BRAND MISCONDUCT IN THE COMMERCIAL AIRLINE INDUSTRY

Analyzing the reaction of consumers to brand misconduct in a B2B2C market

Student name: Eric de Rooij
Student number: 416788

Thesis supervisor: Prof. Dr. Vardit Landsman

Master marketing
Erasmus School of Economics, Erasmus University Rotterdam

Master thesis
December 2020

Abstract

This research will investigate the consumer reaction on brand misconduct in a market with ingredient branding where a component of another company is used in an end-product. In this B2B2C market the brand misconduct is at the side of one manufacturer of the component. The empirical context of the research is the commercial airline industry with the brand misconduct at airplane manufacturer Boeing. The goal of the thesis is to find the optimal response for airline companies on this brand misconduct based on the reaction of the consumers. A linear regression was made to find significant effects on brand superiority of airlines using different airplane manufacturers. Also a choice experiment was conducted to investigate if the airplane manufacturer was an important attribute in a flight ticket for consumers. Only a couple of significant effects on brand superiority were found in the results and the airplane manufacturer was not the most important attribute of a flight ticket.

Inhoud

1. Introduction

If you sit at an airport waiting for time to pass by before you can board for your flight and you open a news app and a title pops up: ''Another Boeing airplane crashed in Istanbul due to a technical problem which is caused by the manufacturer of the airplane.'' Then you look at your boarding pass and notice the plane you will be on within an hour is also a Boeing airplane, would you still go on that flight? Would you have paid more if you had known that your flight was with a Boeing airplane instead of an airplane from another airplane manufacturer brand?

The commercial aircraft manufacturer industry is a duopoly consisting out of the brands Boeing and Airbus. These two companies have more than 90% of the market share in the commercial aircraft industry. Boeing is the company from the United States, with their flagship airplane the Boeing 737 and Airbus is an European manufacturer with its Airbus A320 as their flagship airplane. The commercial airline industry on the other hand is a much more competitive market with over 800 different airlines across the globe (Bennet, 2016). How will the airline industry react on the brand misconduct in the aircraft industry in this B2B2C market?

Normally when a brand is involved in brand misconduct this has big consequences for the brand. Consumers are less likely to be interested in the products of this manufacturer, the brand-customer relationship will cool down and the repurchase intention of the consumers will be lower (Huber, Vollhardt, Matthes, & Vogel, 2010). The brand can be boycotted, sued and get the public against them. The amount of profit losses will often result in bankruptcy for small and medium companies (Wellalage & Locke, 2012).

Brand misconduct is the behavior of a brand that disappoints the consumers of the brand (Huber, Vogel, & Meyer, 2009). For bigger companies a brand misconduct will often not lead to a bankruptcy and a couple of theories are written about how a brand should recover the best after a crisis or a misconduct, like the Image Restoration Theory of Benoit (1995) or the Situational Crisis Communication theory of Coombs (2007). These theories explained the options companies have to recover in a competitive market. Unless the industry is a monopoly there will always be competitors in the market. Will these competitors gain a more value according to the consumers or be perceived as better quality?

In a B2B2C the two companies can work together to produce an end-product to be used by the consumers (Norris, 1993). This can be done by ingredient branding where a component of the manufacturer will be used in the end-product of the company which is selling the product to the consumers. In a case with brand misconduct at the side of the manufacturer of the component there are a couple of decisions that the brand selling the end-product can take. Do you stay loyal to your work partner and try to solve this issue together? Do you make a deal with a competitor and leave your current partner? Will it be better to stop the co-branding and make the product fully by yourself?

In this thesis research will be done about the consumer reaction on brand misconduct and the effect of different variables on brand superiority in a market after a misconduct. In this market there are companies using ingredient branding and companies which are not using ingredient branding. The empirical context of the thesis is the commercial airline industry with the brand misconduct at aircraft manufacturer Boeing, the product failure of the Boeing 737MAX. First a multiple linear regression for predicting the brand superiority of different airlines using different airplane manufacturers is made. Second a conjoint analysis is conducted to conclude if the type of airplane is an important attribute in the purchase of a flight ticket.

Important findings in the research were that many of the results were not significant and that the airplane type is not a really relevant attribute to consumers in their decision making. The variable with the most significant impact in the research about the brand misconduct in the commercial airline industry was how many flights a consumer would have taken in the past year.

2. Research question

In a B2B2C market a manufacturer sells its product (component) to another company. This company uses that product to make the end-product and sells it to consumers. But if the manufacturer of the component in the end-product is involved in brand misconduct and their products do not have the required quality, it will have an effect on the brand that sells the end-product to the consumers, because these consumers will probably act different towards this product.

The brand selling the end-products have to decide if they will keep working together with the manufacturer which committed brand misconduct or that they will switch to a competitor in this market, not affected by the misconduct, and show to their consumers they are offering a product with higher quality by using ingredient branding without any form of misconduct.

But it is not always clear how the industry will react to such events. Maybe the initial brand value of the manufacturer which committed the misconduct is extremely high in comparison to its competitors or will the whole industry get a negative spillover effect.

At the other side, brands selling the end-product can increase their profits for asking premium prices for offering better quality if they work together with a competitor not affected by the misconduct. While other companies, who are having a partnership with the company which committed brand misconduct, should maybe lower their prices. What will this effect have on consumers and what are they willing to pay for these differences in quality?

What is the optimal response for brands in a B2B2C market with and without ingredient branding after a brand misconduct (product failure) by the manufacturer of a component?

2.1 Managerial relevance

This thesis is relevant for managers, because it will give stakeholders an insight in what they can do after a competitor in de market commits brand misconduct. Can they increase their prices because they offer better quality now? should they lower their prices in order to gain more sales or is the price of a product not an important factor after brand misconduct. Maybe other attributes of products are way more important according to consumers. This thesis will give an insight on the consumers reaction on brands who committed brand misconduct and other competitive brands who did not. Also this thesis is relevant for managers because it tells them on what kind of consumers they should focus, based on demographics like age, gender, income, education level and other variables, like different kind of emotions.

2.2 Academic relevance

There have been multiple studies done before in the field of brand misconduct in a B2B2C or a B2C market. First of all about the profitability of a component supplier in this market. This seems more profitable when the market has product differentiation and/or is technology intensive (Worm & Srivastava, 2014). Another research explains how a company would recover the best from brand misconduct after a product harm crisis. This is based on the amount of publicity and who is to blame for the misconduct. The solutions according to this research is to increase advertising or reduce prices of the product (Cleeren, van Heerde, & Dekimpe, 2013). Next is what this brand misconduct will do in the market. Will it cause negative spillover effects, or will these effects be positive? Negative spillovers are more commonly to occur if competitive brands or products are closely linked to the brand which committed brand misconduct (Roehm & Tybout, 2006). Last is how a competitive brand should respond to the brand misconduct of its competitor. Research is done about different kind of competitor reactions (Montgomery, Chapman-Moore, & Urbany, 2005), but only little about competitive reaction after brand misconduct. The most commonly said solutions were to increase price, because of better quality or to decrease the price of products to hurt the opponent even more (Bala & Bhardwaj, 2017). This is where this research will contribute beyond that. In this research will be looked at how the competitive brands can react the best

to a brand misconduct in a B2B2C market. This will be done based on the consumer reaction about these different kind of brands after the misconduct. For each type of competitor can be analyzed what to do with a component supplier and where to focus on with their products.

