

Czech University of Life Sciences Prague

Faculty of Economics and Management

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Diploma Thesis

Impact of A Product Recall

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DIPLOMA THESIS ASSIGNMENT

B.Sc. Mohamed Elsheikh, MBA

Business Administration

Thesis title

Impact of a product recall

Objectives of thesis

The objective of this study is to verify the impact of the recall on consumer loyalty, considering the brand image, recall severity and product involvement. The specific objectives are:

- 1) Verify that the recall impacts brand loyalty.
- 2) Determine if the recall's Impact is equal at all levels for all brand sizes and strengths
- 3) Identify if the severity of the recall impact affect other associated or relevant products.

Methodology

As a background to this research a review of current literature will be conducted, which will be expected to cover the fields of image repair, communication theory, consumer behaviour and consumer loyalty.

This review research is expected to result in three research questions:

- 1) Triggering factors leading to a product being recall
- 2) Number of complaints have been received about a defective product
- 3) Whether a recall will significantly the consumers behaviour and loyalty towards the brand

Each question will produce results that can be analyzed either quantitatively or qualitatively or both. It is expected that the data will be derived from direct questioning as well as social media data analysis.

The proposed extent of the thesis

Approx 60 – 70 pages

Keywords

Product recall, customer loyalty, brand

Recommended information sources

Brandão M. H. et al, THE INFLUENCE OF PRODUCT RECALL ON CONSUMER LOYALTY, Revista de

Administração da UNIMEP (UNIMEP Business Journal), v.14, n.1, Janeiro/Abril – 2016 (Vol 14 No1 Jan-April 2016), DOI: 10.15600/1679-5350/rau.v14n1p143-164

KOTLER, P. – KELLER, K L. *Marketing management*. Upper Saddle River: Pearson Prentice Hall, 2006. ISBN 0-13-145757-8.

SZWARC, P. – EBRARY, INC. *Researching customer satisfaction & loyalty : e-book : how to find out what people really think*. London: Kogan Page, 2005. ISBN 978-0-7494-4621-5.

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Declaration

I declare that I have worked on my diploma thesis titled "Impact Of A Product Recall" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on date of submission _____

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Impact of Product Recall

Abstract

Since September 2016 at least two rather noticeable recalls have taken place where industry giants have been involved. This forces brands to usually declare a product recall promptly and especially hazardous ones from the market. Failure to oblige, results in an aftermath that has an impact on the customer and brand image. In August 2016 reports began to indicate that an exclusive smart phone produced by Samsung, S7, may catch on fire, or in some events melts, while the device was on. In Nov. 2016 also washing machine models were reported to have caused damages due to severe vibration. In all cases, the companies have suffered from severe financial negative impact, their shares have dropped down and their image has suffered among consumers and prospective customers. In this research, we will verify the impact of the recall aftermath on the brand, mostly concentrating on the impact on consumer behavior and brand loyalty aspects. The communication behaviour of the brand and various stakeholders in crisis analysis is conducted by scraping the official social media websites of the companies and communication in Twitter on their own accounts and a sentiment analysis through a questionnaire of 151 respondents and data from Twitter where Samsung and the defected products were mentioned. The findings supported the negative impact on the brands recalled products and associated products. However, the brands image as a whole was found to not be severely negatively impacted.

Keywords: brand loyalty, product recall, Communication

Dopad ústupu produktu

Abstrakt

Od září 2016 došlo k nejméně dvěma poměrně nápadným stažením z trhu, kde byli zapojeni průmysloví giganti. To nutí značky, aby obvykle rychle a zvláště nebezpečně označily produkty z trhu. Nesplnění povinnosti vede k následkům, které mají dopad na profil zákazníka a značky. V srpnu 2016 zprávy začaly naznačovat, že exkluzivní chytrý telefon vyráběný společností Samsung, S7, může při zapnutém zařízení vzplanout nebo se v některých případech roztavit. V listopadu 2016 bylo hlášeno modelů praček, které způsobily škody způsobené silnými vibracemi. Ve všech případech společnosti trpěly vážným finančním negativním dopadem, jejich akcie klesly a jejich profil trpěl mezi spotřebiteli a potenciálními zákazníky. V tomto výzkumu si ověříme dopad následků stažení z trhu na značku, přičemž se většinou soustředíme na dopad na chování spotřebitelů a věrnost značce. Komunikační chování značky a různých zúčastněných stran v krizové analýze se provádí stíráním oficiálních webových stránek sociálních médií společností a komunikací na Twitteru na jejich vlastní účty a analýzou sentimentu pomocí dotazníku 151 respondentů a dat z Twitteru, kde Samsung a byly zmíněny poškozené výrobky. Zjištění podpořila negativní dopad na výrobky, které byly staženy z prodeje, a související produkty. Zjistilo se však, že image značek jako celek nebyla vážně negativně ovlivněna.

Klíčová slova: věrnost značce, Stažení produktu, Sdělení

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1 Introduction

The number of recalls has increased in recent years, research on crisis management strategies and their impact on customer behaviour and loyalty. However, a product recall is not the only option. During the early period of the product-harm crisis, the decision to continue business as usual will often be a valid decision until the company can obtain further information via risk analyses to replace initial relatively weak evidence.

Furthermore, a huge amount of money spent on a recall will not ensure that 100% of the critical product quantity with injury potential will be returned to the producer. The number of returned products and recall expenditures are two factors directly influencing product recall efficiency; with low efficiency, companies have more reason to continue as usual. However, there are still little explored issues on the subject and there is a low number of empirical investigations on how consumers process this type of information and what factors influence this process. A main trait of effective crisis communication is to give the consumers coherent and reliable information, which Most brands failed to achieve. Their press conferences, despite being quick, offered skeptical information to the consumers with the initial recall while assuring them that the cause of the recall was a technical issue. The conflicting information disseminated to the public fueled public outrage, as they were left with more questions than answers through the corporation's traditional crisis response.

On August 19, 2016, Samsung faced a significant threat to its corporate image after global reports emerged revealing complications with its latest smartphone product, the Samsung Galaxy Note 7. An image is "the perception of a person (or group, or organization) held by the audience by the words and actions of that person, as well as by the discourse and behavior of other relevant actors" (Benoit, 1997). Projected to be a revolutionary piece of technology in the cellular industry, the joy for both consumers and the institution was short-lived. Just two weeks following the release of the flagship device, 35 cases worldwide were reported of malfunctions within the Galaxy Note 7's lithium battery, causing the devices to explode unexpectedly and endanger the safety of consumers (Samsung, 2016). As Samsung was forced to issue a global recall, the turmoil of the Note 7 crisis brought attention to Samsung's business practices and called into question the quality of its products.

Usually, this forces manufacturers to resort to extreme measures and initiate the removal or recall of inappropriate and / or potentially dangerous products from the market. Failure to comply with this procedure entails devastating consequences for companies related to lawsuits, irreparable damage to the image of the company and advertising of the product as a whole, Reimbursements and sale prohibitions. In this study, we will explore the aftermath of theses on the consumers and how it impacted the behavior and attitude towards the recalled products, Associated products to the recalled products and the brand loyalty of the existent, potential and lost customers, in terms of loyalty.

An attempt has been made to fill a gap in the literature, since there are still less empirical investigation researches into how consumers deal with this this type of negative information and which aspects have an impact on this process. To conduct the research

hypotheses an experiment was conducted with 151 respondents from a various demographic groups located in the EMEA region (Europe, Middle east, Africa). The work is divided into the following sections: in addition to this introduction there is a review of the literature on the main themes - recall, loyalty and involvement; methodological procedures, with a description of the experiments, the operationalization of the variables and the statistical techniques used to check the hypothesis defined; analysis of the results: tests of the hypotheses and results obtained; and finally the concluding considerations, including the limitations of this research and opportunities for future studies.

2 Objectives and Methodology

2.1 Objectives

The objective of this study is to verify the impact of the recall on consumer loyalty, considering the brand image, recall severity and product involvement. The specific objectives are:

- Verify that the recall impacts brand loyalty.
- Determine if the recall's Impact is equal at all levels for all brand sizes and strengths
- Identify if the severity of the recall impact affect other associated or relevant products.

2.2 Methodology

After analyzing the relevant literature in image repair, communication theory, consumer behavior and consumer loyalty. there is a need for further exploration. The research questions guiding this analysis are:

1. What are the triggering factors to a product being recalled?
2. How many complaints have been received about a defective product?
3. Will this drastic change impact the consumers behavior and loyalty towards the brand?

To answer the research questions an integrated method of quantitative and qualitative method is applied. Each question carries results that can only be analyzed either quantitatively or qualitatively or both. Similar analysis methods has been proven useful in several crisis and recalls like Samsung's traditional media crisis response, a newspaper apology advertisement and three website press statements, and determined whether the recognized crisis communications strategies were effective.

An initial quantitative result analysis will be applied, in the form of sentiment analysis aided to quantify and provide a scale of Customers feelings for Samsung following their recall response on several social media platforms. The initial analysis aided in determining the company's reputational status, as well as providing insight into the impact of social media on the company's reputational capital during and after the corrective actions. A qualitative result analysis is more suitable to measure the openness and transparency of firms in its crisis response efforts. A qualitative content analysis was valuable to this Methodology as it provides perspective into the transparency of the firm's corrective action response efforts with their affected customers, and its impact on the organization's reputation recovery and perceiving.

In this methodology, social media platforms serve a crucial role in determining the risk accompanied with the product recall and in the feedback from the customers. therefore, to answer the research questions, a qualitative analysis in the form of a sentiment analysis will be conducted to analyze comments uploaded online that address the recall and analyze the psychological state and feelings of online users when discussing the product in the comments while and after the recall both during. A sentiment analysis is referred to as a means of establishing private states from text, such as emotion or sentiment (Coombs, 2015). The automated exploration of social media data is common practice within this type of analysis, conducted use a coding manual (Coombs, 2015).

This methodology will use a social media Scraper service or program, a platform comment section retriever, to collect comments on videos called ScrapeStorm. To reduce redundancy in the dataset that would inaccurately influence the analysis of public sentiment, only straight replies to the main twitter accounts will be analyzed and not the replies to those comments. Those relevant tweets addressing the recall focus on a specific timeframe and will be selected because they provide the most crucial moments of the recall and provided the essential data to determine the psychological and behavioral change of online thoughts towards a firm, ranging from good to bad.

In addition, to answer the research question #3 and examine the results deeply, an in-depth a Quantitative analysis was performed by designing a questionnaire to translate information needed into a set of precise question. In this research, information about the Attitude, Customer recall awareness, brand loyalty and brand image in the eyes of the public and perceived qualities are translated into simple questions to measure respondents view, attitude on the mentioned scales.

3 Literature Review

3.1 Defective Products and quality standards

There is a lack of proper attention of the legislator to the regulation of certain issues related to the quality of goods, which causes problems in law enforcement and, as a result, the presence of low-quality, and sometimes dangerous goods in circulation. Consider one of these situations. The current law provides for the obligation to withdraw the goods. The purpose of this study is to consider the reasons for the occurrence of this obligation, who is the obligated person, and other issues related to recall of goods.

If it is established that if the consumer complies with the established rules for use, storage or transportation, the goods cause or may cause harm to the life, health and property of the consumer, the environment (hereinafter referred to as dangerous goods), manufacturer (seller) must immediately suspend its production (sale) until the causes of harm have been eliminated, and if necessary, take measures to remove it from circulation and withdraw it from consumers. If the manufacturer fails to fulfill the obligation entrusted to him, the withdrawal of goods from circulation and recall from consumers are carried out according to the instructions of the relevant federal executive body that monitors the quality and safety of goods.

As for the goods to which the above rules apply, such is a product whose dangerous properties in connection with the use of materials, equipment, tools and other means necessary for the production of goods could not be established due to the level of scientific and technical knowledge at the time of the development of the documentation at production setting.

3.2 Image repair and course communication theory:

Most organizations and industry giants have the need of preserving an adequate and a favorable reputation and image as a vital form of survival as crises contribute in the vandalism of the profoundly established reputation of organizations. The Image restoration theory addresses this topic and provides strategies and the dynamics required to overcome these profitability altering events. For an organization to completely comprehend the risk and the strategies to deal with those risks, a strong analysis of the nature of those crises must be performed to develop familiarity with them. (Benoit, 1997).

Organizational reputation refers to the organization's reputation among stakeholders and its preservation during a crisis. According to (Coombs, 2007), the organization's credibility is undermined by three factors in the crisis situation. These are the original responsibility for the crisis (attribution), the context of the crisis, and the credibility of a prior relationship. Crisis liability includes the degree to which the focus agency can be considered responsible for the crisis and potential human (lethal) accidents, property

damages, product failures, etc. Crisis response strategies refer to the focal organization's strategies that can be applied during the crisis.

