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The Importance of Enterprise Support for Tourism Workers' Successful Use of a Cash Transaction System: An Information Systems Continuance Approach

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***Abstract*—**In this paper we investigate how wide-ranging organizational support and the more specific form of support, namely management support, may influence on tourism workers satisfaction with a cash transaction system. The IS continuance theory, proposed by Bhattacherjee in 2001, is utilized as a theoretical framework. This implies that both perceived usefulness and ease of use is included in the research model, in addition to organizational and management support. The sample consists of 500 workers from 10 cruise and tourist ferries in Scandinavia that use a cash transaction system to perform their work tasks. Using structural equation modelling, results indicate that organizational support and ease of use perceptions is critical for the users' level of satisfaction with the cash transaction system.The findings have implications for business managers and IS practitioners that want to increase the quality of IT-based business processes within the tourism industry.

***Keywords*—**ease of use, IS continuance, organizational support, tourism industry, user satisfaction.

I. Introduction

THE tourism sector, as the entire service industry of today, relies on IT to improve workers' productivity, as well as to improve customers' satisfaction. In consequence, information technology has become a fundamental tool for increased quality of service oriented business processes within the tourism industry. Neither improved worker productivity nor service process efficiency, as basic prerequisites for increased service quality, emerges from investments in new technology solely.

Information systems researchers have demonstrated that even though productivity effects of IT usage are present, successful utilization of IT may not be realized to its full potential if the enterprise doesn't establish complimentary organizational resources in addition to pure technology investments.

Prior IS research has identified enterprise support, alternatively named as organizational and management support, as one of the fundamental means for realization of successful use of IT [7].

This paper makes an attempt to investigate how critical organizational- and management support is for tourism workers' successful use of IT. In the information systems (IS) literature, evaluation of workers' successful use has typically been synonymous with evaluation of users' satisfaction with an IS. For example, both Bhattacherjee [2] and DeLone and McLean [4, 5] consider user satisfaction as the key to productive and efficient IS use in the long run.

Our starting point is the former of these two theories, namely the IS-continuance theory [2]. Consequently, the purpose of the present study is to utilize the core variables within IS-continuance theory to test how critical organizational- and management support may be for tourism workers' successful use of IT.

The organization of this paper is as follows: In Section 2, we present and adjust the original IS-continuance theory in accordance with the purpose of the present study. Sections 3 describe survey procedures, data analyses, and provide the results. In the final section, we discuss the implications of our research findings, identify the limitations of the study, and suggest directions for further research.

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II. Theory

A. IS Continuance Theory

Continuance theory within IS research, draws on the so-called expectation-confirmation theory in consumer behavior [9] and was originally proposed by Bhattacherjee [2]. The theory was labeled as IS continuance theory and made changes to the original expectation-confirmation theory by transforming the mixed pre/post consumption assertion into a theory about IS users' willingness to use a technology in the post-implementation phase. Expressed differently, IS continuance theory seeks to explain users' intention to continue (or discontinue) to use an IS. The theory builds on the proposition that IS users after a period of preliminary usage, form opinions of the extent to which their initial expectations are confirmed. Simultaneously, users develop opinions about realization of benefits from their usage of the technology. After a period of use, a degree of confirmation and perceived usefulness develops, and both these beliefs will influence users' perceived satisfaction with the IS. Finally, the benefits which are labeled as perceived usefulness, together with user satisfaction, is expected to explaining users' willingness to continue their use of an IS.

B. Research Model and Hypotheses

As we stressed through the introduction, we posit enterprise support to be an important factor for explaining

tourism workers' level of satisfaction with an IS. Prior research indicates that both organizational support in general [10] and management support as a more specific element [7] may be relevant. We therefore propose a research model where both organizational support and management support constitute core antecedents of user satisfaction (cf. Figure 1). In line with IS continuance theory we also assume that perceived usefulness are one of the main antecedents of user satisfaction. However, we depart from the original post-acceptance model of IS continuance when we include ease of use instead of confirmation of expectations. Our main reason for doing this is that ease of use has been shown to be a factor of particular importance in explaining job-mandated IS use [11, 8].

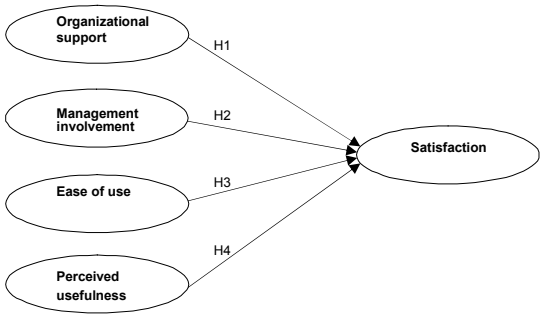

Fig. 1 Conceptual model

II. The Study

A. Sample

The research sample consisted of 500 workers from 10 tourist ferries. All workers were employed in one of the leading European cruise companies with a total of 3300 employees located in Scandinavian countries. The sample consists of waiters and shop assistants that utilized a relatively newly implemented cash transaction system.

The main functionality of the system is to capture (e.g. bar code and number of products), transmit (e.g. bar code and number of products), store (e.g. sales related information as sale for a particular product), manipulate (e.g. calculate sale for a customer) and displays information (e.g. sum and amount of products). We therefore believe that it is correct to categorize this cash transaction system as an information system.