3. Literature review

3.1 Brand misconduct

Brand misconduct is the behavior of a brand that disappoints the consumers of the brand (Huber et al., 2009). Brands have built up reputations in time and consumers expect certain behavior with this reputation. Most of these incidents of brand misconducts will be caused by ethical norms or product and service related failures. Brand misconduct will often cause consumers to change their response to a brand from positive to negative. What the definition of brand misconduct is in consumers eyes will differ for every situation or consumer. This will depend on their cultural, social and economic norms and what they value. Also this is influenced by media and other consumers. Brand misconduct comes in the next four forms (Huber et al.,2009):

- Product quality differs from expectation
- Lack of customer service
- Social or ethical issues
- Symbolic-psychological misconduct

The effect of brand misconduct is dependent on the characteristics of the consumers in that industry. Culture, consumer idealism, brand involvement and commitment are important factors to deal with. (Huber et al., 2009)

Brands and customers have a relationship with each other, the customer relationship. Brand misconduct deteriorates the relationship the brand has with the customer and the trust the customer has in the brand (Huber et al., 2010) (Hsiao, Shen, & Chao, 2014) (Davies & Olmeda-Cifuentes, 2016). But not every misconduct will have the same amount of influence on the customer relationship. The customer relationship will weaken less if this relationship is built over a long period of time (Huber et al, 2010). Also advertising after brand misconduct or reducing the prices of products seem to help increase customers intention to repurchase the product of the brand (Hsiao et al., 2014)(Cleeren et al., 2013). Last is the initial trust a customer has in a brand. Is the initial trust high, then the effect of brand misconduct on deteriorating the customer relationship will be weaker than when initial trust is lower (Davies & Olmeda-Cifuentes, 2016).

Corporate social performance also plays an important role in the effects a brand misconduct can have. Corporate social performance has two sides. The first one is corporate social responsibility (CSR). CSR leads to a positive brand personality, while the other one, brand misconduct, leads to a negative brand personality. Brand misconduct changes the perceptions of consumers to the brand. One of these perception is the brand personality. Brand personality consists of reliability, attractiveness and creativity. Brand personality will lead to brand value. Brand value is created out of social image, trustworthiness, attachment, performance and value. It turned out in research that brand misconduct has a bigger influence on brand personality than corporate social responsibility has (Huber et al., 2010). So negative events will have a bigger influence on the perception of consumers about the brand than positive events.

A way to reduce to negative effect of the brand misconduct can be done by advertising. The stock value of a company which committed brand misconduct will worsen but increasing ad spending will cause this decrease in stock price to be less dramatic than when cutting the advertise spending before a product recall. However this will only work for newly introduced products. If the product is already a big established product, advertising will only worsen the decrease in stock price of the company. (Gao, Xie, Wang, & Wilbur, 2015)

3.2 Competitor reaction on brand misconduct

Most of the literature written over the reaction on brand misconduct is about what the company should do to recover from the loss in profit and reputation suffered after brand misconduct. Less is written about what a competitor in the industry should do to benefit from the failure of another competitor, while in my opinion this is just as important because I think there is a lot of profit to gain for competitors after a misconduct in the industry.

A competitor can benefit from the misconduct of another brand by taking over its sales (positive spillover), but it can also face a product crises itself. If the consumers in the industry associate the non-associated brand with the brand that committed brand misconduct, the non-associated brand will be perceived by consumers as guilty too. This will cause a negative spillover with the whole industry suffering of losses (Cleeren, Dekimpe, & van Heerde, 2017). The research of Roehm & Tybout (2006) also claims a negative spillover is more likely to occur if the products in the industry are from the same category and there is less differentiation between the products. But the competitive brands can deny the accusations of being guilty by association by using a denial strategy.

Research of (Cleeren et al., 2017) shows that the best reaction of a competitor depends on a couple of factors. First is the power asymmetry. If the competitor has a lot of market power it is easier to gain a benefit from the misconduct. Second is the time of product harm. A competitor can react more optimal if the product failure happens shortly after the launch of a product than if already decades have passed before the product fails. Last are the spillovers. A competitor can act more aggressive in terms of pricing if there is a positive spillover effect than when there is a negative spillover effect.

A research by Zou & Li (2016) suggests that a negative spillover is likelier to occur if there is much online splatter in media and social media. Also if the brand that committed brand misconduct and the non-associated brand are originated in the same country, the non-associated brand is more likely to be perceived as guilty by association than if the brands are from different countries. Last out of this research is that negative spillovers are likelier to occur by the dominant brand in the industry than by the less dominant brand. If a negative spillover occurs in the market the best competitor reaction is to focus on corporate social responsibility, like charity donations. Also having a differentiated product line will help. The company can

focus on the other products and not the ones affected by the misconduct. Another noticing fact is that advertising is not a smart thing to do. Consumers will associate the non-associated brand quicker with the brand with the harmed product.

However, advertising can also be a good thing to do. In the research of Rubel and Naik (2011) the best competitor reaction on brand misconduct by the non-associated brand is to advertise. Advertising about what the company which committed the brand misconduct did bad and what the competitive company does good can help to let customers switch from the brands associated with brand misconduct to the competitive brands which did not commit brand misconduct.

In another overview by (van Heerde, Helsen, & Dekimpe, 2007) about the competitor reaction by brand misconduct is that the brand which committed brand misconduct is much more vulnerable for competitors. It can be seen by competitors as an unique chance to gain more consumers. So the competitor should cut its prices and increase its advertising to increase the amount of unit sales and hurt the brand which committed brand misconduct even more.

In a fourth article about the effects of advertising after a case of brand misconduct is also concluded that advertising will help the brand recover its value (Liu & Shanker, 2015). With these four researches about advertising after brand misconduct it is recommended to advertise if your brand committed misconduct and not to advertise if you do not want to be associated with the brand misconduct as a competitive firm.

There are different possibilities on how to react as a competitor on brand misconduct. However, in an article from Montgomery et al (2005) about strategic competitive reasoning concludes that the competitor reaction is less important because managers are often not be able to handle the competitors current and future actions and maintain an overview about what these competitors reaction will be on the companies' own movements. The companies capabilities and the customer responses have more effect on the companies' failure or success.