Crisis communication approaches with stakeholders, including staff, consumers, governments, mainstream media and social media audiences, are an important part of this aspect. Some forms provide, for example, financial compensation for customers with financial losses, accidents, etc. Compensation for product or service failure shows the Focal Organization's positive intentions, although apologies to shareholders demonstrate that the Organization is responsible for its actions and failures.

Emotions refer to the emotions of stakeholders raised by the crisis and behavioral intentions refer directly or indirectly to the behavior of stakeholders towards the focal organization.

An organization can be involved in a crisis in at least three main ways: it can be a survivor (Coombs, 2007); be involved in various unintended incidents (accidental cluster); and be involved in events that the organization could have avoided (preventable cluster). An earthquake or terrorist attack that damages the infrastructure of the organization is a typical instance of the first cluster. Accidents involving technical error are common examples of accidental incidents.. An organization has knowingly put people at risk in the last cluster, taken inappropriate actions or violated law / regulation.

During a certain period of time, a crisis occurs. In accordance with Meng (1992), Dougall (2008) lists five phases of crisis: early; emerging; current; crisis; dormant. Of increasing intensity, phases pursue each other in time until the crisis falls into a dormant phase. At the same time, the focus organizations are less able to control problems. Social media provides a fertile ground for problem-spreading. The system can be called a process of contagion of problems (Coombs, 2002). Therefore, with high media attention simultaneously, social media can quickly turn a problem from an early to a crisis stage. From an organizational viewpoint, coping methods could be used to avoid further spread of a problem before a problem enters a crisis stage (Dougall, 2008). It can also be called this operation to avoid the crisis. An example could be to avoid the selling of a product or service. Before an issue transforms into a crisis, the solutions applied will prevent it from entering the full stage of the crisis and thus reduce reputational and financial losses. Alternatively, neglecting para-crisis may result in enormous financial losses and require long-term recovery.

A Threat is composed of two main compasses, the responsibility for the act that triggered the threat and the impact of the act and the threat on the organizations image. The theory suggests five steps to waive the aftermath: denial, evasion of responsibility, reduce offensiveness, Corrective action and mortification.

3.2.1 Corporation Response

A major factor that substantially influences a company's success in dealing with a product-harm crisis is the type of company response (Siomkos 2008). After a crisis happens, the organization has to take some sort of action in order to handle it. Responses can vary along a continuum from least-to-most favourable for the consumer. There are many different potential responses that can be chosen. (Siomkos & Kabak, 1994) identified four company strategies that can be used in response to a product-harm crisis. They are:

Denial: A company may simply deny their responsibility for a defective product.

Involuntary recall: Companies can recall the product only after a government agency orders it to do so.

Voluntary recall: Companies may choose to recall the defective product prior to governmental intervention.

Super effort: Companies respond by showing great concern for customers' welfare by being honest in its communications related to the crisis. Normally they aggressively control the technical damage, immediately recall the defective product, and as a result possibly recapture their loss rapidly (including sales and credibility losses) (Kabak and Siomkos, 1990).

3.2.2 Reputation Repair Strategies

Empirical Researches on Crisis Communication and marketing has provided insight on the adequate strategies and techniques that can aid in the repairing of an organizations damaged reputation which was produced by a crisis or a product harm event.

(Benoit, 1997) has performed intensified interpretations the most and identified the ideal reputation repair strategies through analysing and studying historical strategies implemented in across various different research cases that addressed the aspects and considerations for reputation repair. A hybrid of empirical researches has concluded a list of ideal strategies (Coombs, 2007). However, implementation of any of the strategies solely is not sufficient for the cause. In order to achieve the maximum effectiveness of this concept, it is advised by scholars to use a hybrid model. Each strategy should be selected in correspondence to the type of event, size of affected individuals and the aim of the practice. Some of our modern day strategies are denial, Scapegoat, Excuse, Justification, and apology (Seeger & Sellnow, 2006). "Denial" usually involves around the responsible organization confirming the absence of a crisis while "Excuse" involves deferring from the intent of inducing harm or insisting on external and out of control factors are the cause of the crisis. On the other hand, "Justification" aims at reducing the negative impact on the reputation of the brand/organization by rationalizing the crisis and providing explanations while "Apology" is where the affected organizations confirm that they are held accountable for the crisis and ask for forgiveness from the public.

Despite the reputation repair strategies are to be implemented in the case of a crisis or in the aftermath of the crisis or both, it is implied that this is not required in all the events of a crises to preserve or repair the reputation. Consistent information and communication with all relevant authorities and personnels can help protect the image. However, When a strong reputation repair effort is to be implement, that effort will carry over into the post-crisis phase.

3.2.3 Post-Crisis

In this section we will be addressing the aftermath of a crisis. The brand returns to conducting its daily business activities as opposed to prior to the crisis. The crisis is no longer the main concern of the brands managements attention but still requires some addressing.

As noted earlier, reputation repair strategies may also be implemented or started in this point of time. There is essential follow-up communication that is required. First, organizations often promise to provide additional information during the crisis phase. Subsequently, the organizations must stay consistent with those informative promises or risk losing the trust of publics wanting the information. Secondly, the organization needs to release continuous information about the recovery process, corrective measures, and investigations held regarding the events that led to the crisis.

The amount of follow-up communication and press conferences held required depends on the amount of information promised prior to (if any) and post the crisis and the duration it takes to complete the recovery process. If you promised a reporter a damage estimate, for example, be sure to deliver that estimate when it is ready.

3.3 Consumer Involvement

Consumer behavior, attitude and loyalty is also scoped by different aspects of involvement, which is “a person's perceived relevance of an object based on inherent needs, values, and interest”. In that case, in a situation in which there is association or usage with the product, the consumer gives extra attention and gives more relevance weight to the purchase and especially the method, than when the situation is with little to no association. Alternatively, low levels of association indicate that reduced concern with the purchase of the product, a situation in which consumers may not even have a specific brand in mind (ROTHSCHILD, 1979). Consumer involvement in decision-making may be affected by factors that are personal (related the interest of the individual), hardware or

specific (that have to do with the characteristics of the product), and occasional (related to buying purposes). In this case, involvement increases as increased risk is understood in the purchase or use of a product or service (ROSSI, 1998).

Although involvement of a consumer with the brand is a stigma of the individual and may differ from a person to a group or across each. Some traits may vary in terms of situations where there is less or severe association. According to Popadiuk (1993), in a situation in which there is severe association there is a search for information from various demographic groups, the buyers - decision and behavior procedure is not clear, there are various dynamics that play a role in the consumers buying and decision making process, there is greater tendency towards brand loyalty and the product or brand messages are more adequate. On the other hand, in a case of little involvement there is barely a study for general information about the attitude towards the products, Associated products, Other products provided by the brand or brand loyalty, third parties have little impact on the consumer attitude and behavior and communication messages are often in order to become more appealing to the public, existential consumers and prospective consumers. In a study into the effect of recall on consumer attitude (Matos, 2003), showed how the impact of recall and the level of consumer involvement with the product may impact the company's image. He found that the negative effect is greater when there is intense involvement, since this shows that this is a product of greater interest and more value to the consumer. Santos (2008) conducted research in automobile recall and measured the severeness of the impact index of the defect as indicated by the consumer. He emphasized that the level of risk is perceived as being more crucial when it involves harm, fatalities or property damage to users.

In order to protect the rights of suppliers, the Law established a ban on imposing on the counterparty conditions that violate antitrust rules, including the return to the supplier of food products not sold after a certain period, unless the return of such goods is allowed or provided for by the legislation on cost recovery, is not related to the execution of the contract and the subsequent sale of a specific consignment of goods, on compensation by the supplier of losses in connection with the loss or damage of goods after the transfer of rights Your own the goods, except if the loss or damage occurred through the fault of the supplier, the supplier of making payment for the right to supply the merchant-networkers in the functioning or opened retail facilities and others. Keep in mind that the negative impact of recall on attitude to buy and continuity of using the product on loyalty is not as large as when it is a industry giant with a good reputation and that this effect may also be affected by the level of association with the product. The considered rules on a supply contract, characterized by special entities and an object, conditions, order of conclusion and execution, allow us to conclude that the Trade Law provides for a new type of supply contract - a contract for the delivery of food products to retail chains.

3.4 Product Recall

Recall, which is also known as product call or risk warning, is a communication procedure with the customer that companies are recommended to adopt when they find some defect in their products/services. Those products that are capable of inflicting harm or a hazard on users and customers are withdrawn from the market so they can be fixed or reimburse the concerned person. Product flaws is one of the main reasons of recall. Categories that these flaws as manufacturing flaws, defects in the assembly and misleading or inappropriate manuals and hazardous features, or packaging. The history of recall demonstrates major recalls as a result of product design defects, manufacturing flaws, and mislabelling. The results and analysis of this research are correspondant to past studies on recalls that find a lot of product recalls take place because of design or design defects. Some researchers identify that design-related recalls are increasing more rapidly as opposed to ones from production (Dowlatshahi, 2000).

The design of the product is the initial step to production or prior to any factory and manufacturing related activities and starts in the R&D (research and development) departments which is spent heavily on and subsequently, the manufacturing phase. Recalls related to design defects are related to product design, materials selection etc. The gas tank in the 1960's of the brand Ford automobile is an example of a design defect with the vehicle, where engineers who initiated the design plan for the gas tank was to be behind the rear roads that hold tire rather than in the front (Schwartz, 1991). The placing of the gas tank location accompanied with other traits of the automobile created a flaw in the operation of the vehicle and the car had to be recalled.

The method of a products recall has been found to be directly proportional to consumers behaviour (Jolly & Mowen, 1985). Therefore, companies need to be aware of the aftermath and the method the announcement was held may inflict further damage to an already bad reputation. An organization does a recall and embraces a socially dependable disposition it is conceivable to decrease the negative impacts caused in the impression of buyers. Rossi (2007) additionally discovered comparable outcomes in their examination into the recall of vehicles: by receiving correspondence that uncovers a socially capable frame of mind it is conceivable to lessen the negative impacts of the recall and secure the picture of the organization.

In order to voluntarily make a decision on recall, the manufacturer must carry out the appropriate work, for example, additional tests (checks) of its products, summarize the claims of consumer consumers and retailers. However, unconditionally rely on the fact that, having received from third parties information about the inadequate quality of the goods, the manufacturer will decide on a recall, is hardly worth it. In this case, the recall of the goods is possible only by decision of the authorized bodies, which should be informed that the goods manufactured by a particular manufacturer are defective.

It is recommended that deliberate recalling does not adversely influence the organization's picture and may even enhance it (Siomkos, 1994). The last called attention to that the negative effect of recall on buy goals is less when managing a notable organization with a decent Image. In this equivalent point of view, in an investigation including distinctive brands of car in a recall event, found that makers who decline to review the item make a negative impression of both it and the organization's picture (Piracha, 1991).

It was demonstrated that when an organization deliberately reviews an item and shows it is making a "super-effort" to do as such, it can decrease the potential harm to its reputation. The creators show that better known organizations with a decent notoriety endure less with review, however just in the event that they receive a socially capable and willful disposition Magno (2010).

3.3.1 Types of recall

A number of studies have examined recall effectiveness. Most have examined recall return rates for a particular Federal regulatory agency. In this section, we will examine a couple of such studies, spanning more than two decades, and conclude whether that they deservedly demonstrate concern over recall effectiveness or not.

Data on product recall information is quiet distributed among various product categories, segments and types. The following estimates were retrieved from European union study conducted on product recalls by the Food standrads Agency (EFSA, 2007): cosmetics fall under 22.5% whereas 78.8% are for vehicles and other types of automobiles. The most sectors where consumers suffered from a recall of a product they were using themselves are motor vehicles, household electrical appliances and electronic products, which Together make up 80% of all personally relevant recalls. These product categories are also more likely to be registered by consumers (registration is mandatory for motor vehicles) than products such as toys or cosmetics, which could, at least partly, explain the results. By the Declaration of the Chief State Sanitary Doctor of the Russian Federation of September 3, 2007 the use of a certain food additive is prohibited. This decision was made on the basis of a decision of the European Commission on urgent measures to prohibit the use of a food additive in the food industry - dye Red 2G (Red 2G) (EFSA, 2007), which prohibits the use of food additives having the index E 128. The basis for consideration by the European Commission of the prohibition of the use of food colorant was the result of studies conducted by the European Food Standards Agency (EFSA), presented in the report of the Scientific Council on food additives, flavors, processing aids and materials, in contact with food (EFSA, 2007).

