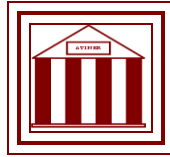


ATINER CONFERENCE PAPER SERIES No: SME2013-0859

Athens Institute for Education and Research

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ATINER's Conference Paper Series

SME2013-0859

**The Moderating Impact of Brand
Attitude on the Effectiveness of Product
Recall Measures**

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URL Conference Papers Series: www.atiner.gr/papers.htm

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ISSN 2241-2891

23/1/2014

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This paper should be cited as follows:

Magno, F. (2013) "The Moderating Impact of Brand Attitude on the Effectiveness of Product Recall Measures" Athens: ATINER'S Conference Paper Series, No: SME2013-0859.

The Moderating Impact of Brand Attitude on the Effectiveness of Product Recall Measures

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Abstract

In recent years, the number of defective, unsafe or dangerous products recalled from the market has been growing rapidly.

Most of studies on this topic focus on the effects of the recall on consumer attitudes toward the brand. In particular, results show that a well-known brand acts as a buffer against the negative effects of recalls.

While the impact of product recalls on consumers' attitudes has been investigated in depth, consumers' behavioral intention to respond to the recall has been widely overlooked. Nonetheless this issue is relevant considering that recall response rates can range typically from 2% to 15%. Similarly, the potential impact of brand attitude on consumers' behavioral response to the recall has not been explored yet. Considering that previous studies about recalls have demonstrated the positive moderating effect of brand on attitudes, a similar effect may be hypothesized on behaviors.

Hence the purpose of this paper is to fill this gap by suggesting a model that includes three independent variables (the effort required to respond to the recall; consumer's perception of the potential danger deriving from the faulty product; and consumer's perception about the time between the product purchase and the recall), a dependent variable (consumer's intention to respond to the recall) and brand attitude as a moderating variable.

An experiment based on a real letter of recall sent by a laptop producer was conducted. The findings show very little evidence for the moderating role of branding. On the contrary the intention to respond to the recall campaign is strongly influenced by how the campaign is designed.

Keywords:

Introduction

In recent years, the number of defective, unsafe or dangerous products recalled from the market has been growing rapidly (Pillutla & Dawar, 2000; Dawar & Lei, 2009). In 2012 in the European Union 2,278 notifications of measures taken against dangerous products were notified to the RAPEX (the EU rapid alert system for all nonfood dangerous consumer products) by State Members. In 2011 they were 1,803. The consequences of a product crisis can be quite severe and involve negative effects on market share, brand image and reputation, and long-term sales (Zhao et al. 2011; Chen et al. 2009).

In addition, the negative effects of a product recall may affect not only the company involved in the recall, but even the entire product category if the defect is perceived as a problem for the entire industry (De Alessi & Staaf, 1994; Clereen et al., 2013).

Most of studies on this topic focus on the effects of the recall on consumer attitudes toward the brand (De Matos & Rossi, 2007; Dawar and Lei, 2009). Results from these studies show that a strong consumer identification with the company and a well-known brand act as buffers against the negative effects of recalls, provided that the event is not extremely negative (Elnwiller et al., 2006; Veloutsou, 2009).

While the impact of recalls on consumers' attitudes has been investigated in depth, consumers' behavioral intentions to respond to the recall have been widely overlooked. This issue requires further attention considering that recall response rates are largely unsatisfactory and can range typically from 2% to 15% (Gibson, 1995). In addition, the potential impact of the pre-crisis brand attitude on consumers' behavioral response to the recall has not been investigated. Previous studies about recalls have demonstrated the positive effect of pre-recall brand attitude on post-recall attitudes. In this paper we hypothesize a similar effect on behaviors.

Hence the purpose of this paper is to investigate this issue by suggesting a model that includes brand attitude as a moderator of the antecedents of the behavioral intention to respond to the product recall.