3.3 Ingredient branding

When two or more companies work together, using their current products to manufacture a new product, this is called co-branding (Washburn, Till, & Priluck, 2000). Different kinds of co-branding exist and one of them is ingredient branding. This is where a brand has an ingredient or component in a product of another brand. Examples are Intel processors in personal computers, NutraSweet in soft drinks and Android in smartphones. This is mostly done to show the high quality. The performance of the end-product will usually be better if this component was made by a company which is specialized in this technology than when the product manufacturer made the component itself and this quality increase makes it beneficial for both brands in terms of profit and reputation. (Norris, 1993)

In the research of Norris (1992) are given the benefits of ingredient branding for the supplier of the component, the brand selling the end-product and the retailer. The supplier of the component can create bigger profit margins, will get the demand of its product more stable over time and creates a long term supplier-manufacturer relationship. The benefit for the seller of the end-product is that there is more awareness for the product because of an ingredient of another brand in his product. Both brands have an initial awareness and if two brands work together, the awareness is the sum of both companies. Also the high quality of this ingredient can cause a competitive advantage over competitors. This competitive advantage can allow companies to ask premium prices for their products and increase the contribution margin (Kalafatis, Remizova, Riley, & Singh, 2012). Last, the collaboration between the two brands can give economies of scope to both brands and reduce production and development costs. Ingredient branding seems to work the best for market leaders in an industry in terms of cost reduction, but the relative benefit is bigger for smaller companies especially in terms of knowledge, development and profit. For the retailer the benefits are more promotional support and the possibility to sell higher quality products that are likely to sell quicker. Disadvantages of ingredient branding is that the promotion costs for the supplier of the component can be high. Second it can create confusion among consumers about what the actual brand of the product is, the supplier of the component or the brand selling the end-product. Last, if one of the companies have a shortage of supply, make a mistake or suffer to competitive innovation both companies are in trouble and will have negative consequences on their sales.

In another research of Norris (1993) there are three things to consider to do ingredient branding. First, there is the uncertainty if the ingredient branding strategy will work. Do consumer want your product? Is your product the best in the market? Is this partnership profitable? Second, the costs of building awareness are very high. To reach the consumers about a new product much money have to be spend on advertising. Last, the consumers have a personal preference to certain products. If consumers only want the products that are already in the market, your new product is not going to launch profitable. Norris (1993) also formulated three requirements for ingredient branding. First, the component should have a visible logo on the end-product. This will also help with creating awareness for the component supplier. Second, the product must be important to customers, so you will have a big demand in the market for the product. Third, the ingredient must be patent protected, so you can defend yourself against competitive reaction in the early years when development costs are high. In this article he made a model for steps to a successful integration for ingredient branding between two companies (Figure 1). All the steps are followed by a short explanation.

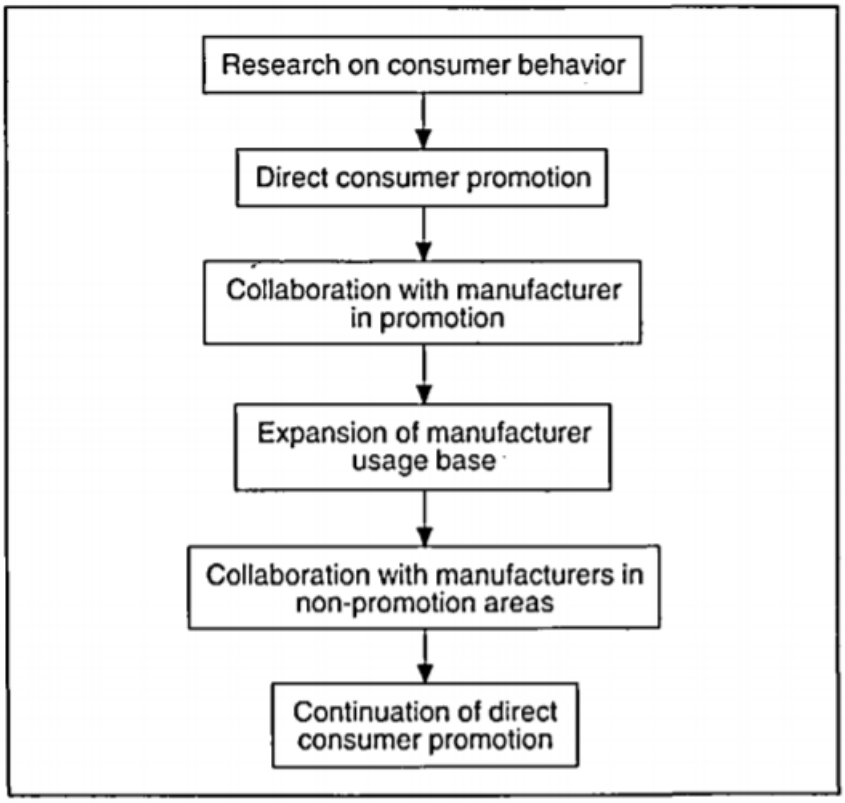

Figure 1, Model with steps to ingredient branding (Norris, 1992)

Research on consumer behavior, Ingredient branding will work the best if the market is growing. This way the need of the consumers for your product is big enough. Also is the consumer price sensitive? Or do you need high performance or endurance?

Direct consumer promotion, build awareness and preference under your consumers. Focus on the biggest benefit of the component for the consumer.

Collaboration with manufacturer in promotion, collaboration in promotion will improve the long term relationship and both brands will share costs and gain awareness.

Expansion of manufacturer usage base, seek for additional adopters in different industries to gain more revenue.

Collaboration with manufactures in non-promoting areas, reduce manufacturing costs by working together on packaging, R&D and equipment.

Continuation of direct consumer promotion, Focus on direct consumer promotion to fight new competitors of.

In the article of Worm & Srivastava (2014) research was done about when ingredient branding was profitable for the supplier of the component and the brand selling the end-product. Ingredient branding is more profitable for the component supplier if there is high product differentiation and the industry is highly technology intensive. However, the profit will decrease for the component supplier and increase for the brand selling the end-product if the customer relationship with the brand selling the end-product is important and when brand importance of the brand selling the end-product is high.

Ingredient branding could have a negative impact on one of the companies if one of them is a big established brand and one of them is a smaller, less known brand . The less known brand can suffer from the transfer of negative associations from the established brand, is more vulnerable after potential product failure and will suffer from a loss of control in the product development. However, co-branding is an adaptive learning process and the negative effect will disappear after a delay. (Cunha, Forehand, & Angle, 2014)

The amount of benefits, like more profit or sales, derived from the co-branding depends on a couple of factors. One of them is brand equity. If your brand equity is quite high, your company can not earn as much benefits relatively seen to a brand with a lower brand equity. When two

companies are involved in co-branding and one of them has a low brand equity and the other has a high brand equity, the brand with the lower brand equity will relatively have more benefits out of the alliance. The brand with the lower brand equity can benefit from the network and resources provided by the brand with the higher brand equity. If the two companies involved in co-branding have an equal brand equity, the benefits of the co-branding will be shared equally between the brands (Kalafatis et al., 2012). These findings will also have the same outcome when we are talking about brand familiarity and the effect this has on the spillover revenues and the attitude on brand alliance. (Simonin & Ruth, 1998)

For both companies it seems to be better to keep working together even after brand misconduct of one company. But what if the other company gets an offer for ingredient branding by a competitor of the company involved in the brand misconduct. Companies often change partnerships because stakeholders seem always only interested in the short term effects for high profits for the company (Rappaport, 2005).

