

# Review on “Expectancy Disconfirmation Theory” (EDT) Model in B2C E-Commerce

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**Abstract** — In today’s competitive e-marketplace, designing a qualified website and presenting good quality of products and services will be more successful in attracting customer satisfaction. Measuring customer’s satisfaction by an empowerment tool that has ability to cover and make relationship among all concepts that are explained above is imperative. This study focuses on a review of “Expectancy Disconfirmation Theory” (EDT) as a famous theory in measuring customer’s satisfaction. “Expectancy Disconfirmation Theory” (EDT) which is defined as a theory for measuring customer satisfaction from perceived quality of products or services is reviewed in this research for measuring customers satisfaction. Evolution of “EDT” shown this theory is able to measure quality of services and information which provided by B2C E-commerce from customer’s point of view. Moreover, review on EDT measurement methods and their strengths and weaknesses in accuracy of the results shown that Additive Difference Model (ADM) and Direct Effects Model (DEM) worked well across both standards involve customer’s expectation and desire. Between DEM and ADM methods, when managers need information about desires and expectations DEM appears to be a good choice but it does not provide a distinct measure of the disconfirmation of customer’s expectation and desire. In versus ADM provide a distinct measure of the disconfirmation of customer’s expectation and desire. That’s why it is concerned by managerial issues.

**Keywords – customer satisfaction; “Expectancy Disconfirmation Theory” (EDT), E-Commerce**

## 1. INTRODUCTION

Nowadays, online marketplace is rapidly growing and the businesses that tend to get benefit from e-marketplace are expanding. In such competitive e-marketplace, those with more interest in attracting customer’s satisfaction from different aspects of electronic commerce (e-commerce (e.g. the quality of websites [1] and quality of offered products and services [2, 3] on the websites) will possess more share in the e-marketplace. That is why organizations need to more care of their customer’s satisfaction when they involve in e-commerce. E-commerce plays a transaction role of an electronic medium between two or among multiple parties [4]. Customer (B2C) knows the kind of online transaction that an organization deals with its customers directly.

This research introduced EDT as a substantial theory that can measure customer satisfaction from perceived quality of products or services in order to measure the customer’s satisfaction in e-commerce [5, 6, 7]. EDT has two famous variables; expectation or desire and experience or perceived performance. These variables are defined in two distinct time periods. Expectation or desire is related to the pre purchase time period that a customer has initial expectation or desire about a specific performance such as quality of products or services. Experience or perceived performance is related to the after-purchase time period that the customer gets the experience after perceiving a real performance such as quality of a specific product or service. The difference between initial expectation or desire and perceived experience or performance is known as disinformation of expectation or desire [5,7,8]. It means that disconfirmation of expectation or desire can be positive or negative. When customer’s perceived performance over the quality of specific product or service is higher than the customer’s expectation or desire, the positive disconfirmation will occur. In the same way, when customers perceives the performance is worse than what they expected or desired about the quality of specific product or service, the negative disconfirmation will happen. According to [9] positive disconfirmation leads to the customer’s satisfaction and negative disconfirmation means perceived performance of products or services couldn’t attract the customer satisfaction.

EDT was applied by many researchers in different fields for a better understanding of the customer’s expectations and requirements for attracting their satisfaction, such as marketing [5,10,11,12], tourism [13], Psychology [14], information technology [8,15,16,17,18], repurchase behavior and retention [8,17,19,20] and airline industry [21,22].

For evaluating the customer’s satisfaction from a website’s quality, product and services, EDT is quite capable of fulfilling the responsibility of measuring the customer’s satisfaction considering its natural competences [5, 7, 19].

EDT has a psychological nature that can evaluate the customer’s satisfaction from presented information at the first level [23] and can also evaluate the customer’s satisfaction of presenting quality of products and services at the second and third levels [5,6,7].

