness (Pushkala, Michael Wittmann, & Rauseo, 2006).

2.2. Unified theory of acceptance and use of technology (UTAUT)

For past studies, technology acceptance model (TAM) (Davis, 1986) was used to analyze a variety of acceptance behavior of information technology. Due to its high level of reliability, various empirical studies had been greatly improved. In 2000, Venkatesh and Davis proposed the newest theory of TAM: The TAM 2 research scheme. In 2003, Venkatesh, Morris and other scholars offered the UTAUT, linking up theory of rational action (TRA), technology acceptance model (TAM), motivational model, theory of planned behavior (TPB), theory combined with TPB and TAM, model of PC utilization, innovation diffusion theory and social cognitive theory. Within the UTAUT, there are four major dimensions, such as

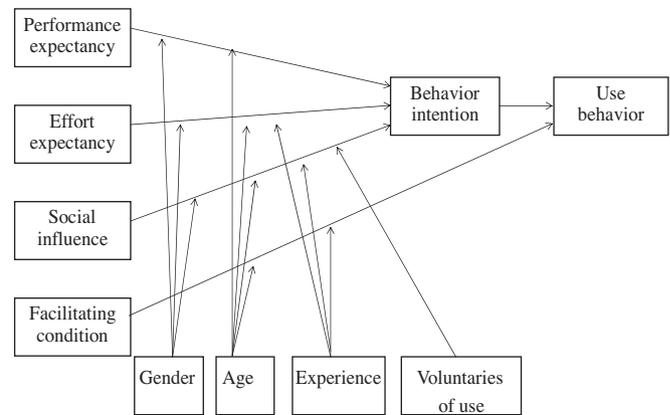


Fig. 1. Unified theory of acceptance and use of technology (source: Venkatesh et al., 2003).

performance expectancy, effort expectancy, social expectancy and facilitating expectancy. The structure of UTAUT theory is shown in Fig. 1.

Researchers of information technology have, thus far, developed many sophisticated theoretic frameworks on how and why people are willing to adapt to the latest information technology. Relevant research can be classified into two categories: Exploration of acceptance degree when the individual is facing the latest technology, also, their users' behavioral intention and actual users' behavior. For example, the report of Lin and Anol (2008), which discussed internet content, has found that internet information technology, social expectancy and other enabling factors will significantly influence user's social behavior on internet websites. Furthermore, the focusing of successful adoption of organizational culture dimension, such as offered by the research of information technology adoption of Arabic culture proposed by Al-Gahtani, Hubona, and Wang (2007); that research found out performance expectancy and social expectancy, both positively affecting adoption behavior of using information technology. In addition, the more abundant experience of computer usage will bring about higher acceptance to information technology.

2.3. Task-technology fit (TTF) model

Task-technology fit (TTF) was offered by Goodhue and Thompson in 1995. Main purpose was to evaluate successful matching between task and information technology. Goodhue and Thompson proposed the idea that information technology should provide assistance to job performance, also, that technology has to be accepted and willing to be used by people on job-sites. Hence, the technology, the task and the individual all will affect final job performance, as well as user's self-persuasion. In a relevant research conducted on trust funds, Gebauer and Shaw (2004) analyzed the relationship between task and technology, from the angles of behavior and organizational effect. They pointed out that a powerful information technology was of essential importance. The Model of TTF theory can be seen as per Fig. 2.

3. Research models and hypotheses

This research employed the UTAUT theory, as proposed by Venkatesh, Morris, Davis, and Davis (2003), and the TTF theory, as offered by Goodhue and Thompson (1995); those served as main basis of the study. We aim to explore and make the empirical study on cause-and-effect relationship for: Performance expectancy, effort expectancy, social expectancy, enabling factor, task character,

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