3.4 Consumer reaction to ingredient branding

According to an article of Siomkos, Triantafillidou, Vassilipokoulou and Tsiamis (2010) about the reaction of consumers after a brand misconduct there are six different options for consumers of brand associated with brand misconduct and non-associated brands to do:

- Remain consumer of the defective product
- To stop using the defective product
- Remain customer of the associated company
- Switch to a competitor brand
- Remain customers of the competitive product
- Stop using the competitive product

From these six reaction, two of them were most common. The first one is to stop using the defective product until there is more known about the circumstances of the crisis. The second one is to switch to a competitive brand.

Consumers are more willingly to change to a competitor brand when the reputation of the brand associated with brand misconduct is low or the severity of the crisis is high. However, if the reputation of this company is high it is less likely that consumers will switch to a competitive brand and it is more likely to have a negative spillover in the industry. This is also the case if the severity of the crisis is high and the reputation of the brand which committed brand misconduct is higher than the brand which is non-associated with the misconduct. (Siomkos et al, 2010)

The component supplied to the end-product creates a 'pull-effect' on the consumer. It will increase the demand for the product and it will increase the brand equity of the manufacturer. In this article Helm & Özergyn (2015) have done research about the consumer perception on ingredient branding. The perception of the consumers is that the quality of the end-product automatically increases if there is a component of another brand used in the end-product. It does not matter what kind of component it is or what kind of quality. A result of this is that an increase of quality of a product will also increase the purchase intention of that product by consumers.

To this point the literature did not look at the level of quality of the component that was put in the end-product. But the next two articles conclude that the perceived quality by consumers of an end-product is bigger if a high quality product contains a high quality ingredient than if the end-product is a high quality product without an ingredient. But also that the perceived quality by consumers is higher if the end-product is a low quality product with a low quality ingredient than if the end-product is a low quality product without a low quality ingredient (Helm & Özergyn, 2015) (Janiszewski & van Osselaer, 2000). Also the purchase intention of consumers to the end-product is perceived this way. (Helm & Özergyn, 2015)

In an article of Liu & Shankar (2015) is done research about brand preference and advertising effectiveness after brand misconduct. The amount of negative impact of such brand misconducts depend on the media coverage, crisis severity and consumers perception about the quality of the product. The negative impact of the brand misconduct was bigger if there was more media attention, severe consequences for the companies involved and if the regarding product was perceived as high quality.

Another factor that needs to be looked at in the range of consumer reaction are emotions. Emotions of consumers are especially important if it is about safety. In five studies safer alternatives are chosen after an emotional response was triggered when it seemed products did not always work perfectly (Gershoff & Koehler, 2011).

In a research of Desai & Keller (2002) is shown that when a brand wants to expand the brand in a brand line extension, the new product gets a better evaluation and is preferred by the consumers if it is part of co-branding partnership and the end-product contains an ingredient or component of another brand than if the brand decides to *self-brand* the new product.

4. Theoretical framework

Four hypotheses are made and explained in the theoretical framework about the effect that brand misconduct and ingredient branding have on the perceived brand equity by consumers for the brands selling the end-product. However, we cannot measure brand equity correctly which will be later explained in the methodology section. So for the hypotheses and the rest of the research we will use brand superiority instead.

While another brand is increasing their perceived brand equity by consumers by using ingredient branding, it is likely that consumers think that when the other brands are not doing ingredient branding that the quality of these brands worsens. Even when the quality of the product without a component is actually better than the product with ingredient branding and a component, the better quality perceived by consumers will for the product with ingredient branding. For ingredient branding it does not matter how good the quality of the component in the product is. If there is a component in the end-product, it is perceived by consumers as higher quality (Helm & Özergyn, 2015).

H1: The perceived brand superiority of brands that use ingredient branding by a company which did not commit brand misconduct will be higher than the perceived brand superiority of brands that do not use ingredient branding and use components of companies which did not commit brand misconduct.

But in the industry it is also possible that brands are already ingredient branded by the company which committed the misconduct. For example when this partnership was already made before the brand misconduct. While being ingredient branded by a company which committed the misconduct, the perceived brand equity for the company selling the end-product should be getting lower.

When a person asks you what kind of weather it is outside, he could answer with: ‘’dry,’’ but he could also answer with ‘’not wet.’’ These two answers should mean the same thing to the person who asked to question. But not all of the time it does. This is part of the relevance theory which explains that contextual effect are differently interpreted by some people. (Colston, 1999)

This can cause people to think that being not ingredient branded by the company which committed brand misconduct and don't use products of this company will be better or worse than being ingredient branded by the company which did not commit brand misconduct.

H2: The perceived brand superiority of brands which do not use ingredient branding and do not use components from a company which committed brand misconduct will be higher than the brand superiority of brands who use ingredient branding by companies which did commit brand misconduct.

When a brand sells a product which has a component of another brand in its end-product, this is called ingredient branding (Norris, 1992). When products are ingredient branded by another company, consumers perceive this product as a higher quality. But brands without an ingredient should not have the increase of quality perception by the consumer (Helm & Özergyn, 2015) (Janiszewski & van Osselaer, 2000).

H3: The perceived brand superiority of brands that use ingredient branding by a company which did not commit brand misconduct will be higher than the perceived brand superiority of brands that do not use ingredient branding but use components of companies which committed brand misconduct.

For the fourth hypothesis we look back at the second hypothesis. Also here we can use the example of the different sayings ''dry'' and ''not wet''. If these two answers, which mean the same, will get interpretated differently, then it can also be interpretated differently in other context. This can cause people to think that being not ingredient branded, but do use components of companies which did commit brand misconduct will be better or worse than companies which are being ingredient branded by the company which did commit brand misconduct. The real question in here is what will have more impact on the behavior of the consumers, the ingredient branding or the misconduct by the brand?

H4: The perceived brand superiority of brands which do not use ingredient branding but use components from a company which committed brand misconduct will be higher than the brand superiority of brands who use ingredient branding by companies which committed brand misconduct.

