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## Article

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## **THE EFFECTS OF FAULTY OR POTENTIALLY HARMFUL PRODUCTS ON BRAND REPUTATION AND SOCIAL RESPONSIBILITY OF BUSINESS**

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### **Abstract**

Building a strong brand requires a good management of brand reputation over time. Social responsibility of business is a key factor in evoking a positive brand reputation. Both the product itself and brand related actions and communications define brand reputation in the eyes of consumers, thus influencing perceived corporate social responsibility. As a consequence, it can be easily hindered or endangered by many product related issues such as faulty products or potentially harmful products. The purpose of this article is to provide an insight on the link between brand reputation and social responsibility in order to help organizations provide better services and protection for consumers. We examined how brand reputation is influenced by the negative bias generated by brand related communications regarding potentially harmful products. This study also analyzes how under normal consumption circumstances, consumers' experiences related to faulty products can influence brand reputation. To investigate this, we propose a model based on perceptual brand constructs and possible outcomes of brand reputation. In both circumstances, negative spillover effects are highlighted using structural equation modeling. The findings reveal that both faulty products and potentially harmful products have a negative bias on brand reputation, but affected perceptual brand constructs are different.

**Keywords:** brand reputation, faulty products, harmful products, social responsibility, consumers.

**JEL Classification:** M21, M31, D12, D18.

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### **Introduction**

At the heart of every successful business is the ability to compete. In order to become and remain competitive, companies develop strategies to differentiate themselves from competitors. In the marketplace, competitive advantage can be gained by developing a business, a brand or a product that is different from its competitors in a way that makes a difference for consumers. Managers must also face the difficult task of developing adequate

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methods of sustaining competitive advantage over time. In these circumstances, one of the most valuable assets is reputation because it is rare and unique (Keller, 2003).

Reputation is an opinion based on the result of an evaluation process built around a unique set of criteria (Ponzi et al., 2011). In the business environment, reputation is often mistaken with image because social projections and the time variable are generally ignored. Image is a perception based on a subjective individual representation of a given company, brand or product (De Chernatony, 1999). On the other hand, reputation can be viewed as the sum of perceptions held by the general public about a company's actions, brands or products (Ponzi et al., 2011). Although often used interchangeably, image and reputation are in reality two separate constructs.

In business, reputation is very important because it provides an evaluation basis for the company's past and future activities. This evaluation basis influences how consumers and other stakeholders think and act in regard to the company's actions, brands or products. A spotless and excellent corporate reputation can provide some important benefits for a company. First, it can provide numerous opportunities for the exploitation of information asymmetries by leveraging expectations (Shamsie, 2003). Secondly, it can facilitate brand extensions and the acceptance of new products by reducing perceived acquisition risks and increasing consumers' tolerance (Corkindale and Blender, 2009). Thirdly, it can reduce negative bias or spillover effects directed towards the company, brand or product in the case of a negative event (Tipton et al., 2009). Last but not least, reputation is the base for fostering consumers' loyalty (Selnes, 1993).

The existence of this construct proves substantial at the consumer level, being an outcome of his learning process in the dynamics of his relationship with the corporation or brand. As consumers get more information and the cycle impression – expectation – satisfaction provides steady results, they validate or not the initial impression and its derived level of trust, converting it into reputation (Shamsie, 2003). When a positive reputation is formed, consumers tend to simplify their behavior, relying more on corporate reputation (Selnes, 1993). This creates the issue of corporate responsibility, as companies could temporarily take advantage of their reputation to stop providing the expected value to their consumers. Thus, educating and informing consumers should protect them from situations in which the expectations are not met. This is even more important in the case of faulty or potentially harmful products.

A clear distinction must be made between corporate reputation and brand reputation. Although in some cases, brand reputation overlaps corporate reputation, companies usually tend to possess extensive brand portfolios. When evaluating the reputation of a company or a brand, consumers tend to consider a multitude of variables and use an integrative approach (Ponzi et al., 2011). Therefore, brand reputation can be viewed as a distinctive construct separated from corporate reputation, but interdependent.

Although reputation can provide numerous benefits for a company, it is a volatile construct that can be easily hindered or damaged by unexpected events or actions (Keller, 2008). For example, years of building a strong reputation for BP Oil as an environmentally friendly company was destroyed by the Gulf of Mexico oil spill incident in 2010. Regarding brand reputation, the most important threat is related to product specific issues. Faulty or potentially harmful products can hinder or even irretrievably damage brand reputation. Further in this article, we investigate how brand reputation is influenced by the negative

bias, generated by brand related communications regarding potentially harmful products. We also examine how in normal consumption circumstances, consumers' experiences related to faulty products can influence brand reputation, while highlighting the role played by corporate responsibility.

