

# Effects of Product Recall on Consumers' Attitude

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## Abstract

*The study investigated the effects of product recall on consumers' attitude. The paper aimed to suggest that firms should be prepared to deal with such situations. This paper examines the responses of consumers who either had experienced the product recall situation or have listened about it. Questionnaire was filled by 302 respondents. The findings of the study indicate that company response, opportunistic recall management, behavioral intention, responsible recall management, product involvement and product judgment are the major determinants which effects consumers' attitude in product harm crisis. However, it was found that blame attribution was not significantly related to consumers' attitude.*

**Key words:** *opportunistic recall management, responsible recall management, product judgment.*

## 1. Introduction

Recall is the methodology of recovering damaged products from customers and compensating those customers. Recalls frequently happen as a consequence of safety concerns over a defect in a product that may hurt the customers. A company usually recalls its product when the product is substandard or it is dangerous (Pruitt & Peterson, 1986; Chu et al., 2005). The process starts when one of the stakeholders such as supplier, retailer or customer finds a fault in the product. The company could take to recall such product immediately by choice or it can be forced by an agency to do so.

A manufacturer might release such products, which are harmful for his customers. If it happens then the company will publicly announce the danger of the product and demand for the return of the defected product or dispose of the product, which the customers had bought. Customers will usually be given a full refund or replacement. An advertising campaign is frequently created to handle the publicity of the event.

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However, the defect in products such as medicines could cause serious health issues as well as deaths. There are many drastic incidents of product recall, which involved substantial losses. In 1990-1992, paracetamol syrup was infected and it killed 236 people died in India and Bangladesh. In 1996, 88 people died in Haiti because of infectivity of glycerol.

Furthermore, company's image can be damaged or negatively affected by making recall. During a recall situation, consumers hear negative information about the company and form pessimistic views. Consequently, consumers' attitudes change negatively after the crisis (Siomkos & Kurzbard, 1994). Concerns rise over the company's potential when an unsafe product is released, and customers may switch to the competitors or may hesitate to purchase the goods of that company. This would lead to decline in sales and, hence, profit. In the last few years, the frequency of product recalls has increased distinctly. Once the products have been delivered, the cost of failure is the highest. As the goods are already delivered, the only way to handle the situation is by bringing the goods back into the corporation or service centers. If companies could handle the issue adequately then they could commonly evade the level of the crisis.

The objective of this research is to enhance our understanding about consumers' attitude after a product recall incident. Consumer attitude can be understood as a tendency to respond positively or negatively towards a product, situation or idea. Attitude determines a person's actions (Magno, 2012). Accordingly, this research has investigated the effect of product recall on consumers' attitude. It has investigated important areas like factors affecting customer attitude and change in customer perception of brand after recalls and its effects on the company. In Pakistan, it is important because before there was too less focus on this matter despite some incidents of recalls. Some of these incidents had caused deaths of many people, especially in case of pharmaceutical and automobile industry. In previous studies, focus was on the loyal customers, brand image and its value but this research has focused on the behavior and attitude of all the customers.

Furthermore, the study would also examine the responses of consumers within the context of different time periods. Consumers have different attitudes and responses as time passes. This will help managers to scrutinize that whether the time heal all wounds. It will investigate that

whether consumers' forget about the crisis after some time and they buy the products of the company or they still feel that the company is not good enough for them.

## 2. Literature review

Magno (2012) investigated the impact of several factors on consumers' attitude after the product recall. The factors investigated were the effect of time, responsible recall management, and opportunistic recall management and attributed blame. It was observed that if product recall is handled responsibly then it has a positive effect on post-recall attitude of consumers towards the brand. However, opportunistic recall management, time and blame were observed too be negatively related to post-recall brand attitude.

Time is considered an important variable that influence the attitude of consumers towards the company under crisis (Vassilikopoulou et al. 2009; Magno F. 2012). Time is taken as the difference between identification of hazardousness of product and then taken action to recall it. However, it is evaluated that consumers' can have different attitude in different time period as immediate recall can be seen has a responsible behavior by the consumers. Vassilikopoulou et al. (2009) investigated the impact of time on post-recall consumers' attitude and observed that after few months, the impact of an emergency becomes insignificant especially in cases where the organization has acted responsibly.

