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## ABSTRACT

Consumer satisfaction (CS) has been the focus of Marketing to increase consumers' loyalty and repurchase intentions. This area of research is found in multiple disciplines. The "satisfaction" construct has been used as an indicator of IS success and acceptance in Information System (IS) and e-Commerce in particular. A critical review of the diverse literature reveals a lack of consensus in its definition and an over-simplification of its measurement scales. There are also various CS variants as a result of many studies in different fields. This begs the question: what is the overall CS composed of and how are consumers satisfied in a multi-channel environment? Drawing from a socio-technical perspective, this study is the first step toward integrating all variants into a high-level conceptual framework and allows both researchers and practitioners to obtain clearer indication of why a consumer is not satisfied and/or how to improve the overall CS.

## Keywords

Overall consumer satisfaction, e-commerce, multi-channel, instrument, socio-technical

## INTRODUCTION

Consumer satisfaction (CS) has been a main topic of interest in Marketing for many decades (Anderson, 1973, Fornell, Johnson, Anderson, Cha and Bryant, 1996, Lovelock, Patterson and Walker, 2007, Oliver, 1980). Organizations aim to maximize CS to differentiate their products, and satisfy the consumers' needs in order to increase their loyalty and repurchase intentions (Churchill and Surprenant, 1982). High CS also indicates possible future profits and market effectiveness of the organization (Fornell et al., 1996). It is not surprising that the value of CS has reached out from the traditional "bricks and mortar" environment to the online and technological context. Thus, amongst others, studies of Information System (IS) consider *e-satisfaction* as a key determinant of technology acceptance and continued usage in the online environment (Cenfetelli, Benbasat and Al-Natour, 2008, Devaraj, Fan and Kohli, 2002); and IS also considers *user satisfaction* as an IS success measure (DeLone and McLean, 2003, Wixom and Todd, 2005). Different types of satisfaction lead to the open question of the composition of overall CS (Oliver, 1993, Spreng, MacKenzie and Olshavsky, 1996).

There is generally a lack of consensus in the definition, dimensions, and conceptualization of the "satisfaction" construct (Yi, 1990). These same issues propagate to other satisfaction variants (e.g. e-satisfaction) (Chen, Shelly and He, 2008). While these issues require a deeper examination, the focus of Satisfaction within the IS space has remained on the "end user" – the one who uses or interacts directly with the IS system (Au, Ngai and Cheng, 2002). This approach is limited because the "end user" might not reflect the final consumer of products e.g. goods, services or information (Freiden, Goldsmith, Takacs and Hofacker, 1998). Moreover, few studies examine the multi-dimensionality of overall CS and the impact of other satisfaction variants (such as user satisfaction and e-satisfaction) on the overall CS. Thus, a multidisciplinary approach is applied in this paper, to reconcile the different perspectives and to create a more holistic view of overall CS and its variants, scoped for a

multi-channel environment (i.e. "bricks and mortar" and online environments) (Montoya-Weiss, Voss and Grewal, 2003). In this way, the multi-dimensional view portrays a more realistic environment in the Internet age whereby there are considerations of consumers who are computer illiterate (or less computer illiterate), who prefer either environment for their purchases.

To date, there is an absence of what overall CS entails. This paper aims to review the existing literature and to identify what types of satisfaction variants contribute to the overall CS from a socio-technical viewpoint. A broad conceptual framework is proposed with a view to a further development of comprehensive instruments for measuring overall CS effectively for a multi-channel environment. From an organizational perspective, this gives marketing insights into obtaining CS through exploiting the value of IS (Au et al., 2002) and offers a high-level view of overall CS (Chen et al., 2008). Knowing the overall CS has implications for management to develop competitive strategic planning for the investment in information technology to enhance CS (Fornell et al., 1996). Understanding overall CS and its variants from a socio-technical perspective also deepens the insight as to which social and technical components would most impact CS and thus help businesses to know which area of CS could be improved (Au et al., 2002). Consequently, various mechanisms (e.g. product marketing, IS functions, sales tactics) can be designed to maximize levels of overall CS (Chen et al., 2008).