As indicated in the figure 1 below, recalls related to products designed for kids show the largest variation between conclusive awareness to recall information (60.5%) and awareness to recalls of products that customers have obtained or bought themselves (4.4%). This is related to the fact that very less consumers (mainly the parents of young children) buy products for kids, while hazardous issues related to the recalled products tend to obtain significant impact on the brands image and loyalty which results in increased awareness for the product, associated products, other product segments and brands loyalty.

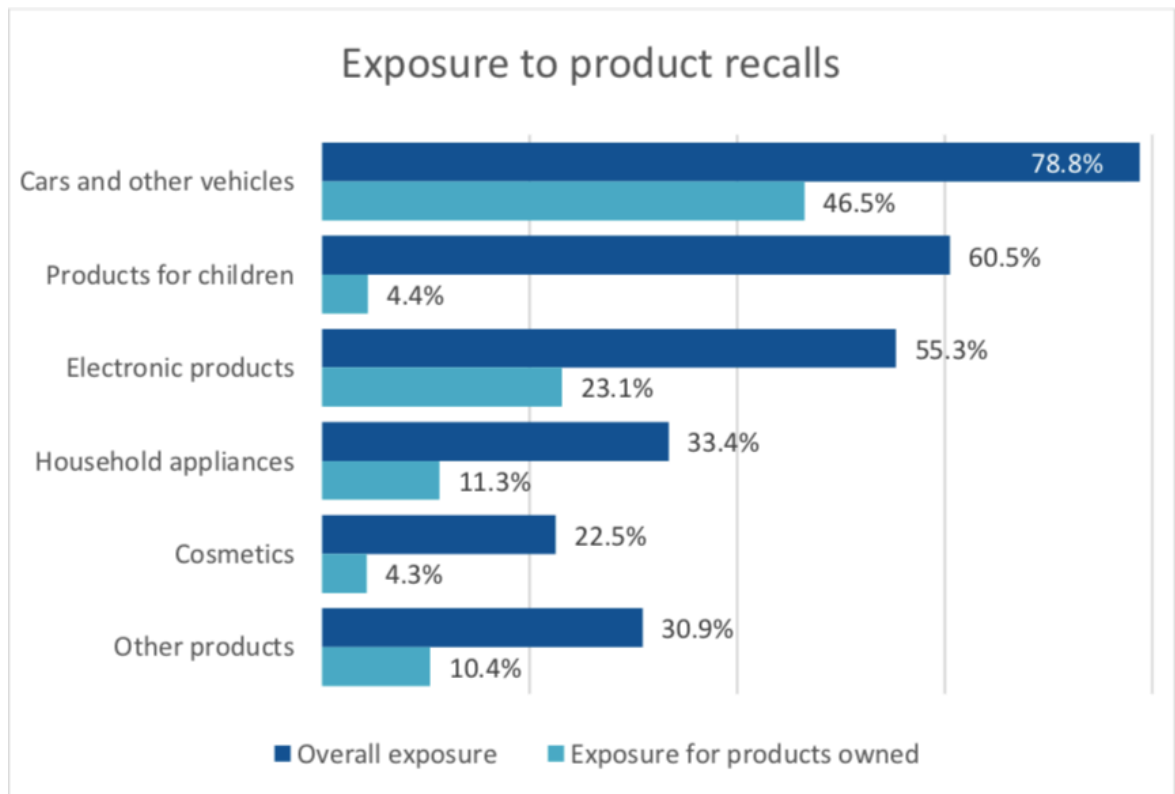


Figure 1 Exposure of product recall (Source: CHAFEA)

To conclude the figure 1, 18.6% of recalls due to personal purposes are associated with the ones that was obtained online, while the rest were related to physical purchase (80.1%). This can be interpreted partially, to the fact that up to 46.5% of recalls due to personal purposes were in the vehicle and other automobiles industry, as indicated in the figure above. Moreover, the figure 2 below, shows a high quantity cases in the mentioned industried are related offline purchases (95.7%). Recalls of products purchased online are most common in the Electronic products and Electronic accessories sectors (39.4% and 44.6%, respectively).

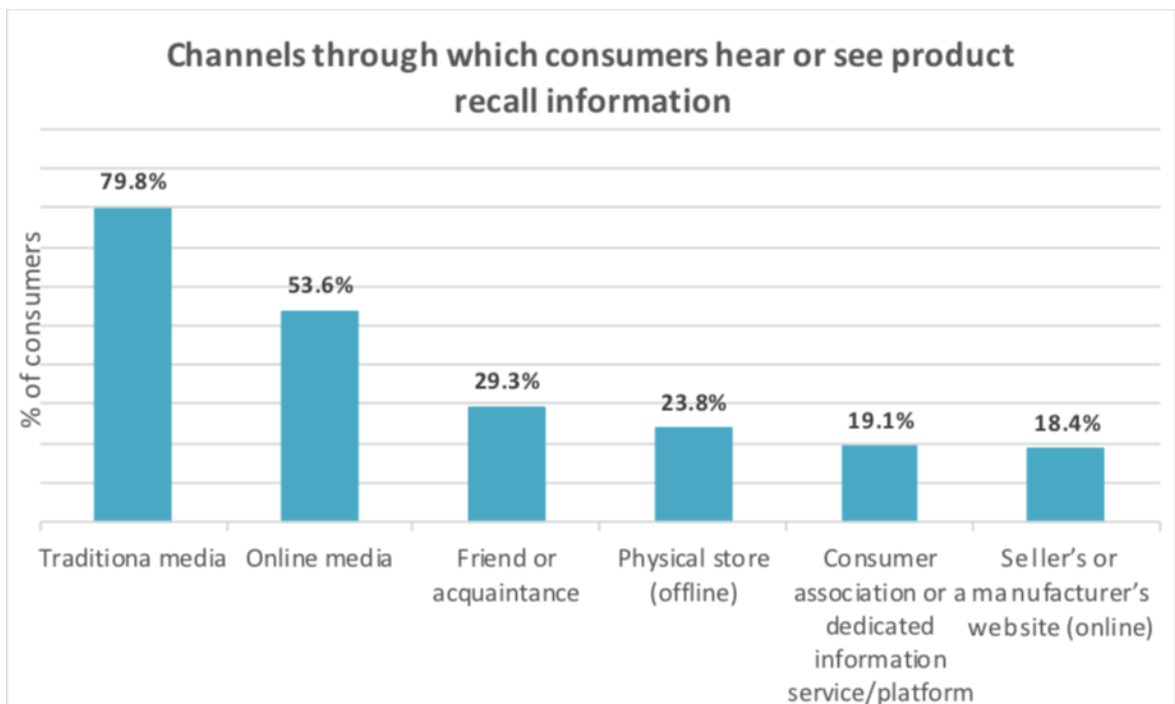


Figure 2 Communication Channels (Source: CHAFEA)

The recall of goods is carried out by the manufacturer by decision of an authorized body. Regarding the basis for the decision to withdraw the goods, the Law contains the general wording: “if established”. However, it does not specify how it is determined that the product is dangerous: on the basis of a generalization of the claims of consumer citizens, for example, by the manufacturer, state control bodies, the consumer protection society, or in the course of further scientific research.

Consumables:

General Mills, an industry giant in flour industry for more than 150 years willfully recalled flour with a declaration on May 31, 2016 and stepped up with regards to instruct customers on appropriate conventions to deal with flour (Fox, 2016). Security review on 10 million pounds of polluted General Mills flour that included brand lines Wondra, Gold medal, Betty Crocker cake mixes, and Mark Kitchens were followed back to the 46 instances of people creating Escherichia coli with generation dates going from November 4, 2015 to February 10, 2016 (Goldschmidt, 2016). 63 individuals were influenced with 17 individuals hospitalized therefore inciting the recall with General Mills instructing customers to avoid potential risk of not expending crude flour or hitter, not enabling infants to play with raw flour, heat all things, retailers and food joints to avoid crude flour or mixture (CDC, 2016). Fox News announced that the General Mills flour recall as affirmed by CDC was connected to the defilement of Shiga poison creating Escherichia coli subsequently making people be hospitalized and cautioned that the flour was not to be

devoured as individuals were hospitalized and a revealed instance of kidney disappointment (Fox, 2016). The General Mills flour recall was followed to the wheat developed outside and sourced to be processed in the Kansas City, Missouri plant; the likelihood of microorganisms in the wheat calls for bubbling, broiling, or preparing the flour to eliminate the microscopic organisms; after the recall, General Mills taught purchasers to pursue convention of washing utensils, surfaces, hands after contact with flour or crude mixture items and cease from consuming unprepared flour (Weise, 2016).

Beef Safety Recall:

The recall of 25 million pounds of Hudson Nourishments meat in 1997 was followed back to Nebraska and started the fixing of safety rules in the factory; the contaminated meat winding up at Burger King added to the end of Hudson contract with Burger King and closeout of Hudson Nourishments because of money related condition (Berman, 2016). Clintons administration was a political organization that exerted an initiative to take matter into one hand with a financial plan of \$43.2 million to enhance sustenance security in the 1998 spending plan (CNN, 1997,). Comparable events happened in 2002; the ConAgra hamburger influenced 19 individuals with others announcing 45 individuals in 23 states detailing disease that devoured ground meat with; the occurrences happened in South Dakota, Washington, Wyoming, California, Colorado, and Michigan (Becker, 2002). The review influenced retailers and the E. coli flare-up was followed to the ConAgra's meat plant in Greeley, Colorado; the Greeley plant confirmed cases of E. coli with 354, 200 pounds of meat recall on June 30, 1997 (Becker, 2002). Comparable episodes of ground hamburger sully with E. coli microorganisms strain O 157:H7 happened in 2007 and was followed to Topps Meat that was good to go for a long time (CNN, 2007).

The Topps Meat recall influenced 30 individuals who bought the meat patties and the episode spread to more than 8 states with a recall of 11.7 million pounds of meat (Roos, 2002). Different recalls in consideration, Westland/Trademark Hamburger reviewing of 143 million pounds of meat as told by the USDA in 2008; Compassionate Society gave covert video on the handling plants that affirmed the preparing of meat without evacuating debilitated bovines (Berman, 2016). The recall followed to the Macbre California slaughterhouse for the madcow sickness and pitching to schools; the enormous recall added to 2 years rejecting of prepared meat and \$500 million settlement.

Dell Inc. Recall:

4.1 million Lithium containing batteries were recalled by dell in 2006, specialists informed the officials that the issue was not connected to the innovation but rather originated from batteries that overheated and infrequently burst into flames. The absence of a system to vent off the heat and cut itself off when the lithium batteries achieved the high temperatures was the primary supporter of the flames. Apple and Hewlett-Packard reported similar issues. The occurrences of the lithium particle batteries bursting into flames included events while inflight and UPS planes transporting the batteries. Japan's Sony Corp provided the defected lithium batteries to Dell who sold them in their notebooks in the timeline of 3 months only. The reported cases included 23 million hits on the site, more than 100,000 telephone calls, and 77,000 requests; the review included 284,000 batteries in 2001 (Shin, 2006). Experts from UBS investigator assessed the expense to address the Dell battery recall to be around \$400 million and generation costs to over \$200 million. Dell shares Had a critical fall down to \$20.97 amid the recall (NYT, 2006).

3.3.2 Samsung Phone and Washing Machine Recall:

Samsung is a technology industry giant with \$200 billion of market value share, sales of \$179, and market share of 23% in the 2016 according to IDC. Samsung grossed an approximate of 5 trillion dollars only in 2016 generated from mainly the galaxy series sales. CNN Money revealed that Samsung anticipated hard misfortune after premium keen gadget Galaxy Note 7 retails for \$850 in the United States added to wellbeing concerns (Riley & Kwon, 2016).

As the timeline can be seen in the table 1 below, the incidents of Galaxy Note 7 suddenly bursting into flames resulted in the ACA controllers prohibiting the gadget from every single United State carriers (Wright, 2016). An occurrence that conveyed a sense of danger to the community was the clearing of Southwest Airlines trip in the Louisville United States when all of a sudden a Galaxy Note device started to emit smoke; this prompted a few carriers to deny passengers boarding to their flights (Smith and Heinz, 2016). The recall reasons were design defects and production deformity (Dolcourt, 2017); CNN Money announced the recall of Samsung telephones that added up to 2.5 million for the Galaxy Note 7 devices were due to them bursting into flames and detonating (Riley and Kwon, 2016).