4.1 Conceptual model

The conceptual model below (figure 2) is created to get a systematic overview of the thesis research and hypotheses. H1 indicates a positive effect of ingredient branding on perceived brand superiority if one brand will use ingredient branding by a company which did not commit brand misconduct and the competing brand will not use ingredient branding, but uses components of companies which did not commit brand misconduct. H2 indicates a positive effect on the perceived brand superiority if one brand does not use ingredient branding and uses components of companies which did not commit brand misconduct and the competitive brand uses ingredient branding by a company which committed brand misconduct. H3 indicates a positive effect on brand superiority if one brand will use ingredient branding by a company which did not commit brand misconduct and the competitive brand will not use ingredient branding, but uses components of companies which did commit brand misconduct. H4 indicates a positive effect on the perceived brand superiority if one brand does not use ingredient branding but uses components of companies which did commit brand misconduct and the competitive brand uses ingredient branding by a company which committed brand misconduct.

The interesting part of this research will be the fact that Hypothesis 2 and 4 and Hypothesis 1 and 3 are very alike. These hypotheses can answer the question for companies if it is better to say: ''We only use components of companies which did not commit brand misconduct.'' Or say: ''We don't use components of companies which committed brand misconduct.'' My expectation is that (''We don't use components of companies which committed brand misconduct'') will have a bigger impact on brand superiority than (''We only use components of companies which did not commit brand misconduct''). Studies like Baumeister, Bratlavsky, Finkenauer and Vohs (2001) show that negative events in a person's life have a bigger impact than positive events. Negative events are easier to form in a individuals mind than good ones. People are rather set to avoid negative events than to pursue good events. Research in the area of brand misconduct and corporate social responsibility is indicated that a negative experience (brand misconduct) with a company has a bigger influence than a positive experience with a company (Huber et al, 2010). However the effect of negative events having a bigger influence than positive effects can be turned around if there is a superior amount of

positive events over negative events (Baumeister et al, 2001). So the relative effect of the hypotheses will also depend on the empirical context in which the hypotheses are tested.

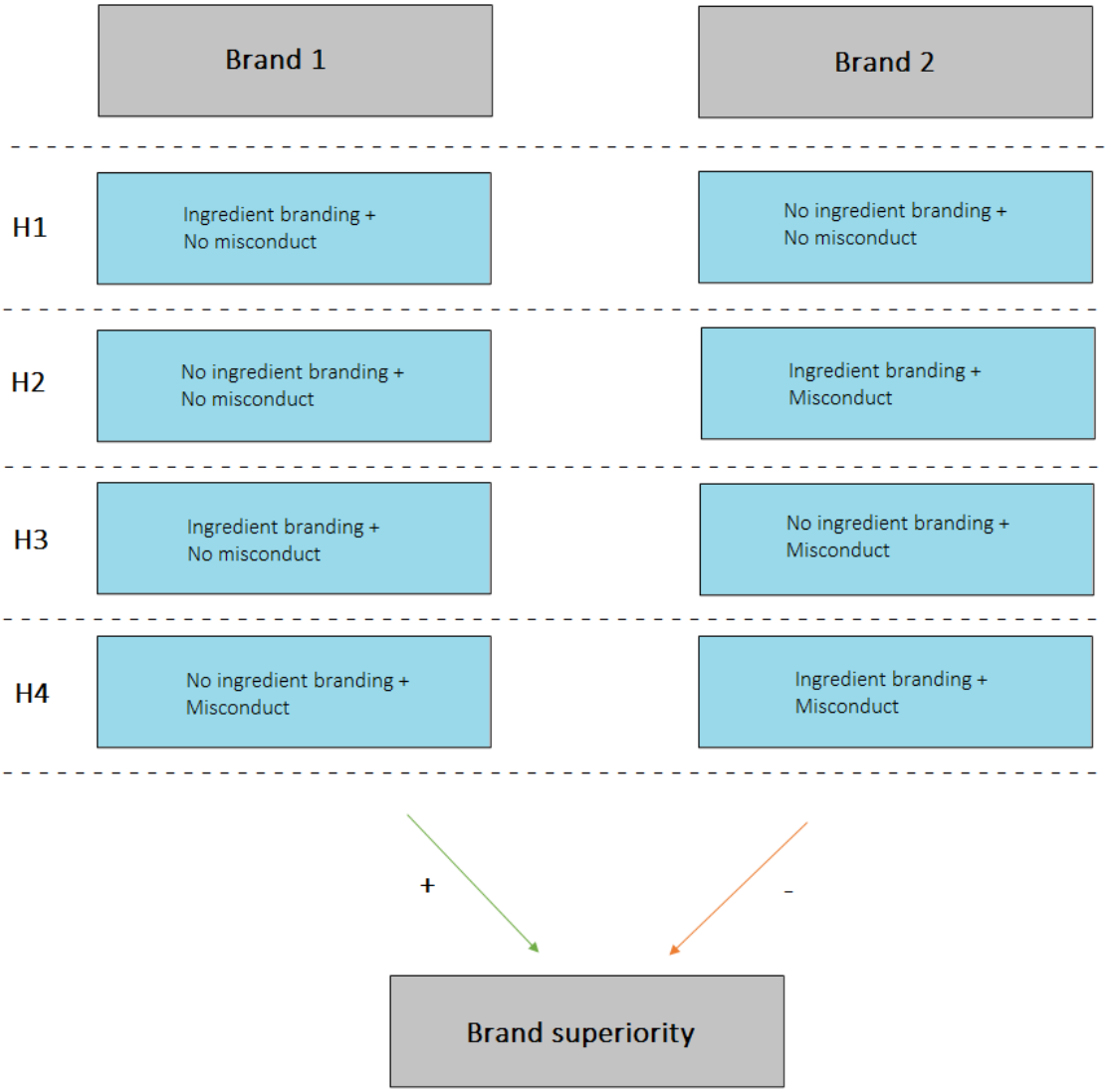

Figure 2, Conceptual model of the thesis research

5. Data

The empirical context for this research will be based on the commercial airline industry. In this B2B2C market the manufacturers of airplanes, Boeing and Airbus, will be the first chain in the market. The second chain will be the airline companies and the last chain will be the consumers.

The brand misconduct in this industry was committed by the airplane manufacturer Boeing. In 2018 and 2019 two Boeing 737MAX airplanes crashed and killed all passengers on board. After the investigation of the crashes was clear that both planes crashed due to a production mistake by Boeing.

The data will be collected by a survey about the consumer reaction on the brand misconduct of Boeing. However, Boeing is not able to sell its product to the consumer, but to another set of companies between the airplane manufacturer and the consumer, the airline companies. So the consumer reaction will be based on how the airline companies will react on the misconduct in the industry.

The survey will be collected on airports in the Netherlands, Schiphol Airport and Rotterdam-The Hague Airport. These are the places where the consumers of the commercial airline industry are often located. The survey will be held in the time period of summer in 2020, because in this time period the commercial airline industry has the most customers.

A sample of 300 survey will be handed out to make sure that ± 250 useful completed surveys will be collected. A survey will be useful when the respondent is at least 18 years of age. The respondent needs to be an adult and have to pay for their own flight ticket in order to get a true reaction. Also the survey needs to be fully completed. Not completed surveys will not be used to analyze.

