Available online at www.sciencedirect.com

ScienceDirect

Procedia Economics and Finance 37 (2016) 7 – 12

Procedia Economics and Finance

www.elsevier.com/locate/procedia

FIFTH INTERNATIONAL CONFERENCE ON MARKETING AND RETAILING (5TH INCOMaR) 2015

Customer Information System Satisfaction and Task Productivity: The Moderating Effect of Training

Norfazlina, G.[a]* , Sharidatul Akma, A.S.[a] , Nurul Adrina, S. & Noorizan, M.M.[a]

[a]*Faculty of Business & Management, UiTM Puncak Alam, Selangor, 42300 Malaysia*

Abstract

Customer Information System (CIS) is a system used by an organization to assist employees to obtain customer information efficiently. The users' satisfaction with the system will lead to improvement in task productivity and allow the employees to fully utilize the system. This study examined the relationship between users' satisfaction factors towards task productivity of CIS implementation and how training moderate this relationship. A total of 149 respondents which consist of call centre employees in Klang Valley responded to the questionnaire given. The finding revealed all three factors (Ease of Use, Content, and Format) has a significant relationship towards task productivity of CIS. The results also indicate training significantly moderate the relationship between ease of use in CIS and task productivity however, it does not moderates the relationship between user satisfaction (Content and Format) and task productivity. Suggestion for future studies also presented on this paper.

Peer-review under responsibility of Faculty of Business Management, Universiti Teknologi MARA

Keywords: User Satisfaction Factors; Customer Information System (CIS); Training; Task Productivity

1. Introduction

Business activities have been supported in various perspectives through technological developments. The investments in ICT are not only motivated to achieve strategic business goals (Chircu & Lee, 2003) but to form a competitive advantage (Rocheleau & Wu, 2002) among its clients. ICT is precisely beneficial to the organization (Maha and Hadeel, 2011) and has become a utility that needs to be managed effectively to assist them in achieving

* Corresponding author. Tel.: +603-3258 5063; fax: +603-3258 7000
E-mail address: norfazlina4843@salam.uitm.edu.my

Peer-review under responsibility of Faculty of Business Management, Universiti Teknologi MARA
doi:10.1016/S2212-5671(16)30085-5

their mission and vision (Otiso, Chelangat & Bonuke, 2012). Customer service is a channel in which Information System (IS) is used to gain an advantage as it has affected the ability in the process of innovation in a company (Chen & Tsou, 2012).

Customer Information System (CIS) contains a collection of customer data that helps employees in the organizations to make decisions regarding customer. Besides being used as a major storage to record and disseminate customer information, CIS remained to be able to help the organization to make prudent decisions with ease about customers in increasing their competitiveness with others (Huiping, 2011). However, the complexity of information system and high job demands that exceed the employees attention can lead to impaired productivity. To overcome this issue, training program is provided by most organization to enhance their employees' skills. Agreeing by Kaufman and Hotchkiss (2006), proposing that task productivity among employees has increased after a training program conducted.

This study aims to examine the influence of user satisfaction (ease of use, content and format) towards customer information system (CIS) and to examine the moderating role of training on the link between information system user satisfaction and task productivity.

2. Review of Literature

2.1 Task Productivity

Productivity term was commonly used by academic and commercial circles, but it is rarely explained in more detail about its true meaning. Often it is confused and mistakenly thinks that productivity is a term for efficiency, effectiveness and profitability (Tangen, 2005). Theo (2004), define productivity as a condition which producing reward. Essentially productivity is a fruitful, lucrative and profitable that it is synonymous with the relationship between output and input (Brinkerhoff and Dressler, 1990). Measuring user satisfaction in handling their task is essential as satisfaction factors greatly affect productivity (Halkos and Bousinakis ,2010).

2.2 *User Satisfaction*

User satisfaction is very important to increase task productivity and it can be a problem if not addressed. According Halkos and Bousinakis (2010), the organization has two problems that affect employee productivity, which are user satisfaction and work pressure. According to the Halkos and Bousinakis (2010), satisfaction factors greatly affect productivity. This is because, most of the employees work to meet their needs and this leads to a substantial increase in work productivity.