Date	Issues
2 Aug 2016	The launch of Samsung Galaxy Note7 at a media event in New York
19 Aug	The release of the Samsung Galaxy Note7 in 10 markets including U.S. and South Korea.
31 Aug	Shipment delayed by Samsung with quality control problems.
1 Sep	Media reports reported Samsung was going to launch the recall, and the starting of sales in China.
9 Sep	Consumer Product Safety Commission of U.S suggested to customers stop using Note7
15 Sep	Consumer Product Safety Commission of U.S. officially publish the info about 1 million Note7 recall.
19 Sep	In Chinese market, Samsung announced that the cause of the fire was external heating.
29 Sep	Samsung announced that over 1 million users worldwide were using Note7 with safe battery.
1 Oct	The resuming of sales on new Note7s in South Korea.
6 Oct	An U.S aeroplane was evacuated because of smoke from Note7 on board.
10 Oct	Samsung adjusted the shipment of Note7 for inspection.
11 Oct	Samsung permanently ended production and sales of Note7 after it failed to fix the problems on defective devices.
14 Oct	The department of transportation and Federal Aviation Administration of U.S. officially banned Note7 from all U.S. flights.
18 Oct	Samsung launched a roll out airport exchange program to allow Galaxy Note7 owners to swap their phones before a flight.
27 Oct	Samsung's investigation states that it is essentially a quality control problem.
29 Oct	Samsung held a media conference in China and let the personnel kneel down to show the gratitude.
4 Nov	Nearly 85% of the Note7 phone had been retrieved

Table 1 Samsungs Recall Timeline (Source: Reuters)

The effect on Samsung's market share resulted in a declining direction after the Note 7 was delivered out to the market. Measures taken to solve the issue took place and included a change of ventures and software updates. Hence, going through a 30% decline in revenue due to the recall. The operating profit of 100 billion was the lowest Samsung had seen since the 2008 fourth quarter (Lee, 2016; Olson, 2016). In addition, there was a reported loss of 5.3 billion for the recall (Jin-man, 2016); while the Nomura specialists estimated a loss of profit for \$5 billion and 9 billion in sales (Associated Press, 2006).

Following up with the crisis, the company announced an instant recall and reimbursement of the defected devices; the reimbursed device still had battery issues. Hence, an exchange program was initiated and a cancellation of any manufacturing for the galaxy note 7 phones. However, United kingdom was planning to relaunch the Note 7 at a discounted price of 200 pounds But this decision was waived (Dean, 2016). Sales of the Galaxy Note 7 devices in both the united states and china were prohibited by officials and control authorities. CNN money reported that Samsung owned the problem and was apologetic for those affected with public message to consumers to cease usage of the phones; this action cost a 8% market drop in shares in the exchange market in Seoul and contributed to \$17 billion loss in market share value (Riley & Kwon, 2016).

The United States Consumer Protection Safety Commission (CPSC) issued recall in September and October Galaxy Note 7 on the 1.9 million phones catching fire (Wollerton, 2016). This affected Samsung's customers loyalty but Samsung took initiative to resolve this by claiming all responsibility and working with relevant authorities (Cheng & Dean, 2016). Samsung countered the aftermath and the impact by releasing the S8 the following year with exclusive and radical features that included voice assistance and recognition, Boosted camera and larger screen display (CBS News, 2017).

While the Galaxy Note S7 recall predicament was still in effect, Samsung faced a second blow shortly after and collaborated with officials to recall 3 million washing machines (Hogan & Petite, 2016) Those washing machines were exerting excessive vibrations while in operation and would often to surrounding property collateral damage. This recall was portrayed as a big blow and to Samsungs Reputation and image implying incompetency and discarding to human safety. More than 700 complaints of detaching and experiencing extreme vibration were received by the CPSC about the products. Thus a recall was issued consisting of 34 models (Hogan, 2016).

Samsung's management performed strategic decisions and measures by reaching out to the affected customers with emphasis to be reporting to them, intense calling center improvements that led to a decrease to a call waiting time of 20 seconds and reimbursement in the form of exchange or maintenance in the span of 7 days (Rossen & Foster, 2017). Samsung offered and administered free repairs to all customers yet Samsung was sued for claims of neglected and denied repairs (Maas, 2017). The CPSC on the recalled products included 1.9 million Galaxy Note 7 and 2.8 million top-load washers for a total of 4.7 million recalled products in seven weeks a period from September 15 to November 04 (see Appendix G) with a downward trend in stock (see Appendix H) (Wollerton, 2016). Samsung today is seeing an increase in their stock market.

On Sept. 2, 2016, the company admitted the issue. Samsung first explained that this problem was caused by the defective batteries. The first solution was to replace the batteries which contributed to a 2.6 million smartphone recall Note7. The notice of formal recall in the US was released on Sept. 15, 2016. The same problem persisted after the recall and replacement of the battery. On Oct. 11, 2016, the company decided to stop producing and selling Note7. A software update made the phone non-operational on Dec.

19, 2016 (Wiggers, 2016). The stock market swings have been exacerbated by the recall emergency. In October 2016, Samsung's stocks lost \$18 billion in value. The public is beginning to pay attention to how Samsung is solving the problems of quality control and crisis responses. The key phases of the Samsung Galaxy crisis are listed in Table 1 below.

Another concern emerged during autumn 2016, this time with the Samsung washing machines. The company announced a recall of 2,8 million computers on November 4, 2016, that vibrated violently and partially disintegrated. There were 34 types of washing machines affected (Stieg, 2016). On November 7, 2016, Samsung released apologies to major U.S. newspapers (the Washington Post, the New York Times, and the Wall Street Journal) for the troubled Note7 and the defective washing machines (Herald, 2016). The apology was signed by Samsung Electronics North America's president and CEO, Gregory Lee. Samsung promises in the text to find out what went wrong with Note7 and the washing machines and to report the results. The findings were released in January 2017 for Note 7. The design and fitting of the batteries was obviously the source of the problem whereas otherwise the phone design was intact (Pierre, 2017).

3.3.3 Recall process

Product recalls are a recollective process or activity that withdraws products from consumers, shops, distribution centers and retailers or from selling locations. A product recall aims to recollect the product from the market as a whole at as much quantities as possible.

The products are either hazardous or defective or do not fall according to the standardized quality standards and specifications for health and safety and fail to comply with them leading to harm and damage, or do not comply with government compliances. The recall procedure ideally involves a public declaration while clearly citing the cause for the recall and a remedy in the form of reimbursement or refunds is offered to the consumer (Hora et al., 2011). Causes for recalls include issues such as non compliance to quality, not falling under the spectrum of a specific standard or specification, or absence of reliability (Beamish & Bapuji, 2008). Voluntary hazard related recalls are to be mainly executed by the brand. If product related hazards and harm are endured by consumers, customers inform the retailer or online provider, or the company.

When many customers endure the same issue, the brand (or sometimes a government authority usually the consumer protective organizations) investigates the issue, demands a recall and informs affected consumers, stakeholders and the public. If brands do not recall or do not respond to consumer complaints, then the government authority may investigate further and impose penalties and prohibitions on the brand. If government experts find a hazard or health and safety related standard not complied with, they contact the brand, who starts the recalls procedure. In some occasions, if product specifications do not match with government safety regulations, government emphasize on brands to recall the product from

the market. Government initiated recalls as the aftermath of several cases of investigation stages, however at any point in the investigation process the brand can and ideally should initiate a recall (Rupp, 2004). On the other hand, some companies are not satisfied with the decision of the government officials and experts to perform a recall and take the case to court. Once recalls are publicized, brands communicate the decision and the process to customers and announce the recall through various social media platforms so that the product can be withdrawn in and the issue to be investigated and fixed. After several investigation of several past recall cases, the ideal recall process is demonstrated in figure 3.

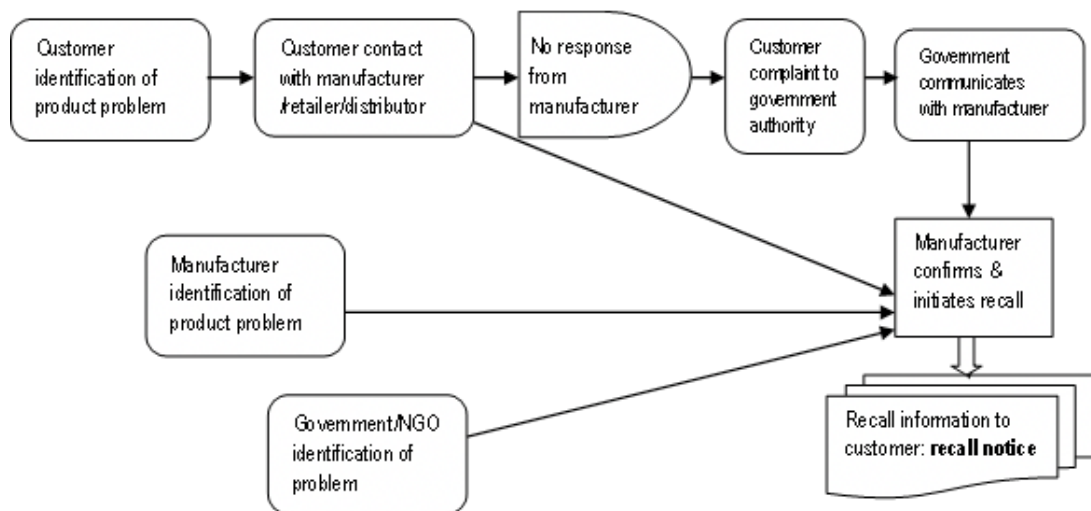


Figure 3 A Generic Recall Process (Source: Kamrul, 2014)

3.3.4 The impact of product recall

The effect of a recall's negative impact on brand image and daily processes varies by recall severity, brand level or size, and corrective actions for the recall. Product recalls due to hazard and defects, show quality failures that can be costly for brands. Affected or un affected customers are impacted negatively by recalls unless the recalling brand takes prompt action or preventive measures and in a goodwill manner (Hora et al., 2011).

Following up the analysis of customer response to recall and safety in consideration of the Mattel product recall of 967,000 products in 2007 and how social platforms covered the similar recalls, studies findings included the relationship between brands reputation with recalls indicates that the respective companies with a stronger reputation suffer from a higher negative impact in their market value than smaller brands (Rhee & Haunschild, 2006). The impact from stock market revenues to both company and government initiated recalls off empirical studies on the basis of the Wall Street Journal and NHSTA data. Companies are still not prepared to deal with recalls or are able to determine how big an

impact of a recall can have on an brands image and loyalty from the existing, and prospective customers. The aftermath impact are higher than ever for brands that do not manage to forecast the probability of a product recall (Monczka & Trent, 1995).

The impact of recalls is significant for all parties in the supply chain. Product recalls due to safety hazards contain miscellaneous costs, such as property damage, injury, and sometimes death (Hora et al., 2011). Costs of product recall through the withdrawal channel are at least two or three times higher than costs in direct distribution, often due to less number of shipments, decreasing and uncertain demand, and the severeness involved in the recall process. Impacts to customers sometimes amount to death or physical disability. For the brand, impact is miscellaneous and subjective. The cost function can be the cost of recall operations, cost of product replacement or repair, cost of losing market share or goodwill, cost of marketing the brand value, cost of lawsuit settlements, and cost of closing share price (Mabini, 1992).

Taking into consideration the severeness and impact on customers, recalls can also be classified as class I, II and III as shown in Figure 4 (FDA). Class I is the most severe, in this category the use of, or exposure to the product will cause serious, lasting adverse health problems or death. It is identified that recalls categorized as defective or hazardous are more prone and practical in reducing accidents. Class II types of recall could result in minor health impact. Lastly, class III, is the least serious type of recall, and generally does not involve any adverse health consequences. Recalls are classified as either voluntary or preventive, and involuntary or reactive (Hora et al., 2011).

Class 1 recall	It is used in situations where there is a reasonable likelihood that the use or open exposure of the product will lead to serious negative consequences for the person: - health deterioration or death
Class II recall	It refers to cases where the use or open exposure of a product leads to temporary negative consequences for human health, is subjected to medical treatment, or when the reliability of serious negative consequences for human health is remote.
Class III recall	It concerns cases when the use or open exposure of the product cannot lead to negative consequences for humans.

Figure 4 Classification of Recalls by severity (Source: FDA)

3.4 Recall Behavior and Management

Recall management and behavior of both the consumers and firms has not been disserted enough. Decision on what measures are to be taken merely depends on the firms perception of its external and internal environment which includes its image and organizational response. Given the same levels of a product-harm crisis extent, organizational response and various external effects, a firm will be more successful in handling the crisis if it is a well-known company, and the reactions by government agencies and the press are positive. Moreover, an unplanned product recall is a far more beneficial tactic than neglecting the issue of a malfunctioning and hazardous product, while a voluntary recall is more effective than an involuntary one. Regardless, a super effort made by a firm to claim its dedication to social wellbeing even if genuine and authentic has been proven to be less effective than just a regular product recall (Siomkos, Kuzbard 1994)..