Prior research has shown the effects of brand reputation on consumers' decision (Veloutsou and Moutinho, 2009) and how negative spillover affects brand reputation (Lei et al. 2008). Other lines of research analyzed the impact of cognitive dissonance generated by product related issues on consumers' loyalty and the short-term effects of product failure on consumer behavior (Selnes, 1993; Dawar and Pillutla, 2000). Drawing from both lines of research, this study makes three important contributions. Firstly, it highlights the potentially negative long-term spillover effects of product related issues on brand reputation constructs. Secondly, we assess the possible outcomes of a brand reputation negative bias on consumers' preferences and decisions, emphasizing the importance of the ongoing process of educating and properly informing consumers. Thirdly, this research also contributes to a better understanding of the specific brand reputation problems managers have to face when confronted with product related issues and their dual responsibility towards the company and consumers.

### **1. Conceptual Background**

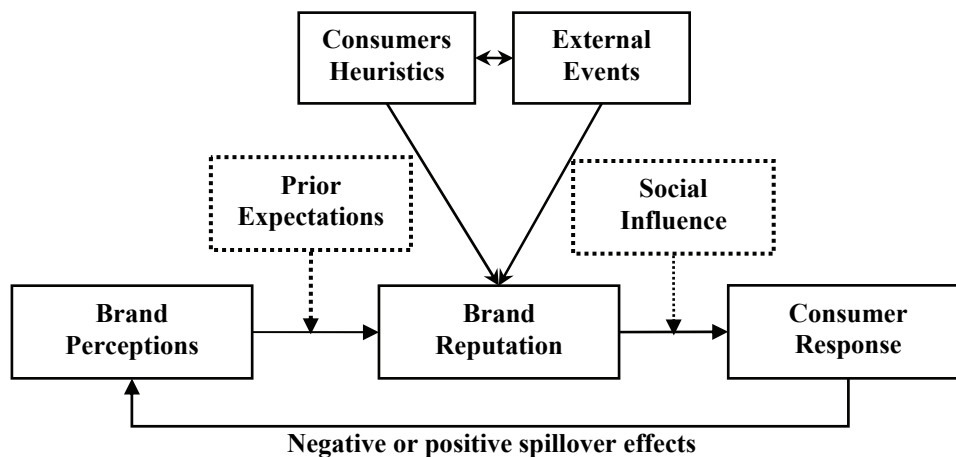
Although brand reputation is a highly researched topic in general, there is little empirical research about the role of product related issues in creating and maintaining an overall good brand reputation. In this study, we link the effects of faulty and potentially harmful products on brand reputation specific constructs and key outcomes. In the context of this research, a faulty product is considered to be a product that delivers an unsatisfactory performance due to a strict product liability or a failure of the manufacturer or retailer to properly inform consumers (European Parliament Council, 1999). On a similar note, a potential harmful product is considered to be a product that is unfit or harmful for normal use or is inherently dangerous for consumers or environment due to defective design, assembly or manufacturing (European Parliament Council, 1999).

People are exposed on a daily basis to large amounts of information regarding different products or brands. Due to psychological constraints, they selectively attend and process chunks of relevant information. Based on all gathered and extrapolated information, consumers are subject to a "confirmatory bias" based on strong "labeling effects" resulting in a broad rubric of "framing" (Dawar and Pillutla, 2000). For example, all McDonald's products are susceptible to the same health-related concerns, regardless of their nature or quality. Such information selection heuristics will lead to biased judgments that are subject to negative or positive spillovers triggered by external events (Erdem and Sun, 2002). For example, the massive vehicle recall made by Toyota in 2009 changed consumers' heuristics, due to a complete assumption of responsibility, formal apologies to costumers and a compensation in the form of a complete service check and free repairs.

Companies will build successful brands by adding differentiation, value and relevance to the core value proposition made by the brand (Kapferer, 2012). Perceived legitimacy of these constructs will determinate brand reputation. In the mind of consumers, brand reputation is the proof that your company can keep up and is delivering your brand promise (Keller, 2008). Consumers' prior expectations regarding the brand will trigger a differential

consumer response (Lee, 2002). For example, a slightly above average score at car crash tests results for the new Volvo and Kia SUV models will be perceived negatively by Volvo customers and neutrally by Kia customers. Although an already positive evaluation cannot be improved by new positive information due to a ceiling effect, negative evaluations are subject to potentially unlimited spillover effects (Dawar and Pillutla, 2000). These effects are further amplified or decreased by social influence. For example, the negative effects of the Tylenol poisoning crisis were diminished by the positive media coverage Johnson & Johnson received after the incident.

