The Mediating Effect of Risk on Trust and Behavioral Intention in Durable Products

Pervin Ersoy
Asst. Prof. Dr./Yasar University/Faculty of Business
Gülmüş Börühan
Asst. Prof. Dr./Yasar University/ Faculty of Business

Cite as:
Ersoy Pervin, Börühan Gülmüş (2020), The Mediating Effect of Risk on Trust and Behavioral Intention in Durable Products . *Proceedings of the European Marketing Academy*, 49th, (63758)

Paper from the 49th Annual EMAC Conference, Budapest, May 26-29, 2020.

The Mediating Effect of Risk on Trust and Behavioral Intention in Durable Products

Abstract

The purpose of this empirical study is to investigate the effect of risk on customers' brand trust and behavioral intention in durable products. In these study electrical appliances, both brown and white goods were chosen as the focus of the study. The aim objective of this study is to focus on three subjects; how brand trust affect the risk perception of customers' for durable products, how customers' risk perception affect their behavioral intention, how brand trust affect the behavioral intention? A model is developed and tested by using structural equation modelling. The empirical results, proposed hypothesis, and the findings support that trust influence behavioral intention to buy a product by reducing risk perception on product. The paper concludes by emphasizing the importance of these findings for the durable products, and outlines recommendations to reinforce trust relations with customers' decisions by considering the mediating effect of risk.

Keywords: *Behavioral Intention, Risk, Trust*

Track: *Product and Brand Management*

Introduction

The main objectives of the companies that want to differentiate themselves in the market is to provide high quality product and services (Zeithaml et al., 1996). The well-known brand is inimitable and an important driver of consumers positive behavioral outcome (Alan and Kabadayı, 2014). Customers are more likely to trust the company, if the company is qualified enough to meet their customers' demand. Thus, it will diminish the customer uncertainty and consumers are likely to perceive less risk (Morgan and Hunt, 1994; Voeth and Rabe, 2004; Kim et al.,2008).

In the literature, there are studies generally focus on the relationship between trust, risk and behavioral intention (Pavlou,2003; Kim et al.,2008; Hong and Cha, 2013; Sichtmann, 2007). However, studies are scarce regarding to investigate these relationships for durable products (Dowling, 1999). To fill this research gap, the main focus of this study is to investigate these relations for durable products. Durable products, especially electrical appliances (both brown and white goods), consumers need to search for and to be better informed about electrical appliances than about non-durable products (Tellis and Wernerfelt, 1987; Sweeney et al., 1997). When customers are purchasing a durable products, as the monetary value of the product increases, the perceived risk increases (Dowling, 1999). Furthermore, this situation will affect the ownership of the product in the longer term (Sweeney et al., 1997). If customers trust a corporate brand, they will be more likely to form a positive behavioural intention towards the brand (Sichtmann, 2007).

The objective of this study is to focus on three subjects; (1) How brand trust affect the risk perception of customers' for durable products? (2) How customers' risk perception affect their behavioral intention? (3) How brand trust affect the behavioral intention?

