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The Impact of Product Recalls on Businesses and Projects (ACEA 7012)

Module – Quality Management in an Operational Environment

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Abstract

This paper begins by providing a generic product recall flow diagram which indicates the stages involved from notification of a product defect to the evaluation of the recall's success. It then investigates into the various costs that arise during a product recall, both for the manufacturer and others involved in the supply chain, whilst relating back to historic recalls. Possible control methods are discussed that companies can adopt that can assist companies in reducing the costs. Investigation into different remedies companies decide to take following recalls indicates the most effective remedies for restoring customer confidence and brand reputation.

Introduction

Product recalls can be potentially devastating for companies. Product recalls are a result of safety concerns or manufacturing defects that have not been identified during initial internal quality checks but have been detected after sales. Hundreds of recalls occur every year with impacts to customers and to the companies. Regulatory bodies exist in different countries, they will provide guidelines on how to administer the recall. The product recall process is usually initiated by notification via customers, suppliers, or internal quality checks. Each company will likely produce a different process for a recall with vastly different impacts.

This essay begins by presenting a generic recall process flow diagram that can be followed. It will also describe the costs that can arise for all parts of the supply chain both directly through repairs or refunds and indirectly with brand reputation, market share or future sales being at risk. It will also provide some examples of controls that can be put in place to help minimise the risk of product defects for both the consumer and the manufacturer. Subsequently, it will explore the remedies companies must consider to best restore customer confidence and their reputation before proceeding with the recall.

The Product Recall Process

When a product is found to be flawed or dangerous a product recall is required to protect the end user and ensure the manufacturer avoids corporate liability. It can affect a batch or a product in its entirety. Product recalls can be damaging to brand identity and customer confidence (Dawar & Madan, 2000). Figure 1 indicates a generic product recall process and the activities involved. The process can be prompted by customer complaints, failed internal quality checks, supplier notifications or through other communication channels. Samsungs Galaxy Note 7 smartphone recall gives an example of how a product recall can be initiated. In Samsungs case, the recall of their Galaxy Note 7 smartphone begun following a series of local reports. Users were reporting that their batteries were exploding during charging (Goovaerts, 2016).

There can be many causes for why products can be defected following production. Mistakes can be made during manufacture, these could be human or machine error. Mistakes should be picked up during internal quality assurance checks, however if a company is not testing thoroughly enough defects can go unnoticed. At times companies will look to swap out components for cheaper alternatives to improve profit margins which can backfire if the alternative component is not adequate or can pose health risks. A well-known example of this is the 2013 horse meat incident in the UK where horsemeat was being passed off as beef (Brooks, et al., 2017). There were weak points within the supply chain which made it possible for fraudsters to exploit.