As noted above, brand reputation entails a complex series of constructs, dynamics and interactions on a both cognitive and behavioral level. We argue that any product related spillover effects on brand reputation are impossible to determinate without a proper framework for operationally defining brand reputation (figure1). As a consequence, for the purposes of this study, we treat brand reputation as a composite construct based on consumer perceptions and attitudes expressed by actual brand related consumer responses.



**Figure no. 1: Brand Reputation Framework**

A large variety of measurement tools have been created to capture the link between brand related attitudes or perceptions and brand reputation. In practice, a vast majority of brand reputation measurement tools rely on some form of a formative index rather than on qualitative scales. This kind of approach becomes problematic when it is used to link brand reputation with other variables such as brand equity or consumer behavior. Signaling theory shows that consumers' perceptions and attitudes should actually be distinguished from the actual signals or drivers (Han et al. 2010). Therefore, we consider in this context, that brand reputation is not a directly measurable variable because it is based on an overall impression formed as the result of various brand perceptions. This impression is formed in a timely manner and is likely to change due to prior expectations and social influence (figure1).

At the basis of brand perceptions related to brand reputation is the feeling of admiration. Brands that tend to offer more, while demanding less from their customers are more likely to be admired (McGovern and Moon, 2007). Admiration naturally follows when a brand is perceived as both warm and competent (Aaker et al. 2012). Because these two emotions play a significant role in consumer willingness to purchase the brand, a strong brand

reputation requires a strong feeling of admiration towards the brand. Eliciting favorable brand perceptions that evoke admiration is very important but insufficient for building a strong brand reputation if customers actually do not trust the brand. Confidence means more than simple consideration for the competence of the brand; it depicts the extent to which customers view the brand as trustworthy over a long period of time.

With time, brands that are admired and trusted will gradually earn respect from both customers and non-customers. Brands with an outstanding moral character that have a good record of producing and delivering high quality products or services encompass respect to a great extent from competitors, consumers and community alike. This may be the result of carefully planned CSR campaigns and the brand being actively involved with the community (Anghel et al., 2011). Also, respect can be evoked to a large extent due to the brand being perceived as a meaningful leader in a relevant field (Mizik and Jacobson, 2008) or remaining loyal to the core brand promise regardless of the circumstances (Barwise and Meehan, 2010). This implies continuously informing and educating consumers in order to strengthen their evaluation of the brand or corporate reputation.

Respected brands can reach the ultimate identification and relationship level with consumers, thus achieving a high degree of resonance. Resonance reflects an absolutely harmonious interaction between the brand and consumers translated into a high degree of loyalty and deep, passionate feelings towards the brand. Consumers feel they are actually "in sync" with the brand, while actively seeking means to interact with the brand and share their experiences with others (Keller, 2001). Basically, it is simply more than any other brand consumers have a good feeling about; the brand is absolutely special.

Brand reputation can be developed through any interaction with the customer or any brand related experience. In practice, basically anything "shared" with the public can influence brand reputation. In these circumstances, we argue that brand reputation is always community driven and mediated by factors such as consumers' prior expectations. As a result, the actual consumer response pattern triggered by brand reputation can be considered as a higher-order construct composed of specific brand related attitudes and actions. In order for the pattern to be observable, the brand must simultaneously appeal to "the heart and mind" of consumers. If these conditions are fulfilled, three distinct possible outcomes are perceptible due to brand reputation influence.

First of all, a good brand reputation can give consumers a cogent reason to buy the brand. Also it may represent an important catalyst for fostering customer loyalty. Brand preference refers to a consumer predisposition to choose a particular brand in the presence of other brands. Brand reputation should have a positive effect on brand preference that triggers a long-term consumer response because it modifies brand-product perceptions (Veloutsou and Moutinho, 2009). These perceptions are also influenced by corporate social responsibility. For example, consumers may prefer products such as Danone yogurts or The Body Shop soaps because the brand has a reputation of being highly socially responsible. In addition, brand reputation can assure a high degree of dispositional commitment even if other product substitutes are available (Dahlén et al., 2009).

Secondly, brand reputation may raise consumers' preference for potential and generate the adequate emotional response. Consumers tend to develop a strong affinity towards brands that are overall superior compared to competitors (Shamsie, 2003). A strong brand reputation will enforce the perception that the brand is overall superior in relation with

competing brands. As a consequence, there is a high degree of probability that consumers will make referrals to the brand they enjoy. For example, the perception that Apple retains its position as leader of innovation further reinforces Apple's brand reputation and generates a nourishing emotional response from consumers.