During the product recall scenario, consumers' attitude might change along with the change in image of the company. It is necessary to handle the situation successfully (Magno et al. 2010; Magno, 2012). Company might voluntarily recall the product, compensate the consumers or replace the faulty part free. Going through different studies, it can be safely proposed that if the companies handle the product recall in a responsible manner then it has a positive effect on consumers' attitude towards the company. Matos and Rossi (2007) evaluated different factors affecting consumers' responses in a situation of product recall by a company. They observed that if a company voluntarily calls back its product and displays Corporate Social Responsibility then it impacts the product judgment by consumers significantly. However, it is not a better predictor of consumers' behavioral intentions after a product recall.

Furthermore, Souiden and Pons (2009) investigated the effect of company's response on consumers' attitude. They inspected the effect of recall emergency administration on the producer's picture, customers' steadfastness and future buy intentions. The study kept tabs on vehicle clients who had either encountered a recall situation or had caught wind of it. Results revealed that recalls challenged by producers have a noteworthy negative effect on makers' picture, and additionally on shoppers' faithfulness and buy intentions. The effects likewise demonstrated that voluntary recalls have critical positive effect on these three variables.

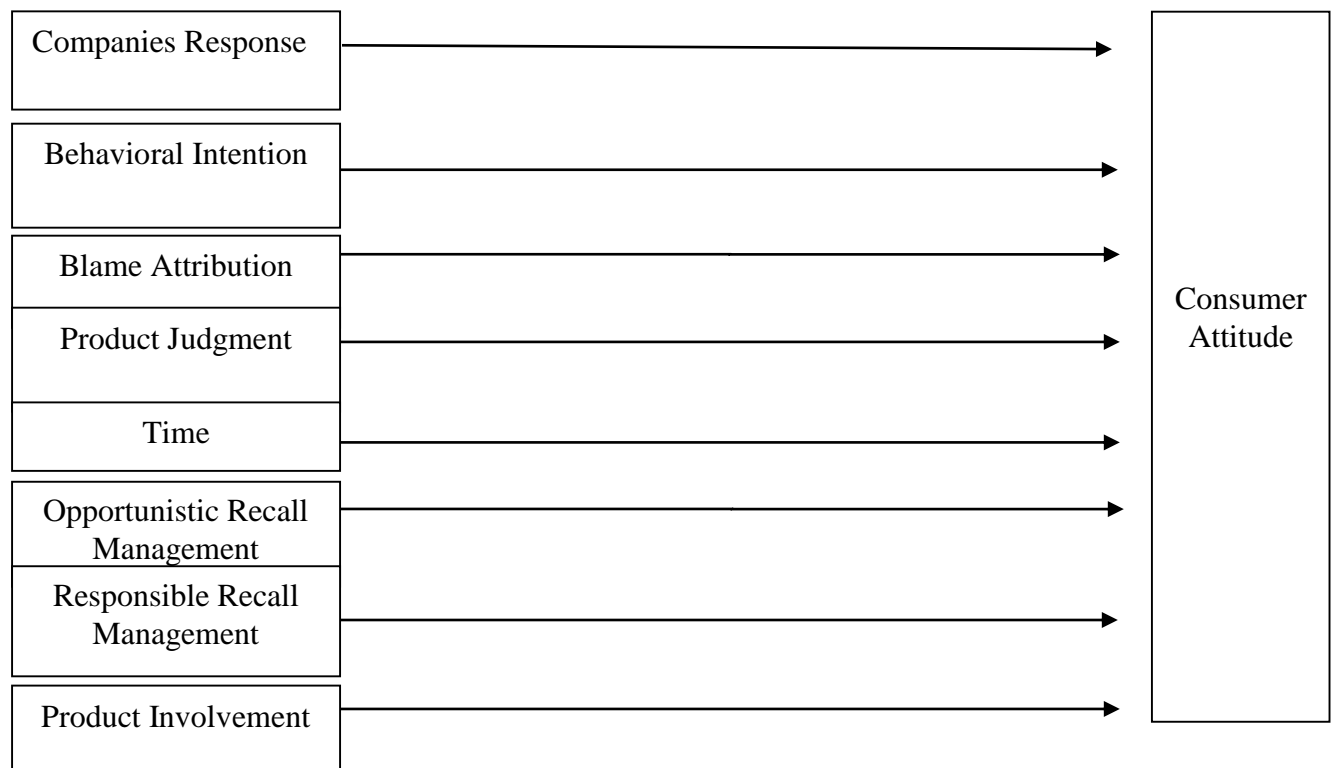
Additionally, firms might see product recall as an opportunity such as trying to make consumers to buy its new product (Magno et al. 2010; Magno, 2012). Hence, consumers feel negatively when the company acts in an opportunistic way. Consumers feel that the company has no value for its consumers and they only want their products to be sold. Therefore, it has been observed that opportunistic recall management has negative effects on consumers' attitude towards the company. To investigate it further, Magno et al. (2010) aimed to provide the customer's point of view after recall rather than the managerial point of view. They observed that in oppose to opportunistic recall management, responsible recall management has positive effects on consumers' attitude towards the company.