Literature Review and Hypotheses

A product-harm crisis occurs when products contain hazardous materials, can cause serious injury or death if used improperly, violate safety standards. The discovery of the danger (real and potential) can be made by the manufacturer but it can also happen that the communication is enabled by the distributor, the importer or directly by the consumer (Pruitt & Peterson, 1986).

These events are much more frequent than in the past and a further increase in their frequency is expected for the future. In particular, the increase of the complexity of markets and products (e.g. production outsourcing), the activities of associations for consumer protection, the more stringent product safety legislation and the intervention of governmental agencies such as the

U.S. Consumer Product Safety Commission or the EU Rapid Alert System for all Nonfood Dangerous Consumer Products (RAPEX) are some of the most significant drivers of the increase in the number of product recalls (Patterson, 1993; Birch, 1994; Dawar & Pillutla, 2000). Moreover Luo (2008) argues that the growth of this phenomenon is partly related to looser quality checks carried out by the enterprises and, more generally, to moral degradation.

Except for a few products and industries (such as the car industry) and despite the increasing frequency of product recalls, many firms are still unprepared and do not have a plan for managing a product crisis. In general, a company can react to a product crisis in different ways, placed along the so-called “company response continuum”: denial of any responsibility, involuntary recall (the recall of the product only after an order of an agency), voluntary recall (the spontaneous recall of the product by the company), super-effort (the company voluntarily recalls the product showing real concern for the health of consumers through a clear and transparent communication) (Siomkos & Kurzbard, 1994).

In general, in the case of a product recall from the market, the company must recall products from all the channels of distribution and final consumers (Chen et al., 2009). Unfortunately studies show that only 2% to 15% of the consumers owning the product being recalled decide to respond to the recall (Gibson, 1995). Hence recall campaigns are usually largely unsuccessful.

The company should do everything to make the recall process easier for the consumer and widely publicize the incident. With this regard, Keller (2003) points out that the company's commitment must be sincere, it should recognize the problem and be willing to take all the necessary measures to solve the issue. The company must then implement the appropriate strategies based on personal apology, discounts, exchanges, refunds or other tools. In particular it is evident that the success of the recall campaign is related to the efforts required to the customers. An extremely burdensome recall process will discourage consumers to respond to the recall. Following this reasoning we suggest that:

Hp.1: the perceived efforts perceived by the consumer to respond to the recall are negatively related to the intention to respond to the recall.

Different degrees of danger can affect the product being recalled (Souiden & Pons, 2009). More importantly, consumer's perception of danger can affect her attitudes and behavior (Souiden & Pons, 2009). In detail, it seems reasonable to hypothesize that the higher the perceived danger the stronger the intention to take part to the recall campaign. Hence:

Hp.2: The perceived potential danger deriving from the faulty product is positively related to the behavioral intention to respond to the recall.

Time is a crucial factor in explaining the outcomes of a recall campaign. “Time” can refer to two different aspects of the recall: on the one hand, time indicates the period between the first signs of danger of the product and its recall from the market. On the other hand, this variable indicates the time between the year of sale of the product and the year in which the recall is announced (Roth et al., 2008; Hora et al. 2011). While the first aspect has been

widely studied, the second has been overlooked. As for the first point, the longer the time between the time of occurrence of the crisis and the recall of the product the more difficult will be for the company to regain consumer trust (Standop, 2006). Moreover, according to Vassilikoupoulou et al. (2009), the promptness of the intervention make customers perceive the product as less dangerous. Keller (2003) argues that the greater the delay with which the company begins the recall of the product the higher the probability that the value of the brand will be damaged by negative word of mouth and publicity. In particular, promptness of the recall is fundamental when the product is extremely dangerous.

A negative effect of the time between the year of sale of the product and the year in which the recall is announced (Roth et al., 2008; Hora et al. 2011) on the intention to respond to the recall can be hypothesized. As a matter of fact if the product was purchased a long time ago, consumers may be discouraged by the late recall and more likely to buy a new product. Hence we suggest that:

Hp.3: The time passed between the purchase of the product and the recall is negatively related to the behavioral intention to respond to the recall.