## 2. METHODOLOGY

This study consists of three activities:

- Review of the evolution of EDT model and identify its capabilities in measuring the customer's satisfaction.
- Review of the different EDT measurement methods.
- Summarize an appropriate EDT measurement method from E-commerce management's point of view.

## 3. HISTORY OF COGNITIVE DISSONANCE THEORY (CDT)

Expectancy Disconfirmation Theory (EDT) which is upon the basis of Cognitive Dissonance Theory (CDT) that was introduced in 1957 by Leon Festinger [24]; therefore, a literature on CDT is reviewed in this section before reviewing of the EDT definition and its applications. Leon Festinger in 1957 [24], proposed Cognitive Dissonance Theory (CDT) that defines a dissonance between cognition of something and its reality. Perceived dissonance leads to change of a person's idea about a specific cognition [8]. This change has a psychological reason. Due to the fact that feeling the dissonance between whatever a person thinks about qualification of something and what he/she realizes from actual performance is displeased and make discomfort in a person's mind, thus this uncomfortable feeling encourages the person to change her/his idea about cognition [25].

For a person who intends to moderate the dissonance's unpleasant feelings, he/she tries to decrease the dissonance that is occurred as the result of the existing difference between two kinds of cognition; the initial cognition of something and what is happened in the real world. Psychologically, a person attempts to enhance the significance of consonant cognition and reduce the significance of dissonant cognitions in his/her mind, meaning that summation of consonant cognitions and subtraction of dissonant cognitions [25].

On the other hand, persons normally are resistant of change. They are willing to change their attitude just when they have the least resistance to alter their idea. This kind of resistance is volunteer to change and can reduce dissonance feel of cognition [25]. Reducing dissonance of cognitions by responsible, encourage the persons to change their remaining idea about dissonance. For promoting a person's satisfaction in order to feel about something or a performance, reducing the dissonance feel of cognition has significant importance [26].

In summary, CDT is a theory for matching the person's expectation of something or a performance with what he/she is experiencing about this thing or this performance in the real world. Dissonance between the expectation and experience leads to an unpleasant feeling that according to human's psychology, the persons demonstrate the least resistance for reducing dissonance feeling and are willing to align their expectation and experience, if the difference or dissonance between their expectation and experience is not be fundamental [27].

## 4. EVOLUTION OF EDT

Expectancy Disconfirmation Theory EDT is built upon the basis of CDT definition. EDT can measure the customer's satisfaction from the difference between customer's expectation and experience in perceived products or services [5, 7, 19]. Figure 1 illustrates the first model of EDT proposed by [11].

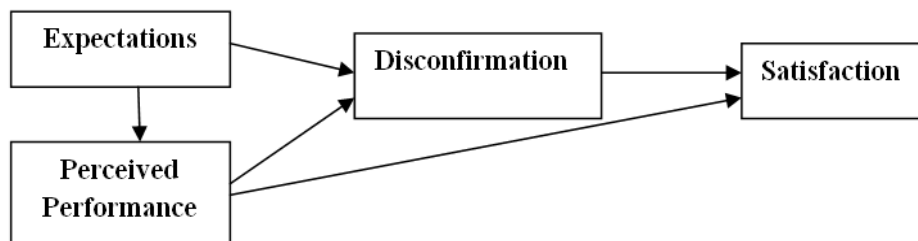


FIGURE 1: First EDT model [5]

This model consists of four components: expectations, perceived performance, disconfirmation, and satisfaction as discussed in following:

**Expectations** define the customer's anticipations about performance of products and services [28]. EDT has the ability to define multiple manners of customers in purchase process. First, the customers have an initial expectation based on their previous experience with using specific product or service. Expectation of such customers who repurchase from a specific business is closer to reality. Second, the new customers without having a first-hand experience about performance and quality of products or services that they tends to purchase from a specific business for the first time. The initial expectation of such customers consists of feedbacks that they receive from other customers, advertisement, and mass media [29].