Furthermore, product involvement has also been identified to have a direct impact on consumers' attitude and behavior in the recall situation (De Matos & Rossi, 2007). However, more involvement with the product negatively affects consumers' attitude whereas if the involvement is low then consumers' attitude might be positive. Choi and Lin (2009) examined how the consumers respond in product recall situations. Their research focused on the consumers' involvement with the product. They performed content analysis of four major newspapers and proposed that in recall situations, consumers' involvement with the product acts as an important factor in evaluating consumers' response towards the situation. Additionally, product judgment is also considered as an important factor effecting the consumers' attitude in the product recall situation (De Matos, C. A., & Rossi, C. A. V. 2007). It is the perception of consumers about the product or brand. The product judgment in the recall crisis is negatively related to consumers' attitude.

Keh and Xie (2009) investigated the role of corporate reputation in determining consumers' behavioral intention. The three important factors between the company's reputation and purchase intention of customers were trust, commitment and identification. It was observed that business reputation has a significant positive effect on both customer trust and identification.

Furthermore, it has been observed by previous studies that during product-crisis, consumers seek to attribute blame and responsibility for the situation. Several studies have observed that if consumers attribute blame to the company for the defective product then it has negative effect on consumers' attitude (De Matos & Rossi, 2007; Magno, 2012). Consumers perceive that if the company was responsible enough and cared about its customers then it would not have supplied the faulty product in the market.

**Figure 1: Theoretical Framework and Variables under consideration**



## 2.1. Research Hypothesis

H<sub>1</sub>: Company's response towards the product recall situation has a positive impact on consumers' attitude

H<sub>2</sub>: Behavioral Intention has a positive impact on consumers' attitude

H<sub>3</sub>: Blame attributed by the customers to the company has negative effect on consumers' attitude.

H<sub>4a</sub>: The time taken to issue a recall is positively related to consumers' attitude.

H<sub>5</sub>: Customers' perception that the company has managed the product recall in an opportunistic way is negatively related to the consumers' attitude.

H<sub>6</sub>: Customers' perception that the company has managed the product recall in a responsible way is positively related to the consumers' attitude.

H<sub>7</sub>: Consumers' involvement with the product has a negative impact on consumers' attitude.

H<sub>8</sub>: Product Judgment is positively related to consumers' attitude.

## 3. Methodology

### 3.1. Information gathering & Sampling Procedure

The study used a structured questionnaire comprising a combination of questions to collect the data required. The questionnaire has been developed by the combination of sources and their reliability has been confirmed by number of studies (Kuo et al., 2010; Alireza et al., 2010). All the items have been responded by the consumers on a likert scale at the range of 1-7, whereas 1 represents strongly agree and 7 represents strongly disagree. The instrument comprises of three segments, where the first segment deals with testing the dependent variable; Consumers' Attitude, second segment deals with the independent variables; Company Response, Behavioral Intention, Blame Attribution, Time, Opportunistic Recall Management, Responsible Recall Management, Product Involvement and Product Judgment. The third section focuses upon gathering of the data about demographics of the respondents.

### 3.2. Population and sampling

The population of this study consists of those people from Lahore and Faisalabad who have either experienced a product recall situation or have heard about it. Finally, the data was collected from 302 respondents.

### 3.3. Tools and Techniques

Multiple tools and techniques have been used for the analysis. SPSS and AMOS were used to figure out confirmatory factor analysis, path analysis and test of significance. Moreover, structural equation modeling technique was used to find out the validity and reliability of the constructs.

### 3.4. Regression Model

$$PPI = \beta_0 + \beta_{1t} BI_{1t} + \beta_{2t} PJ_{2t} + \beta_{3t} CR_{3t} + \beta_{4t} TI_{4t} + \beta_{5t} BA_{5t} + \beta_{6t} RRM_{6t} + \beta_{7t} ORM_{7t} + \beta_{8t} PI_{8t} + \varepsilon$$

Whereas,  $\beta_0$  is a constant, BI stands for Behavioral Intention, PJ stands for Product Judgment, CR stands for Consumer Response, TI stands for Time, BA stands for Blame Attribution, RRM stands for Responsible Recall Management, ORM stands for Opportunistic Recall Management, PI stands for Product Involvement and  $\varepsilon$  stands for any residual error. Time is the current time period, which is 2014.

