AN INVESTIGATION INTO THE FRENCH PRODUCT'S HARM CRISIS IN PESHAWAR, KP-PAKISTAN AMID BLASPHEMOUS CARICATURES

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Abstract- Product harm crises are intrinsically associated with consumer attributes and these crises are deemed as a recession period for the producer. The recent Blasphemous Caricatures aired in the French newspaper and social media had substantially declined the sale of French Products as many Muslim countries including Pakistan had declared a super boycott for using the imported French Products. Therefore, this research has made an attempt to evaluate the consumer's buying trend for the French Products during crisis period. The primary data was gleaned from the sampled respondents of Two Tehsils representing the Urban and Rural Region of Peshawar District, Khyber Pakhtunkhwa Province, Pakistan. The Multiple Linear Regressions and Ordered Logit Model was used to analyze the primary data. Major findings demonstrate that the time span variables observed significant but negative which reveals that consumers' preference for purchase is initially more restrictive during initial 5 months of the crisis. Prompt response and media coverage strategies by the company are found statistically significant. Media coverage was figured out as a significant factor which implies that it can act as a catalyst to increase the product sale. The consumers of rural region were more reluctant to consume the French products during crisis as compared to the urban region. It is concluded that prompt response of the company via media coverage has provided a significant and positive effect to escalate the French Products sale (Lu Biscuits) during the crises period. The major recommendations include that companies may choose culture & religious specific response strategies to safeguard their business from financial and moral reputation loss.

Keywords: Product French Products, Product Harm Crises, Company's Prompt Response, Blasphemous & religious specific response Strategy

1. BACKDROP OF THE STUDY

Product harm crises are intrinsically associated with consumer attributes such as income level, taste, ethical believes, taboos and religious practices. In general, Product harm crises are the daunting situation when the consumers deemed the product of low quality, faulty and rotten as well as sometimes inferior, if manufactured by the opponents / foes / as argued by Siomkos, G.J. and G. Kurzbard (1994). It is evident from previous research endeavors that the escalating complexity of the products, Trade Related Intellectual Property Rights (Ivus O., 1968), strict product-safety legislation and high consumers' expectations are the significant factors for the frequent happening of product harm crisis (Smith, et. al., 1996). These crises usually results in severe recession in the product's sale therefore, need a prompt revamped strategy by the producer (Carley and Lin, 1995).

If the firms couldn't cope up with product crisis, it could turn into major disaster (Davies and Walters, 1998). The less satisfaction of the consumer leads to such crises hence plunged the goals of an organization at jeopardized (Weick, 1988). If the product harm crisis persist for long could certainly affect the firms, through posing serious threats to their reputation and brand equity (Cleeren et al., 2013; Borah and Tellis, 2016). This leads to decline in the overall sales, market shares and tag bad label to the firm's reputation. Eventually it affects the consumers' attitudes, beliefs and future interactions with the firm (Weinberger et al., 1991). The unwise decisions of the management can also affect the performance, credibility and brand trust of the concerned company (Palmer, 2008; Verschoor, 1997).

The consumers' response has a substantial nexus with the reputation of firm during the product crisis (Laufer and Coombs, 2006; harm Vassilikopoulouet al., 2009a). More importantly media in general and social media specifically plays a crucial role by cascading the consumer's opinion during the product harm crises. The unpleasant news about a product aired via media as well as social media usually attracts more consumers' attention (Ahluwalia et al., 2000). Media also diminishes the adverse effects of crisis to great extent when the firms make decision in socially responsible way. The positive media pressure and optimistic response of firm collectively reduce the influence of product harm crisis on consumers' perceived degree of danger and future purchase intentions (Vassilikopoulou et al., 2009b; Rohem et al., 2006).