## DEFINITIONS

### Multi-channel Environment

The multi-channel environment is a combination of online and offline environments that include channel formats such as "bricks and mortar" stores, telephone and online websites (Montoya-Weiss et al., 2003). Traditionally, especially in the Marketing area, Satisfaction research has been conducted within the context of "bricks and mortar" stores in which the face-to-face channel is the main interaction (Shankar, Smith and Rangaswamy, 2003, Szymanski and Hise, 2000). With the Internet, organizations use online websites as an alternative to provide greater benefits (Balasubramanian, Konana and Menon, 2003, Kohli, Devaraj and Mahmood, 2004). Although existing studies have focused on satisfaction of either online (Cenfetelli et al., 2008, Szymanski and Hise, 2000) or offline environments (Anderson, 1973, Oliver, 1993), there is an increased call for studies to be conducted in a multi-channel context (Harris, Grewal, Mohr and Bernhardt, 2006, Van Birgelen, Jong and Ruyter, 2006).

### Core and Supporting Element of Products

Products refer to categories of goods, services and information (Freiden et al., 1998). Although there are many characteristics of products, this study focuses on one important aspect for satisfaction – core and supporting elements of product (see Cenfetelli et al. (2008) for summary, (Freiden et al., 1998, Lovelock et al., 2007). Core product is the key offerings while supporting elements are value-creation activities or facilities to consumers. The emphasis of core product is important to CS because organizations must fulfill this basic aspect before consumers will consider the supporting element(s) (Rust and Oliver, 2000). An example is the automotive industry where the car is the core product with supporting elements such as after-sales service, insurance and maintenance. If consumers are not satisfied with the core product, the organization will find it hard to satisfy consumers even though its supporting services meet their standards.

### LITERATURE REVIEW ON CONSUMER SATISFACTION (CS)

The literature review involves: 1) search for relevant articles 2) definition of CS 3) identification of satisfaction variants. The trend of CS studies for the past 28 years from 1980 to 2008 with 94 relevant articles reveals that the majority of them are in the diverse disciplines of Marketing, IS and e-Commerce (see Table 1). This includes six critical review papers on CS and its respective variants: Yi (1990) and Giese and Cote (2000) – consumer satisfaction, Au et al. (2002) and DeLone and McLean (1992, 2003) – user satisfaction, and Chen et al. (2008) – e-satisfaction. Most studies aimed to simplify the conceptualization of CS, which did not reflect the complexity and multi-dimensionality of overall CS. Researchers often refer to overall CS as a specific type of satisfaction variant such as e-satisfaction or user satisfaction. In contrast, others aimed to distinguish the different forms of satisfaction and examine their impact on overall CS (Nelson, Todd and Wixom, 2005, Spreng et al., 1996). To date, no research has fully analyzed the composition of overall CS. In this study, as in others (Oliver, 1993, Spreng et al., 1996) satisfaction variants are referred to as being distinct satisfaction types that contribute to the overall CS. Additionally, the analysis reveals two common issues. Firstly, there is a lack of consensus in the standard definition of CS, which leads to inconsistency in its conceptualization. Subsequently, this issue is propagated to other satisfaction variants (Chen et al., 2008). Secondly, the perspectives of the Marketing and IS disciplines have emerged, focusing on social and technical dimensions of CS respectively. The result is a mixture of satisfaction types that overlap and diverge in meaning, leading to a confusion of what forms the overall CS take. Thus, there is a need to arrive at a common consensus in the definition of CS.

| Keywords | E-commerce | IS | Marketing | Services Marketing | Relationship Marketing | Total |
|---|---|---|---|---|---|---|
| Channel satisfaction | 2 | | 2 | | | 4 |
| Consumer satisfaction | 5 | 4 | 45 | 8 | | 62 |
| E-satisfaction | 5 | | 1 | | | 6 |
| Relationship satisfaction | | 1 | 1 | | 4 | 6 |
| User satisfaction | 1 | 15 | | | | 16 |
| Total | 13 | 20 | 49 | 8 | 4 | 94 |

**Table 1: Summary of reviewed CS articles**

## Defining CS

Based on the definitional framework of Giese and Cote (2000, pg 8), CS is defined as:

a **response** (outcome, process) pertaining to a particular **focus** (micro, macro) determined at a particular **time** (transaction specific, cumulative).