5.1 Research

The research design for the thesis will be an explanatory/quantitative research. This type of design is chosen to get a better understanding about the subject. The software used for analyzing the data will be Statistical Package for Social Sciences (SPSS). A survey will be used

to acquire the required data. The questions in the survey will be asked and answered on a Likert scale from 1 to 7 or 1 to 5 and on a ratio level. In the first part of the survey participants are asked to answer questions about four airline companies in the commercial airline industry over the perceived brand superiority of these airlines.

All of these four airlines will be exactly the same except for the name, to distinguish them from each other, and the type of airplane manufacturer they use. One airline will be ingredient branded by Boeing, one will be ingredient branded by Airbus, one airline uses airplanes which is definitely not made by Boeing and one airline uses airplanes which is definitely not made by Airbus. These four airlines will be analyzed about the consumer reaction on the brand misconduct of Boeing. The airlines will be the following:

Table 1, overview of airlines and airplane types in the study

Airline	**Type of Airplane**
Fly Luxe	Airbus
Dreamflyers	Boeing
Perfect Airlines	Not Boeing
Quality Air	Not Airbus

The second part of the survey will contain a choice experiment, analyzed with a conjoint analysis. The participants of the survey have to choose between two choice options of a set of attributes about a product. This will allow me to analyze which attributes they prefer, value the most and what they are willing to pay for each attribute of this product. The product in this choice experiment will be a flight ticket from Amsterdam to New York. The attributes in this choice experiment will be price, amount of stops, quality of service and airplane type.

6. Methodology

6.1 Linear regression

To answer the hypotheses of this thesis a linear regression model will be made. I have chosen for a linear regression model because the dependent variable in the equation in continuous and not categorical. Brand equity will be the main dependent variable and is usually composed out of brand awareness, brand quality brand image and brand loyalty (Keller, 2013). But the airlines are imaginary to reduce the chance of biases, which can be caused by using real airlines. So brand awareness is not measurable and is left out of the calculation this research. This is also the reason why the variable brand equity is renamed to *brand superiority*, because brand equity is not measurable.

The control variables *gender, age, income* and *education* are added to show if there is a different effect on certain groups of people based on demographics. The next variable will be if the consumer is a *frequent flyer.* This will be measured by the amount of flights a respondent has taken in the past year. This variable is important because frequents flyers like businessman usually do not have an option to choose a flight of their choice and will less care about the risks. Next to this they would usually like to fly with a well-known airline for a good image or reputation (Ringle, Sarsteds, & Zimmermann, 2011). Also, a *fear of flying* will cause consumers to choose automatically for the safest option (Fleischer, Tchetchik, & Toledo, 2015). Last, consumers can have positive and negative emotions to different brands and this can influence the value consumers give to a brand. Negative events are proven to have a bigger influence on brand equity than positive events. (Huber et al, 2010)

6.2 Analysis

Before executing the analysis the data was reduced by using the principal component analysis (PCA). The variable *fear of flying* consisted of several questions out the Flight Anxiety Modality questionnaire (FAM) (Nousi, van Gerwen, & Spinhoven, 2008) and the Aviophobia assessment (Skolnick, Schare, Wyatt, & Tillman, 2012). The variables *positive emotions* and *negative emotions* are computed out of the emotions Happiness, Trust, Safeness, Excited, Relaxed Fear,

Sadness, Nervous and Stressed. To measure the reliability of the factor analysis the Cronbach Alpha reliability test is used. If the Cronbach Alpha for the items used in the factor analysis is higher than 0,7 the result is reliable.

In the linear regression model the hypotheses can be answered about which airline will have the highest brand superiority given the variables. *Brand superiority* will be the dependent variable in this model and *positive emotions, negative emotions*, whether is the consumer a *frequent flyer* and has the consumer a *fear of flying* will be the independent variables. Also some control variables are added in the equation like *gender (male), age, income, education*. These independent variables and control variables are added to explain which of these variables have an effect on the consumer reaction for the brand equity of each airline using ingredient branding or not. Instead of making four different linear regression for each type of airplane an airlines sells their flight for, a pooled data set is created with dummy variables for each airline. Using moderations with the dummy variables and the other independent variables will show the results for each airline for each of the variables. All data is showed in one linear regression. The full model equation for the linear regression can be found below.

BrandSuperiority = β_0 + β_1 * **FlyLuxe** + β_2 * **Dreamflyers** + β_3 * **PerfectAirlines** + β_4 * **QualityAir** + β_5 * **Male** + β_6 * **Age** + β_7 * **Income** + β_8 * **Education** + β_9 * **FrequentFlyer** + β_{10} * **FearOfFlying** + β_{11} * **PositiveEmotions** + β_{12} * **NegativeEmotions** + β_{13} * **Male_FlyLuxe** + β_{14} * **Age_FlyLuxe** + β_{15} * **Income_FlyLuxe** + β_{16} * **Education_FlyLuxe** + β_{17} * **FrequentFlyer_FlyLuxe** + β_{18} * **FearOfFlying_FlyLuxe** + β_{19} * **PositiveEmotions_FlyLuxe** + β_{20} * **NegativeEmotions_FlyLuxe** + β_{21} * **Male_Dreamflyers** + β_{22} * **Age_Dreamflyers** + β_{23}* **Income_Dreamflyers** + β_{24} * **Education_Dreamflyers** + β_{25} * **FrequentFlyer_Dreamflyers** + β_{26} * **FearOfFlying_Dreamflyers** + β_{27} * **PositiveEmotions_Dreamflyers** + β_{28} * **NegativeEmotions_Dreamflyers** + β_{29} * **Male_PerfectAirlines** + β_{30} * **Age_PerfectAirlines** + β_{31}* **Income_PerfectAirlines** + β_{32} * **Education_PerfectAirlines** + β_{33} * **FrequentFlyer_PerfectAirlines** + β_{34} * **FearOfFlying_PerfectAirlines** + β_{35} * **PositiveEmotions_PerfectAirlines** + β_{36} * **NegativeEmotions_PerfectAirlines** + β_{37} * **Male_QualityAir** + β_{38} * **Age_QualityAir** + β_{39} * **Income_QualityAir** + β_{40} * **Education_QualityAir** + β_{41} * **FrequentFlyer_QualityAir** + β_{42} *

FearOfFlying_QualityAir + β_{43} *** PositiveEmotions_QualityAir +** β_{44} *** NegativeEmotions_QualityAir +**

In order to conclude if the linear regression model fits the data there will be looked to the statistical measures for goodness-of-fit. The R-squared will be used to measure the goodness-of-fit. The R-squared measures how good the model will explain the variance of responses. To conclude if any results in the linear regression model are significant there will be a significant level used of $\alpha < 0,05$.