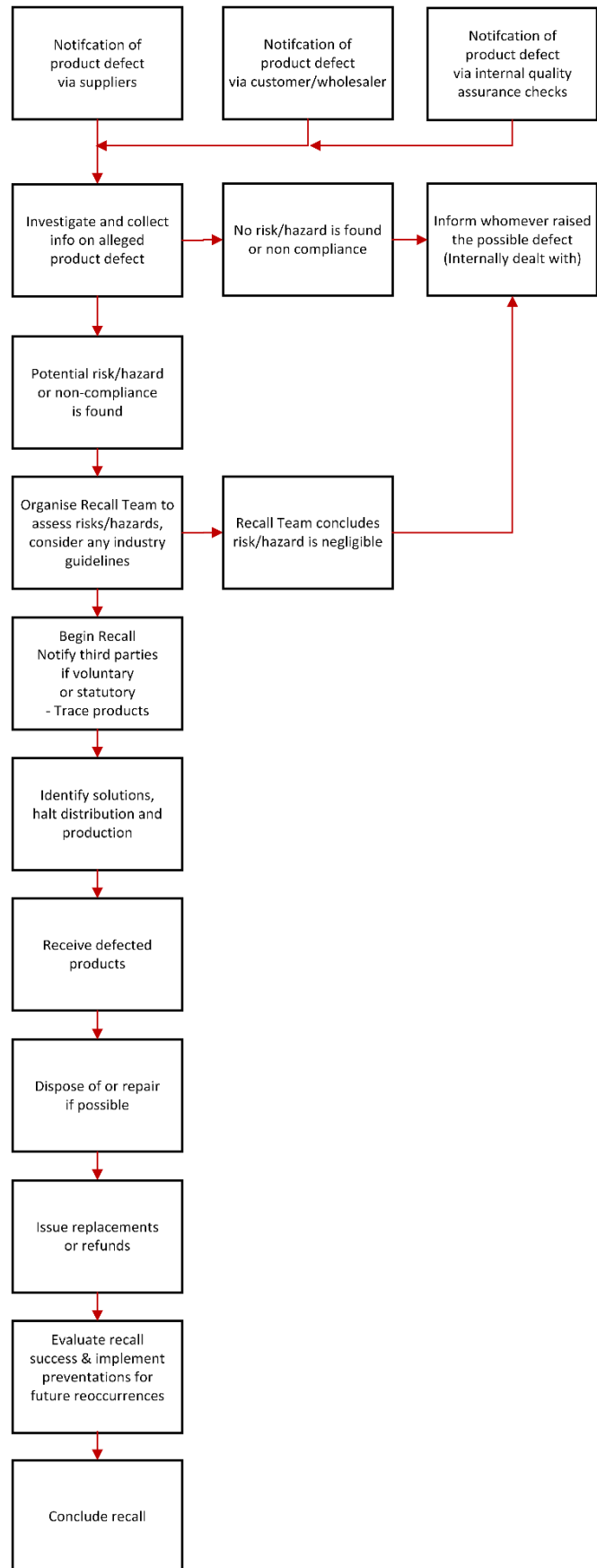


Figure 1 - Product Recall Process

It is vital for companies to implement clear communications for all levels of the supply chain, from customers to distributor and even government agencies. This will ensure all parties involved are reassured that the correct measures being implemented. The scale of the response to the recall needs to be decided upon early with all parties being informed. The correct communication channels should be used, or it could impact the brands reputation. The manufacturer is legally obliged to notify government, depending on the nature of the recall and the country, different systems exist. Countries within the European Union use a system called RAPEX for non-food products and RASFF for foods (European Commission, 2022). RAPEX is an efficient system which includes up-to-date access to information concerning products' compliance. From manufacturers to consumers, all parts of the supply chain can access this information which proves to be very important.

Evaluation of the success of the recall is another important requirement for the organisation to keep improving. If the organisation did not assess and evaluate the recall it would never know if it was truly a success (Kumar & Shmitz, 2011). The organisation would never know where its flaws in the process are and how to improve going forward. The ideal process would be failsafe, this should be worked towards by all organisations. Ultimately, the more efficient the process the less damage to the reputation and brand during and after the recall.

Costs Associated with Product Recalls and Controls

Companies must be aware of the consequences of poor quality as they are directly connected to costs. At least 25% of operating expenses can be quality-related in some companies (Al-Tmeemy & Hatem, 2015). To understand what is meant by poor or good quality manufacturers must first understand what quality is. It is defined as the standard of a product or service that is measured against others similar. A product or service can be seen as good quality if it conforms to specification and requirements, is fit for purpose, and/or exceeds expectations.

Companies such as the Coca-Cola company implement some of the best quality management systems (QMS). They monitor performance, introduce preventive measures whilst ensuring rigorous guidelines and safety awareness is provided through the entirety of the supply chain (Mekimah & Sayad, 2020). Coca-Cola ensure that extensive testing and inspection is ongoing in each area their product is bottled and not just introduced initially.

Quality costs can be classified by prevention, appraisal, internal failure, and external failure costs. Prevention costs will aim to reduce the occurrence of failure costs, a typical example would be training or design verification. Appraisal costs are activities that intend to ensure the conformance of products to pre-set conditions such as calibrations or maintenance. Internal failure costs are when product defects are identified before delivery to the customer such as lost productive time or rework costs. External failure costs are when product defects are identified after delivery such as loss of sales or recall costs (Schiffauerova & Thomson, 2006). Poor quality costs companies, good quality systems may cost to implement but over the long-term companies will reduce failure costs. Some of the largest failure costs would be potential loss of brand reputation and future sales. In Samsungs case of the Galaxy Note 7 batteries catching fire, this could have been avoided if their internal quality assurance checks were more vigorous.