2. Conceptual Model and Hypothesis

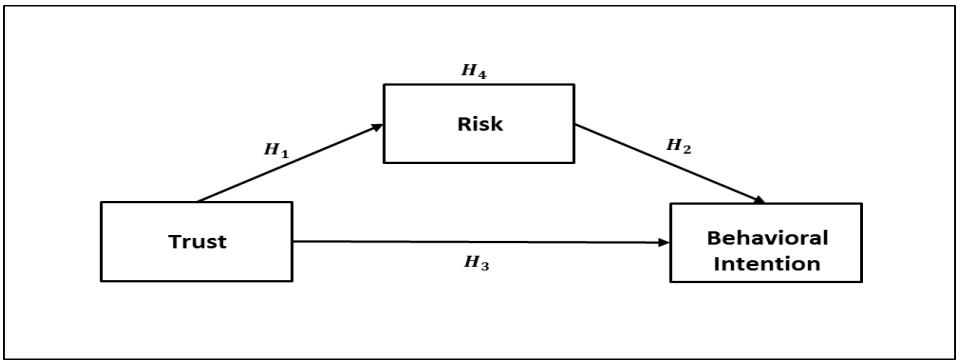

Figure 1. Research Model

Trust- Risk Link

Customers will only trust the company; if the company is qualified enough to fulfill their customers' demands (Voeth and Rabe, 2004). Also, if the customer trust the company, it will reduce the customer's uncertainty (Morgan and Hunt, 1994). Perceived risk can be considered as a subjective function of the magnitude of contrary effect and the probabilities that these effect may occur if the product is acquired (Dowling and Staelin, 1994). Furthermore, trust can be considered as an indicator for the reliability of the company and a substitute of information which can be used to evaluate the product's and service's quality (Adler, 1998). For this reason, trust is the most important characteristics any brand can own and it is the vital component of customers' relationships with brands (Blackston,1992; Bainbridge, 1997; Delgado-Ballester,2004). Researchers believe that relationship quality is manifest in trust (Dwyer et al., 1987; Crosby et al., 1990; Delgado-Ballester,2004). Therefore, as trust increases, customers are likely to perceive less risk than if trust were absent (Kim et al.,2008). Considering prior findings and rationales, we hypothesize the following:

H_1 *= Trust is negatively related to Risk.*

Risk- Behavioral Intention Link

In line with the Stone and Gronhaug's (1993) conceptualization, Sweeney et al., (1999,p.81) define perceived risk as "subjective expectation of a loss". Also, it is defined as "probability of suffering a loss in pursuit of a desired outcome" (Pavlou and Gefen, 2004, p. 41). While lots of risk dimensions have been suggested, we research the product-based risk in our study. According to Horton (1976), product based risk is described as the loss occurred when a brand or product doesn't perform as expected. This integrates the future quality of the product to the point of purchase. When customers make a purchase decision, especially for durable products, customers consider not only price, service etc., but also the longer-term implications of the ownership of the product. When customers buy a product, they believe that the product will satisfied them over time as they expected. For this reason, risk is a potential sacrifice for customers. If the customers believe that the perceived risk is high, they will gamble in purchasing the product (Sweeney et al., 1999). Hence, perceived risk has a direct negative effect on transaction intentions. If the customers perceive a great risk, they avoid to commit a transaction (Hong and Cha, 2013). In this situation, perceived risk affects the customers' behavioral intention to purchase (Pavlou,2003). Based on the prior evidence, we thus hypothesize the following:

H_2 *= Risk is negatively related to Behavioral Intention*

Trust-Behavioral Intention Link

Delgado-Ballester (2004, p.574) define brand trust as "the confident expectations of the brand's reliability and intentions in situations entailing risk to the customer". Chaudhuri and Holbrook (2001, p.82) conceptualized brand trust as a concept of "the willingness of the average customer to rely on the ability of the brand to perform its stated function". For this reason, brand trust can be considered as a valuable and powerful factor for the success of a company (Morgan and Hunt, 1994). It is revealed after the customers 'appraisal regarding the companies' products and services (Kabadayi & Alan, 2012). If the corporate brand doesn't meet the quality expectations of the customers, they will choose another brand. Accordingly, a customer can believe that a trusted company is motivated to offer high-quality product. Hence, trust influences relationship commitment (Morgan and Hunt, 1994) in a positive way. If customers get positive outcomes from the relationships with a company, they believe that these positive outcomes will continue in the future too (Doney and Cannon, 1997) and customers' future behavioral intentions (Hennig-Thurau et al., 2002; Ranaweera and Prabhu, 2003). For this reason, if customers trust a company brand, they will likely have a positive behavioral intention towards its product and services in their buying decision process (Sichtmann, 2007). Considering prior findings, we hypothesize the following:

H_3 = *Trust is positively related to Behavioral Intention*

Risk has a negative impact on trust and behavioral intention but trust on company reduces the impact of the risk on behavioral intention. Hence we hypothesize the following;