2.3 End-User Computing Satisfaction (EUCS) Model

EUCS was introduced with aims to measure end-users satisfaction by measuring five dimensions (content, ease of use, format, timeliness and accuracy). Measuring the system's content is vital as a good content will produce useful information that will help the visitor of the site. In addition, quality content will increase user's trust to the information given (Zviran & Elrish, 2006). Subsequently, format is the clarity of information presenting to users (Zviran & Elrish, 2006). Users of the system usually can use the system, browse the site, find and edit the content of the site easily and user should be able to clearly understand the information and use the system consistently (Day, 2007). Ease of use is a subjective impression of the user (Zviran & Elrish, 2006). The developers need to ensure the visitor or users can easily use the system that has been developed and implemented in the organization (Robertson, 2007). The following hypotheses were proposed to test the relationship between each element of user's satisfaction with task productivity.

H1 : There is a significant relationship between user satisfaction (Content) and task productivity of Customer Information System (CIS)

H2 : There is a significant relationship between user satisfaction (Format) and task productivity of Customer Information System (CIS)

H3 : There is a significant relationship between user satisfaction (Ease of Use) and task productivity of Customer Information System (CIS)

2.4. Training

Training refers to teaching new people in doing new job in order to achieve goals of the organization. Training could change people in term of their ability, approach, behaviour, and awareness (DeCenzo & Robinson, 2003) via providing with them with knowledge and skills required (Sommerville, 2007). Training is one of the tasks to be carried out by human resources development with the aims to improve the effectiveness of the organization to provide more skilled workers, knowledgeable and can improve the performance of current workers and their future.

H4 : Training moderates the relationship between user satisfaction and task productivity of Customer Information System (CIS)

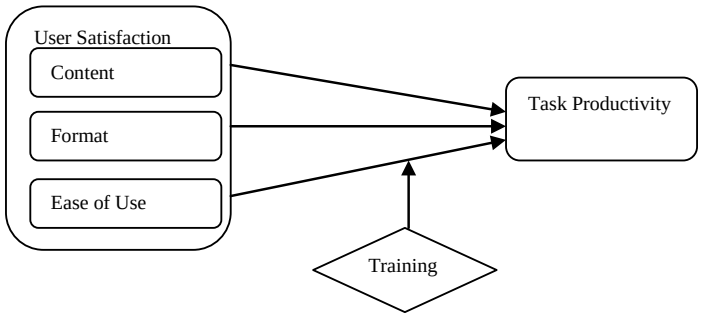

Fig. 1. Conceptual Framework depicts the relationship between user satisfaction and task productivity moderated by training.

3. Methods

3.1 Sample

The data used in this research consists of questionnaire responses from participants who are working at a call center in Klang Valley Malaysia. 150 questionnaires were randomly distributed and 149 responses were received, yielding a response rate of 99%. All data were evaluated using IBM SPSS 20. In order to collect the data, a cover letter has been attached to each set of the questionnaire informing the purpose of the study to the respondent. The questionnaire was personally distributed to the person in charge at Fulfillment Department, Back-end Department, Outbound Department and Billing Department. Each respondent were given two weeks to complete the questionnaire. After two weeks, a telephone call has been used to remind the person in charge that the questionnaire will be collected.

3.2 Measures

The questionnaire composed of four parts including: demographic profile, user satisfaction on CIS (content, format and ease of use), task productivity and training. A total of 22 observed variables were adapted and modified from past research (Hou, 2012; Torkzadeh & Doll, 1997 and Parker, 2010) made up the measurement of variables; ease of use (3 items), content (2 items), format (2 items), task productivity (7 items) and training (11 items). Each dimension was measured with 5 points Likert scale. The 5 point Likert scale used was 1 = Strongly Disagree, 2 =

Disagree, 3 = neither agree nor disagree, 4 = Agree, 5 = Strongly Agree.

3.3 Reliability and Validity of Scales

The reliability of User satisfaction and the Task Productivity measures was assessed by scale reliability analysis. The Cronbach alpha values were 0.97 for content, 0.92 for Format and 0.70 for ease of use and 0.95 for task productivity whereas for moderator variable was 0.96. Compared to the acceptance level of 0.7 for empirical research, the observed scale reliabilities were extraordinarily high and indicated that the items for each scale were internally consistent and reliable. A principal factor analysis with varimax rotation (with Kaiser Normalization procedure) was conducted to ensure that items for the same construct measure the particular trait, while items for another construct measure a different trait. Three user satisfaction factors that explained 77.1% of variance in all items were extracted. The results of the analysis reveal the emergence of a distinct factor originating from the eight item task productivity measure, explaining 78.9% of the variance. Further, the analysis for training items, explaining 75.6% of the total variance. The rotated factor matrix shows that all items loaded on the correct latent constructs. Therefore, the factorial validity of the scales can be taken for granted.