Recalls have several costs associated with them, the costs can be categorised by being direct or indirect. Figure 2 lists some of the direct and indirect costs due to the consequences of recalls. In relation to a product recall, direct costs are directly connected to the recall and are usually borne upon the manufacturers as they will reimburse those downstream for any refunds or expenses related to the recall. Indirect costs can be defined as costs that are not directly accountable to a cost object such as lowering of stock value for the company.

Indirect and Direct Recall Costs

Reduction of sales
Reduction in market share
Repair or disposal costs
Refund or exchange costs
Administrative costs
Logistic costs
Fines or legal action
Additional product liability insurance costs
Additional quality assurance costs
Negative impact on employee morale
Damage to brand identity/Loss of customer confidence
Cost to re-build brand image and reputation

Figure 2 - Indirect and Direct Recall Costs

However, potentially significant indirect costs also arise for wholesalers and distributors for administering a product recall (Ni, et al., 2014). The time spent communicating with those above and below them in the supply chain can be costly. Wholesalers and distributors suffer considerable costs related to administrative and logistic costs. They are often reluctant to spend time issuing credits, exchanges, preparing shipments and acting as the middleman between the manufacturer and the consumer. This is perceived as lost time, time which ought to be spent on creating sales (Mollenkopf, et al., 2011).

Logistic systems are not always planned to work in reverse, moving product back up the supply chain can result in higher costs due to higher quantities of small shipments (Jayaraman, et al., 2003). Therefore, it is very important to have an effective plan in place and to run a trial to see the results.

Manufacturers also suffer indirect costs due to recalls; the brand identity and reputation can be damaged. The reputation of the brand is governed by stakeholder perceptions about the reliability and safety of the brand. Recalls can lead to a decline in the brands market performance, customers may look to switch to a competitor's product. In 2016, Samsung begun a recall of 2.5 million Galaxy Note 7 phones due to reports of fires. It was estimated that it could cost as high as \$5.3 billion to replace the defected phones (Pearce, 2017). This damaged the brand as their market value plummeted, whereas Apple's market share increased during this time. A quick response to the reports would inevitably lead to lower losses directly and indirectly (Dani & Deep, 2010). The sooner the recall begins, the less phones that will make it onto the marketplace to be recalled and the less customers affected.

Manufacturers incur costs associated with the repair or disposal of the defected products. Some products will also pose as environmental hazards due to the toxic materials that may be used. The dispose of these materials in an environmentally friendly way can be expensive. Additional costs will include investigations into the potential defect along with evaluating the success of the recall and preventing future reoccurrences for the manufacturer.

Organisations often fail to put in place a standard operating process to handle the product recall when the situation arises (Kumar, 2014). This can leave the organisation at risk, without proper guidelines it will be difficult for the company to act quickly. If a product that

is defected presents serious health problems or potential of death to the consumer, a fast-acting process is essential. Controls can be established to decrease costs before or during the recall process. The company can prevent the recall by identifying the potential risks and hazards and ensuring strict rules and quality assurances is in place and is being followed by all.

Traceability is a powerful tool to help handle a recall, it requires an efficient system to be implemented which shares information through each stage of the supply chain. It also helps establish trust and continuing to build relationships among customers and partners within the supply chain (Alfaro & Rabade, 2009). Customers want those who manufacture and distribute the products to have accountability. Customers now want to know who has been involved in the process especially who has made the products. Having an effective plan in place to manage risks whilst showing appropriate safety precautions for their products helps the manufacturer protect themselves against legal action. Presenting accurate information on the products that are to be recalled demonstrates how they respond to the situation whilst reducing the cost of a recall (Kumar & Shmitz, 2011).

Traceability would likely reduce the consumer exposure to defected products by lessening information processing time and facilitating coordination of the supply chain. Companies can identify the affected products and their distribution locations then coordinate the return/refund. As an example, a manufacturer could identify the cause of a components recall to a software update that had an error enabling a more accurate recall in turn reducing direct and indirect costs. In-depth traceability can have negative effects on an organisation by exposing limitations in the supply chain.

However, full traceability is not always possible, supply chains can be complex. For instance, if you consider the Samsung Galaxy Note 7 case, it would be impossible to know what has gone on the full supply chain down to the owner of each device. Once sold to customers around the world, customers also sell their devices privately without the knowledge of the manufacturer.

Restoring Customer Confidence

Following a recall, it is essential for brands to restore customer confidence. Companies must consider their current reputation before deciding on the corrective action they should take. Customers often have lower expectations for products and the recall action from companies with low reputation. Likewise, they expect more from companies with notable reputation (Brady, et al., 2008).