**Perceived performance** investigates the customer's experience after using products or services that can be better or worse than customer's expectation [23]. Both kinds of these customers who have first-hand experience or do not have such an experience will use purchased products or offered services for a while and can realize actual quality of presented products or services by the business.

**Disconfirmation** is defined as the difference between the customer's initial expectation and observed actual performance [8]. According to literature, disconfirmation is divided to three types including; positive disconfirmation, negative disconfirmation and simple disconfirmation.

When actual performance of a specific product or service cannot meet the customer's expectation, negative disconfirmation will occur and leads to customer's dissatisfaction. Positive disconfirmation leads to the customer's satisfaction, if perceived performance of a specific product or service is able to exceed customer's satisfaction. Finally, when there isn't any difference between customer's expectation and actual performance of specific product or service, means perceived performance equals to expectation, thus simple confirmation is occurred [5,12]. There is some argument and disagreement in the literature over definition of simple confirmation. While some researchers believe satisfaction is the result of simple confirmation [30], others suggested that state of neither satisfaction nor dissatisfaction lead to simple satisfaction [31].

[23] Proposed a model that indicates information satisfaction is one of the customer's satisfaction items. This model is illustrated in Figure 2.

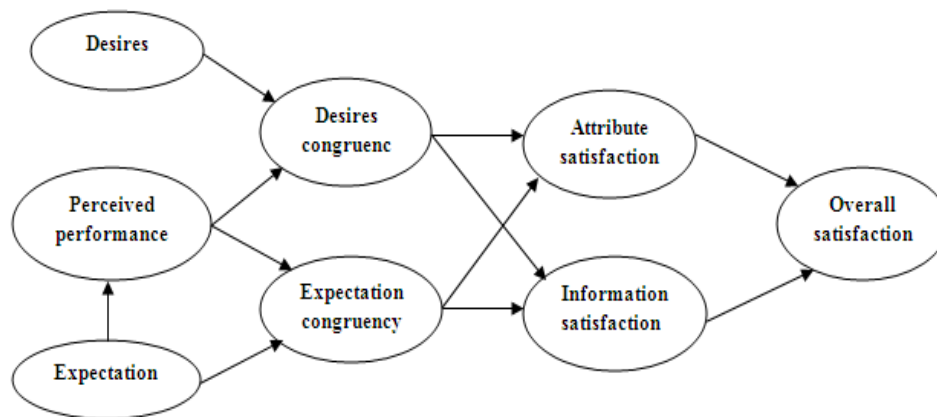


FIGURE 2: EDT model, which presents information satisfaction [23]

According to this EDT model, satisfying the customers is not limited only to their expectation of products or services. Rather than these factors, satisfying the customers from perceived information is the first step that can attract the customer's trust over offered products and services by business.

If they realize that perceived information of product or service can satisfy their initial expectations, then occurred positive disconfirmation leads to their satisfaction. In versus, if the perceived information of products or services does not match with their initial satisfaction, then negative disconfirmation leads to their dissatisfaction.

[7] Divided customer's demands into two concepts that are expectations and desires. Expectations are defined as a set of standards that predict expectations and perceptions of customers about specific product or service [32, 33, 34]. On the other hand, desires are defined as a set of attributes that present more value to the customers [23]. Figure 3 shows the impact of Expectations and desires over perceived performance in EDT model.

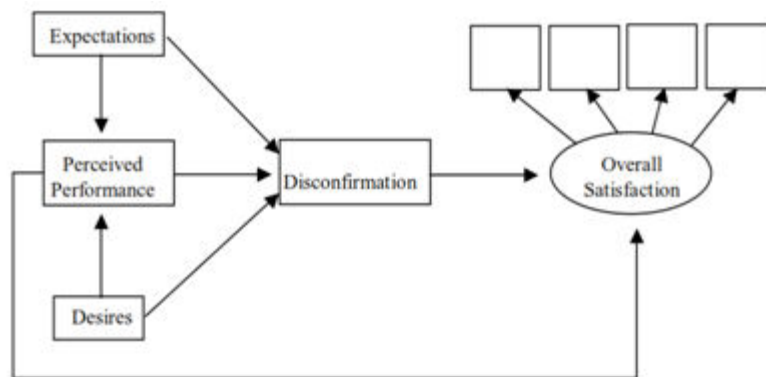


FIGURE 3: Desires and Expectation Disconfirmation model [7]