H_4 = *Risk mediates the relationship between Trust and Behavioral Intention*

3. 1. Sample and Data Collection

We used convenience sampling whom had purchased durable products within the last few months. Electrical appliances (both brown and white goods) were chosen as the focus of the present study, e.g. wash machine, oven, refrigerator and dishwasher. To ensure the quality of the questionnaire and the content and face validity of the survey items, a pilot test was conducted on five academics and eight customers. Based on the feedback, some items were eliminated, corrected or reworded. In total, 30 questionnaires were unusable due to relatively high portions of missing data within these cases. Unusable questionnaires were eliminated and the data were analyzed on 189 usable questionnaires. The final sample included a high incidence of an equal number of female and male customers approximately 50% with an average age of 35 years.

3.2 Measurement development

Instruments to measure the constructs for the study are based on available constructs in the relevant literature. Multiple item scales were used for the measures of trust, risk and behavioral intention. The trust scale is adapted from Delgado-Ballester (2004) and the scale measured with ten-item construct that is widely used scale in the literature. Similarly, risk scale adapted from Sweeney et. al. (1999) and the construct measured with four questions. Behavioral intention scale adapted from Cronin et.al. (2000) and the scale measured with three questions.

4. Analysis and results

4.1 Data analysis and validity

Our analyses of the measurement and structural models follow the procedures outlined by Anderson and Gerbing (1988). To test the reliability and validity of our construct measures, we apply both exploratory (EFA) and confirmatory factor analysis (CFA) together. Correlations among the variables are shown in Table 1 and detailed information on the constructs, the coefficient alpha, average variance extracted (AVE), and composite reliability scores (CR) are listed in Table 2.

Table 1. Correlation Matrix

	Mean	**SD**	**Trust**	**Risk**	**BI**
Trust	5.8959	0.87081	1		
Risk	1.8488	1.46794	-0.330**	1	
BI	6.0775	0.87687	0.576**	-0.270**	1

**Correlation is significant at the 0.01 level (2-tailed).

To test the dimensionality of the constructs, we use factor analysis via SPSS 22. The initial exploratory factor analysis (EFA) suggests a reasonable statistical fit. All the items load on their respective constructs with loadings 0.5 and all eigenvalues are 1.00, fulfilling the convergent validity criterion. Also, the average variance extracted of each construct exceeds the recommended value of 0.50 (Fornell and Larcker, 1981), providing further evidence of strong convergent validity. The reliability indicators also exceed suggested limits (Nunnally and Bernstein, 1994). The coefficient alphas of most of the multi-item scales are greater than 0.70. The alpha coefficient, Kaiser–Meyer–Olkin (KMO), and Bartlett's test become significant at > 0.90.

In the trust scale, eight items are loaded with high alpha coefficients but two items are loaded with low coefficients and thus are eliminated. In the risk construct and behavioral intention constructs all items are loaded with high alpha coefficients. The same procedure is

repeated using principal component extraction with varimax rotation. The total variance explained by these three constructs is 74.1 per cent.

Next, to confirm the measurement developed by EFA, we perform CFA to investigate the constructs' dimensionality (Table 2) using AMOS 22 software. The reliability statistics, Cronbach's alpha (α), of each latent variable and correlations among all variables in the model are examined. The measurement model's goodness of-fit indices indicate an acceptable fit to the survey data (x2 /df = 4.12; GFI = 0.92; CFI = 0.93; IFI = 0.93; TLI = 0.93; RMSEA = 0.086). The square roots of all the constructs' AVEs are greater than the correlation among all the constructs, which suggests discriminant validity among the constructs (Fornell and Larcker, 1981). The calculated composite reliabilities are all greater than 0.90. To test the discriminant validity, we estimate the 95 per cent confidence interval around the correlation estimate of all pairs of constructs. In none of the cases does the confidence interval contain 1.0, and thus, we justify discriminant validity for all pairs of constructs (Anderson and Gerbing, 1988). To eliminate the common method bias effect, the questionnaire is designed so that the questions about the dependent and independent variables are placed in separated sections (Podsakoff et al., 2003). We use Harman's one-factor test (Podsakoff and Organ, 1986) to assess for common method bias and perform a principal components analysis for all constructs examined in the study. The unrotated solution reveals three factors with eigenvalues >1.0, accounting for 45.77 per cent of the variance. Then, we estimate a CFA model in which all measurement items are restricted to load on a single factor (Malhotra et al., 2006). The single factor model reveals a poor fit to the data (x2 /df = 5.68; GFI = 0.79; CFI = 0.82; IFI= 0.85; TLI = 0.83; RMSEA = 0.113). These tests show that common method bias is not a likely threat in our analysis.