The importance of prompt and open communication in a recall situation has been underscored by many researchers. In fact, more than the problems leading to recall, how the company communicated with stakeholders during the recall affect company image, and thus the extent negative consequences (Nicolazzo, 2001). Effectively using print media – press, display ads, direct mailers and flyers, particularly identifying specific media for target segments and using them to communicate will produce more effective recalls and better protect customers (Gibson, 1997). Specific analysis of recall messages or communications of the product recall messages revealed that recall messages should be consistent with the image of the firm, degree of danger associated with the defective product and characteristics of the consumers (Gurau & Serban, 2005; Cleeren et. al., 2008).

The first step is to determine the data upon which the market would receive the news of a major recall crisis. In this research, the recall event date is defined as the date when a major recall takes place and is publicized. Since the news spreads slowly through the media, the event windows are the estimation periods.

Analysts have additionally endorsed systems to all the more likely oversee reviews and propose various rules to survey review viability. These incorporate 3Rs (preparation, responsiveness, and recuperation) and 6Ts (detectability, straightforwardness, testability, time, trust, and preparing) (Roth et. al., 2008). It is recommended that chiefs need to survey their way to deal with concurred to the criteria of proficiency, viability and moral results so as to set up their very own structure for progress. The thought is that organizations ought to be proactively arranged to confront a review and should design dependent on the elements of speedy basic leadership, powerful review approach and arranging, buyer correspondence, and coordinations and data frameworks. At long last, the utilization of data innovation could help review examination, review buy recognizable proof, review arranging, and review correspondence (Gibson & Kator 2000).

Packman's (1998) overview of the civil and criminal liability associated with food recall asserts that a food producer's failure to recall a violative product can increase the company's potential civil and criminal liability. It also asserts that, under the right circumstances, undertaking a recall can help to limit the company's liability, even though

the act of recalling the product will attract the attention of civil plaintiffs and state and federal law enforcement authorities.

The regulatory agencies have an important role to play in recalls. Consumers' perception about product safety is driven by public trust/confidence in institutions whose activities may be directly or indirectly related to safety (Onyano et. al., 2007). However, gaping holes exist in the US consumer product safety net. Although the CPSC regulators have the authority to recall products from the market, it falls short of holding manufacturers responsible for getting recalled products back to their warehouses (Felcher, 2003). In the wake of the multitude of recent product recalls, several pieces of legislation have been made to better regulate recalls (Witt, 2008). These legislations address the felt need for legislation, but it is not clear if legislation alone will improve product safety. A recent survey by Red Priarie revealed that 79 % of the respondents believe that recall legislation is needed, but 75 % believe that industry standards will be more effective in managing recalls than legislation.

3.5 Loyalty

In a situation of globalization and an exceptionally aggressive market, one of the worries of organizations is to hold their clients and this maintenance is firmly identified with purchaser loyalty, which is viewed as a factor that has an effect on showcase execution and that can expand deals and piece of the market (Rossi, 2006).

In spite of the fact that there is no agreement with regards to the meaning of the term, loyalty can be comprehended from the social perspective, which is commonly estimated by repurchase rate. The disposition, which contains a sentiment of love and inclination for items or brands, which can be estimated by consumer behavior (Rossi, 2006); and the compound perspective, wherein conduct and demeanor are two basic states of reliability. So it is beyond the realm of imagination to expect to characterize Consumers dependability by taking just rehashed buy designs as the reason for doing as such. The intellectual and full of feeling demeanors of clients additionally should be considered, which incorporate unwavering quality, feeling and slant, as do situational perspectives, for example, an absence of a favored brand, deals point advancements and trade motivating forces (Basu, 1994).

In this sense, dedication can be characterized as the degree by which the buyer keeps up an uplifting disposition with respect to the brand, is focused on it and plans to get it later on (Basu, 1994). In past investigations, creators have proposed that devotion can be affected by fulfillment, by brand picture and notoriety, by objection rates among different viewpoints (Rossi, 2002).

Consumers hope to get items and administrations that live up to their desires and may feel disappointed and disappointed generally. It is stated that state top notch items instigate significant levels of fulfillment in customers and increment their dependability levels (Jones & Sasser, 1995). Fulfillment might be comprehended as the judgment of an item or

administration of a specific provider and has demonstrated to be a significant indicator of the repurchase aims of buyers. Fulfillment is a basic advance in the development of devotion.

3.6 Theory of Attribution

Theory of attribution is described as the way in which people process information in order to gain a profound explanation for events (Fiske & Taylor, 1991). The theory of attribution is about what information is gathered and how it is processed to establish a profound decision. In other terms, this idea is about how people are interpreting actions and events.

Most researchers are researching the indirect and direct causes leading to incidents and are trying to comprehend the reasons behind actions and circumstances (Settle & Golden, 1974). Several scientists from several fields, especially psychologists, attempted at comprehending how the public interpret the information and how they reacted based on historical data and events through studying those cases. As a result of these aims to explain the dynamics that affect consumer attitude and behavior, the theory of attribution was established.

The dissertation of multiple researchers laid the grounds for research into attribution theory and most studies were carried out in the spectrum of social psychology. It was developed later furthermore and integrated into marketing research in order to study the effect on consumer behavior and attitude within the marketing scope.

The initial purpose of the researchers was in particularly to better understand, analyze and predict the causes of situations and how each individual reacts differently to real life crises event. The process of attribution also aids people to comprehend the real reasons behind an incident, and this understanding can allow them to improve their reactions in future crises events.

The theory of Attribution has been a extremely crucial to researches in various research scopes, became the main tool of many scholars, and has been generously applied in marketing such as analyzing both consumer and brand behavior, analyzing the crisis communication methods and effectiveness and establishing the concerned and responsible personnels during the crisis communication process, studying the stakeholder behavior (Coombs, 2007), analyzing the effects of different crisis communication methods and negative media attention to the public and governmental organizations, focusing on customer complaints, service failures and indirect satisfactions after a product recall efforts, assessing the interaction between advertising and selling, investigating the decision making process in discipline arbitration and the perception of the advertisements (Bemmels, 1991).

In order to thoroughly study the correlation of product recall and crisis situations the theory is implemented. According to the researches, since most people are rational during a product recall, they will try to rationalize the crisis and find the silver lining of the cause. As a result, consumers reaction to the crisis and recall will determine their aftermath attitude and behavior towards an event. As mentioned above, scholars and managers are interested in the matter of how do customers react to the information provided in the crisis communication event and how will each individual react to it. In other words, consumers will try to comprehend the true cause that led to the crisis. For example, if a purchased product is defected when purchased, they will look for an answer about the defect and/or complain to the brand about it. Whether the product was already defective when it was obtained or they mishandled the product which led to the event or if the product was damaged in a miscarriage and not handled properly when transported. The attribution theory can be perceived as the development pattern in five stages:

- 1) A Consumer is exposed to, understands and contemplates a set of reactions (such as overt behaviors, language, etc.). These reactions are referred to as “the antecedent event”. In this particular phase, attitude is observed, and this observed attitude is the initiator event. Such as, malfunctioning of a vehicle.
- 2) In the second stage, potential interpretations for the observed attitude are measured. Subsequently, forms or defines a set of traits which are conceived to be the most rational explanation for the causes or initiatives resulting in or causing the observed actions such as: consumer fault, design defect in the house or in the city, damage during the transportation or installation, or television company’s faulty production.
- 3) In the third phase, previous experiences, knowledge and other information is used in order to make the right attribution. Evaluates the defined traits in the first phase in light of additional evidence, observations or past knowledge. Such as information about the customers who have encountered the same event or crisis, user comments on relevant platforms (social media etc.), brand press conferences about the crisis or event and governmental organizations.
- 4) In the fourth phase, the actual cause behind the observed attitude/behaviour is perceived and a profound analysis is made. Alter or adopts the traits, Such as the brands press conference about the event which indicates that one of the imported materials used in the assembly and production had a hazardous design.
- 5) In the fifth and final phase, the trait is defined in the memory in order to be used in future crisis or events. Defines the trait reaction in memory. The final stored trait is reflected as both as a "filter" through which potential events and relevant incidents are perceived and as a basis for determining how to react to the observed crisis. As in the example, it is now established that the brand imports some of the materials and as a result faced with product recall incidents. This information will be saved in

customers minds, and will negatively influence consumers attitudes, behavior towards the brands and products unless the relevant brand proactively takes measurement to prevent the issue or carries out the required corrective actions.

To conclude, attribution theory implies that, consumers try to comprehend why an event/crisis/attitude occurred and whether the ulterior motive, if any, behind that event/crisis/attitude is of ulterior nature or genuine or occasional. Most consumers go through the same decision-making process during the crisis situations. When a crisis takes place, stakeholders try to defer from the accusations and blame by understanding the true nature of the crisis. Especially in cases where there is a skeptic view or misconception about the event, people become uncertain about who is to be held accountable for the crisis. Implementing attribution theory may aid brands in defining consumer attributions by using proper aftermath crisis response strategies, adjusting public announcements and press conferences and as a result, brands may reduce the negative impact.

A crisis is in no doubt a burden to a brand because of its negative impact and aftermath. A crisis initial demonstrates its negative impact in the form of negative image impact which in time and highly probable to result into financial and market loss and as a result threatens the survival of the organization (Coombs, 2007). Extant literature identified several damaging factors which occur as a result of product crisis incidents. Since product recalls are part of product crisis situations, in this research, those factors will be attempted to be determined and analyzed.

4 Practical part

4.1 Purpose and scope of the research

In this section of the research, the steps to collect the data, the different types of Data and the analysis tools and methods applied in this study and the relevancy of the tools and methods to each of the research questions addressed.

The scope is to identify and test the significance of the factors on the consumers behaviour and loyalty towards the recalled product, products that are Associated to the recalled products (i.e. Phone accessories, Laptop chargers, spare parts) and other product segments that are offered by the Brand.

In order to do so, The total 8 hypothesis guiding this research in identifying the triggering factors of a recall and the relationship of each with the attitude are as following:

- a. H1: The difference in age has a significant relationship with the negative impact of the recall on the behaviour towards the brand after the recall.
- b. H2: The difference in age has a significant relationship with the negative impact of the recall on the behaviour towards the associated products of the recalled product.
- c. H3: The difference in age has a significant relationship with the negative impact of the recall on the behaviour towards the continuity of usage of the product after the defect has been eliminated from all the products.
- d. H4: The occupation has a significant relationship with the negative impact of the recall on the behaviour towards the brand after the recall.
- e. H5: The occupation has a significant relationship with the negative impact of the recall on the behaviour towards the associated products of the recalled product.
- f. H6: The occupation has a significant relationship with the negative impact of the recall on the behaviour towards the continuity of usage of the product after the defect has been eliminated from all the products.
- g. H7: Customer awareness has a significant relationship with the likelihood of still buying or using a product if the recall has not occurred.
- h. H8: Customer awareness has a significant relationship with the likelihood to stay using the recalled brands products.

4.2 Research significance

This research delivers the measurement of the data collection process implemented regarding the quality of research. It outlines the evaluation of the quality of both the primary and secondary data use in this research study. To ensure the validity of this study, each question in the questionnaire was designed to represent all or one of the concepts which were addressed in all the three research questions of this research study.

4.3 Data Collection and analysis.

After analyzing the relevant literature, objectives, purposes and the scope, The first step was a Quantitative analysis was performed by designing a questionnaire to translate information needed into a set of precise question. In this research, information about the Attitude, Customer recall awareness, brand loyalty and brand image in the eyes of the public and perceived qualities are translated into simple questions to measure respondents view, attitude on the mentioned scales.

The questionnaire was designated in a manner to express simplicity and straightforwardness while managing to address all aspects of the Research questions and the subsequent hypothesis identified. It is advised to maintain the questionnaire as less lengthy as possible and make sure it embrace logic and sequenced questions in the format and structure so that the respondent can easily determine the purpose of the questionnaire is about and can follow through the aspects as they develop. Accordingly, the questionnaire consisted of 3 main parts that addressed the consumer attitude, demographic and loyalty aspects.

The first part mainly inquires about demographic, geographical distribution and purchase, customer awareness and whether the respondent was one of the affected victims of the defective products and has fallen a victim and if so, whether they have complained to the brand or not. The second part inquires about the neutral impact, negative impact in the form of questions between the scales of 1 to and with 1 being the lowest and 10 being the highest. It also aims at deriving and measuring the impact of the recall on all the levels and aspects related to the brand and the products by breaking them down into impacts directly from the product, the associated products to the recalled product and the brand as a overall. Finally, the third part addresses the aspects of Loyalty towards the brand, the reputation of the respondent that comes with using a product from a recalled brand, Continuity of usage prior to and post the crisis, possibility of recommendations to family and friends and intent of purchase of an alternative product and brand X. The questionnaire

was sent out in November 2019 which can be found in the appendix section of this research. The questionnaire was shared with Various levels of demographic groups in the Czech republic and was distributed by posting it on various social medias ranging from Instagram, Facebook, twitter to Emails. Initially, 200 questionnaires and the net result of the repondants were correspondant to a total sample size of 151.