4. Findings

4.1 Respondent Profiles

Out of 149 sets of questionnaire collected, 139 sets were responded by Customer Service Professional (CSP) and 10 sets were responded by the Team Leader (TL). Majority of the respondents are female (60.4%) compare to male (39.6%). Data for this study were collected different level such as First Level Supervisor (20.1%) and Middle Level Management (79.9%). Concerning about the age of respondents, 55 respondents aged in the range of 18 to 25 years old, 69 respondents aged in the range of 26 to 30 years old, 25 respondents aged in the range of 30 to 45 years old, and no respondents aged more than 46 years old. Most of respondent use the system more than 4 times a day (65.8%), 2 or 4 times a week (16.8%), followed by once a day (12.8%), and about once a week (4.7%). Most of them have experience about less than one year (69.8%), followed by those with 3 to 4 years (25.5%), and the last one followed by those with over 5 years of experience (4.7%). Based on the finding, it's believe that the above sample in term of gender, income and their system usage produces moderately homogenous sample pool for this research.

4.2. Regression Analysis

Finding found that all independent variable indicate positive relationship with dependent variable. Ease of use have highest significant relationship with Task Productivity *(r=.800, <0.01)* and followed by between Content and Task Productivity *(r=.510, <0.01)* and Format and Task Productivity *(r=.437, p<0.01).* Thus, the H1, H2 and H3 are accepted. The finding is supported by Azleen (2008), who conduct a survey on Computerized Accounting System (CAS) in private companies and the result indicated that all three dimensions of user satisfaction are significantly related with Task Productivity.

To answer the question whether training moderate the relationship between user satisfaction and task productivity, multiple regression analysis is conducted. The inclusion of the moderator variable significantly contributes to additional explanation of the variance in the regression model (R^2= .940, t =144, p<0.05). Therefore, training can be regarded as having a moderating impact on the relationship between User satisfaction and Task Productivity.

Table 1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.820[a]	.673	.666	.62053	.673	99.253	3	145	.000
2	.969[b]	.940	.938	.26709	.267	638.655	1	144	.000

5.0 Discussions and Future Research

5.1 Discussion

This study presents the user satisfaction based on the EUCS success model, which captures the multidimensional and interdependent nature of customer information system success. The results indicate that ease of use, content and format are valid measures of customer information system success. Apart from the link from system satisfaction, the hypothesized relationships between the three success variables were significantly supported with the relation of employees' task productivity. On the other hand, the findings conclude that training did moderates the relationship between Ease of Use and Task productivity. But yet, it does not moderate the relationship between content and format satisfaction towards employees task productivity. This research provides several important implications for customer information system success research and management. The findings clearly indicate that the total effects of ease of use are substantially greater than those of system format and content. In order to increase employees' task productivity, management needs to cultivate a quality CIS system with good quality of content, format of data and a system that is easy to use.

5.2 Caveats and future directions

This study has several caveats which should be addressed for further research. Further study employing more dimensions is needed to ensure full satisfactory of the customer information system. The discussed findings were obtained from only one single study from a division of a call center and merely focus on one customer information systems. In addition to that, further research may also be extended by considering a wider range of population including all branches. Additionally, by using both quantitative and qualitative may also ensure rich data to be collected.

Acknowledgements

The authors would like to acknowledge the Universiti Teknologi MARA for the financial support in conducting the research.

References

Azleen (2008). The End-user Computing Satisfaction (EUCS) On Computerized Accounting System (CAS): How They Perceived?. *Journal of Internet Banking and Commerce*, Vol. 13, No. 1.

Brinkerhoff, R. O. & Dressler, D. E. (1990) '*Productivity Measurement: A Guide for Managers and Evaluator*s', Sage Publications, New York;

Chen, J. S., & Tsou, H. T. (2012). Performance effects of IT capability, service process innovation, and the mediating role of customer service. *Journal of Engineering and Technology Management*, 29(1), 71-94.

Chircu. A. and Lee, D. (2003). Understanding IT investments in the public sector: the case of e-government. Proceedings of the Ninth Americas Conference on Information Systems, Florida, pp. 792-800.

Day, N. (2007). *Achieving User Satisfaction in Content Management System*. Attribution- No Derivative Works 2.0 UK: England & Wales.

DeCenzo, D. A., & Robinson, S. P. (2003). *Human Resource Management*. (7th ed.). New York: John Willy & Sons Inc

Doll, W. J., Xiadong, D., Raghunathan, T. S., Torkzadeh, G. and Xia, W. (2004). *The meaning and measurement of user satisfaction: a multigroup invariance analysis of the end-user computing satisfaction instrument. Journal of Management Information Systems*, Vol 21, No 1, pp. 227-262.