During the span of product's crises, the firm has to take critical decisions to combat the adversities of the event (De Matos and Rossi, 2007). The firms' decisions are usually based on four responses such as Denial, Involuntary Recall, Voluntary Recall and Super Effort (Siomkos and Shrivastava, 1993; Vassilikopoulou et al., 2009b). A firm may opt for denial as a response to make the consumers understand that firm is not guilty and the product is safe. Whereas involuntary recall by the firm on the direction of law enforcement agency adds to the adverse effect on firm's reputation and the consumers perceive that the firm does not care about them. In contrast, the voluntary recall along with spread of information about the crisis to reduce threat shows that firms care about their consumers. Above all, comes super effort as the name claims, firm immediately recalls the product, compensates the consumers and makes the public aware of the crisis. The consumers consider voluntary recall and super effort more promising than denial and involuntary recall by the firms in the event of product harm crisis (Srivastava and Siomkos, 1989).

In Pakistan, during the year 2020 French products were boycotted by the overwhelming majority of the consumers in response to the printing of blasphemous sketch of the Holy Prophet Muhammad (PBUH) in the France. Sale volume and revenue of various French Products produced at Pakistan had confronted with substantial decline that had plunged the company's in significant loss. It was notable that not only the edible products but the customer were refraining from the French company's Petrol stations too. Though there were numerous French products which were adversely affected during this boycott period, however, few edible products such as LU Biscuits, TUC, Candi, Prince and Tiger were the worst affected. The consumer had shown their aggression by considering the use of French products as a sin. Though LU Biscuits company responded promptly and pronounced that their company is nothing to do with France rather it's the US based company and more than 60 % of the share is of Pakistani's Investor but all-in-vain. The LU Company also cascaded through advertisement that they are employing around 4500 labor force who are Pakistani people and they will lose their job if such sale declined continued.

Keeping in view the above situation, it was essential to investigate that how French company's had responded during the crisis and how they combatted with that catastrophic situation? Due to time and financial constraints this research endeavor was restricted to the one item / company i.e. LU biscuits company which was believed to be adversely affected in terms of their sale and revenue. This research endeavor has been designed to assess the product harm crises and consumer response to the selected LU biscuits which is one of the major popular edible products in Pakistan. This study has also focused to capture the actual scenario during and after the product harm crisis of the French edible items. During these crises the LU Company had incurred a huge cost for advertisements to recuperate its reputation in the market. The aforesaid scenario arose pressing questions of two folds that how such crises diminished the company market's share and effect the consumer's purchase trend. More importantly, there is a dearth of research endeavors particular in the realm of product harm crisis in Pakistan which has provided the rational to conduct this research study. This research study has two major objectives 1) to inquire the consumers' purchase intensions for LU Biscuits during boycott and 2) evaluate the company's response strategies to overcome the product crisis.

- 1.1.1 Hypotheses to be tested
 - H₁: Company's product Prompt response strategy can affect consumers' buying trend during product harm crisis.
 - H₂: Media Coverage through advertisements can satisfy the consumer that firm is not guilty and the product is legal to be sold.
- 2. SYNTHESIS OF THE PREVIOUS LITERATURE

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Siddiq et. al., 2020 had undertaken a research study to examine the contribution of employees in sale volume of the product i.e. L'Oreal. Primary data was gleaned from 120 respondents using an online questionnaire. The findings of the research show that the independent variable is indicators of job responsibilities and organizational culture has changed the behavioral motivation of company employees and this motivational behavioral change has a positive impact on sales of L'Oreal Pakistan. This study has encompassed those factors which can directly influence employee behavioral motivation and can perform better toward sales.

Vassilikopoulouet al., (2009) investigated about product harm crisis management and response of consumers regarding defective product. The major emphasis of this research endeavor was to investigate whether the response of consumers fluctuate with passage of time after product harm crisis. This study has divided time into 3 different segments, which include 3 days, 3 months and 1 year to investigate consumers' response at varying time periods. A total of 48 treatments groups were assigned randomly among 384 conveniently selected respondents (i.e. 8 respondents in one treatment) for the study. The results of ordinal regression (PLUM) analysis revealed time as an important factor, assessing the consumers' overall impression, perceived danger of the defect and purchase intentions after the crisis.