Subsequently, the data obtained will be analyzed using the statistical software SPSS Statistics V 26.0 on Mac OS. Various statistical data will help analyze the proposed 8 hypotheses and address the Research Question 1: What are the triggering factors to a product being recalled?

4.4 Findings and Analysis.

A summary of the factors that have been researched about can be found in table 2 below. The table provides the number of respondents with the range of values from minimum to maximum and the associated mean value. On an overall analysis, we can see that the least value of the impact of the recall on the products is $x = 4.2$ and the highest value is $x = 5.8$. These values are fairly high and indicate significance of the impact. The data will be analysed with taking the demographic finding variables as a reference variables using various statistical tests in the following parts of the chapter.

Descriptive Statistics

	N	Minimu m	Maximu m	Mean	Std. Deviation
On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Product?	143	1.0	10.0	5.853	2.4921

On a scale of 1 to 10, how much do you think the recall has affected your attitude towards associated and relevant products?	144	1.0	10.0	5.521	2.5170
On a scale of 1 to 10, how much do you think the recall has Negatively affected your attitude towards the Products?	144	1.0	10.0	4.986	2.6125
On a scale of 1 to 10, how much do you think the recall has Negatively affected your attitude towards the Brands other products?	144	1.0	10.0	4.465	2.5609
On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Brand?	144	1.0	10.0	5.222	2.4393

On a scale of 1 to 10, how likely are you going to still buy/use the product now?	144	1.0	10.0	5.604	2.7257
On a scale of 1 to 10, how likely are you going to still buy/use the product if the recall has not occurred?	144	1.0	10.0	5.444	2.5413
On a scale of 1 to 10, what is the likelihood of you recommending the brands products to friends and family?	145	1.0	10.0	5.586	2.5375
Do you agree with the following statement: "People are most likely to judge me for using a product from those brands"	145	1.0	10.0	5.276	2.7776
Do you agree with the following statement: "I consider myself loyal to Samsung"	145	1.0	10.0	4.241	2.7241

Valid N (listwise)	143				
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Table 2 Data Summary of impact

4.4.1 Demographic Factors

As Shown in the chart below (figure 5), Out of the 200 surveys sent out and 151 received, the following demographics has been identified as categories the respondents can be classified under. With more than 50% of the respondents being in the region of Europe. 54 of European respondents were geographically present in the Czech republic while 26 were scattered around the continent. The remaining 71 correspondents were from the country of U.A.E.

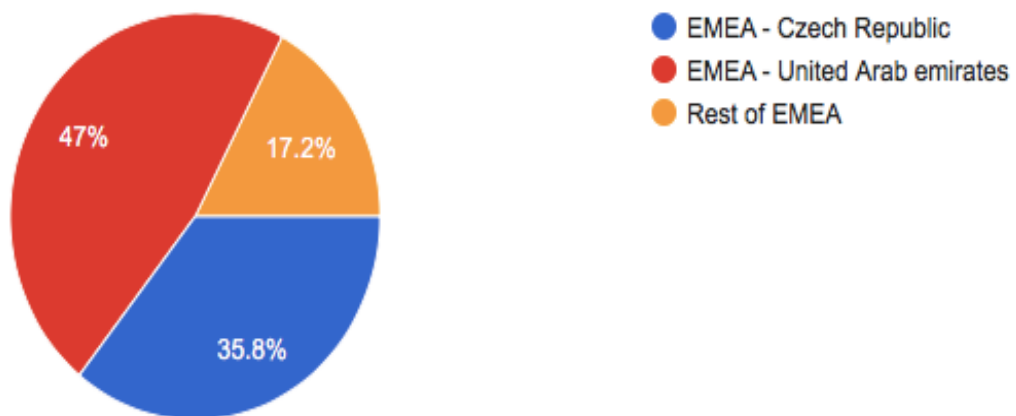


Figure 5 Region of respondant

It has also been identified in the chart (figure 6) below that the majority of the respondents were in the age range of 16 -30 with a total percentage of 84.1 while respondents aged 30+ were in the minority group of 24 respondents only.

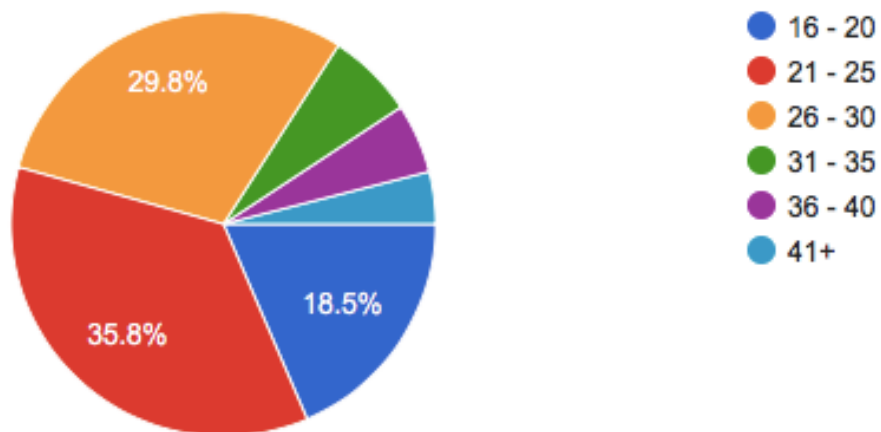


Figure 6 Age Group

In figure 7, as for the occupation findings, it has been observed that 87.5 of the participants are either students or working professionals with minors ranging from unemployed to employed

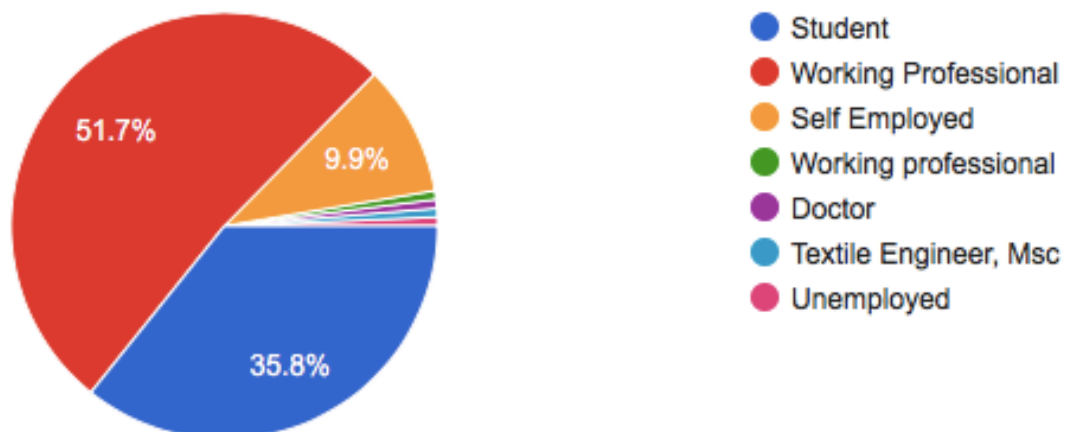


Figure 7 Respondent's Occupations

To further divide the demographic of the respondents more, only 63 (41.7%) respondents had an idea that the brands had the following recalls: Dell lithium battery, Samsung's Galaxy Note 7 and Samsung's Top loading machines.

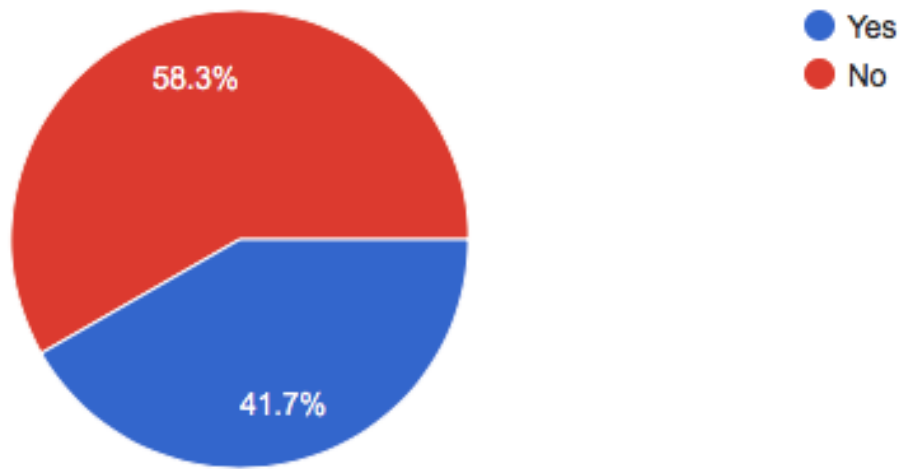


Figure 8 Recall Awareness

The respondents also has been identified to fall into the following categories in figure 9: Recreational purposes, Personal, Business (job, Company) and others or a combination of several purposes:

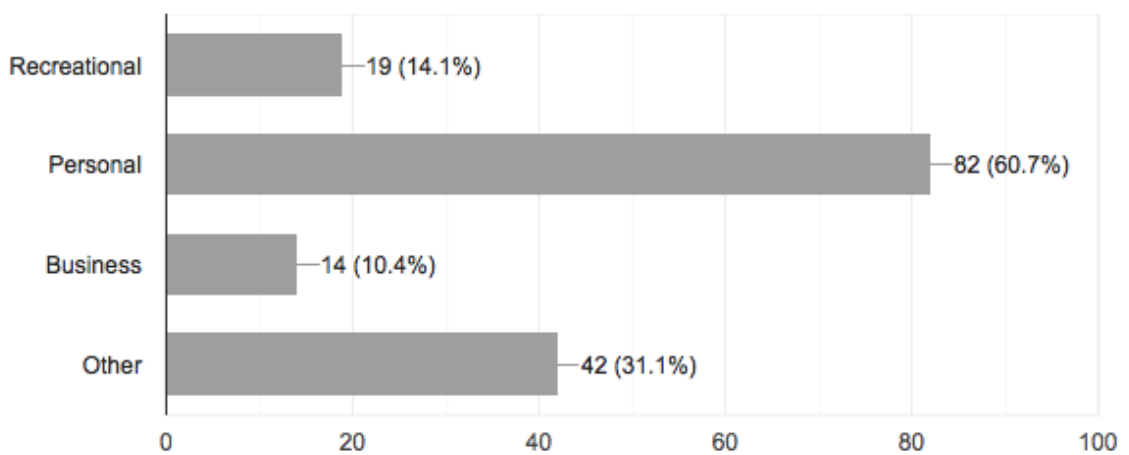


Figure 9 Purpose of usage

Respondents who have used any of the products stated that they have purchased the products from Current residential countries, Home Country, online purchases (Ebay, amazon, Brands website etc.), Received as a gift and most importantly we were able to identify the respondents who did not own any of the products as seen in figure 10.

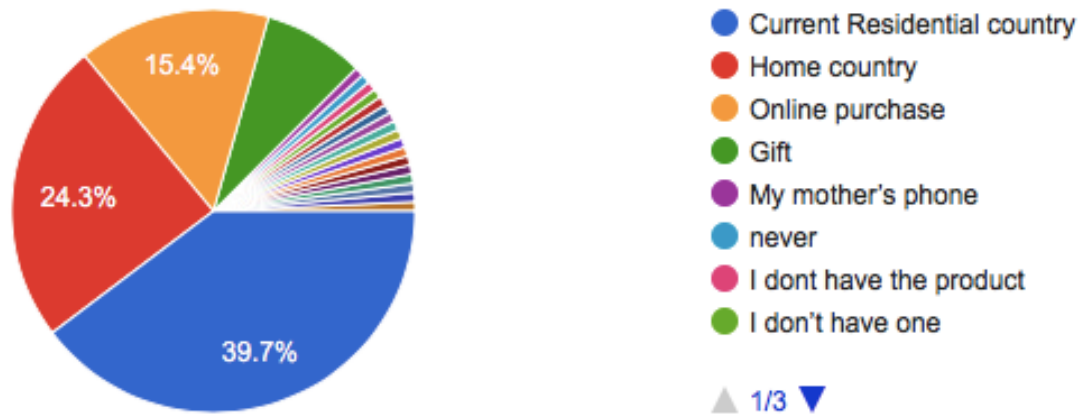


Figure 10 Method of Obtaining the product

4.4.2 Age statistical significance and relationship to loyalty and attitude.

In this section of the chapter, the SPSS was used to extract the value of significance level of the relationship of the mentioned age groups with brand loyalty, Attitude towards the Product, Attitude towards associated products. The One-Way Anova was used to statistically compute the hypotheses.