Table 2. Individual constructs and validity measures

Construct	**Items**
Trust **8 items** **α = 0.634 , CR= 0.932** *Delgado-Ballester (2004)*	[X]a is a brand name that meets my expectation I feel confidence in [X] brand name [X] is a brand name that never disappoints me [X] brand name guarantees satisfaction [X] brand name would be honest and sincere in addressing my concerns I could rely on [X] brand name to solve the problem [X] brand name would make any effort to satisfy me [X] brand name would compensate me in some way for the problem with the [product]
Risk **4 items** **α= 0.851 , CR= 0.958**	There is a chance that there will be something wrong with this product or that it will not work properly. There is a chance that I will stand to lose money either because it won't work at all or costs more than it should to maintain it.

Sweeney et. al. (1999)	This product is extremely risky in terms of how it would perform This product is extremely risky in terms of its long term cost
Behavioral Intention **3 items** **α= 0.778 , CR= 0.913** *Cronin et.al. (2000)*	The probability that I will use this facility's services again is The likelihood that I would recommend this facility's services to a friend is If I had to do it over again, I would make the same choice.

The constructs are measured with Likert scale. 1 = Completely disagree; 7 = Completely agree

4.2 Hypothesis Testing and Results

The study uses structural equation modelling (SEM) to test the hypothesis. Using AMOS 24, SEM performed with maximum likelihood estimation is applied to assess the hypothesized model. Overall, the tested model provides a good fit to the data (x2 /df = 3.014; GFI = 0.91; CFI = 0.95; IFI = 0.95; TLI = 0.93; RMSEA = 0.083). The structural model is acceptable fit. Table 3 shows the results of hypothesis.

As predicted, the results show that trust has negative and significant relationships with risk ($\beta = -0.5561$, $p < 0.000$) and positive and significant relationships with behavioral intention ($\beta = 0.5804$, $p < 0.05$), supporting hypothesis H1 and H3. Risk has negative and significant relationships with behavioral intention ($\beta = -0.0538$, $p < 0.05$) and hence hypothesis H2 is supported.

The mediation analysis to measure the mediation effect as formulated in hypothesis H4, we followed the recommended bootstrapping bias-corrected confidence interval procedure (Preacher and Hayes, 2008) in SEM, by using AMOS 24. This procedure generated 95% confidence intervals and Table 4 describes the mediation effect results.

Table 3. Results of Hypothesized Model

Hypothesis	**Independent Variable**	**Dependent Variable**	**Proposed Effect**	**p-Value**	**Path Coefficient**	**Results**
H1	Trust	Risk	Negative	0.0000	-0.5561	Supported
H2	Risk	BI	Negative	0.0312	-0.0538	Supported
H3	Trust	BI	Positive	0.0000	0.5804	Supported
Summary Statistics	$\chi^2/df = 3.014$, *GFI=0.91, CFI=0.95, IFI= 0.95, TLI=0.93, RMSEA=0.083*					

Table 4. The Mediation Analysis in SPSS

Paths	**Direct Effect**	**Total Effect**	**Indirect Effect**	**Type**
Trust→Risk→BI	0.5505 (p<0.001)	0.5804 (p<0.001)	0.0299 (p<0.001)	Partial Mediation

The mediating effect results show a significant indirect effect of trust on behavioral intention through risk, supporting our predicted hypothesis H4 ($\beta = 0.0299$, $p < 0.001$). Our

mediation results show that risk mediates the relationship between trust and behavioral intention. The indirect effect is positive and significant.