Studies on the effect of the recall on consumer attitudes have demonstrated that strong brands can mitigate the negative impact on the post-recall attitudes (De Matos & Rossi, 2007, Siomkos, 1999, Siomkos & Kurzbard, 1994). In general brand users of strong brands resist more to negative information (Weinberger & Lepkowska-White 2000). Strong brands may act as buffers against the impact of negative information about the brand (Cleeren et al., 2008; Dawar and Lei, 2009). Available research shows that in presence of a strong brand consumers can perceive the degree of hazard associated with the defect as relatively small (Siomkos and Kurzbard, 1994; Mowen et al., 1980).

We hypothesize that the brand may exert a similar effect on the intentions to take part to the recall campaign. In particular, a strong brand may distort consumers' perceptions, reducing perceived efforts, danger and the effect of time between the purchase of the product and the recall. Hence the relations between these variables and the intention to respond to the recall will be moderated by the pre-recall brand attitude. Therefore we state that:

Hp.4: Pre-recall brand attitude moderates the relations between the perceived efforts required to the consumer to respond to the recall (a); the perceived potential danger deriving from the faulty product (b); the time passed between the purchase of the product and the recall (c) and the behavioral intention to respond to the recall.

Method

To test the hypotheses, an experiment was conducted. In 2011, the author of this paper received a personalized letter of recall from the producer of a laptop she owned. The letter was used as the experimental stimulus. In particular the letter included the following detailed information from the

producer: a description of the problem with the identification of the component subject to the recall (the battery of the laptop), the instructions to identify the code of the laptop in order to verify whether the battery was subject to the recall or not, how to contact the producer to ask for the substitution and arrange the shipment, and finally the excuses for the inconvenience.

111 undergraduate students (Dawar & Pillutla, 2000) took part in the experiment, which was conducted according to the following procedure. First of all, participants were introduced to the experiment and asked to express their attitude toward the brand of laptop. After that, participants were given an instruction page and the recall letter, and were invited to think to their reaction as they were owners of the laptop involved in the recall program. Participants were then required to fill in a questionnaire, containing several items measuring the following constructs: the perceived efforts required to the consumer to respond to the recall; the perceived potential danger deriving from the faulty battery; the perception about the time that had passed between the purchase of the laptop and the recall and the behavioral intention to respond to the recall.

All constructs were measured through multiple items on 7-point scales (completely agree-completely disagree), with the exception of brand attitude, which was measured through the 3-item semantic differential measures suggested by Bergkvist and Rossiter (2007). A factor analysis with varimax rotation was performed to verify discriminant validity among the constructs, obtaining satisfactory results. The perceived efforts required to the consumer to respond to the recall were measured through 4 items ($\alpha=.67$); an example of items is "it requires time to understand the procedure to follow". The perceived potential danger deriving from the faulty battery was measured through 2 items ($\alpha=.82$); an example of items is "the defect of the battery is potentially very dangerous". The perception about the time that had passed between the purchase of the laptop and the recall was measured through 2 items ($\alpha=.89$). An example of items is "a lot of time has passed since when I purchased the laptop and the recall of the battery". Finally, the intention to respond to the recall was registered through 3 items ($\alpha=.87$); an example is: "I think I will respond to the recall".

Results and Discussion

A multiple linear regression was run including the perceived efforts, the perceived potential danger, and the perception about the time, as the independent variables, the behavioral intention to respond to the recall as the dependent variable and brand attitude as the moderating variable. The results of the regression are shown in table 1. Variance inflation factors (VIF) were estimated, as well, to make sure that there were no issues with multicollinearity. All VIFs are well below 5. The results show that all the independent variables have a significant impact on the intention to respond to the recall. In detail, the perceived efforts and the time that has passed since the

purchase of the laptop have negative effects on the intention to respond to the recall (hypotheses 1 and 3 are supported). On the contrary, the perceived danger increases the likelihood that the consumer will respond to the recall (hypothesis 2 is supported). As regards the moderating role of the pre-recall brand attitude, only the effect between brand attitude and time was found to be significant (hypothesis 4(c) is supported, whilst hypotheses 4(a) and 4(b) are rejected): the higher the level of pre-recall brand attitude, the higher the effect of time on the intention not to respond to the recall.