**On a scale of 1 to 10, how much do you think
the recall has affected your attitude towards
associated and relevant products?**

Tukey HSD^{a,b}

On a scale of 1 to 10, how likely are you going to still buy/use the product now?	N	Subset for alpha = 0.05	
		1	2
1.0	20	3.300	
4.0	13	4.538	4.538
5.0	18	5.278	5.278
2.0	6	5.333	5.333
7.0	19	5.895	5.895
6.0	24	5.917	5.917
10.0	12	6.083	6.083
9.0	10		6.500
8.0	16		6.625
3.0	6		7.500
Sig.		.121	.076

Table 3 One-Way Anova: Age Group vs Continuity of usage

The relation between the age groups and the relationship it has with the Effect on Attitude can be shown in the table below which Addresses Hypotheses 1, 2 and 3. The Sig value or the P value in the first case is 0.441 for the overall affect on the attitude while it holds a value of 0.225 for the specific negative effect on the attitude towards the product. The age group vs whether the customers would still purchase the product can be seen in Table 3 and 4 , indicated as 0.082 which are all under 0.05. In this case, The hypotheses are rejected accordingly as the P Value > 0.05 according to the one way Anova Significance level estimation.

**On a scale of 1 to 10, how much do you think
the recall has Negatively affected your
attitude towards the Products?**

Tukey HSD^{a,b}

On a scale of 1 to 10, how likely are you going to still buy/use the product now?	N	Subset for alpha = 0.05	
		1	2
2.0	6	2.833	
1.0	20	3.600	3.600
4.0	13	4.385	4.385
10.0	12	4.917	4.917
9.0	10	5.100	5.100
6.0	24	5.333	5.333
8.0	16	5.438	5.438
5.0	18	5.500	5.500
7.0	19	5.684	5.684
3.0	6		6.667
Sig.		.181	.112

Table 4 Negative impact with Continuity of usage

Oneway

[DataSet1]

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Product?	Between Groups	56.069	9	6.230	1.003	.441
	Within Groups	825.847	133	6.209		
	Total	881.916	142			
On a scale of 1 to 10, how much do you think the recall has Negatively affected your attitude towards the Products?	Between Groups	80.304	9	8.923	1.335	.225
	Within Groups	895.668	134	6.684		
	Total	975.972	143			
On a scale of 1 to 10, how likely are you going to still buy/use the product if the recall has not occurred?	Between Groups	97.527	9	10.836	1.758	.082
	Within Groups	826.028	134	6.164		
	Total	923.556	143			

ONEWAY ScaleAttitudeProducts ScaleNegativeProduct ScaleUseifNo BY AgeGroup

Table 5 Age Relationship With Impact

The P value in Table 6 , indicates a value less than 0.05 for the attitude towards the brand as a whole and a value of 0.072 for the attitude and consumer behavior towards the other products offered by the product which is greater than 0.05. Subsequently, Hypotheses H3 and H4 could not be rejected. We can conclude from this test and result that the recall did not affect the age groups view on the brand as a whole but it did affect it the attitude towards the brands other products.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
ScaleAttitudeBrand	Between Groups	444.183	29	15.317	4.293	.000
	Within Groups	406.706	114	3.568		
	Total	850.889	143			
ScaleNgativeOtherProducts	Between Groups	257.823	29	8.890	1.490	.072
	Within Groups	680.004	114	5.965		
	Total	937.826	143			

Table 6 Age group Relationship with The Brand

4.4.3 Occupation's statistical significance and relationship to attitude towards the brand and brand loyalty.

In order to address H4, H5, H6 a One way Anova statistical analysis was carried out as well and has indicated the values shown in Tables 7 and 8 below.

On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Product?

Tukey HSD^{a,b}

Do you agree with the following statement: "I consider myself loyal to Samsung"	N	Subset for alpha = 0.05
		1
4.0	10	5.100
1.0	35	5.314
5.0	22	5.500
3.0	18	5.556
6.0	13	5.692
8.0	7	5.857
2.0	11	5.909
7.0	16	7.250
10.0	7	7.286
9.0	4	8.000
Sig.		.204

Table 7 Occupation Relationship with Impact

In table 6, the significance value of the recommendation to family and friends to the occupation is less than 0.05 and this means that hypothesis H4 is not rejected which indicates that even after the recall, the consumers are less likely to recommend the product to their friends, family and relatives and the relation is non-existent or insignificant. Moreover, Hypothesis H6 could not be rejected as well as the Significance value is 0.000 which is less than 0.05 and indicates that there is no relationship between the two variables

and that the respondents are not willing to buy the same recalled product even after the defect has been eliminated from the product and the product has been rereleased to the market.

On the other hand, the significance value for H5 is valued at 0.131 which indicates that the hypothesis can be rejected and that there is no relationship between the Occupation groups and the Attitude of the consumers towards the products that have been recalled. We can conclude that despite the occupation of a consumer, the recall will have an effect on their purchase intent which affects the attitude towards the recalled product.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
On a scale of 1 to 10, what is the likelihood of you recommending the brands products to friends and family?	Between Groups	266.995	9	29.666	6.066	.000
	Within Groups	660.177	135	4.890		
	Total	927.172	144			
On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Product?	Between Groups	84.565	9	9.396	1.567	.131
	Within Groups	797.351	133	5.995		
	Total	881.916	142			
On a scale of 1 to 10, how likely are you going to still buy/use the product now?	Between Groups	250.315	9	27.813	4.589	.000
	Within Groups	812.123	134	6.061		
	Total	1062.438	143			

Table 8 Occupation Relationship with Attitude

4.5 Results and Discussion.

In this section of the chapter, the results obtained from the questionnaire will be demonstrated to address the concepts associated with particularly Research questions 2 and 3: “How many complaints have been received about a defective product?” And “Will this drastic change impact the consumers behavior and loyalty towards the brand?”, Respectively.

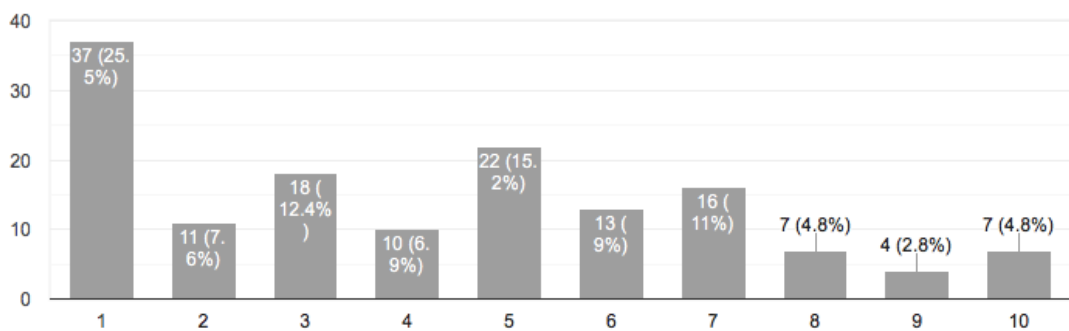


Figure 11 Impact on brand loyalty

As this research’s objective is to verify that product recall does have an effect on brand loyalty, we can see that through the findings for research question 3 which was tested in table 9. it is observed in Figure 11, that 76 respondents have voted within the value range of (1 to 4) whereas 1 is the lowest and 10 is the highest. Moreover, 22 of the respondents voted as a 5 which is an intermediate value. With 1 being the highest scored value we can see that the recall has indeed affected the consumers loyalty towards the brand. We can also support this with the findings of when asked if they would buy a product if a different brand offered a product for the same price with the same specification. 36.7 respondents responded “yes” and 40.8 responded “Maybe” where opposed to only 22.4 responded “No”.

On a scale of 1 to 10, how much do you think the recall has Negatively affected your attitude towards the Products?

Tukey HSD^{a,b}

Do you agree with the following statement: "I consider myself loyal to Samsung"	N	Subset for alpha = 0.05
4.0	10	3.800
1.0	36	4.111
9.0	4	4.500
6.0	13	5.000
10.0	7	5.143
5.0	22	5.182
2.0	11	5.364
8.0	7	5.571
7.0	16	5.688
3.0	18	6.111
Sig.		.599

Table 9 Brand Loyalty

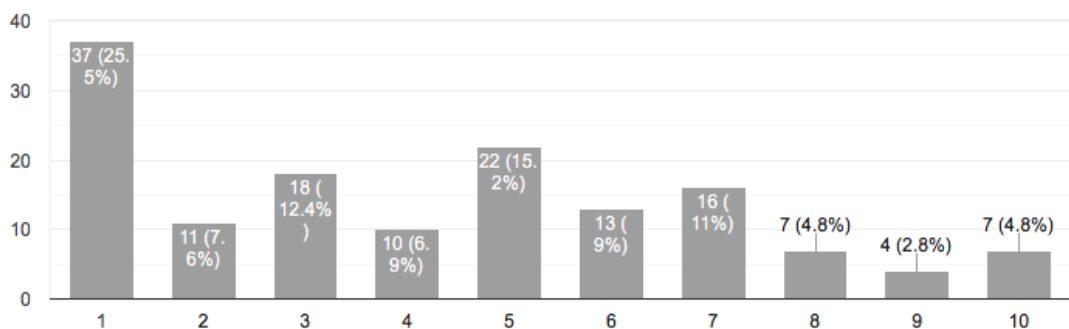


Figure 12 Continuity of usage if no recall occurred

Moreover, It has been observed that 67.5 of the respondents has voted that they are most likely to have bought the recalled product or continued using the product in the occasion that the recall has not occurred figure 12.

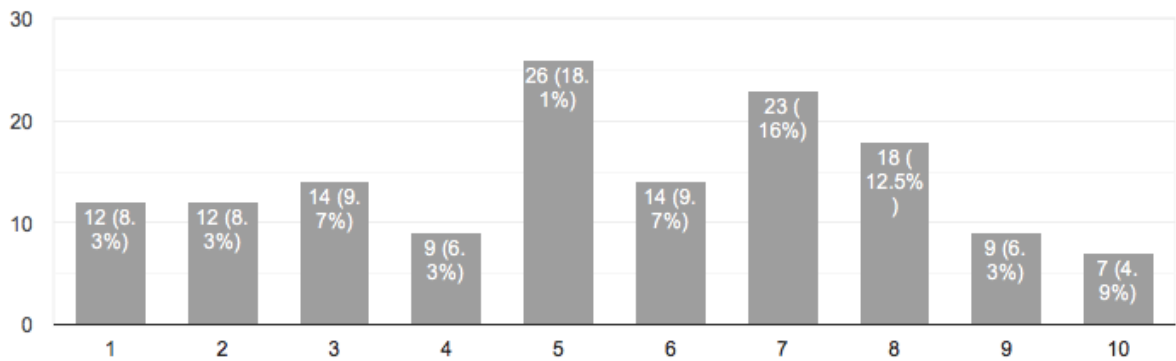


Figure 13 Attitude towards associated Products

On the other hand, it has been found that the recall did not directly have an effect on the consumers attitude towards the other product categories or segments offered by the brand. Most respondents, around 72 and 99, equivalent to 56.6 % as demonstrated in figure 12 has chosen values between (1 – 5).

On a scale of 1 to 10, how much do you think the recall has affected your attitude towards associated and relevant products?

Tukey HSD^{a,b}

Do you agree with the following statement: "I consider myself loyal to Samsung"	N	Subset for alpha = 0.05
		1
1.0	36	4.389
3.0	18	5.444
2.0	11	5.545
10.0	7	5.571
5.0	22	5.727
6.0	13	5.923
4.0	10	6.100
9.0	4	6.250
8.0	7	6.286
7.0	16	6.625
Sig.		.589

Table 10 Awareness and attitude on associated products

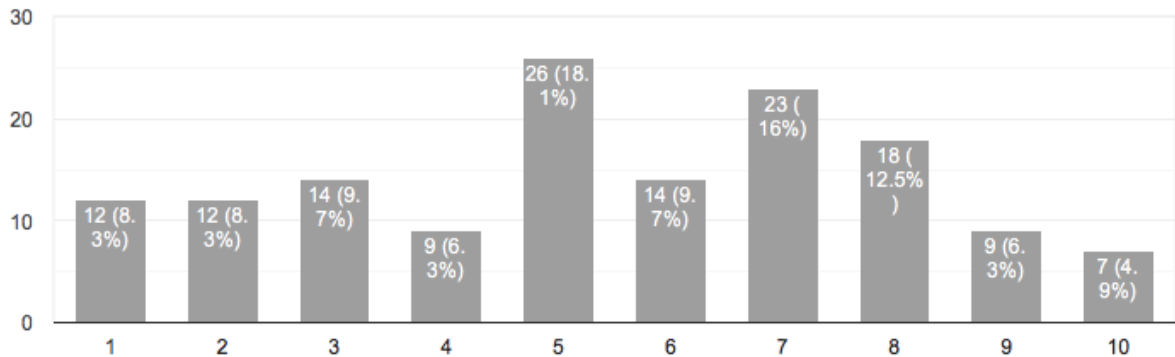


Figure 14 Attitude towards other product segments

As for Research question 2, only 26 respondents have been identified to have complained about the defective product to the respective brands and 15 were unsure if they have and indicated so by voting with the value of “Maybe” We can see from the figure 15 obtained that 69.6% of the respondents were unaware or have not informed the brand about the product.