The response to "satisfaction" may be explained by its outcome or process. The outcome response is more appropriate in defining the overall CS because it reflects the consequence of satisfaction, which can be used directly by organizations to make strategic plans for improving CS. It gives a top-down view rather than detailed bottom-up analysis of the CS process. In this case, it is recognized that outcome may be cognitive, affective (emotions) and conative (behavior-intention). Next, the focus for CS can be addressed at a micro or macro level. The consumer centric focus in developing the framework for overall CS necessitates a micro level focusing at the individual consumer level. By contrast, a macro level focus takes a broader view in benchmarking, financial and economic aspects of organizations and industries (Fornell et al., 1996). In order to develop a framework for overall CS, it is more important to first understand the micro level before embarking on the macro context. Lastly, timing refers to the moment at which CS occurs. This could be anytime from the stage before purchase, leading up to consumption and after. Although CS is transient and unstable, studies often considered satisfaction to be longer lasting so that it can be measured (Cenfetelli et al., 2008, Homburg, Koschate and Hoyer, 2006). Moreover, this paper aims to identify the composition of overall CS whereby the cumulative effect is considered for different encounters and variants (Smith, Bolton and Wagner, 1999, Van Dolen, De Ruyter and Lemmink, 2004).

## Identification of CS Variants

| CS Variant | Product Element | Key Discipline | Sources |
|---|---|---|---|
| Attribute Satisfaction | Core | Marketing | Oliver (1980), Spreng et al.(1996) |
| Information Satisfaction | Supporting | IS | Spreng et al.(1996), Nelson and Todd (2005), Wixom and Todd (2005) |
| System Satisfaction | | IS | Lovelock et al. (2007), Nelson and Todd (2005), Wixom and Todd (2005) |
| User Satisfaction | | IS | Au et al. (2002), Doll and Torkzadeh (1988), DeLone and McLean (1992, 2003) |
| E-satisfaction | | E-Commerce | Chen et al. (2008), Cenfetelli et al. (2008) |
| Service Support Satisfaction | | Service Marketing | Molina, Martín-Consuegra and Esteban (2007), Shankar et al. (2003) |
| Service Recovery Satisfaction | | Service Marketing | Harris et al.(2006), Schoefer (2008), Smith et al. (1999) |
| Channel Satisfaction | | E-Commerce | Devaraj et al. (2002), Kohli et al. (2004) |
| Relationship Satisfaction | | Relationship Marketing | Leverin and Liljander (2006), Terawatanavong, Whitwell and Widing, (2007) |

**Table 2: CS Variants**

To date, no studies have examined the composition and impact of different satisfaction variants on overall CS, nor reconciled the perspectives of Marketing and IS. So, the following search strategy is conducted. Firstly, a broad search is conducted to select empirical papers with the term "consumer satisfaction". Secondly, the papers are reviewed and selected if they report satisfaction variants that contribute to overall CS. For example, Spreng et al. (1996) is selected for further review because it shows *attribute satisfaction* and *information satisfaction* as contributors to overall CS. Thirdly, distinct variants (e.g. *e-*

*satisfaction, user satisfaction, information satisfaction and system satisfaction*) are obtained from existing papers. Fourthly, the selected papers are reviewed and analyzed based on the framework - core and supporting elements of product. This identifies attribute satisfaction as the focus for the core product element (Oliver, 1993, Spreng et al., 1996) while the rest of satisfaction variants make up the supporting elements (see Table 2). Lastly, sub-disciplines such as E-Commerce, Service Marketing, and Relationship Marketing reveal other variants like service support satisfaction, service recovery satisfaction and relationship satisfaction. Table 2 shows the overview of satisfaction variants and their sources.

## SOCIO-TECHNICAL PERSPECTIVE OF CS VARIANTS

Most definitions of CS variants are split along the two major perspectives of Marketing and IS, which represent the social and technical viewpoints, respectively (Chen et al., 2008, Nelson et al., 2005). Thus, development of a CS instrument depends on the perspective being adopted. For instance, studies with a Marketing viewpoint will focus on consumer-centric scales compared to the functional orientation adopted by IS. Although both perspectives have been useful for conceptualizing distinct CS variants such as user satisfaction and service recovery satisfaction, issues arise when there are inconsistencies in the definition of the same CS variant (see Table 3). In addition, the ubiquitous use of technologies to support consumers for supporting businesses, means studies have adopted IS perspectives in CS studies and vice versa (Bhattacherjee, 2001, Chen et al., 2008).

### Attribute Satisfaction

Attribute satisfaction is defined as the consumer's subjective judgment that arises from the observations of attribute performance in the core product. Prior studies highlight that attribute satisfaction is not created by attribute performance but the subjective assessment of performance (Oliver, 1993, Spreng et al., 1996). For instance, the performance of product assists consumers to reach their goal (Cenfetelli et al., 2008). Based on the core and supporting product element framework, attribute satisfaction relates to core product. This portion of overall CS is crucial to meeting the needs and expectations of consumers because the supporting part exists to enhance and deliver value-adding services (Lovelock et al., 2007). For example, consumers could be pleased with the supporting services but the overall CS is let down by attributes of the product. Thus, measurement scales could put higher weighting on this aspect rather than on the supporting element.