Thirdly, a solid brand reputation can "shield" the brand from potentially harmful effects on brand equity in situation of crisis or other negative events. In this case, brand tolerance tends to reduce consumers' feelings of irritation, suspicion or skepticism by further diminishing cognitive dissonance (Dawar and Lei, 2009). For example, a loyal Ritz customer will tend to ignore isolated slight service imperfections. Moreover, brand reputation can further improve brand credibility due to leveraging effects of already existing positive brand associations. In this context, corporate responsibility plays a major role, because companies should not deliberately use their good reputation for delivering poor services or offering faulty products.

## 2. Methodology

This study tries to provide a better understanding of product related negative spillover effects on brand reputation. For this purpose, we rely on a brand theoretical framework, in which brand reputation is viewed as a composite construct based on consumers' perceptions and attitudes that are invoked by brand related responses (figure 1). In line with this framework, we depict an extensive brand reputation model (figure 2).

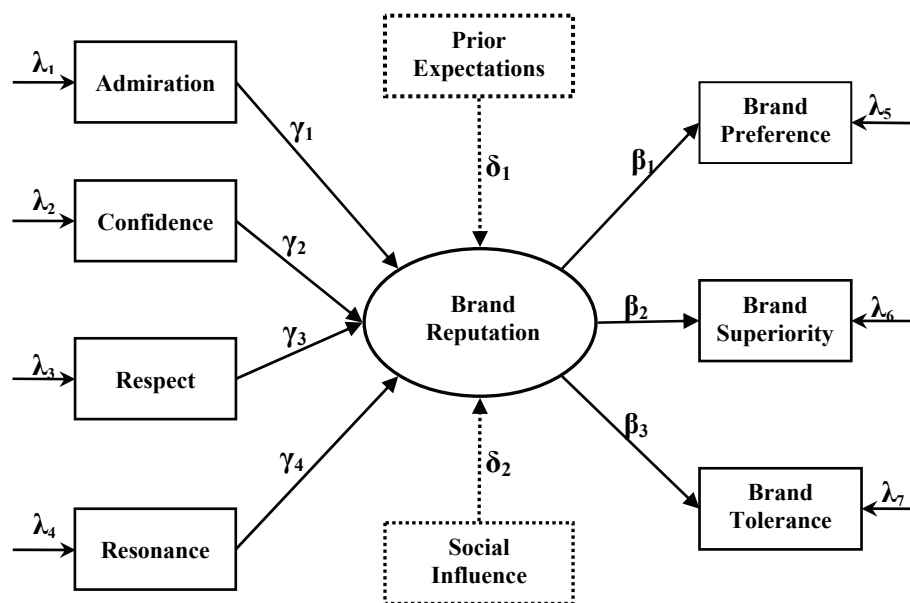


Figure no. 2: Extensive Brand Reputation Model

The empirical context for our study is the mobile phone industry in Romania. We conducted a pretest to establish which product category is best suited for this kind of study.

The smartphone industry represents a suitable context for our research, because smartphones are products susceptible to all kind of associated product risks and acquiring a particular mobile phone is a high involvement, highly rational decision. Also, the smartphone category elicits unique and strong brand associations and tends to be dominated by two brands (Samsung and Apple) that have a high degree of brand saliency (above 80%). We collected data through a field study that included both male and female (46.46% male) respondents aged between 18 and 45 (M = 24.95; SD = 3.96), all with a higher education profile. To safeguard from unwanted tertiary brand bias or influences from other product categories, for our main study, we have actively selected respondents that own or previously owned a smartphone produced by Apple or Samsung but no other products manufactured by these two companies. We obtained 244 answers, from which we discarded 18 due to an excessive amount of missing data, thus yielding 226 valid answers.

Each responded received a questionnaire and completed it in regards to both smartphone brands included in the study. In order to avoid confusion, each questionnaire contained a broad definition of faulty or potentially harmful products alongside an eloquent example. We used a total of 14 items (Table 1.) to implement the measurement instrument that supports the structural equation model presented above (figure 2).