Siomkos and Kurzbard (1994) examined factors that influence the consumers' reactions during the product harm crisis. The response of the consumers was assessed for two firms with high and low reputation. To enhance the reliability of the findings, same study was run for two products that include Hair-Dryer and Apple Juice. Total of 384 respondents were selected from subject research pool maintained by a renowned university of USA. Major estimates demonstrated that average perceived danger of consumers for Hair-Dryer which was product of high reputed firm was reported less (3.0) as compared to the low reputation firm where it was found to be high (2.6). However, the response of the firm and other interactions were all found to be insignificant in influencing consumer's concern of danger. The future purchase intentions of consumers to purchase other products of the firm facing crisis were adversely affected. It was concluded that firm managers generally rely on three main resorts (firm reputation, external pressure and organizational response) to tackle the adverse impacts of crisis, however overrelying on them may lead to unfavorable results.

Samaraweera and Qing (2014) undertaken the research endeavor to mitigate power harm crisis

and uplift the market toward sustainability. The study has investigated about the national culture towards product harm crisis. The study was conducted in China and Sri Lanka. Similarly voluntary and super effort response approaches were used in the experiments to analyze product harm crisis. It was assumed that company's attitudes were negatively affected when crisis event is identified to be internal and controllable by the company, and positive when it is external uncontrollable. It was found that the application an inappropriate approach resulted in the financial and moral reputation loss for the business.

3. RESEARCH TEQNIQUES

This segment reflects the research steps involved to carry out this research endeavor i.e. study universe, sampling design, and empirical modeling.

3.1 Study Universe

The Universe of the study was Peshawar district. Two Tehsils of Peshawar i.e. Peshawar and Chamkani Tehsil were chosen as a study universe. The rational of the selection was to capture the Urban (Peshawar Tehsil) and Rural (Chamkani Tehsil) consumers' contribution to the boycott of the French Products.

3.2 Sampling Design & Sample Size

Three Stage Sampling was done to obtain the true representation of the population. In the first stage Peshawar was selected on the basis of convenience sampling approach followed by the purposive sampling in second stage of sampling to choose both urban and rural region of Peshawar by selecting two Tehsils of Peshawar District. In the third and final stage of the sampling the respondents were interviewed through random sampling through face to face interview method. The total of 90 respondents (45 each from both Tehsils) were selected as a sampled respondents. The inclusion criteria of the sample respondents was fixed and respondents were selected if they were the consumer of the LU Biscuits that was deemed as a French Product.

3.3 Data Type and Collection Procedure

This research study is primary data based research and data was gleaned from 90 respondents through face to face interview method to understand the consumers' behavior and major parameter which can contribute to the decline of the French Products (LU Biscuits) available at High-end stores and small retailers.

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 q_i = 5 if C₄

 $\leq q_i^* \leq C_5$

3.3 Analytical Underpinning

A five points Likert scale was used to quantify consumers' response towards buying of the LU Biscuits and response strategies of the producing company to combat with the daunting situation. Different conjoint card scenarios were presented to the sampled respondents and they were asked to evaluate each of them and record their response for each on the 5 points Likert scale.

Based on the research findings demonstrated by the Ping et. al., (2014), the major variables were used as independent explanatory variables in the analysis.

3.3.1 Linear Regression Model

Following Linear Regression Model was used to predict the consumer's buying trend for the product in the study area and investigate the factors involve in product crisis and company's response during crisis period.

$$Y_i = \alpha_0 + \sum_{j=1}^n \alpha_j X_{ij} + \varepsilon_i$$

However, the above shown ordinary least square (OLS) linear regression is based on conjoint analysis on 5 points Likert scale data which can suffer from various problems. Thus, Ordinal Logit Model was also estimated to double check the Linear Regression Model.

3.3.2 Ordered Logit Model

The ordered logit model estimate probabilities for outcome of different levels of an ordinal dependent variable (consumer's buying preference for a product in crisis) based on various explanatory variables. The specification of the model is given as;

$$q_i^* = \beta_0 + \sum_{j=1}^n \beta_j x_{ij} + \varepsilon_i$$

Where q_i^* is the latent continuous preference variable which is observed only in discrete form q_i through a censoring mechanism. In ordered logit, the latent variable q_i^* is estimated as a linear function of the independent variables (Xs) and with a set of cut points [C1, C2, C3, and C4 for this study]. The X variables are assumed to be independent of $\mathcal{E}i$; βs are the estimated coefficients for the independent variables.