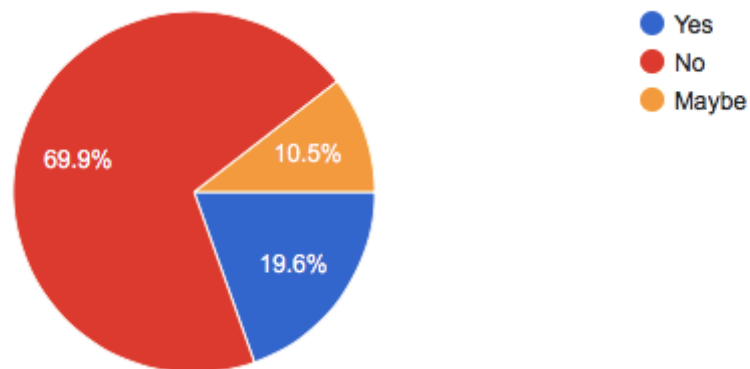


Figure 15 Complaints to the brand

Finally, To address the Awareness correlation with brand loyalty and attitude, the findings of the hypothesis H7: “ Customer awareness has a significant relationship with the likelihood of still buying or using a product if the recall has not occurred” and H8: Customer awareness has a significant relationship with the likelihood to stay using the recalled brands products can be demonstrated in the Table 11 below.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
On a scale of 1 to 10, how likely are you going to still buy/use the product if the recall has not occurred?	Between Groups	205.370	9	22.819	4.258	.000
	Within Groups	718.186	134	5.360		
	Total	923.556	143			
On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Brand?	Between Groups	137.934	9	15.326	2.881	.004
	Within Groups	712.955	134	5.321		
	Total	850.889	143			

Figure 16 Customer Awareness and impact

According to the Anova test, both the Hypotheses are to be rejected since both the sig values are below 0.005. It is safe to say that customer awareness about the recalled product is related to the likelihood of a respondents using the recalled product even after the recall has occurred. In addition, the customer awareness is significantly related to the likelihood of using the product if the recall has not occurred.

4.5.1 Sentimental analysis of Social media

A coherent research and historical data research has been conducted to obtain the sentimental reactions to the products recall through tweets intended at Samsungs various Social Accounts. To answer research questions, data was collected in relation to both S7 and the top loading washing machine recall from Twitter. There was also applied sentiment analysis to the collected data and analysed the obtained results.

There are 12,000 tweets collected between the time intervals September and November 2016 relevant to Samsung product recalls and crises events. It was found tweets in several languages but the main language this research will be considering are in English and Arabic. The sentiment tweet analysis also included tweets in the regions of Europe, Middle East and north Africa (EMEA) as the questionnaire survey's demographic indicates. With ScrapeStorm, sentiment and theme analysis of the tweets is built on the basis of the collection. The main accounts where Samsung was verified as the Twitter accounts were the only ones taken into consideration. These included @SamsungMobileUS, @SamsungUS, @SamsungMobile, @SamsungUK, @SamsungMobileME tweeting mainly or exclusively in English but also tweeting in other languages including arabic.

In August 2016, a Samsung verified account was created as a response in English among those. The sentiment analysis reveals that during early August 2016, most of all customer tweets are inquisitive. If they were to complain, they mostly complained about the delays in the Galaxy S7 delivery, Software update complaints and mostly involved different models than the S7. Starting September, consumers started reaching out about the product crisis more frequently, especially to the Middle east and the united states accounts.

The majority of the consumer’s tweets were mostly asking about the actions to take and if the phone will be remedied, replaced or even some demanding reimbursements and so on. As of September 2nd, nearly all tweets are relevant to S7 during September 2016, recall issues for several weeks. Most Consumers are disappointed or frightened and accused Samsung of having careless customer service and not caring for the wellbeing of the people.

Looking at the overall pattern of the company's tweeting behavior, the official Samsung accounts did not aid the consumers directly. Instead, they would take the consumers through a private message request or redirect them to a specific technical support or related departments. SamsungMobileUS has almost always replied in 24 hours and 7 times a week to the complainers, with an average of 25 replies within one hour. Other accounts were slower.

User	Tweets	Reply Percentage	Average Response
SamsungMobileUS	799	98	5h26'
SamsungUS,	95	97	11h55'
SamsungMobile	68	100	0h18'
SamsungUK	347	39	1d20h
SamsungMobileME	252	65	1d9h

Table 11 Twitter Sentiment scrape

Samsung has announced a reimbursement plan on their main website that includes the compensation and replacement program regarding the S7 device recall in the U.S. market. Previous S7 owners and current users can choose, under different conditions, between several options such as dollar bill credit. However, the recall procedure was different in the Asian market compared to the American market. It reimbursed less cash payments and the Samsung press conferences held by them, claimed that external factors like temperature and surroundings triggered the explosion and burning events (TechTimes, 2016). It was addressed by various local media press as an irresponsible and inconsiderate course of action. Irresponsible behavior can transform an almost crisis into a real crisis that leads to financial and Image negative impact without proper corrective brand’s actions.

On Oct. 11, 2016, Samsung had permanently halted Note7's distribution and sales after failing to attempt to resolve the problems that caused the defective phones to overheat and even burst into fire or explosion. In Dec. 19, 2016, after the last software update, the phones still in the customer's hands are expected to become inactive and useless.

We can see from the streaming data in table 11 that sentiments have been sent out in very short intervals. The table is used to support the above findings from the questionnaire and the statistical analysis. As concerns are addressed in the sentiment of the customer tweets in the Table , they follow similar pattern; positive or neutral sentiment is weaker than negative one. When comparing the initial phases of the crisis of Samsung in November. 2016 there were fewer tweets with a positive sentiment in this case. This raises the question how response strategies are adapted to different crisis situations.

5 Conclusion and Recommendations

The main purpose of this research was to verify the impact of product recall on consumer loyalty, taking the brand image into consideration, the severeness of the recall and the type of product. In order for that, Eight hypotheses were prepared and tested by the method of Anova statistical analysis with 151 participants. The research found evidence that:

- (i) Recall has an effect on the brand loyalty.
- (ii) The severeness of the recall has an impact on different levels of products and associated products.
- (iii) The severeness of the recall has little to no impact on different levels on loyalty to different types of product.
- (iv) The triggering factors identified in this research to may have an effect on the product recall are Age Group, Occupation and Customer Awareness. It was found that customers who are aware of the recalls were less likely to Recommend the product to their friends and family. The analysis provide proof that the brands image is affected by the recall and that the consumers who would still use the recalled product or a Different type of product from the same brand are perceived to be out of place.

Moreover, the results provided verification that respondents loyalty can be impacted by product recall and may even alter the brands image and loyalty for the customers. It was found that customers who are aware of the recalls were less likely to Recommend the product to their friends and family. The analysis provide proof that the brands image is affected by the recall and that the consumers who would still use the recalled product or a Different type of product from the same brand are perceived to be out of place.

A suggestion for future research is to analyze whether brands and consumers behavior and attitude towards their types of products, with which there is little severeness or publicity, are impacted more by the negative impact of the product recalls than brands of product with which there is intense severeness. The main academic contribution of the study is the fact that it has added its contribution to management, Consumer Behavior and a comprehension of how product recalls impact brand loyalty is relevant, so that brands can develop contingency strategies for dealing with the situation when a recall is to take place, Especially in the case if the recall is for purposes that are perceived to be of high severance like Class 1 recalls. It is also essential in identifying and eliminating possible problems and collateral damage that may be encountered in this type of events. There are skeptic contemplations and dilemmas that it is highly likely that recall cases could increase in the future, given the prompt actions of the regulatory and consumer protection governmental organizations and the activism and awareness of consumers who are asking for prompt actions from brands in cases where there is a recall to take place.

The main limitation of this research lies in its non-probabilistic sampling, consisting of working professionals, students, self employers from different various groups. Even though it addresses products that are of interest to the demographic aimed for. Another limitation is in the selection of the brands inquired about. Some respondents are not aware of the recall or of the product and had to imagine them during the questionnaire survey. In future experimental research it is essential to introduce manipulation checks to identify how consumers look at the brand and for them to answer questions that they have no information on or if they completely understand the question or not.

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7 Appendix

Sentiment Questionnaire

A sentiment analysis: Loyalty and Behavior towards Brands after a product's withdrawal from the market.

Dear Respondent,

I am currently conducting a study on the impacts of product recall on Consumers for my masters dissertation. Please help me by taking a few minutes of your time to answer the questionnaire about your personal experience with the associated recalled product and the brand. Recall, which is also known as product call or risk warning, is a communication procedure with the customer that companies are recommended to adopt when they find some defect in their products/services. Those products that are capable of inflicting harm or a hazard on users and customers are withdrawn from the market so they can be fixed or reimburse the concerned person. Kindly consider researching about Samsungs and dells product recalls prior to the survey. Thanks for your anticipated cooperation.

*** Required**

Email (optional)

Nationality *

'what region are you currently located in? *

Mark only one oval.

- EMEA - Czech Republic
- EMEA - United Arab emirates
- Rest of EMEA

What is your age group? *

Mark only one oval.

- 16 - 20
- 21 - 25
- 26 - 30
- 31 - 35
- 36 - 40
- 41+

What is your Occupation? *

Mark only one oval.

- Student
- Working Professional
- Self Employed
- Other:

Are you ware of all or any of the following product recalls: Dell lithium battery, Samsungs Galaxy Note 7 and Top loading machines. *

Mark only one oval.

- Yes
- No

Have you ever owned a Samsung S7 device? *

Mark only one oval.

- Yes
- No

What purpose did you use the product for? *

Check all that apply.

- Recreational
- Personal
- Business
- Other

How frequent have you used the products? *

Mark only one oval.

- Just once
- Occasional
- Casual
- Frequent

How Long have you used the products for? *

Mark only one oval.

- Less than 3 months
- 3 to 6 months
- 6 to 12 months
- 1 to 3 years
- 4+ years

Where or how did you purchase or obtain the product? *

Mark only one oval.

- Current Residential country
- Home country
- Online purchase
- Gift
- Other:

Have you ever owned a Dell lithium battery or a computer device that used one? *

Mark only one oval.

- Yes
- No
- Maybe

Have you ever owned a Samsung Top load washing machine? *

Mark only one oval.

- Yes
- No

Have you complained to or notified the brand about the product? *

Mark only one oval.

- Yes
- No

- Maybe

Have you complained to or notified brand about the product? *

Mark only one oval.

- Yes
- No

On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Product? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Lowest

Highest

On a scale of 1 to 10, how much do you think the recall has affected your attitude towards associated and relevant products? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Lowest

Highest

On a scale of 1 to 10, how much do you think the recall has Negatively affected your attitude towards the Products? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Lowest

Highest

On a scale of 1 to 10, how much do you think the recall has Negatively affected your attitude towards the Brands other products? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Lowest

Highest

On a scale of 1 to 10, how much do you think the recall has affected your attitude towards the Brand? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

On a scale of 1 to 10, how likely are you going to still buy/use the product now? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Low

Highly Likely

On a scale of 1 to 10, how likely are you going to still buy/use the product if the recall has not occurred? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Low

Highly Likely

On a scale of 1 to 10, what is the likelihood of you recommending the brands products to friends and family? *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Low

Highly Likely

Do you agree with the following statement: "People are most likely to judge me for using a product from those brands" *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Disagree

Highly Agree

Do you agree with the following statement: "I consider myself loyal to Samsung" *

Mark only one oval.

1 2 3 4 5 6 7 8 9 10

Disagree

Highly Agree

Would you rather use brand X if they offered the same attributes and price for the products? *

Mark only one oval.

- Yes
- No
- Maybe

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