According to this EDT model (Figure 3), expectations have a positive impact on perceived performance [7, 9] and desires make a positive relationship with perceived performance too [7]. In addition, disconfirmation generates a positive effect on overall satisfaction that consists of both negative and positive disconfirmation [9]. Although previous researches didn't find any relationship between perceived performance and overall satisfaction [5, 23], this research proved that performance has direct impact on overall satisfaction [23, 28, 36]. Overall e-satisfaction can be defined as the customer's satisfaction of previous purchase experience from websites that such a satisfaction can include all different aspects such as; customer's information satisfaction, online facilities satisfaction and purchase satisfaction.

In summary, EDT has two famous variables that are expectation or desire and experience or perceived performance. These variables are proposed and defined for two distinct time periods. Expectation or desire is related to the pre purchase time period that a customer has initial expectation or desire about a specific performance such as quality of products or services. Experience or perceived performance is related to the after purchase time period that the customer gets experience after perceiving a real performance such as quality of specific product or service. The difference between initial expectation or desire and perceived experience or performance is termed as disconfirmation of expectation or desire [5,7,8].

As a result of this difference disconfirmation of expectation or desire can be positive or negative. When a customer's perceived performance about the quality of specific product or service is higher than customer's expectation or desire, the positive disconfirmation occurs. In the same way, when customers perceives the performance worse than what they expected or desired about the quality of specific product or service, then the negative disconfirmation will occur. According to [9] positive disconfirmation leads to customer satisfaction and negative disconfirmation does not lead to the customer's satisfaction. These three definitions of expectations, negative or a framework of [12] that divided these three kinds of definition into three parts and explained the relationship among them explains positive disconfirmation and customer's behaviour along satisfaction or dissatisfaction transparently.

[12] proposed a conceptual framework that consists of three parts: expectations, customer's satisfaction or dissatisfaction and customer's behaviors. This framework is illustrated in Figure 4. It clearly shows meeting that different kinds of expectation in part 1 leads to the customer's satisfaction in part 2 and failure in meeting that different kinds of expectations in part 1 causes dissatisfaction feeling in customers as part 2, also it indicates satisfaction or dissatisfaction feelings as part 2 leads to which behaviors in customers as part 3.

First part of this framework indicates that the customer's expectations have different levels consisting of two zones: intolerable and tolerable. In intolerable zone, the small difference between customer's expectations and perceived performance will lead to dissatisfaction that is shown in part 2, while in tolerable zone three states is predictable. First, when perceived performance is adequate and acceptable compare to customer's expectation that leads to acceptable result of previous usage of products or services in part two, but it has a negative disconfirmation because could not make a higher level of satisfaction among customers. Second, when perceived performance is very close to whatever customer desired or predicted that leads to satisfaction or delight feeling. Disconfirmation of this difference will be positive because this performance could make more satisfaction among customers. The third part explains the customer's behavior from perceived satisfaction or dissatisfaction. High satisfaction or even delight feeling among customers from previous purchase leads to compliment behavior and as it is predictable dissatisfaction feeling leading to complain behavior.