**Table no. 1: Item Description**

<b>Variable</b>	<b>Construct</b>	<b>Item used in the study</b>	<b>Source</b>
<b>λ<sub>1</sub> Admiration</b>	Competence	"I feel ... is a competent brand"	Aaker et al. (2012)
	Warmth	"I feel ... is a friendly brand"	Aaker et al. (2012)
<b>λ<sub>2</sub> Confidence</b>	Trust	"I feel ... is a brand I can trust"	Ponzi et al. (2011)
	Reliability	"I feel ... is a brand I can rely on in the future"	Chaudhuri and Holbrook (2001)
<b>λ<sub>3</sub> Respect</b>	Overall Respect	"I have a strong respect for ..."	Ponzi et al. (2011)
		"I feel ... is a brand with high or outstanding moral character"	
<b>λ<sub>4</sub> Resonance</b>	Deep and Passionate Feelings	"I really feel ... is the number one brand for me"	Keller (2001)
		"I feel I really love ... brand"	
<b>λ<sub>5</sub> Preference</b>	Reasons to Buy	"I prefer ... over other brands"	Dahlén et al. (2009); Mathur et al. (2003)
		"I feel I have a cogent reason to remain loyal to ..."	
<b>λ<sub>6</sub> Superiority</b>	Overall Superiority	"I feel ... is overall superior compared to other brands"	Fuchs and Diamantopoulos
	Distinctiveness	"I feel ... is a unique brand in a special way"	Keller (2001)
<b>λ<sub>7</sub> Tolerance</b>	Irritation	"I feel less irritated by ... failures"	Erdem and
	Skepticism	"I feel less skeptic about ... products"	Simonin and Ruth (1998)

Note: All items are evaluated using a seven-point Likert scale (1 = "strongly disagree" ; 7 = "strongly agree")



Each of these items referred subsequently to one of the two negative experiences: faulty products or potentially harmful products. Creswell and Clark (2007) suggested that for measuring external effects on a predetermined variable, a negative condition should always be neutral in a positive conditional evaluation. Therefore, we adapted all our items accordingly (e.g. "Despite some faulty products, I feel Samsung is a brand I can trust").

### 3. Measurement Validation

For testing reliability and validity of the measures we used confirmatory factor analysis for each variable. We first conducted a higher order factor analysis (Preacher et al. 2006) with brand perceptions and consumer response as second-ordered constructs. We used each of their descriptive variables as first-order constructs in order to determinate reliability of each variable (table 2).

**Table no. 2: Construct Measurement Information**

Variable	M	SD	CR	AVE	CR\alpha
1. Admiration	5.02	1.01	.90	.69	.91
2. Confidence	3.66	.92	.79	.64	.85
3. Respect	4.65	1.09	.91	.66	.81
4. Resonance	5.23	.99	.88	.71	.89
5. Brand Preference	4.76	.89	.87	.77	.93
6. Brand Superiority	5.14	.96	.82	.60	.81
7. Brand Tolerance	3.13	1.47	.71	.63	.77

Notes: M = mean; SD = standard deviation; CR = composite reliability; AVE = average variance extracted; CR\alpha = Cronbach's alpha

We evaluated reliability by means of composite scale reliability (CR) and average variance extracted (AVE). All measures exhibit composite reliabilities well above the cutoff value of .70, and AVE exceeded the recommended value of .50 (Chin, 1998). We also evaluated validity in terms of variable internal consistency using Cronbach's alpha. All measures exhibit good internal consistency (CR\alpha > .80) with the exception of brand tolerance that has an acceptable level of internal consistency (CR\alpha > .70). Overall, all measured variables display satisfactory psychometric properties. For brand reputation and all its measured predetermining or outcome variables, item loadings and correlations (Table 3.) are all positive and statistically significant ( $p < .05$ ), thus establishing convergent validity (Wetzels et al. 2009). Additionally 92.8% of items used in this study have a higher reliability than the recommended value of .40 (Chin, 1998).

Secondly, we assessed whether the predetermining or outcome variables of brand reputation represent a distinct phenomena moderated by consumers' prior expectations and social influence. In a confirmatory factor analysis model using all variables, any random pair of two variables exhibits a higher average variance extracted than their related square correlation (Wetzels et al. 2009). Additionally, all model fit indexes for the complete model are completely satisfactory ( $\chi^2/d.f. = 2.77$ , RMSEA = .05 and comparative fit index = .95).

