

Chapter 42

Intelligent Decision Making and Risk Analysis of B2c E-Commerce Customer Satisfaction

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ABSTRACT

Customer satisfaction and relationship is complex, demanding, and yet crucial to an organization success and its competitive position in the marketplace. Due to rapid changes in emerging technologies there is a need for constant improvement and adjustment of product and services offered using e-commerce systems. Customer satisfaction is dependent on a large number of organizational as well as product and services attributes. These attributes require continuous development, improvement and monitoring. The interdependencies of these attributes make it very difficult for managers and product and services development teams to comprehend and be aware of effect (Pires et al 2004, Rohm et al 2004, Sirdeshmukh et al 2002, Yang 2007) of inefficiencies that may exist in development and offering of their products and services. This paper considers the implementation of an intelligent decision making system using Fuzzy Cognitive Maps (FCMs) to provide facilities to capture and represent complex relationships in a customer satisfaction management and modelling to improve the understanding of managers and product developers about their customers and associated risks related to products and services that are offered online using e-commerce sites. By using FCMs, customer satisfactions can regularly be reviewed and improved. Managers can perform what-if analyses to better understand vulnerabilities and pitfalls in the way their product and services are provided to customers.

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1. INTRODUCTION

Customer satisfaction can be defined as the degree of satisfaction of a customer that purchases a product or uses a service offered by an organization. Organizations are constantly investigating approaches to provide better product and services for their customers with ever increasing competition in type of products and services offered in markets around the world. This is especially applicable to organizations that provide their products and service online using e-commerce site. Online retailing has created an important part of business model for many firms. With increase attention of many organizations to online retailing, the online retail market has become increasingly competitive. Organizations have shifted their attention to encourage and motivate consumers to purchase repeatedly. A study by Mainspring and Bain & Company (2000) has concluded that an average customer must at least shop four times at an online store before the store can profit from that customer. Therefore it is important for online retailers to better understand their customer's need and preferences to encourage customers to repeat purchases through their stores.

For such organizations that need to compete globally, customer loyalty (Mimouni-Chaabane et al 2010, Otim et al 2006, Parasuraman et al 2000) and innovative ways to provide their product and services is essential (Ballantine, P. 2005, Fasanghari, Habibipour Roudsari, 2008, Liu, Zeng, Xu, Koehl, 2008, Luo, Bhattacharya 2006, Payne, Pennie, 2008). The survival of such organizations not only depends on the quality and price of their product and services but also on consumers' degree of satisfaction and loyalty. Customer satisfaction is identified as an important criterion in success of a business (Lin 2005, Dennis et al 2009, Liu, Zeng, Xu, Koehl, 2008, Rongwu, 2000, Liou, 2009, van der Heijden 2001, Kuan 2009). Therefore the activities that will improve and increase customer satisfaction rates are considered to provide a competitive edge for an organization. Parasuraman & Grewal (2000) argue that perceived value is the most important aspects for a customer and it is the most important predictor of repeat purchase intention. Yazdani concluded that consumers are searching online for products, services and websites that provide value (GSI Commerce, 2009, Bolton 1998, Bornova et al 2009, Brown 2008). Babin et al have suggested that the values motivating consumers to make a purchase in online retail shopping include both utilitarian and hedonic dimensions (Babin et al., 1994). A large business studies and surveys performed by Endeca in 2009 have concluded that online consumers are now more than ever are looking for functional value (GSI Commerce, 2009) and that 93% of online consumers demand freshness, innovation and discovery to satisfy their intrinsic needs (Endeca, 2009). Wang, 2008; Kim & Gupta considers the role of perceived value in explaining repeat purchase behaviour in the online shopping context (Wang, 2008; Kim & Gupta, 2009). Several studies in the area of customer satisfaction in online shopping consider obtaining values (e.g. utilitarian and hedonic values) as the shopping goals and examine their effects on repeat purchase intention (e.g. Jones et al., 2006; Wang, 2008, Forsythe et al., 2006; Atcharyachanvanich et al., 2008).

Gutman considered means-end chain (MEC) theory (Gutman, 1997) for online shopping and concluded that several customer satisfaction indices motivate customers to repeated purchase from a online retailer. Gutman concluded that there is a hierarchical structure, with benefits as the subgoals of the values. MEC's suggest values are the final goals that trigger customer behaviour (Botschen et al., 1999). Zanolli & Naspetti, 2002; Wagner, 2007).

Many organizations have established their own customer satisfaction indices (CSI). There are also several CSI that are developed as standard in several countries such as American ACSI, Swedish SCSi, Korean KCSI, Chinese and European ECSi customer satisfaction Index (CCSI) (Fasanghari, Habibipour

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