Continuance Intention to Use Table-Top Tablet Ordering Systems in Restaurants: An Expectation-Confirmation Model

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Abstract. As restaurant businesses adopt new table-top ordering system (TTOS), the management would want to measure the success of their technology investment. One good indicator is whether returning customers will choose to continue using TTOS after their initial experience. Founded on the Expectation-Confirmation Model (ECM), this study answers the question by investigating customers’ continuance intention to use TTOS. Survey data will be collected from regular restaurant customers who have prior experience with TTOS. The study will have valuable implications for restaurant businesses and IT companies.

Keywords: Table-top tablet ordering systems, expectation-confirmation model, perceived usability, continuance intention to use, satisfaction

1 Introduction

Many restaurant businesses recently adopt table-top tablet ordering system (TTOS). Using TTOS, consumers can browse through the menu, place orders, and make payments from their sitting tables directly [1]. Implementing TTOS adds value to restaurants. It provides richer description of the dishes, eliminates order errors by waiters, and quickens services [2]. Customer satisfaction also improves because they feel more involved with the dining process [2]. However, TTOS is expensive and some customers prefer human contact rather than a machine-facilitated dining process [2]. Therefore, to reap the benefits from TTOS investments, restaurants have to ensure that customers will continue using the technology. Previous literature [3] contends that user continuance use is a means to measure technology success. By understanding the factors that contribute to users’ intention to continue using a technology, organizations will be able to better plan their strategy and allocate resources more efficiently and effectively to increase the success rate.

This study will examine customers’ continuance intention to use TTOS. We based our theoretical model on the expectation-confirmation model and survey the factors that contribute to customers’ continuance intention to use TTOS. This study is noble
as it fills the research gap and contributes to existing literature in IT and restaurant management.

2 Literature Review

2.1 Expectation Confirmation Model (ECM)

Expectation confirmation model (ECM) is popular in IT acceptance research to explain user satisfaction and IS continuance intention to use [4]. ECM is an extension of the Expectation Confirmation Theory (ECT) to explain IT adoption behaviors [4]. The ECT posits that post-purchase satisfaction is a function of expectations, perceived performance, and (dis)confirmation of beliefs [5]. Users’ decision to continue using a technology is similar to consumers’ repurchase decision [4]. Both follow the sequences of (1) making initial acceptance or purchase decision, (2) experiencing initial use of the product or service, (3) making ex-post decision of continue use or reversal of the initial decision.

2.2 Hypotheses and Research Model

Satisfaction

User satisfaction is “the affective attitude towards a particular computer application by an end user who interacts with the application directly” [6]. Satisfaction influences IS use [4] and post-adoption behavior [4]. When visiting restaurants, customers can choose between requesting traditional human-manned services and using machine-interfaced TTOS. Since the alternative of TTOS is readily available and easily accessible at no apparent monetary cost, customers can easily abandon the technology and opt for traditional waiter-focused services if they are dissatisfaction with TTOS. Only satisfied customers will choose to continue using TTOS.

\[ \text{H1: Satisfaction has a positive effect on continuance intention to use} \]

Perceived Usability

Perceived usability is “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use” [7]. We followed Oghuma, Libaque-Saenz, Wong and Chang [8] to measure the perceived usefulness, perceived enjoyment, and user interface of TTOS.
**Perceived Usefulness**

Perceived usefulness is “users’ perceptions of the expected benefits of using an IS” [9]. It has positive influence on continuance use intention [4, 10] and satisfaction [4]. With TTOS, customers are able to browse through the menu, and make orders and payments at their convenience without having to alert table waiting services. TTOS also provides consistent and more detailed description and depiction of the dishes which give customers a better idea of their orders. The more benefits customers expect to gain from TTOS, the more satisfy they are and the higher the likelihood that they will continue using TTOS.

**H2:** Perceived usefulness has a positive effect on continuance intention to use  
**H3:** Perceived usefulness has a positive effect on satisfaction

**Perceived Enjoyment**

Perceived enjoyment refers to “the fun and pleasure derived from using IT” [11]. It increases user satisfaction [11]. Just like other technology, customers who use TTOS expect to get some sort of joy out of their experience. To address this enjoyment factor, Chili’s, for example, offers unlimited games on the tablets for $0.99 [12] with the goal of enticing customers to stay longer and ordering more food. This enjoyment factor will increase customer satisfaction. The higher the level of perceived enjoyment, the stronger the feeling of satisfaction.

**H4:** Perceived enjoyment has a positive effect on satisfaction

**User Interface**

User interface refers to the ease of interaction with systems that are user-friendly, pleasurable, aesthetic, and easy to navigate and use [13]. TTOS is built with a single, core objective of facilitating ordering and payment processes. It has minimal functions which often make the technology easy to use. While many TTOS resembles the paper menus, having more interactive design incorporated with clear structure and good usability is important. A technology with good user interface enhances the total user experience and increases user satisfaction [8, 13]. We argue the same for TTOS.

**H5:** User interface has a positive effect on satisfaction

**Confirmation**

Confirmation is the extent to which the actual use experience confirms one’s initial expectation. The ECM posit that confirmation is positively related to satisfaction [4, 10]. When the actual TTOS use experience matches or exceeds the initial expectation, confirmation exists to lead to customer satisfaction. Similarly, confirmation will
affect other TTOS use-related beliefs (i.e., perceived usefulness, perceived enjoyment, and user interface) as customers continue to adjust their expectation to meet the reality.

- **H6**: Confirmation has a positive effect on satisfaction.
- **H7**: Confirmation has a positive effect on perceived usefulness
- **H8**: Confirmation has a positive effect on perceived enjoyment
- **H9**: Confirmation has a positive effect on user interface

### 2.3 Self-efficacy

Self-efficacy refers to “people’s judgment of their capabilities to organize and execute courses of action required to attain designated types of performances” [14]. Computer self-efficacy has positive influence on intention to use IT. Individuals who are high on computer self-efficacy will have better knowledge and are more skillful in IT use. This leads them to have higher perception toward how easy it is to interact with TTOS (i.e., user interface). On the contrary, those who have lower computer self-efficacy see themselves as less skillful in IT and in operating TTOS.

- **H10**: Self-efficacy has a positive effect on user interface.

### 3 Research Methodology

We will collect data from regular restaurant customers who have experience using TTOS. Our measurement items for survey were adopted from previous literature and were modified to fit our research context. The items for confirmation, satisfaction, and continuance intention to use were adapted from Bhattacherjee [4], and Lin and Bhattacherjee [15]. The items for perceived enjoyment were adapted from Thong, Hong and Tam [16] and Lin and Bhattacherjee [15] while the items for perceived usefulness came from Davis [9] and Thong, Hong and Tam [16]. Items for user interface were revised from Flavián, Guinalí u and Gurrea [17] and Zviran, Glezer and Avni [13]. Items for self-efficacy were adapted from Bhattacherjee [18].

### References