$$q_i = 1 \quad if q_i^*$$

$$\leq C_1$$

$$q_i = 2 \quad if C_1$$

$$\leq q_i^* \leq C_2$$

$$= 3 \quad if C_2 \leq q_i^* \leq C_3$$

$$= 4 \quad if C_3 \leq q_i^* \leq C_4$$

 q_i

 q_i

The probability of observing outcome qi corresponds to the probability that the estimated linear function, plus random error, is within the range of the cut points estimated for the outcome q_i^* :

$$Pr(q_i = 1) = Pr(\beta_0 + \sum_{j=1}^n \beta_j x_{ij} + \varepsilon_i)$$

$$\leq C_1)$$

$$Pr(q_i = 2) = Pr(C_1)$$

$$\leq \beta_0 + \sum_{j=1}^n \beta_j x_{ij}$$

$$+ \varepsilon_i \leq C_2)$$

$$Pr(q_i = 5) = Pr(C_4)$$

$$\leq \beta_0 + \sum_{j=1}^n \beta_j x_{ij}$$

$$+ \varepsilon_i)$$

4. RESULTS AND DISCUSSION

4.1 Consumers' Buying Trend for French Products amid Product-Harm Crises

4.1.1 Crisis severity caused due consumption of Harm Product

The estimated coefficients for all the explanatory variables, except "the crisis severity level in terms of injuries caused due to consumption of harm product", are consistently significant and have corroborated the expected signs. The insignificant coefficient for crisis severity level demonstrates that consumers' preferences are neutral to crisis severity level; however, the combined effect of crisis severity and time span could be significant. This implies that injuries occurred owing to consumption of the

product is not considerable. The estimated t-statistics and z-statistics values depicts that injuries caused to the LU Biscuits has insignificant impact on the crises severity level. Despite the fact that the consumer has shown extreme denial for the consumption of the French Products, however the company's timely response could be the reason the injuries are reported insignificant. The previous research endeavor conducted by Siomkos and Kurzbard, (1994) is evident that Product Harm Crises have adversely contributed to the products' market share and the consumers' buying trend.

4.1.2 Duration of Product Crises

Duration which can also be termed as time pan can contribute positively or negatively to the product harm crises. Therefore, to assess the role of time in product-harm disaster management, the time span (1 if occurred one month ago, 0 otherwise) was taken as a dummy variable. The estimated coefficients for time span are observed as negative and statistically significant as evident by the tstatistics and z-statistics value illustrated in Table 4.1. This implies that an average consumers' preference for purchasing of the LU Biscuits is initially more restrictive during the inception of the boycott call for French products and for initial three months product sale declined significantly. However, the time span of product crisis last for more than one year. The negative sign with the coefficient of time span highlights the fact that as the time passes the effect of product crisis decreases. Similar findings had been reported by Vassilikopoulou et al. (2009) who had expressed that in case of perceived danger associated with the defect, mean value was high for the time period 3 days just after the crisis which gradually decreases with the passage of time i.e. 3 months followed by 1 year. Correspondingly, the mean value for future buying intention was observed high for the 1 year time period as compared to 3 months and 3 days. Major findings of their research also divulge that consumers' buying trend for a newly launched product from the same company after product harm crisis were 2.62 times elevated after 1 year as compared to 3 months.

4.1.3 Reputation of the Company

A company's reputation for taking care of its employees and natural resources is valued by

| Consumption determinants | Multiple Regression | Linear | Ordered | l Logit |
|--------------------------|------------------------|-----------------|-------------|-----------------|
| | Coefficients | t- statistic | Coefficient | z- statistic |
| Crisis Severity level | 0.01 | 0.18 | 0.04 | 0.82 |