## 4. Analysis

### 4.1. Chi-square test and Harman's one factor test

AMOS was used to compute the variables for SEM. Two tests were conducted to test for self-report survey i.e. chi-square test and Harman's One-factor test.

#### Table 1: Demographics data for the Respondents (302 responses)

<b>Variables</b>	<b>Total Responses</b>	<b>Chi-square test</b>
<b>Gender</b>	302	$X^2 = 64.901$
Male	221	df = 1
Female	81	p = .000
<b>Age</b>		
Below 20 years	43	$X^2 = 222.159$
20-30 years	181	df = 3
31-40 years	70	p = .000
Above 40 years	8	
<b>Status</b>		
Student	181	$X^2 = 265.550$
Employed	98	df = 3
Housewife	22	p = .000
Unemployed	1	
<b>Education</b>		
Matriculation	6	$X^2 = 255.536$
Intermediate	36	df = 3
Bachelors	189	p = .000
Masters	71	
<b>Household Income</b>		
Below 25,000	4	$X^2 = 139.695$
25,000-40,000	54	df = 3
41,000-100,000	140	p = .000
Above 100,000	104	

Harman' One factor test was used to investigate the presence of common method variance. The research relied on the single set of respondents, who answered both the dependent and independent scales. The common method variance has been identified to have threatened the validity of data and causing ambiguous interpretations (Podsakoff et al., 2003). Therefore, the study carried out a Harman's confirmatory factor analysis, to check if a single factor accounts for most of the variance.

## 4.2. Results

The study followed a three-tier analysis procedure. First data was loaded on AMOS to perform factor loadings for all the items for variables. The values were compared with 0.5 i.e. if a factor had a value of less than 0.5 then it was dropped. The results indicated that the variable Time



has two factors loadings, 0.414 and 0.055, which are less than 0.5 so the variable was dropped. Similarly, two items of Blame Attribution (0.407 and 0.379) and one item of Consumers' Attitude (0.226) were also dropped. After excluding these items, regression measurements were performed again. The loadings were then checked against the aforementioned criteria and found to be significant. Following it, the tests for validity and reliability were applied. After that, model fit was checked, which showed that the model is a good fit.

### **4.3. Confirmatory factor analysis**

After the factor loadings reliability and validity were checked. The reliability test is followed by the convergent validity test. For the convergent validity to hold, AVE for each variable should be greater than 0.5 while the reliability should be greater than 0.7. The analysis showed that all the variables in the study had AVE greater than 0.5, which shows that convergent validity holds.

The discriminant Validity was tested by using the method suggested by Fornell and Larcker (1981). The results specified that the discriminant validity holds for blame attribution, opportunistic recall management, product judgment and product involvement and company response.

The factor loading analysis was succeeded by the test of model fit measures, to check either the items of the scale belong to the underlying construct (Venkatraman & Grant, 1986). The model fit was done in the domains of certain dimensions, which have been thoroughly used in many researches before (Segars & Grover, 1998; Hair et al., 2006) i.e. IFI, CFI and TLI; RMSEA. The values were 7.331 for CMIN/DF, 0.822 for CFI, 0.786 for TLI. Whereas IFI indicated the reading of 0.823, which shows that the model is a good fit (Shields et al., 2002). However, this model fit was improved by drawing modification indices. The covariances were drawn for the error terms of two variables, Company Response and Responsible Recall Management. For the company response two covariances were drawn between e6-e7 and e8-e9 whereas for responsible recall management three covariances were drawn between e10-e11, e12-e13 and e13-14.

#### 4.4. Path Analysis

During the measurement analysis stage, time variable was dropped due to its factor loadings less than 0.5. Hence  $H_4$  was dropped from the analysis.

To test 1<sup>st</sup> hypothesis i.e. company response is related to consumers' attitude, two sub hypotheses were developed  $H_{1a}$  and  $H_{1b}$ . The coefficient was -0.145 and p-value was 0.000 which was statistically significant at 0.001. However,  $H_{1b}$  is accepted.

The p-value for 2<sup>nd</sup> hypothesis was 0.009 which was statistically significant. This supports the claim that behavioral intention has significant, positive and direct relationship with consumers' attitude. Hence,  $H_2$  is accepted.

The path coefficient for hypothesis 3 related blame attribution to consumers' attitude. The coefficient was 0.12 but the p-value of 0.171 means that it is not significantly related to consumers' attitude. Hence,  $H_0$  is accepted.