At the time of data gathering the system had been in use for approximately six months. For these users, performing their job functions was equal to using the system, and hence, the use was not voluntary but mandated by their job tasks.

B. Data Collection

To collect data, we developed a questionnaire based on established and widely used measurement instruments (i.e. these are described in the next section). Prior to the distribution of the questionnaire, we tested and refined the instruments through interviews and a subsequent pre-test among 10 cash transaction system users in the company that was not included in the final sample. The interviews resulted in important insights in their preferences when utilizing the cash transaction system. This test led to some minor adjustments of the questionary items, mainly through more precise wording relative to the context chosen. Especially the items in the perceived usefulness instrument were adjusted. The wording was adjusted from e.g. ''Using OBD increases my productivity in managing personal finances", hence the instrument was adapted from Bhattacherjee [2], who investigates use of online-banking among ordinary bank customers, to ''Using the cash transaction system helps me in being more productive in my work".

We believe that our use of previously validated instruments together with the process of item improvements resulted in sufficient content validity for all the measurement instruments.

Questionnaire distribution and returns were by ordinary mail. Out of 500 surveys sent out, a total of 161 usable questionnaires were returned, for a response rate of 32%. The relatively low response rate was not unexpected, since the distribution of the questionnaires was dependent on the cooperation from busy shop leaders and headwaiters. In addition, the interviews in connection with the pre-test covered a very customer oriented job situation, where the customers always will be ahead of answering a questionnaire.

Forty two percent of the respondents were women. The average respondent was 40 years old, held a college degree, and had 10 years of prior experience using computers.

C. Measurement Instruments

The items used to operationalize the variables in our research model were adapted from the literature, with changes in wording reflecting the IS targeted in our sample and the specific user context. The organizational support instrument was adapted from Eisenberger et al. [6] and the management support instrument was adapted from Bailey and Pearson [1]. Instruments on perceived usefulness and satisfaction were adapted from Bhattacherjee [2]. The ease of use instrument was adapted from Davis [3].

All items, except the satisfaction and management support items, were measured using a seven point Likert-type scale, with ''strongly agree" and ''strongly disagree" at each end of the scale.

Satisfaction and management support was measured using a seven point semantic differential scale (e.g. with ''satisfied" at one end and ''dissatisfied" at the other).

IV. Results

We used the structural equation modeling (SEM) tool LISREL to analyze the proposed research model. Fig. 2 summarizes the results from the test of the structural model. The effect of the explanatory variables in the research model is represented by the path coefficients followed by respective t-values in parenthesis.

Two out of four path coefficients in the model have significant t-values (i.e. value > 1.96) and their range is from medium (0.22) to strong magnitude (0.67). The paths from perceived usefulness and management support to satisfaction are not significant.

Fitting the Post-Acceptance Model for Mandatory Usage to the sample data resulted in a Chi-Square value of 145.87 ($df = 80$, $p < 0.01$), a Chi-Square/df ratio of 1.82, a GFI (goodness-of-fit index) value of .90, and a RMSEA (root-mean-square error of approximation) of .07. The model explains 36% of the variance in user satisfaction.

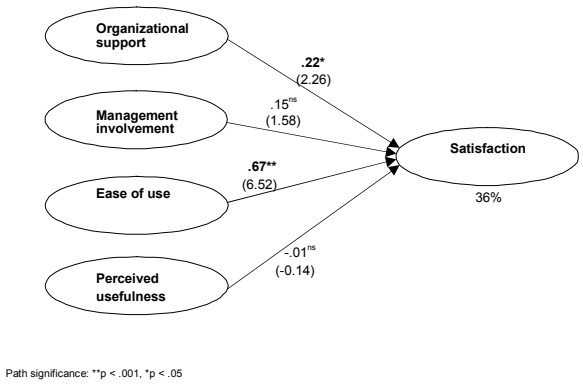

Fig. 2 Results from SEM analysis

V. Discussion and conclusions

IT is gradually becoming a critical source of increased quality in service oriented business processes within the tourism industry. In view of the potential advantages IT provides to companies within this industry, widespread use of IT would appear to be a trend the next decades. However, despite the ongoing trend toward intensive utilization of IT in core business processes within tourism, both business managers and IS practitioners lack knowledge about critical factors for achievement of successful use of IT within these processes.

Based on the empirical results, several important and interesting implications for business managers and IS practitioners emerge from this study. The results indicate that it is important to be sensitive to users' ease of use perceptions and their perception of organizational support. The former of these factors deals with how the workers' within tourism perceive the level of learnability of an IT solution.

The first implication of this finding is that business managers and IS practitioners should focus on a technology's usability level in procurement processes, not solely on potential benefits.

A second implication may be that managers and IS practitioners should give high priority to tool-specific competence development attempts, i.e. both in the implementation and usage phase.

The latter factor, namely organizational support, indicate that it is important to be sensitive to users' perceptions of e.g. their possibilities to make complaints on an IT solution or to get positive response on achievements in connection with use of IT.

This findings implies that both managers and IS practitioners needs to put IT on the agenda, not only in words but also in complementary investments like e.g. user support, IS-training and IT-behavior related incentive systems.

The lack of a significant relationship between perceived usefulness and user satisfaction, and between management support and user satisfaction, was surprisingly. These findings are contradictory to previous research reports and should therefore be investigated further in future tourism studies with focus on tourism workers satisfaction with IT solutions.

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