Table 1. *The Results of the Multiple Linear Regression. Dependent Variable: Intention to Respond to the Recall.*

	Standardized Beta	t	Sig.	VIF
(Constant)		3.493	.001	
Perceived efforts	-.246	-2.523	.013	1.369
Perceived danger	.311	3.638	.000	1.054
Time	-.363	-4.062	.000	1.156
Brand attitude * Time	-.169	-1.871	.064	1.173
Brand attitude * Perceived efforts	.024	.262	.794	1.203
Brand attitude * Perceived danger	-.026	-.301	.764	1.058

Overall these findings shed new light on the understanding of the intention to respond to a product recall.

First, pre-recall brand attitude has a limited moderating effect on the intention to respond to the recall. More interestingly, the brand does not act as a buffer regarding the efforts required to complete the recall and the perceived danger of the product defect. In addition, a strong brand emphasizes the perception of the time that has passed between the purchase of the product and the letter of recall. In this case, it seems that consumers who had a good attitude toward the brand developed more severe judgments about the absence of promptness in announcing the recall campaign.

Second, the findings show that the effectiveness of the recall campaign is not influenced by the brand, being strong or weak. The effectiveness of the campaign depends on the perceived promptness, the perceived danger and the perceived efforts required to the consumer. Whilst perceived danger is largely out of the control of the firm, perceived promptness and perceived efforts depend on how well the recall campaign is designed by the firm. The firm should reduce the efforts required to the customers to participate to the recall, by providing easy instructions, quick repairing time, etc.. The firm should also start the recall campaign as early as possible, thus reducing consumer's perception that the firm was not vigilant enough to detect the defect promptly. In sum, the firm should demonstrate a responsible (vs. opportunistic) recall behavior, as suggested by previous studies on this issue (Magno et al., 2010).

Third, the results suggest a different role of the brand regarding the effect of product recalls on attitude and behavior. While several studies (e.g., Dawar & Lei, 2009) have demonstrated that a strong brand can mitigate the negative effects of product recalls on consumers' attitudes, we found a very weak effect

of the brand on the consumers' intention to participate to the recall. Hence the brand will not be able alone to enhance the recall response rate.

Conclusions and Limitation

The purpose of this paper was to test a comprehensive model to explain the intention of the consumer to respond to a product recall campaign. In particular, this work intended to explore whether the pre-recall brand attitude had a moderating effect on the relation between some antecedents and the behavioral intentions. Through an experiment based on a real-word stimulus, it was found that the brand has a very limited negative, moderating effect on the consumers' perception of time. As a consequence, the higher the pre-recall brand attitude the lower the will be the intention to respond to the recall. More interestingly, the study demonstrated the strong and direct effect of the perceived efforts required to respond to the recall, the perceived potential danger deriving from the faulty battery and the perception about the time that has passed between the purchase of the laptop and the recall on the behavioral intentions. Hence the final response rate to the recall seems to depend on how well the recall campaign is designed to quickly solve the problem with limited efforts on behalf of the consumers.

An interesting issue which would deserve further investigation is the effect of a well-designed recall campaign on brand attitude. Whilst brand has a very limited effect on the response rate to the recall, a well-designed recall campaign could improve consumers' attitudes toward the brand. Moreover our study was based on an experiment involving only one product category. Testing the model in other product categories could provide fruitful insights. The sample size was also quite limited, thus new research is needed before generalizing the results.

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