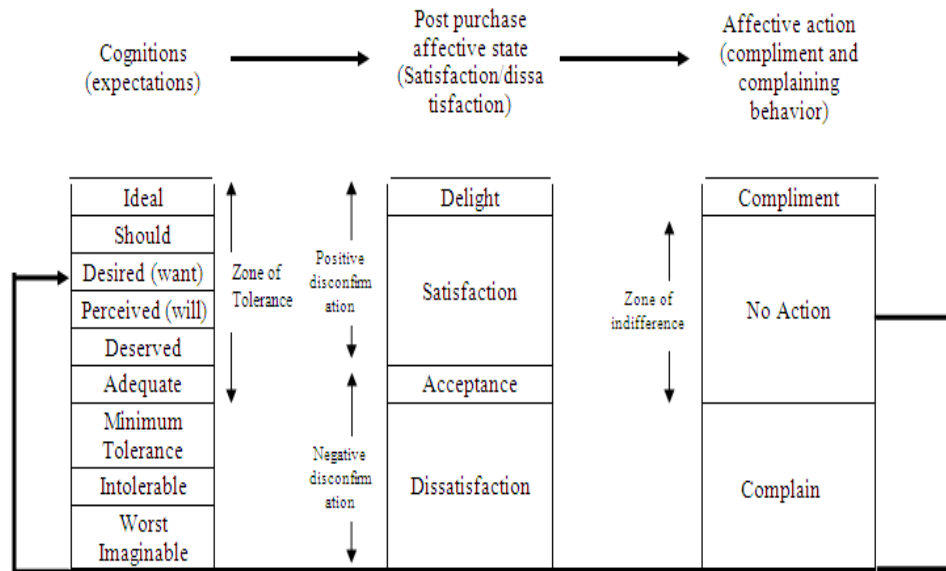


FIGURE 4: Conceptual framework of EDT [12]

## 5. EDT MEASUREMENT METHODS

[7] examined five methods for measuring disconfirmation of customer's expectation and desire and identified advantages and disadvantages of these methods. Table 1 to 5 summarize these five methods.

TABLE 1: Difference score (DIFF) [7]

Method of Disconfirmation Measurement	Previous Studies	Mathematical Representation	Description	Advantages	Disadvantages
Difference score (DIFF)	[1,36,37,38,39,40, 41,42]	$\sum(P_i - S_i)$ where $P_i$ is the performance on attribute $i$ ; $S_i$ is the standard on attribute $i$ .	Disconfirmation is the numerical difference between performance and a pre experience Standard.	Efficient when measures of the standard and performance are needed	Low reliability, assumes pre use expectations are the same as retrieved expectations.

TABLE 2: Direct effects Model (DEM) [7]

Method of Disconfirmation Measurement	Previous Studies	Mathematical Representation	Description	Advantages	Disadvantages
Direct effects Model (DEM)	[41,43,44]	$\sum P_i, \sum S_i$ where: $P_i$ is the performance on attribute $i$ ; $S_i$ is the standard on attribute $i$ .	The standard and perceived performance are modeled as direct antecedents of satisfaction.	Does not constrain the effects of the standard and performance to be equal, as do difference scores.	Assumes pre use expectations are the same as retrieved expectations.

TABLE 3: Better than/worse than model (BTWT) [7]

Method of Disconfirmation Measurement	Previous Studies	Mathematical Representation	Description	Advantages	Disadvantages
(BTWT) Better than/ worse than	[5,28,33,36]	$\sum S_{Di}$ where: $S_{Di}$ is the subjective judgment of the degree of difference between performance and the standard, and an evaluation of this difference.	Disconfirmation is a subjective assessment of whether the performance was better than or worse than a standard.	Straightforward, direct measure	May produce are striction in range when used with desires; past research has found a lack of relationship with its purported antecedents

TABLE 4: Standard-percept disparity model (SPD) [7]

Method of Disconfirmation Measurement	Previous Studies	Mathematical Representation	Description	Advantages	Disadvantages
Standard-percept disparity (SPD)	[45]	$\sum S_{Di}$ where: $S_{Di}$ is the subjective judgment of the degree of difference between performance and the standard.	Disconfirmation is a subjective assessment of how performance is different from the standard.	Straightforward, direct measure.	Does not account for performance that exceeds the standard; does not explicitly include an evaluation of difference.