### Information Satisfaction

Information satisfaction is defined as the subjective perception of a consumer that arises from the delivery and format of information in a multi-channel environment, where information is delivered in many formats across different media, from newspaper to digital data on website for example. In a sense, Marketing studies tend to focus on information as communication with consumers (Spreng et al., 1996), while IS views information as output of information systems (Nelson et al., 2005). Considering the context of a multi-channel environment, the socio-technical viewpoint will consider the delivery and format of information as a basis for consumer evaluation.

### System Satisfaction

From the socio-technical viewpoint, system satisfaction is defined as the consumer's perception of socio-technical systems within a given organization. This broader perspective views system as a combination of social (people, relationships and work structures) and technical (processes, tasks and technologies) dimensions (Lovelock et al., 2007, Nelson et al., 2005). In contrast, the Marketing and IS disciplines each view systems narrowly from social and technical viewpoints, respectively. This results in ambiguity in measuring system satisfaction because the consumer does not distinguish between the two. Thus, the socio-technical viewpoint presents a consumer-centric view with consideration of both dimensions.

### User Satisfaction

Unlike other CS variants mentioned so far, user satisfaction is one of the most widely researched in IS; being used as a success measure (DeLone and McLean, 2003) or predictor of technology acceptance (Wixom and Todd, 2005). Although user satisfaction is predominately focused on the functional characteristics of IS, there is increasing awareness of the importance of social aspects. As a result, IS studies incorporate social elements as well as the consumer centric viewpoints borrowed from Marketing (see Au et al. (2002) for critical review). Considering both perspectives, user satisfaction is defined as the perception of a specific computer application by end-users who interact directly with the application.

| CS Variant | Marketing Perspective | IS Perspective | Socio-Technical Perspective |
|---|---|---|---|
| Attribute Satisfaction | "Consumer's subjective satisfaction judgment resulting from observations of attribute performance and can be considered to be the psychological fulfillment response consumers make when assessing performance" (Oliver, 1993, pg 421). | "Within the context of B2C, satisfaction has been demonstrated to be highly dependent on providing customers a means to an end…" (Cenfetelli et al., 2008, pg.166). | The consumer's subjective judgment that arises from the observations of attribute performance in the core product. |
| Information Satisfaction | "A subjective satisfaction judgment of the information used in choosing a product" (Spreng et al., 1996, pg. 18). | Perception of information quality in information system (Nelson et al., 2005, pg. 207). | The subjective perception of a consumer that arises on the delivery and format of information in a multi-channel environment |
| System Satisfaction | Perception of system as the operations of services from creation and delivery to the consumer (Lovelock et al., 2007) | Perception of system quality in information system (DeLone and McLean, 1992, Nelson et al., 2005). "a degree of favorableness with respect to the system and the mechanics of interaction" (Wixom and Todd, 2005, pg.91). | The consumer's perception of the socio-technical system within a given organization. |
| User Satisfaction | | "attitude towards a specific computer application by someone who interacts with the application directly" (Doll and Torkzadeh, 1988, pg. 261). | The perception of a specific computer application by end-users who interact directly with the application. |
| E-satisfaction | "consumers' judgment of their Internet retail experience as compared to their experiences with traditional retail stores" (Evanschitzky, Iyer, Hesse and Ahlert, 2004, pg. 240). "outcome of consumer perceptions of online convenience, merchandising, site design, and financial security" (Szymanski and Hise, 2000, pg.310) | "measuring our customers' opinions of our e-commerce system and should cover the entire customer experience cycle from information retrieval through purchase, payment, receipt, and service" (DeLone and McLean, 2003, pg.25). "time-accumulated satisfaction after many encounters with a given B2C website" (Cenfetelli et al., 2008, pg.163). | The judgment made by consumer based on the cumulative experience and interactions with a specific website in a given organization. |
| Service Support Satisfaction | Perception of service support in the form of service encounter and inquiries with frontline employee and after-sales services (Lovelock et al., 2007, Molina et al., 2007, Shankar et al., 2003, Van Dolen et al., 2004). | Support of IS functions for products or end-users (DeLone and McLean, 2003) "satisfaction of customers beyond the product itself by offering additional value-adding services" (Cenfetelli et al., 2008, pg.166). | The perception of a consumer based on their encounter and involvement with services to support the core product. |
| Service Recovery Satisfaction | "a series of events in which a service failure triggers a procedure that generates economic and social interaction between the customer and the organization, through which an outcome is allocated to the customer" (Smith et al., 1999, pg.357) | | The evaluation of the consumer based on the manner in which they were treated during the recovery process, the means of recovery and the perceived outcome of service failures in relations to their overall satisfaction. |
| Channel Satisfaction | Perception of consumer to assess the effectiveness and differences of cross-channel synergies across different channel formats (Harris et al., 2006, Montoya-Weiss et al., 2003, Van Birgelen et al., 2006). | "motivation to stay with the channel and makes them less prone to exit the channel" (Devaraj et al., 2002, pg. 318). | The perception of consumer's motivation to stay with a given organization from the usage of channels where the value of each channel makes them less prone to exit the channel. |
| Relationship Satisfaction | Evaluation of consumer where relationships are formed with organization to gain mutual benefits (Leverin and Liljander, 2006, Terawatanavong et al., 2007). | "users' IS continuance intention is determined primarily by their satisfaction with prior IS use" (Bhattacherjee, 2001, pg.355). | The perception that the consumer has of all the phases of the relationship with a given organization. |