6.3 Conjoint analysis

Another section of the data in the survey will be analyzed using a discrete choice model, using a binary logistic regression model. To analyze this discrete choice model, a conjoint analysis will be made to evaluate the different combinations of product attributes on preference and willingness to pay by consumers. The product in this conjoint analysis will be a flight ticket from Amsterdam (Schiphol Airport) to New York (JFK Airport) and the attributes will be price, airline service, type of airplane used and the amount of stops between departure and arrival.

Table 2, overview of the attributes and attribute ranges for the conjoint analysis

Attribute	Options
Price	€300, €350, €400
Airplane type	Airbus, Not Boeing, Not Airbus, Boeing
Amount of Stops	Direct flight, 1 Stop, 2 Stops
Quality of service	Low service, High service

These attributes are chosen because these attributes are the first three options a customer would have to make a decision about when they buy a flight ticket on a website. So these three attributes could be seen as most important. The attribute airplane type is added for the purpose of this research. The options for the variable price is chosen between €300 and €400. This was the range of price a flight ticket from Amsterdam to New York could be chosen on websites. Amount of stops is chosen for how many stops a customer has to make from the beginning till the end of his trip. Stops would usually mean a trip takes more time, but the trip will be cheaper. This variable will have a range from an direct flight till two stops. More than

two stops will take too much time to arrive at the destination. Quality of service is chosen for what type of airline a consumers wants to fly with, low service or high service. Do the customers want to get any free drinks and/or food on board or do they want to bring it all themselves?

Before setting up the experiment an orthogonal design was made with profiles of different options concerning the attributes of the product. Instead of 72 (3*4*3*2) different profiles, 16 Profiles were made. Two of which were deleted (Card numbers 7 and 12) for being the best option and so the obvious choice or worst choice option for respondents and this way no one will choose it.

Table 3, Orthogonal design with outcomes for profile cards

Card	Price	Airplane type	Amount of Stops	Quality of Service	Status
1	350	Airbus	2 Stops	High service	0
2	400	Not Boeing	Direct flight	High service	0
3	300	Not Airbus	1 Stop	High service	0
4	300	Not Airbus	Direct flight	High service	0
5	300	Airbus	1 Stop	Low service	0
6	350	Boeing	Direct flight	Low service	0
7	400	Boeing	2 Stops	Low service	2
8	400	Airbus	Direct flight	High service	0
9	300	Airbus	Direct flight	Low service	0
10	400	Boeing	1 Stop	Low service	0
11	300	Boeing	Direct flight	High service	0
12	300	Airbus	Direct flight	High service	2
13	300	Not Boeing	2 Stops	Low service	0
14	350	Not Boeing	1 Stop	High service	0
15	300	Boeing	2 Stops	High service	0
16	350	Not airbus	Direct flight	Low service	0

The survey for the experiment consists out of 14 question with each two choice options with a profile out of the orthogonal design and the respondents have to choose one of them. Because the respondents have to choose between two options the data will be analyzed using a binary logistic regression. The dependent variable in this binary logistic regression is the choice between the two set of cards are respondent is shown. Price, airplane type, amount of stops and quality of service are the independent variables in the model. While price and amount of stops are continuous variables with a rank order, Airplane type is a more categorical variable. This could be argued with the fact that the research is about brand misconduct and Airbus should be ranked the best and Boeing the worst, but treating airplane type as a continuous variable is not correct in this case. Therefore dummy variables are made for the airplane types. The Boeing airplane type will be the reference category. A positive sign in the logistic regression for the other dummy variables will mean a higher preference for that type of airplane, while a negative sign will mean a lower preference than a Boeing airplane. In order to find the relative values of the variables the second choice in subtracted from the first choice.

The model equation of the binary logistic regression will be:

$$\textbf{Utility} = \beta_0 + \beta_1 \textbf{ Price} + \beta_2 \textbf{ AirlineService} + \beta_3 \textbf{ Stops} + \beta_4 \textbf{ Airbus\_airplane} + \beta_5 \textbf{ NotBoeing\_airplane} + \beta_6 \textbf{ NotAirbus\_airplane}$$

While keeping other variables fixed, variable price is allowed to compensate for one of the independent variables. This way the willingness to pay for every independent variable can be calculated with the following formula:

$$\Delta\textbf{Utility} = \beta_i + \Delta\beta_1 \textbf{ Price}$$

To complete the conjoint analysis the willingness to pay will be calculated for each attribute and there could be concluded which attribute is most important to consumers.

7. Results

In order to answer the hypotheses and the research question of this thesis a survey was made about the consumer reaction on types of airlines and which kind of airplane they fly with. This survey was distributed to consumers of commercial airlines flights at the airports Schiphol and Rotterdam - The Hague. The initial plan for 300 respondents was not met due to the coronavirus. Consumers were less willingly to participate in the survey because they wanted to avoid a conversation with unknown people. Distributing the survey online was not an option, because this would not give a representative sample of the actual consumers. Nevertheless, 202 respondents have participated in the survey. Of these 202 respondents, 104 completed the survey, 89 respondents did not complete the full survey and 9 surveys were not returned.

Table 4, Amount of surveys completed by respondents

Survey	**Amount of respondents**
Completed	104
Not completed	89
Not returned	9
Total	**202**

The irrelevant 98 not completed or not returned surveys will be left out of the analysis. Of the 104 completed surveys, 47 were completed by male participants and 57 were completed by female participants.

Table 5, Gender distribution among participants

Gender	**Amount of respondents**	**Percentage**
Male	47	45,2 %
Female	57	54,8 %
Total	**104**	**100 %**

For the variable age, the respondent has to be 18 years or older. A respondent has to make their own choices about the airlines and with people below the age of 18 the decisions are

often made by the parents. The range of age between the 104 completed surveys was 18 years to 89 years. The age mean of the respondents was 43,6 years old, while the mode was 28 years and the median 42,5 years.

Table 6, Age of the respondents

Descriptive	Age
Minimum	18
Maximum	89
Mean	43.6
Mode	28
Median	42.5

The net income level of the 104 respondents was measured in four categories, because not every person will know their exact yearly net income or wants to tell that. Most of the respondents (35,6%) have a net income between €20.000 and €40.000, with the categories €0-€20.000 (26%) and €40.000-€60.000 (29,8%) slightly behind. Only a few respondents (8,7%) have a net income higher than €60.000. One thing that was noticeable in the data was that the respondents in the lowest category of net income were the younger (< age 25) and older respondents (> age 70).

Table 7, Income level of the respondents

Income level	Amount of Respondents	Percentage
€0 - €20.000	27	26 %
€20.000 - €40.000	37	35.6 %
€40.000 - €60.000	31	29.8 %
More than €60.000	9	8.7 %
Total	**104**	**100 %**

The highest level of education of the respondents is mostly hbo (University of applied sciences) (31 respondents), WO (master) (21 respondents) or mbo (Middle level applied education) (19 respondents). According to this data mostly the higher educated people take flights with commercial airlines.