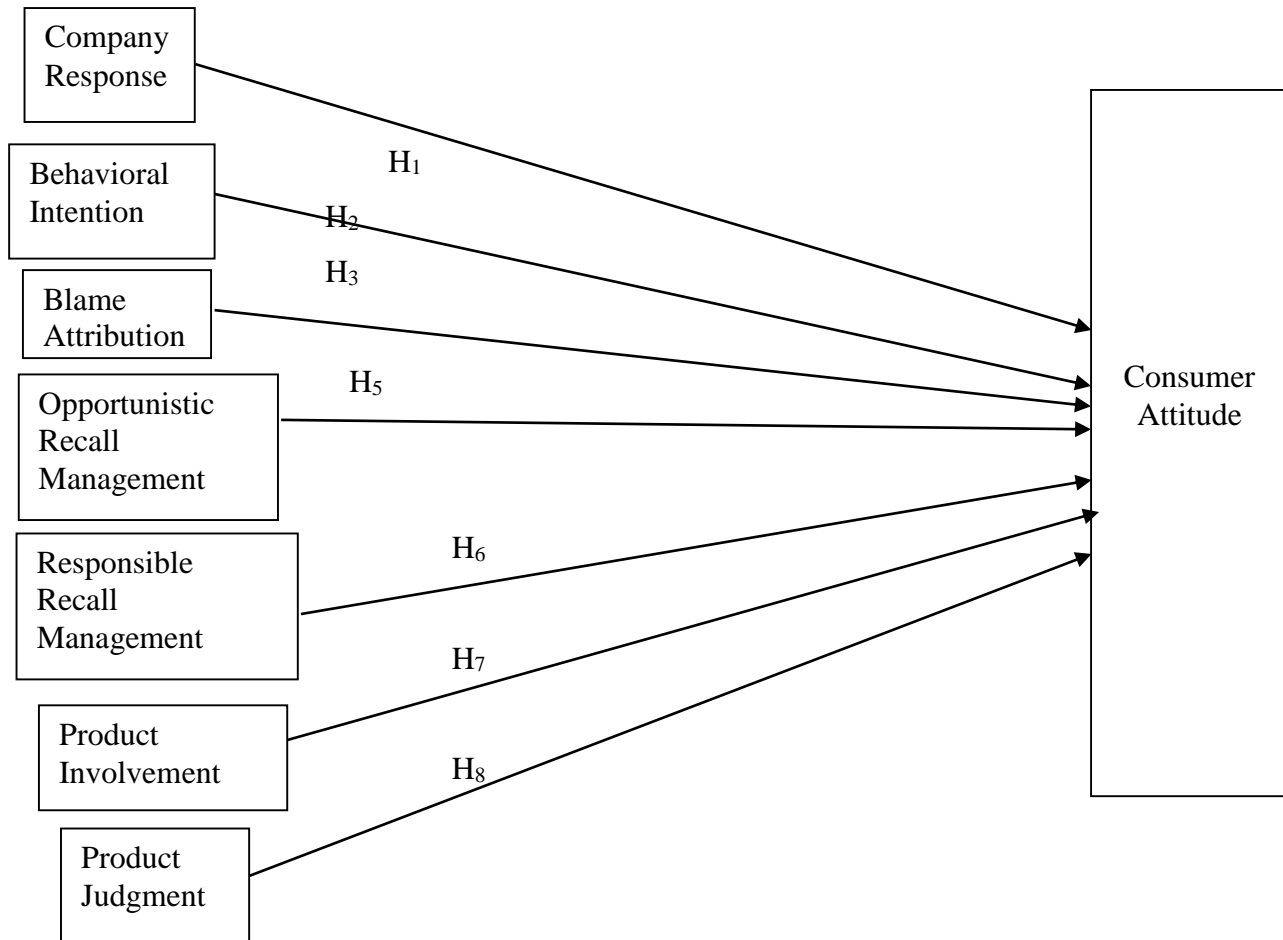
The p-value of 0.009 for Hypothesis 5 revealed that there is a significantly negative relationship between opportunistic recall management and consumers' attitude.

For Hypothesis 6, the relation between responsible recall management and consumers' attitude was observed to be significantly positive at a p-value of 0.000

Hypothesis 7 presented the relationship between product involvement and consumers' attitude. The analysis found that the coefficient was 0.733 and the P value of 0.000 which is statistically significant at 0.001. The hypothesis proposed in the study had direct and negative relation between these two variables. Hence,  $H_0$  is accepted.