**Table 3: CS Variants and Perspectives**

**E-satisfaction**

E-satisfaction is gaining interest for both Marketing and IS as an indicator of website success. Its multidisciplinary influence leads to propagation of issues of CS from the offline environment to the online context (see Chen et al. (2008) for critical review). One notable issue is ambiguity in the dimensions of the e-satisfaction instrument because of conflicting perspectives, whereby the consumer view is emphasized by the Marketing area, while the IS perspective focuses on the functional aspect of the website. From a socio-technical viewpoint, both perspectives are worth consideration. Therefore e-satisfaction is defined as the judgment made by the consumer based on the cumulative experience and interactions with a specific website in a given organization.

**Service Support Satisfaction**

Service support satisfaction is defined as the perception of a consumer based on their encounter and involvement with services to support the core product. This variant has been implicitly mentioned with various terms in CS studies such as frontline employee satisfaction (Molina et al., 2007) and service encounter satisfaction (Shankar et al., 2003, Van Dolen et al., 2004). On the other hand, service support from an IS perspective focuses on IS functions. Combining both perspectives, it is clear that consumers evaluate service support as a broad range of support services for the core product.

**Service Recovery Satisfaction**

Service recovery satisfaction is important as the means to maintain CS and consumer loyalty (Schoefer, 2008, Smith et al., 1999). However, this variant remains rooted in Marketing. The notion of service recovery satisfaction is largely ignored in IS although there is implied importance for the online environment whereby the consumer has to participate and be assisted by technology during the recovery process (Harris et al., 2006). Thus, a broader perspective is adopted to define service recovery satisfaction as the evaluation of the consumer based on the manner in which they were treated during the recovery process, means of recovery and perceived outcome of service failures in relations to their overall satisfaction.

**Channel Satisfaction**

Channel satisfaction is defined as the perception of consumer's motivation to stay with a given organization from the usage of channels where the value of each channel makes them less prone to exit the channel. This variant plays an important role in a multi-channel environment especially for e-Commerce (Devaraj et al., 2002, Kohli et al., 2004). In tandem with e-satisfaction, this variant adds another dimension to overall satisfaction to help to explain the preference of consumers to use the online environment. The availability and attraction of multiple channels in an organization is also the focus because it affects loyalty and switching costs (Ping, 2003).

**Relationship Satisfaction**

Relationship satisfaction refers to the perception that the consumer has of all the phases of the relationship with a given organization. Often, the relationship occurs from continued usage of products (Bolton and Lemon, 1999). In other cases, consumers establish long-term relationships because of loyalty, trust and commitment to the organization or its products (Caceres and Paparoidamis, 2007). One key Marketing objective in a successful relationship is to build the relationship satisfaction whereby the consumer will stay with the given organization for mutual benefits (Leverin and Liljander, 2006, Van Dolen et al., 2004). In similar ways, IS views relationship satisfaction as a basis for the continued intention to use IS (Bhattacherjee, 2001).