A public apology and reassurance that the defect will never happen again is seen positively by customers. Samsung ran several full-page apology ads in major newspapers in the US. In which they pledged the following “We will re-examine every aspect of the device, including all hardware, software, manufacturing and the overall battery structure.” They also added “We will move as quickly as possible, but will take the time needed to get the right answers.” (Smith, 2016). Customers will feel confident that Samsung that not only the battery but the whole device will be scrutinised without rushing to a singular conclusion.

Communications internally and externally is an essential role in a recall. During the recall, companies should inform customers regularly whilst persuading them to complete any returns or repairs. Communications to the customer can strengthen the company’s image as a trustworthy and responsible brand.

Different companies will likely offer different solutions for a similar product defect. Following the reports of fires due to the battery overheating on the Galaxy Note 7 devices, Samsung offered to replace the phones. Whereas Apple offered to only repair their batteries but for a fee after they admitted to slowing older iPhones with declining batteries (Mafael, et al., 2022). The decisions that the company makes is crucial as this can alter the customers view on the company. Companies could offer to go the extra mile by offering free products or services to reassure customers that their custom is important to them.

Another method to regain customer confidence can be seen again in the Samsung Galaxy Note 7 case. Samsung agreed to dispose of the recalled devices in an environmentally friendly way. Where possible they stripped down devices to re-use parts whilst allowing companies to detach semiconductors and extract precious metals (Computer Shopper, 2017). Consumers can be confident that Samsung are disposing of their device properly which reduces the risk of confidential data being recovered from the device. Samsung are being seen to actively improve the companies carbon footprint is becoming more important in all areas of the supply chain. Companies now ask to see carbon reduction plans before being related to suppliers. Consumers also respond positively to environmentally friendly companies, many willing to pay slightly more for products produced by brands that are environmentally sustainable. Companies that are sustainable are seen to not impact the environment, society, or the community negatively. Being sustainable will likely increase customer loyalty (Ahmad, et al., 2021).

In some instances, loyal customers can also take part in restoring other customers’ confidence in the brand (Ahluwalia, et al., 2000). Whilst loyal customers are usually resistant to negative information, they will tend to protect the affected brand during the recall when negative publicity occurs.

Conclusion

Following review of the literature, it is clear that the impacts of product recalls on companies stretches far beyond the cost of refund or repairs. The costs also arise for all within the supply chain from suppliers to manufacturers and can be categorised as being direct or indirect. It is important to note that the full extent of costs to a company are not measurable. This is due to the potentially devastating indirect costs of loss of market share or future sales due to the damage to the brands reputation.

Although recalls are potentially detrimental the costs can be controlled through employing an effective recall team. Recalls can be safety critical and limited by time. It is clear that for a product recall to be successful prior control measures such as good communication channels, a recall procedure and traceability should already be in place so that if/when the recall happens a company knows the process and can act swiftly. Traceability, both forward and backward is proven to allow companies to quickly identify where and when and by whom components of their products were manufactured. As well as the consumers that the products ended up with. This information is key for a quick and cost-effective solution.

Companies will suffer financially if they produce defected products or products of poor quality due to costs such as rework. The most apparent and unmeasurable cost to the company is seen to be loss of market share, sales, and brand reputation. To achieve consistency in products, companies should put in place a quality management system to reduce the probability of errors occurring to begin with. The QMS will ensure quality assurance checks are undertaken at key points in the manufacture whilst detailing the correct processes and procedures.

Although all recalls are different, customer confidence can be restored by how a company responds to the recall. Trust and satisfaction can be restored best by full remedies such as full repairs or replacements or even by going the extra mile offering free products or services. Customers also feel more satisfied if they are communicated to and receive apologies and reassurance that internal quality checks have been improved to ensure it will never happen again. Whereas partial remedies where customer will need to undertake some repairs themselves or where customers need to partially pay for a repair can be perceived badly. However, the level of damage to the brands identity will depend on the reputation of the company. Companies should look to become more sustainable and environmentally friendly as customers seem to be more loyal to these types of companies.

Overall, this study gives others an insight in the potentially devastating costs associated with recalls whilst analysing some of the best methods for preventing recalls. This study also will assist others on how to undertake a product recall successfully whilst maintaining customer confidence.

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