**Table no. 3: Construct Correlations**

Variable	1	2	3	4	5	6	7	8	9	10
1. Admiration	1.0									
2. Confidence	.41	1.0								
3. Respect	.43	.56	1.0							
4. Resonance	.27	.26	.34	1.0						
5. Social Influence	.08	-.03	.06	.10	1.0					
6. Prior Expectations	.23	.25	.39	.22	.02	1.0				
7. Brand Reputation	.45	.53	.41	.52	.29	.39	1.0			
8. Brand Preference	.48	.32	.18	.32	.34	.11	.42	1.0		
9. Brand Superiority	.34	.14	.16	.50	.13	.37	.36	.54	1.0	
10. Brand Tolerance	.14	.36	.09	.21	-.22	-.29	.44	.16	.24	1.0

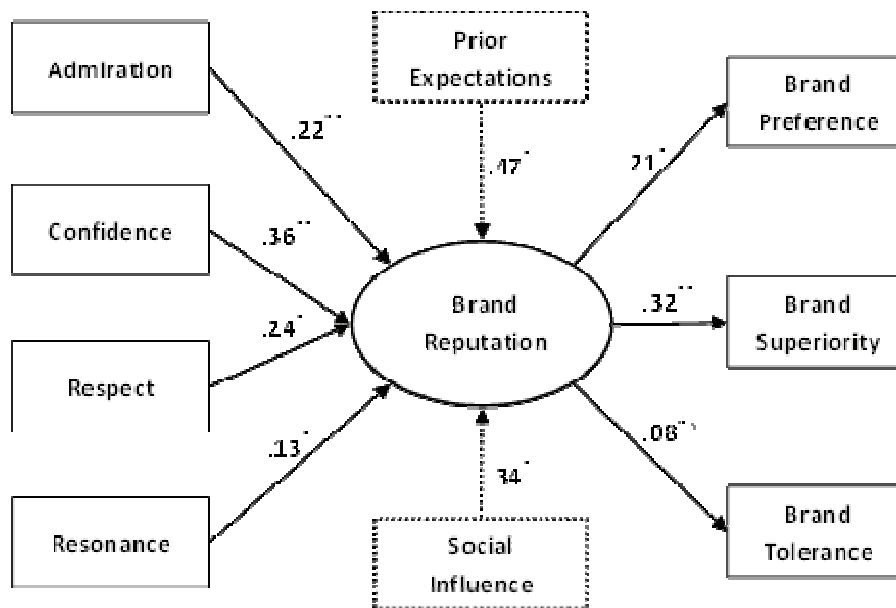
**4. Results**

We employed structural equation modeling (S.E.M.) using R-3.0.1 in order to highlight negative spillover of faulty or potentially harmful products on brand reputation. For both situations, we subsequently run a S.E.M. analysis with brand perceptions (observable variable), social influence (latent moderating variable) and consumer prior expectation (latent moderating variable) as exogenous variables. We used, brand reputation (latent variable) and consumer response (observable variable) as endogenous variables in our analysis. In order to enforce model coherency, we explicitly specified nonzero priors for our two moderating variables (Cooper and Herskovits, 1992). In the interest of keeping the number of model variables at an acceptable level while preserving the holistic nature of the model, we encompass brand specific responses using item parceling (Little et al. 2002); for each measured variable, the average of each item serves as an individual parameter in an empirical Bayes estimator used as indicator for the variable (Imbens, 2004).

On examination of the data regarding faulty products, we accepted our model as adequate ( $\chi^{2/d.f.} = 3.12$ , RMSEA = .04 and comparative fit index = .96). On investigation of the significance of all paths in the model (Figure 3), eight out of nine paths are statistically significant. All paths are positive, thus faulty products will hinder all dimensions of brand perception and produce an appropriate consumer response. Results show that confidence is the most crippled brand perception ( $\gamma_2 = .36$ ,  $p < .05$ ), while resonance is the less affected construct ( $\gamma_4 = .13$ ,  $p < .01$ ). Admiration and respect are moderately altered by faulty products ( $\gamma_1 = .22$ ,  $p < .01$  respectively  $\gamma_3 = .24$ ,  $p < .05$ ). Brand reputation variations triggered by faulty products can cause significant changes in customer response by having a strong influence on perceived brand superiority ( $\beta_2 = .32$ ,  $p < .01$ ) and a moderate effect on brand preference ( $\beta_1 = .21$ ,  $p < .05$ ). However, the path from brand reputation to brand tolerance is not statistically significant in the case of faulty products ( $\beta_3 = .08$ , n.s.). Overall, the first model (figure 3) accounts for 19.2% of brand reputation variance as the direct result of negative spillover generated by faulty products.

Upon examination of the data regarding potentially harmful products we accepted our model as adequate ( $\chi^{2/d.f.} = 2.16$ , RMSEA = .03 and comparative fit index = .98). On

investigation of the significance of primary paths in the model (Figure 4), all paths are statistically significant and positive, thus harmful products will also hinder all dimensions of brand perceptions and produce an eloquent consumer response.