Lastly, hypothesis 8 proposed the relationship between product judgment and consumers' attitude. This relationship was significant and negative as its coefficient was -0.035 and its p value of 0.000 which is statistically significant at 0.001. Hence,  $H_8$  is accepted.

#### Figure 2: Generated Path



The figure above represents the generated path as a result of path analysis. It can be seen that the variable time (H<sub>5</sub>) has been excluded.

## 5. Conclusion

This research was conducted to study the effect of product recall on consumers' attitude. It was observed that the major factors that affect consumers' attitude are product judgment, product involvement, responsible recall management, opportunistic recall management, behavioral intention and company response. The proposed framework is found to be significant

and valid as per the results generated through path analysis. The variable Time and items of Blame attribution were dropped due to low values of factor loading.

The claim of the study that company response i.e. how a company handles product recall has strong effect on consumers' attitude, is supported by many researchers (Souiden & Pons, 2009; Vassilikopoulou et al.2009). The significant effect of behavioral intention has also been supported by the literature (De Matos & Rossi, 2007; Vassilikopoulou et al. 2011). Similarly, the significance of opportunistic recall management and responsible recall management in understanding consumers' attitude has been supported by previous literature (Magno et al. 2010; Magno, 2012). Furthermore, product involvement and product judgment have also been considered important factors in product recall situations (De Matos & Rossi, 2007).

## 5.1. Future Implications

This research has provided a new model for studying the effect of product recall on consumers' attitude in Pakistan. However, the data was collected from Lahore and Faisalabad only, therefore, future researchers have the opportunity to extend this research to include other cities of Pakistan as well. The same model can also be used for studying product recall situations in other developing countries.

## References

- Akin, M. (2011).Predicting consumers' behavioral intentions with perceptions of brand personality: A study in cell phone markets. *International Journal of Business and Management*, 6(6), p193.
- Anderson, J. C., &Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411.
- Assiouras, I., Ozgen, O., &Skourtis, G. (2013).The impact of corporate social responsibility in food industry in product-harm crises. *British Food Journal*, 115(1), 108-123.
- Bagozzi, R. P., & Phillips, L. W. (1982). Representing and testing organizational theories: A holistic construal. *Administrative Science Quarterly*, 459-489.

- Brown, G. H. (1950). Measuring consumer attitudes toward products. *The Journal of Marketing*, 691-698.
- Byrne, B. (1981). Deficient syntactic control in poor readers: Is a weak phonetic memory code responsible? *Applied psycholinguistics*, 2(03), 201-212.
- Carmines, E. G., & McIver, J. P. (1981). Analyzing models with unobserved variables: Analysis of covariance structures. *Social measurement: Current issues*, 65-115.
- Choi, Y., & Lin, Y. H. (2009). Consumer response to crisis: Exploring the concept of involvement in Mattel product recalls. *Public Relations Review*, 35(1), 18-22.
- De Matos, C. A., & Rossi, C. A. V. (2007). Consumer reaction to product recalls: factors influencing product judgment and behavioral intentions. *International Journal of Consumer Studies*, 31(1), 109-116.
- Fornell, C., & Larcker, D. F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of marketing research*, 382-388.
- Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2005). *Data analysis with readings*.
- Hora, M., Bapuji, H., & Roth, A. V. (2011). Safety hazard and time to recall: the role of recall strategy, product defect type, and supply chain player in the US toy industry. *Journal of Operations Management*, 29(7), 766-777.
- Hossain, M. S., & Al Mahmud, M. A. (2012). Customers' Attitude towards Product Brand and Warranty/Guarantee option: An Empirical Study on Electronic Products User in Dhaka City in Bangladesh.
- John, G., & Reve, T. (1982). The reliability and validity of key informant data from dyadic relationships in marketing channels. *Journal of Marketing Research (JMR)*, 19(4).
- Jöreskog, K. G., & Sörbom, D. (1986). *LISREL VI: Analysis of linear structural relationships by maximum likelihood, instrumental variables, and least squares methods*. University of Uppsala, Department of Statistics.
- Keh, H. T., & Xie, Y. (2009). Corporate reputation and customer behavioral intentions: The roles of trust, identification and commitment. *Industrial Marketing Management*, 38(7), 732-742.