**A HIGH-LEVEL CONCEPTUAL FRAMEWORK OF OVERALL CS**

A new high-level conceptual framework for overall CS is proposed for the development of a comprehensive measurement instrument for consumers in a multi-channel environment (see Figure 1). Though prior studies aim to simplify conceptualization, it is found that overall CS is complex and multi-dimensional (Chen et al., 2008, Yi, 1990). These studies fail to take into account the effect of other satisfaction variants. As such, the composition of overall CS is simplistic and incomprehensive; not reflecting the complexity and multidimensionality of the satisfaction construct. In the process, organizations find it difficult to pinpoint which area of overall CS they should improve. For example, a consumer purchases a product on the website only to be informed that the advertised online price is wrong. While the consumer is pleased with usage of the website (e-satisfaction), the experience of wrong information has created a negative impression (information satisfaction). Unless the organization takes proactive measures of service recovery (service recovery satisfaction) and provides adequate service support (service support satisfaction) to rectify this mistake, the overall satisfaction of this consumer might be negatively impacted, even though e-satisfaction level is high. Drawing from multidisciplinary literature,

the new conceptual framework is better suited to the development of a complete satisfaction instrument for consumers using the social-technical perspective.
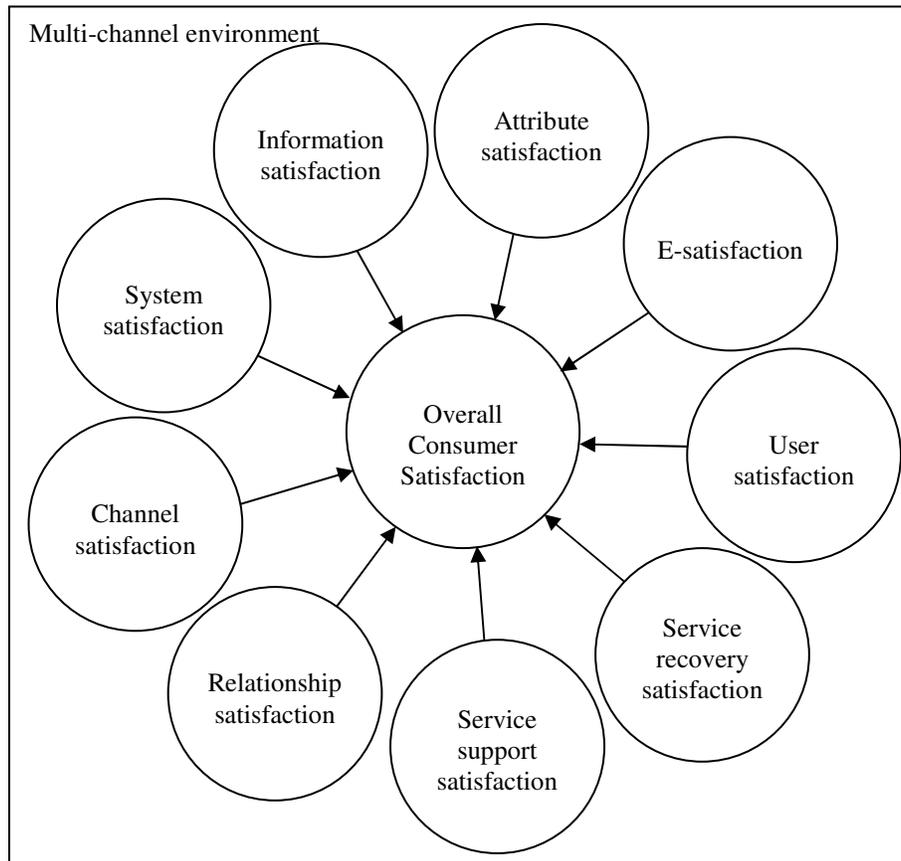


**Figure 1. A High-Level Conceptual Framework of Overall Consumer Satisfaction**

## CONCLUSION

A high-level conceptual framework for describing overall CS has been developed. The literature reveals that overall CS is a complex and multidimensional phenomenon. Yet, studies have either chosen to simplify the conceptualizations or create new satisfaction variants to describe a distinct portion of overall CS. Moreover, the significance of CS research has been adapted in various disciplines of Marketing, IS and e-Commerce. However, the lack of consensus in a standard definition of CS, results in conflicting perspectives along the social and technical viewpoints. By combining both aspects with the socio-technical perspective, this study is the first step toward evaluating all satisfaction variants into an integrative framework. This can enable management to obtain a clearer indication of what contributes to consumer satisfaction, why a consumer is not satisfied and/or how to improve the overall CS. Further studies are required to establish the relationships amongst the satisfaction variants and test the framework empirically.

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