**Figure no. 3: Structural Equation Model Results for Faulty Products**

Notes: Completely standardized coefficients are shown; Continuous lines display the effects of major variables, while the dotted lines display the effects of moderating variables; n.s. = not significant; \* $p < .01$ ; \*\* $p < .05$

Model estimation results show that potentially harmful products will strongly affect some of the core brand perceptions like confidence and respect ( $\gamma_2 = .31$ ,  $p < .01$  respectively  $\gamma_3 = .32$ ,  $p < .01$ ) while having a much weaker effect on admiration or resonance ( $\gamma_1 = .17$ ,  $p < .05$  respectively  $\gamma_4 = .12$ ,  $p < .01$ ). Even if some of these results are similar with those related to faulty products, some major differences can be identified. Even though admiration is also a core brand perception, it is significantly less crippled by potentially harmful products, mainly because faulty products tend to alter the perceived competence of the brand on a higher level. Subsequently, potentially harmful products will diminish more the respect evoked by the brand by undermining the morality of the brand.

Potentially harmful products have a considerable influence on brand reputation that can generate important changes in the way customers respond and relate to the brand. Mainly, this kind of products have a strong influence on brand preference ( $\beta_1 = .30$ ,  $p < .01$ ) a moderate impact on brand superiority ( $\beta_2 = .23$ ,  $p < .05$ ) and a weak effect on brand tolerance ( $\beta_3 = .11$ ,  $p < .05$ ). The first model shows that, due to a potential negative change in consumers' prior expectations, faulty products can severely deter consumers' preference for potential and can to a smaller extent alter brand-product perceptions. On the other hand, the second model shows that, due to social influence, potentially harmful products will

change to a large extent consumer predisposition to choose a particular brand and to a smaller extent the perception that the brand is overall superior in relation to competing brands. Overall, the second model (figure 4) accounts for 21.8% of total brand reputation variance as the direct result of negative spillover generated by potentially harmful products.

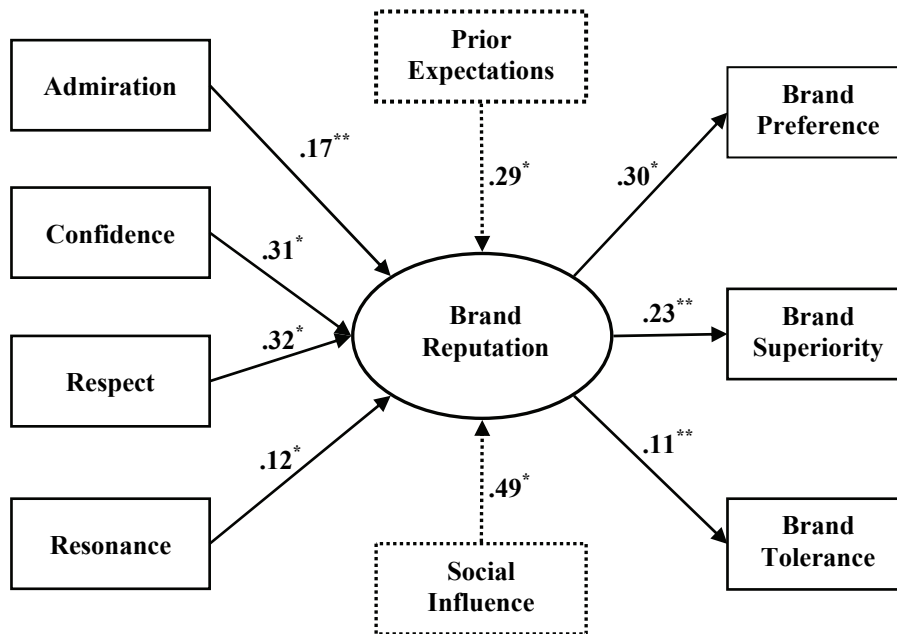


Figure no. 4: Structural Equation Model Results for Potentially Harmful Products

Notes: Completely standardized coefficients are shown; Continuous lines display the effects of major variables, while the dotted lines display the effects of moderating variables; n.s. = not significant; \*p < .01; \*\*p < .05

**Conclusions**

Brand reputation is very important because it provides an evaluation basis for present and future consumers' interactions with the brand (Kapferer, 2012). In this study, we investigated how brand reputation is influenced by the negative bias generated by brand related communications regarding faulty products or potentially harmful products. In particular, we highlighted the potential negative long-term spillover effects of product related issues on brand reputation constructs. We have also assessed the possible outcomes of a brand reputation negative bias on consumers' preferences and decisions. Mainly, we find that both faulty products and potentially harmful products have a considerable influence on brand preference and brand superiority by hindering consumers' confidence in the brand, thus making it impossible for consumers to achieve a high resonance level with the brand. Despite our expectations, results show that faulty products are more likely to make the brand less admired by consumers, while potentially harmful products have a greater negative influence on the overall feeling of respect that envelops the brand.