TABLE 5: Additive Difference model (ADM) [7]

Method of Disconfirmation Measurement	Previous Studies	Mathematical Representation	Description	Advantages	Disadvantages
Additive Difference model (ADM)	[7,46]	$\sum S_{Di} e_i$ where: $S_{Di}$ is the subjective judgment of the degree of difference between performance and the standard. And ( $e_i$ ) is the evaluation of this difference.	Disconfirmation is a subjective assessment of how performance is different from the standard. Multiplied by an evaluation of this difference.	Close match to conceptual definition of disconfirmation; is a general form of other combinatorial methods.	Requires two measures for each attribute.

## 6. CONCLUSION

[7] examined five methods introduced in the previous part of measuring disconfirmation of customer's expectation and desire. The results showed that the only methods that worked well considering both standards of customer's expectation and desire were the Additive Difference Model (ADM) and Direct Effects Model (DEM). The usefulness of the ADM is primarily in theoretical research where researchers tend to use a common method for measuring both desires disconfirmation and expectations disconfirmation.

Between DEM and ADM methods, when managers need information about desires and expectations, DEM appears to be a better choice but it does not provide a distinct measurement of the disconfirmation of customer's expectation and desire. That is why it is not suitable in most managerial issues because managers cannot realize their operation in providing the customer's satisfaction. In contrary, ADM provides a distinct measurement of the disconfirmation of the customer's expectation and desire. That is why it is concerned with managerial issues.

Because of the importance of Additive Difference Model (ADM) in measuring the disconfirmation of customer's expectation and desire that also make the measuring customer's satisfaction possible, in the next section the review was followed by studying the ADM mathematically in order to identify how ADM measures the customer's satisfaction.

The author believes that ADM model can be used as an accurate method for measuring the customer's satisfaction from different aspects of quality of services, products, and information that present by websites of B2C e-businesses. In addition, it can be used for measuring the customer's satisfaction from actual performance of B2C e-businesses that deliver their products to the customers non-virtually. Delivery of right products in the right time with the right quality, all are some aspects of attracting the customer's satisfaction that can meet customer's expectation and can be measured by ADM method accurately and efficiently. There is lack of considering and applying this method in the previous studies for measuring the customer's satisfaction. This study can encourage other researchers to use this method for examining suggested applications in measuring the customer's satisfaction.