- Lin, C. P., Chen, S. C., Chiu, C. K., & Lee, W. Y. (2011). Understanding purchase intention during product-harm crises: Moderating effects of perceived corporate ability and corporate social responsibility. *Journal of business ethics*, 102(3), 455-471.
- Lu, H. P., & Su, P. Y. J. (2009). Factors affecting purchase intention on mobile shopping websites. *Internet Research*, 19(4), 442-458.
- Magno, F. (2012). Managing Product Recalls: The Effects of Time, Responsible vs. Opportunistic Recall Management and Blame on Consumers' Attitudes. *Procedia-Social and Behavioral Sciences*, 58, 1309-1315.
- Magno, F., Cassia, F., & Marino, A. (2010). Exploring customers' reaction to product recall messages: the role of responsibility, opportunism and brand reputation. In *Proceedings of the 10th Global Conference on Business & Economics* (pp. 15- 16).
- 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.
- Pruitt, S. W., & Peterson, D. R. (1986). Security price reactions around product recall announcements. *Journal of Financial Research*, 9(2), 113-122.
- Rafique, M. Impact of Celebrity Advertisement on Customers' Brand Perception and Purchase Intention.
- Segars, A. H., & Grover, V. (1998). Strategic information systems planning success: an investigation of the construct and its measurement. *MIS quarterly*, 139-163.
- Shah, R., & Goldstein, S. M. (2006). Use of structural equation modeling in operations management research: Looking back and forward. *Journal of Operations Management*, 24(2), 148-169.
- Shiau, W. L., & Luo, M. M. (2012). Factors affecting online group buying intention and satisfaction: A social exchange theory perspective. *Computers in Human Behavior*.
- Siomkos, G. J., & Kurtzban, G. (1994). The hidden crisis in product-harm crisis management. *European Journal of Marketing*, 28(2), 30-41.
- Siomkos, G. J., & Malliaris, P. G. (2011). Consumer response to company communications during a product harm crisis. *Journal of Applied Business Research (JABR)*, 8(4), 59-65.

- Souiden, N., & Pons, F. (2009). Product recall crisis management: the impact on manufacturer's image, consumer loyalty and purchase intention. *Journal of Product & Brand Management*, 18(2), 106-114.
- Vassilikopoulou, A., Chatzipanagiotou, K., Siomkos, G., & Triantafillidou, A. (2011). The role of consumer ethical beliefs in product-harm crises. *Journal of Consumer Behavior*, 10(5), 279-289.
- Vassilikopoulou, A., Lepetsos, A., Siomkos, G., & Chatzipanagiotou, K. (2009). The importance of factors influencing product-harm crisis management across different crisis extent levels: A conjoint analysis. *Journal of Targeting, Measurement and Analysis for Marketing*, 17(1), 65-74.
- Vassilikopoulou, A., Siomkos, G., Chatzipanagiotou, K., & Pantouvakis, A. (2009). Product-harm crisis management: Time heals all wounds? *Journal of Retailing and Consumer Services*, 16(3), 174-180.
- Venkatraman, N., & Grant, J. H. (1986). Construct measurement in organizational strategy research: A critique and proposal. *Academy of management review*, 11(1), 71-87.
- Wen, I. (2009). Factors affecting the online travel buying decision: a review. *International Journal of Contemporary Hospitality Management*, 21(6), 752-765.
- Yuan, Z., Kardynal, B. E., Stevenson, R. M., Shields, A. J., Lobo, C. J., Cooper, K., & Pepper, M. (2002). Electrically driven single-photon source. *Science*, 295(5552), 102105.
- Zhao, X., Li, Y., & Flynn, B. B. (2013). The financial impact of product recall announcements in China. *International Journal of Production Economics*, 142(1), 115-123.

## Appendix A

### Operational Definitions

#### Dependent Variable

##### *Consumer Attitude*

Consumer attitude is the different attitude of different consumers with respect to Time, company response. It is the behavior and judgment of the consumer about the product. The values,

emotions, and behavior of consumer towards certain phenomena are consumers' attitude. In this research consumer attitude is tested after the recall situation

## Independent Variables

### *Behavioral Intention*

Behavioral Intention is the customer's intention related to buying the product of a particular brand or not. It relates to the purchase intention of the consumer. It also refers to how consumers consider the brand and word of mouth.

### *Product Judgment*

Product Judgment is the judgment of the consumer about the brand and product, whether the consumers think of it as an inferior, unreliable and low quality product or perceive it as a high quality product.

### *Product Involvement*

Product Involvement is the how significant is the product for the product. It refers to the commitment and usage of the consumer of a certain product.

### *Blame Attribution*

Blame Attribution is whether the customers blame the company or they admit it as a fault by the company.

### *Time*

Time refers to that after what time period the product has become defect. It is the time period gone before the recall. Three time periods are taken as when the product becomes defect: 3days, 3 months and 1 year.