consumers of its products. The firm's / company's reputation is usually associated with its product's reputation. Product's reputation is deemed as good if the consumers are willing to consume it after its harm crisis period. Likewise a favorable brand signifies that the consumer has a firm trust in that specific product and prefers to buy it during crises. Well reputed firms promptly address the queries of the consumer as it considers it product reputation as firm's asset. The estimated coefficients of this research studyfor the dummy variable (Company's Reputation) are positive and statistically significant, which confirm consistency with prior expectation. The coefficient value of 0.31 for the linear model reveals that consumer earned 0.30 utility (satisfaction) from consumption of LU products if the company cares for its employees, natural environment and charity. This implies the well reputed companies can intact the greater satisfaction of the consumer during crises of the product. Our findings are corroborated by Bilal et al. (2017) who had logically discussed that the company's reputation can also positively affect consumers' satisfaction from consumption of its product. The research carried out by Laufer and Coombs, (2006) divulged the related findings that corporate reputation and consumer-based cues may be included in the decisions taken regarding the choice of a corporate response.

4.1.4 Advertisement through Media during Harm

Crises

Media coverage plays a pivotal role in post crisis reputation of the company and thus indirectly affects consumers' buying decision. The coefficient for media coverage is positive and significant, which reflects that positive media coverage significantly increase consumers' purchase of the French product (LU Biscuits). Thus the LU company responded through the paper and social media that the buyer may distinguish between the French and Pakistani Products while boycotting French Products in Pakistan. The t-statistic and z-statistic value of media coverage illustrate that media role is highly significant to reduce the LU products crisis.

| Table | 4.1: | Factors | affecting | the | Consumers' | Buying | tı |
|--------|------|---------|-----------|-----|------------|--------|----|
| Crisis | | | | | | | |

| Crisis Duration | -0.23*** | -6.83 | -0.28*** | -6.54 |
|--------------------------------|----------|-------|----------|-------|
| Company's Reputation | 0.31*** | 8.88 | 0.37*** | 8.71 |
| Advertisement through media | 0.12*** | 3.39 | 0.15*** | 3.55 |

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| Constant | 2.13 | 48.91 | |
|----------|-----------|-------|--|
| | Prob> F | 0.000 | |
| | R-squared | 0.073 | |

Source: Primary data, 2021 (*** p< 0.01, ** p< 0.05, * p < 0.10)

4.2. Comparison of the Preference/ Utility by

Consumers of Two Tehsils of Peshawar:

Factors such as income level, taboos, religious and cultural believes and trend of the region can affect consumers' buying behavior for any commodity. These factors can also vary from region to region and even vary in urban and rural areas. That's why urban rural areas (Peshawar Tehsil &Chamkani Tehsil) of Peshawar was used as a dummy to show the effect of regions. The estimated results for both the model are given in Table 4.2. The coefficients for urban and rural region are observed as consistently negative and statistically significant. These results reveal that the rural consumers' consumption for the LU products decreased more during and post product-harm crisis as compared to urban Consumer of Peshawar district. The findings reveals that rural area consumers has shown substantial decline to consume the product during crisis as compared to Peshawar.

Table 4.2: Consumers' Consumption Trend for LU Products in Urban and Rural Region of Peshawar District

| Determinan | Linear Regression | | Ordinal Logit | |
|-------------|-------------------|----------|--|----------|
| ts of | U | t- | `````````````````````````````````````` | Z- |
| Purchasing | Coefficie | statisti | Coefficie | statisti |
| Preferences | nt | с | nt | с |
| Crisis | | | | |
| Severity | 0.006 | 0.180 | 0.035 | 0.800 |
| Time Span | -0.233 | -6.830 | -0.276 | -6.560 |
| Reputation | 0.307 | 8.880 | 0.372 | 8.720 |
| Media | | | | |
| Coverage | 0.117 | 3.390 | 0.152 | 3.560 |
| Chamkani | | | | |
| Tehsil | | - | | - |
| (Rural | | 2.070** | | 2.150** |
| Region) | -0.113 | * | -0.146 | * |
| Constant | 2.227 | 41.000 | | |

0.10)

5. CONCLUSION:

This research study concludes that the consumers' purchasing preference for the LU-Biscuits was initially affected with severe decline in

its sale volume. However, with the passage of time, consumers buying trend for the purchase of the LU Biscuits was increased in the urban region of Peshawar but contrary results are reported for the rural region. This findings could be soothing as well asastonishing for those companies who believe that crisis are permanent and non-reversible. Companies should make efforts to accelerate their recovery with effective management strategies.