From a marketing perspective, delivering faulty or potentially harmful products can be considered a clear example of irresponsible behavior of a company. Our results highlight the obvious need for a high degree of social responsibility towards consumers, in order to build and preserve a positive brand reputation. A slide difference between the two cases must be emphasized. While faulty products are completely the result of a company's remissness, potentially harmful products carry more the seal of the product category in which they belong. Thus, the oil companies' or cigarettes manufacturers' care for corporate social responsibility looks legitimate in the light of our research.

From a theoretical standpoint, our study makes some very important contributions. To our knowledge, this is the first empirical study to examine the long-term impact of product failure on brand reputation. Thus, it fills the void in the brand reputation literature on the roles of products in building and sustaining a strong brand reputation. Furthermore, it provides a cohesive framework for operationally defining brand reputation. This framework is based on an overall impression formed as the result of various brand perceptions that are likely to change due to prior expectations and social influence. Given the scarcity of empirical studies in the brand reputation literature and the lack of adequate measurement tools for brand reputation at a community level (Ponzi et al., 2011), this study should also provide an extensive model that can be used to measure community driven brand reputation.

From a managerial perspective, our findings not only establish the role of product failure in harming brand reputation, but also highlight their consequential role on brand related perceptions and consumer response. As a first managerial implication of this study, we emphasize the need of coherent actions aimed at reducing both short-term and long-term effects of faulty or harmful products. Fundamentally, we propose a shift in managing brand crises triggered by product failure. Starting with community driven actions intended to alleviate negative bias, managers must implement consumer centered actions to reduce cognitive dissonance at an individual level. By influencing consumers' prior expectations more and focusing less on controlling brand related social perceptions, brand managers can build stronger future "shields" for their brands. We also propose a shift in the way managers think and act regarding negative spillover effects. We found that in the case of product related negative events, consumers tend to rapidly lose their confidence in the brand. Therefore, managers must act quickly to restore costumers trust in the brand by cultivating a feeling of warmth and competence. Not less important is to show constant concern for the social responsibility in normal conditions, that would make probable for consumers to overlook a singular incident.

A second important managerial implication for this study is that brands are vulnerable not only to their own product's inherited risks but also to a "confirmatory bias" based on strong "labeling effects" due to a high degree of social influence on brand reputation. In these circumstances, the directionality of brand perceptions and their effects on brand reputation carries long-term implications for consumer behavior. Managers must be aware of the asymmetric spillover effects triggered by consumers' prior expectations in order to design efficient remedy strategies to cope with faulty or harmful products. In this context, a third essential managerial implication of this study is to create and manage brand promise more carefully. A superior brand promise adds differentiation, value, perceived usefulness and relevancy to the brand (Keller, 2008). Brand reputation is formed on consumers and public perceptions about the legitimacy of these constructs. Faulty or potentially harmful products

have the potential to alter brand reputation in the absence of a proper response from the company, thus destroying the legitimacy of the brands' promise.

At least three limitations of this study should be considered that can also provide venues for further research. Firstly, our study is centered around the influence of faulty or potentially harmful products on brand reputation. However, there is often a strong link between brand reputation and corporate reputation in the marketplace and, in some cases, corporate reputation even overlaps brand reputation. Thus, further research should focus more on the impact of product specific issues on corporate reputation and potential ramifications throughout the entire brand portfolio.

Secondly, our results show that a solid brand reputation tends to reduce consumers' feelings of irritation, suspicion or skepticism by diminishing cognitive dissonance, but they do not fully establish the role of brand tolerance in this context. Further studies should examine more carefully this issue both from a psychological and marketing point of view, while including leveraging effects of already existing positive brand associations. Because our study is limited to exploring the possible outcomes of a brand reputation negative bias on consumers' preferences and decisions, the effectiveness of various strategies for diminishing negative bias effects should be explored.

Thirdly, our results show that product related negative spillover effects on brand reputation are greatly influenced by consumers' prior expectations and by social influence, but we do not take into account cross-cultural differences. As a result, further studies should concentrate on an evaluation of brand reputation and product failure related effects in a cross-cultural setting.

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