## REFERENCES

- [1] Zeithaml, V. A., Berry, L. L., & Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing* 60(2), 31–46.
- [2] Brady, M. K., & Cronin, J. J. (2001). Some new thoughts on conceptualizing perceived service quality: A hierarchical approach. *Journal of Marketing*, 65(3), 34–49.
- [3] Brady, M. K., Knight, G. A., Cronin, J. J., Tomasb, G., Hult, M., & Keillor, B. D. (2005). Removing the contextual lens: A multinational, multi-setting comparison of service evaluation models. *Journal of Retailing*, 81(3), 215–230.
- [4] Kalacota, R., & Whinston, A. (1997). Electronic Commerce: A Manager's Guide. *Addison-Wesley, Reading, MA*.
- [5] Oliver, R. L. (1980a). A cognitive model of the antecedents and consequences of satisfaction decisions. *Journal of Marketing Research*, 17(November), 460–469.
- [6] Patterson, P., & L. Johnson. (1997). "Modeling the determinants of customer satisfaction for business-to-business professional services.". *Journal of the Academy of Marketing Science*, 25(1), 4-17.
- [7] Spreng, R. A., & Jr., T. J. P. (2003). A Test of Alternative Measures of Disconfirmation. *Decision Sciences*, 34(1).
- [8] Bhattacharjee, A., & Premkumar, G. (2004). Understanding changes in belief and attitude toward information technology usage: A theoretical model and longitudinal test. *MIS Quarterly*, 28(2), 229-254.
- [9] Yi, Y. (1990). A critical review of consumer satisfaction. In V. A. Zeithaml (Ed.), *Review of marketing 1990*. Chicago: America Marketing Association, 68–123.
- [10] Diehl, K. a., & P., C. (2010). "Great Expectations?! Assortment Size, Expectations, and Satisfaction.". *Journal of Marketing Research* 47(2), 312-322.
- [11] Oliver, R. L. (1977). "Effect of expectation and disconfirmation on postexposure product evaluations: an alternative interpretation.". *Journal of Applied Psychology*, 62(4), 480-486.
- [12] Santos, J., & Boote, J. (2003). "A theoretical exploration and model of consumer expectations, post purchase affective states and affective behaviour.". *Journal of Consumer Behaviour*, 3(2), 142-156.
- [13] Fallon, P., & Schofield, P. (2003). "First-timer versus repeat visitor satisfaction: the case of Orlando, Florida.". *Tourism Analysis*, 8(2), 205-210.
- [14] Gotlieb, J., & B., D. G. (1994). "Consumer satisfaction and perceived quality: Complementary or divergent constructs? ". *Journal of Applied Psychology*, 79(6), 875.
- [15] Bhattacharjee, A. (2001a). An empirical analysis of the antecedents of electronic commerce service con-tinuanace. *Decision Support Systems, Volume*, 32(2), 201-214.
- [16] Bhattacharjee, A. (2001b). Understanding information systems continuance: An expectation-confirmation model. *MIS Quarterly Journal of Economics*, 25(3), 351-370.
- [17] Hsu, M., & H., C. H. Y. (2006). "A longitudinal investigation of continued online shopping behavior: An extension of the theory of planned behavior.". *International Journal of Human Computer Studies*, 64(9), 889-904.
- [18] Khalifa, M. L., V. . (2002). Satisfaction with Internetbased services: The role of expectations and desires. *International Journal of Electronic Commerce*, 7(2), 31-49.
- [19] Patterson, P., & L. Johnson. (1997). "Modeling the determinants of customer satisfaction for business-to-business professional services.". *Journal of the Academy of Marketing Science*, 25(1), 4-17.
- [20] Picazo-Vela, S. (2009). The Effect of Online Reviews on Customer Satisfaction: An Expectation Disconfirmation Approach. *AMCIS 2009 Doctoral Consortium*.