Media coverage by the company and prompt response of the company has provided a significant and positive effect to encourage consumers to enhance their buying after and during crises of the product.

6. RECOMMENDATIONS:

- It is recommended that companies may choose culture & religious specific response strategies to safeguard their business from financial and moral reputation loss.
- The government may provide a conducive environment to the company's to defend their position through media and provide some financial protection during product harm crises.
- Moreover, the Government may also constitute the committee of the religious scholars who may have some marketing background who may provide the safety net to the companies and may also convince the native people to avoid any violence in the society.

REFERENCES

- Bilal, M., Sagheer, M., Hussain, S., & Mehmood, Y.
- (2017). MHD stagnation point flow of williamson fluid over a stretching cylinder with variable thermal conductivity and
- with variable thermal conductivity and homogeneous/heterogeneous

reaction. Communications in Theoretical Physics, 67(6), 688.

- Borah, A., &Tellis, G. J. (2016). Halo (spillover) effects in social media: do product recalls of one brand hurt or help rival brands?. Journal of Marketing Research, 53(2), 143-160.
- Carley, K. M., and Lin, Z. (1995). Organizational designs suited to high performance under stress. IEEE Transactions on Systems, Man, and Cybernetics, 25(2), 221-230.
- Davies, H., & Walters, M. (1998). Do all crises have to become disasters? Risk and risk mitigation. Property Management.
- Ivus O., (1968). Trade-related intellectual property rights: industry variation and technology diffusion. *The Canadian Journal of Economics*, 1(2), 475. https://doi.org/10.2307/133512
- Khandelwal, U., Kushagra, K., and Vikas, T. (2018). Measuring Consumer Reactions During Product-harm Crisis Among Indian Consumers. Academy of Marketing Studies Journal.
- Laufer, D., & Coombs, W. T. (2006). How should a company respond to a product harm crisis? The role of corporate reputation and consumer-based cues. Business Horizons, 49(5), 379-385.
- Lei, J., Dawar, N., & Lemmink, J. (2008). Negative spillover in brand portfolios: Exploring the antecedents of asymmetric effects. Journal of marketing, 72(3), 111-123.
- Liu, Y., Chen, Y., Ganesan, S., & Hess, R. (2012). 12 Product-harm crisis management and firm value. Handbook of marketing and finance, 293.
- Miller, W.H., 1987. Issue management: no longer a sideshow. Industry Week 235,125–129.
- Palmer, D. (2008). Extending the process model of collective corruption. Research in organizational behavior, 28, 107-135.
- Ping, Q., Mohummad, I, andChongguang, L. (2015). Product harm crisis, attribution of blame and decision making: An insight from the past. *Journal of Applied Environmental and Biological Sciences*, 5(5), 35-44.

- Roehm, M. L., &Tybout, A. M. (2006). When will a brand scandal spill over, and how should competitors respond?. Journal of Marketing Research, 43(3), 366-373.
- Samaraweera, G. C., Li, C., & Qing, P. (2014). Mitigating product harm crises and making markets sustainable: how does national culture matter?. *Sustainability*, 6(5), 2642-2657.
- Siddiq U, Z. U. Khan and S. Khan (2020). Impact of Employees' Behavior on Sales: A Case Study of L'oreal Pakistan. Pakistan Social Sciences Review (PSSR) March, 2020 Volume 4, Issue I.

Khan, Z. U., Siddiq, U., & Butt, J. M. (2020). An

- Analysis of the Employee Behavior on Sales in
- L'Oreal: A Case Study of Pakistan. Global Economic
- Review, (V-I) 25, 299-308
- Siomkos, G. J. (1999). On achieving exoneration after a product safety industrial crisis. Journal of Business & Industrial Marketing. 14(1), 17-29.
- Siomkos, G.J. and G. Kurzbard 1994. The hidden crisis in product harm crisis management. European Journal of Marketing, 1994. 28(2): p. 30–41.
- Smith, N.C., R.J. Thomas, and J.A. Quelch (1996). A

Strategic Approach to Managing Product Recalls. Harvard Business Review,

(September-October): p. 102-112.

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