5. Conclusion

As it is known, many factors affect customers' purchasing intentions. It has been discussed in many studies that trust is the most important of these factors (Van der Heijden et.al., 2003; McKnight, 2002; Giampietri,2018, Ye, et.al., 2019). However it is important for companies and customers to manage risk as much as trust. Risk defined various ways in each industries with different aspects and types, for that reason characteristics and source of risks are very important for preventing companies from their bad outcomes (Ersoy, 2014). In this study, we particularly focused on product-based risks and its impact on customers' purchasing decision.

The empirical results, proposed hypothesis, and the findings support that trust does influence customer attitudes and behavioral intentions to buy a product by reducing risk perception on durable product. The results show that customers' trust on company reduces the risk perception and this situation motivate customers' intention to buy products. Generally, risk perception negatively affects the customer's intention to purchase decision, while trust on the company helps to change or reduce this negative perception.

In the literature, studies concentrate on the relationship between trust, risk and behavioral intention (Kim et al.,2008; Hong and Cha, 2013; Sichtmann, 2007) but as far as we know, there are not any studies that discuss these relationships for durable products. For this reason, this study aims to investigate these relationships for durable products from customers' perspective. In this study, only trust, risk and behavioral intention are discussed from the customers' viewpoint and how these dimensions affect their purchase decision. However, there are some research that investigate how reputation, customer satisfaction, loyalty, or perceived value affect customers' purchase decision (Zhu et.al., 2003; Konuk, 2018; Gök, et.al., 2019). The effect of these dimensions to the behavioral intention can be the topic of following research.

References

- Adler, J. (1998). Eine informationso¨konomische Perspektive des Kaufverhaltens", Wirtschaftswissenschaftliches Studium, 27(7), 341-347.
- Alan, A. K., and Kabadayı, E. T. (2014). Quality antecedents of brand trust and behavioral intention. *Procedia-Social and Behavioral Sciences*, 150, 619-627.
- Anderson, J.C., & Gerbing, D.W. (1988). Structural equation modeling in practice: a review and recommended two-step approach. *Psychological Bulletin*, 103(3), 411-423.
- Bainbridge, J. (1997). Who wins the national trust. *Marketing*, 23, 21-3.

- Blackston, M. (1992). A brand with an attitude: a suitable case for treatment. *Journal of the Market Research Society*, 34(3), 231-242.
- Chaudhuri, A., & Holbrook, M. B. (2001). The chain of effects from brand trust and brand affect to brand performance: the role of brand loyalty. *Journal of marketing*, 65(2), 81-93.
- Cronin Jr, J. J., Brady, M. K., & Hult, G. T. M. (2000). Assessing the effects of quality, value, and customer satisfaction on consumer behavioral intentions in service environments. *Journal of retailing*, 76(2), 193-218.
- Crosby, L.A., Evans, K.R., & Cowles, D. (1990). Relationship quality in services selling: an interpersonal influence perspective. *Journal of Marketing*, 54, 68-81.
- Delgado-Ballester, E. (2004). Applicability of a brand trust scale across product categories: A multigroup invariance analysis. *European Journal of Marketing*, 38(5/6), 573-592.
- Doney, P. M., & Cannon, J. P. (1997). An examination of the nature of trust in buyer–seller relationships. *Journal of Marketing*, 61(2), 35-51.
- Dowling, G. R., & Staelin, R. (1994). A model of perceived risk and intended risk-handling activity. *Journal of Consumer Research*, 21(1), 119-134.
- Dowling, G.R., (1999). Perceived risk. In:Earl, P.E., Kemp,S.(Eds.), The Elgar Companion to Consumer Research and Economic Psychology. Edward Elgar, Cheltenham, 419–424.
- Dwyer, F. R., Schurr, P. H., & Oh, S. (1987). Developing buyer-seller relationships. *Journal of Marketing*, 51(2), 11-27.
- Ersoy, P. (2014). *Risk management strategies in supply chain: An application on international road transportation industry in Turkey*, PhD. Thesis, Business Administration Programme, Dokuz Eylul University, Izmir.
- Fornell, C., & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50.
- Giampietri, E., Verneau, F., Del Giudice, T., Carfora, V., & Finco, A. (2018). A Theory of Planned behaviour perspective for investigating the role of trust in consumer purchasing decision related to short food supply chains. *Food Quality and Preference*, *64*, 160-166.
- Gök, O., Ersoy, P., & Börühan, G. (2019). The effect of user manual quality on customer satisfaction: the mediating effect of perceived product quality. *Journal of Product & Brand Management*. 28(4), 475-488
- Hong, I. B. and Cha, H. S. (2013). The mediating role of consumer trust in an online merchant in predicting purchase intention. *International Journal of Information Management*, 33(6), 927-939.
- Horton, R. L. (1976). The Structure of Perceived Risk. *Journal of the Academy of Marketing Science*, 4(4), 694-706.
- Kabadayı, E.T. & Koçak Alan, A. (2012). Brand trust and brand affect: their strategic ımportance on brand loyalty. *Journal of Global Strategic Management*, 11, 81-89.
- Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, 44(2), 544-564.
- Konuk, F. A. (2018). The role of store image, perceived quality, trust and perceived value in predicting consumers' purchase intentions towards organic private label food. *Journal of Retailing and Consumer Services*, *43*, 304-310.

- McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). The impact of initial consumer trust on intentions to transact with a web site: a trust building model. *The Journal of Strategic İnformation Systems*, *11*(3-4), 297-323.
- Morgan, R. M., & Hunt, S. D. (1994). The commitment trust theory of relationship marketing. Journal of Marketing, Vol. 58(2), pp. 20–38.
- Nunnally, J.C., & Bernstein, I.H. (1994). *Psychometric Theory*, McGraw-Hill Series in Psychology, New York, NY.
- Pavlou, P. A. (2003). Consumer acceptance of electronic commerce: Integrating trust and risk with the technology acceptance model. *International Journal of Electronic Commerce*, *7*(3), 101-134.
- Pavlou, P. A., & Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information Systems Research*, 15(1), 37-59.
- Podsakoff, P.M., & Organ, D.W. (1986). Self-reports in organizational research: problems and prospects. *Journal of Management*, 12(4), 531-544.
- Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior research methods*, *40*(3), 879-891.
- Sichtmann, C. (2007). An analysis of antecedents and consequences of trust in a corporate brand. *European Journal of Marketing*, 41(9/10), 999-1015.
- Stone, R. N., & Kjell G. (1993). Perceived Risk: Further Considerations for the Marketing Discipline. *European Journal of Marketing*, 27(3), 39-50.
- Sweeney, J. C., Soutar, G. N., & Johnson, L. W. (1999). The role of perceived risk in the quality-value relationship: a study in a retail environment. *Journal of Retailing*, 75(1), 77-105.
- Sweeney, J.C., Soutar, G.N., & Johnson, L.W. (1997). Retail service quality and perceived value: A comparison of two models. *Journal of Retailing and Consumer Services*, 4(1), 39-48.
- Tellis, G.J., & Wernerfelt, B. (1987). Competitive price and quality under asymmetric information. *Marketing Science*, 6(3), 240-253.
- Van der Heijden, H., Verhagen, T., & Creemers, M. (2003). Understanding online purchase intentions: contributions from technology and trust perspectives. *European Journal of Information Systems*, *12*(1), 41-48.
- Voeth, M., & Rabe, C. (2004). Industriegu¨termarken", in Bruhn, M. (Ed.), Handbuch.
- Ye, S., Ying, T., Zhou, L., & Wang, T. (2019). Enhancing customer trust in peer-to-peer accommodation: A "soft" strategy via social presence. *International Journal of Hospitality Management*, *79*, 1-10.
- Zeithaml, V.A., Berry, L.L.,& Parasuraman, A. (1996). The behavioral consequences of service quality. *Journal of Marketing*, 60, 31–46.