- [21] Chen, C.-F. (2008). Investigating structural relationships between service quality, perceived value, satisfaction, and behavioral intentions for air passengers: Evidence from Taiwan. *Transportation Research Part A* 42, 709–717.
- [22] Finn, A., Wang, L., & Frank, T. (2009). Attribute Perceptions, Customer Satisfaction and Intention to Recommend E-Services. *Journal of Interactive Marketing*, 23, 209–220.
- [23] Spreng, R. A., MacKenzie, S. B., & Olshavsky, R. W. (1996). A reexamination of the determinants of consumer satisfaction. *Journal of Marketing* 60, 15-32.
- [24] Festinger L (1957) A Theory of Cognitive Dissonance. Standard, CA:Standard University Press.
- [25] Harmon-Jones, E. H.-J. a. C. (2007). Cognitive Dissonance Theory: An Update with a Focus on the Action-Based Model. *Handbook of Motivation Science. J. Y. S. a. W. L. Gardner, The Guilford Press.*
- [26] Hausknecht, D. J. S. (1998). "" After I Had Made the Decision, I...:" Toward a Scale to Measure Cognitive Dissonance." *Journal of Consumer Satisfaction Dissatisfaction and Complaining Behavior* 119-127.
- [27] Staples, D. S., & Wong, I. (2002). Having expectations of information systems benefits that match received benefits: does it really matter? *Information & Management* 40(2), 115-131.
- [28] Churchill, G. A., & Surprenant, C. (1982). An investigation into the determinants of consumer satisfaction. *Journal of Marketing Research*, 19(November), 491–504.
- [29] Haistead, D., & Hartman, D. (1994). "Multisource effects on the satisfaction formation process." *Journal of the Academy of Marketing Science*, 22(2), 114-129.
- [30] Hunt, H. K. (1991). "Consumer satisfaction, dissatisfaction and complaining behavior." *Journal of Social Issues*, 24(1), 107-117.
- [31] Erevelles, S., & Leavitt, C. (1992). "A comparison of current models of consumer satisfaction/dissatisfaction." *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 5(10), 104-114.
- [32] Bearden, W. O., & Teel, J. E. (1983). Some determinants of consumer satisfaction and complaint reports. *Journal of Marketing Research* 20(February), 21–28.
- [33] Cadotte, E. R., Woodruff, R. B., & Jenkins, R. L. (1987). Expectations and norms in models of consumer satisfaction. *Journal of Marketing Research*, 24(August), 305–314.
- [34] Olson, J. C., & Dover, P. A. (1979). Disconfirmation of consumer expectations through product trial. *Journal of Applied Psychology*, 64(2), 179–189.
- [35] Anderson, E. W., & Sullivan, M. W. (1993). The antecedents and consequences of customer satisfaction for firms. *Marketing Science*, 12(Spring), 125–143.
- [36] Tse, D. K., & Wilton, P. C. (1988). Models of consumer satisfaction formation: An extension. *Journal of Marketing Research*, 25(May), 204–212.
- [37] Swan, J. E., & Trawick, I. F. (1981). Satisfaction explained by desired vs. predictive expectations. In K. Bernhardt, I. Dolich, M. Etzel, W. Kehoe, W. Perreault, Jr., & K. Roering (Eds.), *The changing marketing environment: New theories and applications. Educator's Conference Proceedings. Chicago: American Marketing Association*, 170–173.
- [38] Myers, J. H. (1988). Attribute deficiency segmentation: Measuring unmet wants. In Michael J. Houston (Ed.), *Advances in Consumer Research. Vol. 15, Provo, UT: Association for Consumer Research*, 108–113.
- [39] Parasuraman, A., Zeithaml, V. A., & Berry, L. L. (1988). Servqual: A multiple item scale for measuring consumer perceptions of service quality. *Journal of Retailing*, 64(1), 12–40.
- [40] Kettinger, W. J., & Lee, C. C. (1995). Perceived service quality and user satisfaction with the information services function. *Decision Sciences*, 25(5), 737–766.
- [41] Dabholkar, P. A., Shepherd, C. D., & Thorpe, D. I. (2000). A comprehensive framework for service quality: An investigation of critical conceptual and measurement issues through a longitudinal study. *Journal of Retailing*, 76(2), 139–173.
- [42] Jiang, J. J., Klein, G., & Crampton, S. M. (2000). A note on SERVQUAL reliability and validity in information system service quality measurement. *Decision Sciences*, 31(Summer), 725–744.
- [43] Edwards, J. R. (1994). The study of congruence in organizational behavior research: Critique and a proposed alternative. *Organizational Behavior and Human Decision Processes*, 58, 51–100.
- [44] Brown, T. J., & Kirmani, A. (1999). The influence of preencounter affect on satisfaction with an anxiety-provoking service encounter. *Journal of Service Research Policy*, 1(May), 333–346.
- [45] Westbrook, R. A., & Reilly, M. D. (1983). Value-percept disparity: An alternative to the disconfirmation of expectations theory of consumer satisfaction. In R. P. Bagozzi & A. M. Tybout (Eds.), *Advances in consumer research. Vol. 10, Ann Arbor, MI: Association for Consumer Research*, 256–261.
- [46] Spreng, R. A., & Mackoy, R. D. (1996). An empirical examination of the antecedents of perceived service quality and satisfaction. *Journal of Retailing*, 72(2), 201–214.