Halkos, G. & Bousinakis, D. (2010). The effect of stress and satisfaction on productivity. *International Journal of Productivity and Performance Management*,Vol. 59 No. 5, pp. 415-431

Heilman, G. E. and Brusa, J. (2006) "Validating the end-user computing satisfaction survey instrument in Mexico", *International Journal of Technology and Human Interaction*, Vol 2, No 4, pp. 84-94.

Hou, C. K. (2012). Examining the effect of user satisfaction on system usage and individual performance with business intelligence systems: An empirical study of Taiwan's electronics industry. *International Journal of Information Manage*ment, 32(6), 560-573.

Huiping L. (2011). On Whole-process Management of Customer Relationship, in: Information Management, Innovation Management and Industrial Engineering (ICIII), *International Conference on IEEE*, pp.70- 74

Kabanda G (2014). "*The impact of ICTs on customer service excellence in Zimbabwe*", May 2014, The International J. Emerg. Technol. Adv. Eng. 4(5)312-324. (ISSN 2250–2459 (Online)). http://www.ijetae.com/files/Volume4Issue5/IJETAE_0514_51.pdf

Kaufman, B., & Hotchkiss, J. (2006). *Economics of Labor Markets* (7th ed.). Mason, OH: Thomson South-Western.

Kornkaew, A. (2012).*Management Information System Implementation Challenges, Success Key Issues, Effects and Consequences*. Retrieved from http://www.diva-portal.org/smash/get/diva2:545644/FULLTEXT02

Maha M. Al-Khaffaf & Hadeel J. Abdellatif (2011). *The Effect of Information and Communication Technology on Customer Relationship Management*: Jordan Public Shareholding Companies. Volume 2, Issue 4.

Nunnally, J. C. (1978). *Psychometric theory (2nd ed.).* New York, NY: McGraw-Hill

Nunnally, J.C. (1967). *Psychometric Methods.* New York: McGraw Hill.

Otiso K. N., Chelangat, D. & Bonuke R. N. (2012). Improving the Quality of Customer Service through ICT Use in the Kenya Power and Lighting Company. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 3(5): 461-466 © Scholarlink Research Institute Journals, 2012 (ISSN: 2141-7024).

Parker, J. M. (2010). *Training as a Moderator in the Relationship Between Teachers' Perceived Available Time and Their Support of Inclusive Practices.* Retrieved from http://www.lib.ncsu.edu/resolver/1840.16/1378

Pikkarainen, K., Pikkarainen, T., Karjaluoto, H. and Pahnila, S. (2006). The measurement of end-user computing satisfaction of online banking services: Empirical evidence from Finland. *International Journal of Bank Marketing*, Vol 24, No 3, pp. 158-172.

Robertson, J. (2007). *11 Usability Principles For CMS Products.* Retrieved on July 2, 2007 from http://www.steptwo.com.au/papers/kmc_usabilitycms/pdf/KMC_Usa bilityCMS.%'pdf.

Rocheleau, B. & Wu, L. (2002). Public Versus Private Information System: Do They Differ In Important Ways? A Review And Empirical Test. American Review of Public Administration, Vol 32, No 4, pp. 379-397.

Shadi Hajibagheri, Babak Shirazi, & Hamed Fazlollahtabar (2013). A Review on CRM and CIS:A Service Oriented Approach. *Int. J. Innovative Ideas*. ISSN: 2232-1942 Vol. 13 No. 1

Sommerville, K.L (2007). *Hospitality Employee Management And Supervision, concepts and practical applications.* New Jersey. John Wiley & Sons.

Tangen, S. (2005), "Professional practice demystifying productivity and performance", *International Journal of Productivity and Performance Management*, Vol. 54 No. 1, pp. 34-46.

Theo J.M,(2004). Productivity and employee satisfaction in flexible workplaces. *Journal of Corporate Real Estate*, Vol.6 Iss 2 pp. 133 - 148

Torkzadeh, G. & Doll, W. J. (1997). The development of a tool for measuring the perceived impact of information technology on work. *Omega, Int. J. Mgmt. Sci*. 27 (1999) 327-339

Zahay, D. (2008). Successful B2B customer database management, *Journal of Business & Industrial Marketing*, 23, 264-272

Zviran, M., Elrich, Z. (2006). Identification and Authentication: Technology and Implementation Issue. *Communications of the Association for Information Systems* 17 (4): 90–105.