### *Responsible Recall Management*

Responsible Recall Management is the responsibility the company takes to take care of its customer and it is their focus on product quality. It refers to when Companies behave in a



responsible manner in the crisis,

### *Opportunistic Recall Management*

Opportunistic Recall Management is when the company behaves in an opportunistic way and taking advantage in such situations.

### *Company Response*

Company response refers to the response of the company to the recall situation. Four situations have been taken in the account. Whether it is a voluntary recall or involuntary recall or the company denies and ignore the situation.

## **Questionnaire**

### **Consumer Attitude**

1. I consider my brand to be good
2. I consider my brand to be pleasant
3. I like my choice of brands
4. My brand is of good quality
5. I am satisfied with my brand

### **Company Response**

1. The company denied the responsibility
2. The company recalled the product after the intervention of the Ministry of Health
3. The company voluntarily recalled the product
4. The company immediately recalled the product, informed all future customers

### **Responsible recall management**

1. The letter of my brand is a signal of a responsible behavior
2. My brand takes care of their customers
3. The product recall is a signal of the focus of my brand on product quality
4. By recalling the product my brand] behaved in a responsible manner
5. My brand takes care of -being

**Opportunistic recall management**

1. My brand is trying to make me buy new components
2. Through the product recall my brand is trying to increase their brand awareness
3. The product recall is an opportunistic measure taken by my brand
4. My brand is trying to make me buy one of their new product
5. The product recall is a means of advertisement

**Blame attribution**

1. My brand is responsible for the product defect
2. The defect is due to a mistake by my brand
3. I consider my brand responsible for the problem presented.
4. The problem presented was due to a fault by my brand

**Time**

1. The product defect occurred 3 days ago
2. The product defect occurred 3 months ago
3. The product defect occurred 1 year ago

**Product involvement**

1. I consider my brand an important product
2. I am interested in products of my brand
3. My brand is a necessary brand
4. My brand means a lot to me

**Behavioral intentions**

1. I consider my brand as a brand option
2. I would buy a product made by my brand
3. I would recommend to friends and relatives that they buy product made by my brand
4. I would say positive things about my brand

**Product judgment**

1. I perceive that my brand has a superior image
2. I perceive that my brand is a modern brand
3. I perceive that my brand is of high quality

4. I perceive that my brand is reliable

What is your gender?

- Male
- Female

What is your age group?

- Below 20 years
- 20-30 years
- 31-40 years
- Above 40 year

Status

- Student
- Employed
- Housewife
- Unemployed

Household Income

- Below 25,000
- 25,000-40,000
- 41,000-100,000
- Above 100,000

**Table 2: Confirmatory Factor Analysis**

	Consumer Attitude	Company Response	Responsible Recall Mgmt	Opportunistic Re Mgmt	Blame Attribution	Product Judgment	Product Involvement	Behavioral Intention	Time
CA1	0.831								
CA2	0.881								
CA3	0.226								
CA4	0.924								
CA5	0.930								
CR1		0.694							
CR2		0.835							
CR3		0.706							
CR4		0.570							
RR									
M1			0.721						
RR			0.854						
M2									
RR									
M3			0.794						
RR			0.842						
M4			0.746						
RR									
M5									
OR				0.653					
M1				0.907					
OR				0.843					
M2				0.785					
OR				0.914					
M3									
OS									
M4									
OR									
M5									
BA1					0.633				
BA2					0.407				
BA3					0.653				
BA4					0.379				
PJ1						0.884			
PJ2						0.768			
PJ3						0.903			
PJ4						0.937			
PI1							0.795		
PI2							0.934		
PI3							0.789		
PI4							0.830		
BI1								0.691	
BI2								0.930	
BI3								0.881	
BI4								0.919	
T1									0.414
T2									1.860
T3									0.055

**Table 3: Path Analysis**

<b>Path</b>	<b>Coefficients</b>	<b>Sig.</b>
H <sub>1</sub> : Company Response -> Consumers` Attitude	-.145	Significant***
H <sub>2</sub> : Behavioral Intention -> Consumers` Attitude	.021	.009
H <sub>3</sub> : Blame Attribution -> Consumers` Attitude	.012	.171
H <sub>4</sub> : Product Judgment -> Consumers` Attitude	-.035	Significant***
H <sub>6</sub> : Opportunistic Recall Management -> Consumers` Attitude	-.021	.009
H <sub>7</sub> : Responsible Recall Management -> Consumers` Attitude	.579	Significant***
H <sub>8</sub> : Product Involvement -> Consumers` Attitude	.733	Significant***