Table 8, Education level of the respondents

Education level	Amount of respondents	Percentage
None	0	0 %
Vmbo (Pre-vocational education)	3	2.9 %
Havo (Higher general continued education)	12	11.5 %
Vwo (Prepatory scientific education)	9	8.7 %
Mbo (Middle level applied education)	19	18.3 %
Hbo (University of applied sciences)	31	29.8 %
WO (bachelor)	6	5.8 %
WO (Master)	21	20.2 %
Post Master	3	2.9 %
Total	**104**	**100 %**

For 17 respondents the flight trip they were going to do was their first flight trip in over a year, while only two persons had 16 flights in the past year. The mean for flights with commercial airlines in the past year was 3,48. However, the mode and the median were only 2. This can be explained by the possibility that most people in the survey have been on vacation in the past year once and this includes an away and return flight. Most of the respondents filled in an even number at this question.

Table 9, Previous amount of flights taken by respondents in the past year

Descriptive	Amount of flights in the past year
Minimum	0
Maximum	16
Mean	3.48
Mode	2
Median	2
Total	**104**

The descriptive data of the survey conclude that the average person that completed the survey is a 44 year old female, who earns €20.000 - €40.000 a year, studied hbo (university of applied science) and makes 3 commercial airline flights in a year.

Next, principle component analysis (PCA) is used to reduce the amount of data and make sure the variables are less correlated with each other. The variables *brand superiority, fear of flying, positive emotions* and *negative emotions* are made with PCA and the results of the factor analysis will be shown in the tables below.

The first PCA was used to get a strong and reliable dependent variable. As discussed in the methodology section it was hard to measure brand equity, which is an already well-defined theoretical construct and not measurable in this type of research. This is why the dependent variable is adjusted to measure only quality, image and loyalty of a brand in comparison to the other brands. This new computed variable is called *brand superiority* and is computed out of all three items if the first PCA. To measure the reliability of the factor analysis we use the Cronbach Alpha for the three items which was (α = 0,911). The results of the PCA for the new variable *brand superiority* is shown below in the table.

Table 10, Principal component analysis (PCA) with component loadings for variable brand superiority

Component	**1**
1. This airline offers better quality than other airlines	0.936
2. This airline has a better image/reputation than other airlines	0.935
3. I feel loyal to this airline	0.892

The second PCA was used to determine to variable *Fear of Flying*. Six questions were asked to the respondents instead of one to make the variable stronger and more reliable for the linear regression in the next analysis. These six questions were acquired from two different questionnaires about flight anxiety, the Flight Anxiety Modality questionnaire (FAM) (Nousi et al., 2008) and the Aviophobia assessment (Skolnick et al., 2012). Items 1,2, and 3 are questions out of the Aviophobia assessment and items 4,5 and 6 are questions out of the FAM. In the results in the table below is shown that only one component is made and all the six questions are used to compute the variable *fear of flying.* Also with this factor analysis we use the Cronbach Alpha to measure the reliability of the results and these were reliable with a Cronbach alpha of (α = 0,967).

Table 11, PCA with component loadings for variable fear of flying

Component	**1**
1. I have a fear of flying	0.972
2. I am more afraid of flying than I should be	0.931
3. I go out of my way to avoid flying	0.912
4. The idea that something will go wrong is constantly in my mind	0.937
5. I have a fear of dying	0.858
6. I think the particular plane I am on will crash	0.947

An important factor in analyzing the reactions of consumers to brand misconduct are emotions. The last PCA will be used to merge many different emotions in just a couple of variables. Nine common reactions were chosen for this factor analysis and in the results below is shown that two components are made. These nine emotions were based on prior studies about (basic) emotions (Shaver, Murdaya, & Fraley, 2001). Emotions that seem to be irrelevant for this research were left out. To take a closer look, the emotions in component one are quite positive emotions (items 2,4,5,7 and 8) and that is why the new variable is called *positive emotions*. The emotions in the second component are more negative emotions (items 1,3,6,and 9) and this new variable is called *negative emotions*. To test the internal reliability of the factor analysis the Cronbach Alpha was used one last time. This was the case with a Cronbach Alpha of ($\alpha = 0{,}930$) for negative emotions and a Cronbach Alpha of ($\alpha = 0{,}934$) for positive emotions. Because of the results of this PCA, the next analysis of the linear regression model can be concluded which emotions have a bigger influence for consumers on brand misconduct, positive emotions or negative emotions.

Table 12, PCA with component loadings for emotions variables

Component	1	2
1. Fear		0.910
2. Happiness	0.895	
3. Sadness		0.923
4. Trust	0.919	
5. Safeness	0.901	
6. Nervous		0.866
7. Excited	0.842	
8. Relaxed	0.878	
9. Stressed		0.926

The first linear regression was made to predict the brand superiority of airlines without any other independent variables with the dependent variable brand superiority and the independent variables the dummy variables for each airline. Dummy variable FlyLuxe is removed from the regression as it is the reference category for the other airlines. The linear regression model explains 17.8% of the variance in the data with a R-squared of 0.178.

Table 13, Linear regression for predicting brand superiority for airlines

Model variable	β	Coefficient standard error	Unstandardized beta	Significance
Constant	4.554	.117		.000
Airline_Dreamflyers	-1.042	.165	-.344	.000
Airline_PerfectAirlines	-.917	.165	-.303	.000
Airline_QualityAir	-1.529	.165	-.505	.000

The constant is significant and this will mean that the airline FlyLuxe (Airbus airplanes) will have the same predicted value for brand superiority. The dummy variable for PerfectAirlines (not Boeing airplanes) is also significant. The predicted brand superiority if the airlines is flying with airplanes which are not Boeing made, the brand superiority is *.917* lower than when an airline is flying with airplanes which are made by Airbus. The dummy variable for the airline Dreamflyers (Boeing airplanes) is also significant. The predicted brand superiority for airlines which fly with Boeing airplanes is *1.042* lower than for airlines which fly with Airbus airplanes.

The last dummy variable for QualityAir (not Airbus airplanes) is significant too. The predicted brand superiority for airlines which use airplanes not made by Airbus is *1.529* lower than airlines which use airplanes of Boeing.

A second multiple linear regression was made to predict the brand superiority of the four different airlines with the other independent variables to find an effect on brand superiority. The dependent variable is brand superiority and the independent are the four different dummy variables for the airlines. But also the variables male, age, income, education, fear of flying (FOF), frequent flyer, positive emotions (PosEmo) and negative emotions (NegEmo). Moderations were made with the dummy variables for the airlines and the other independent variables to measure the effects per airline for every independent variable. The reference category used for the dummy variables is the airline Dreamflyers (Boeing airplane). Some variables were excluded because they had no impact on the prediction value. These variables are *male* and the interaction terms with the airlines *FlyLuxe_education/income/FOF, Dreamflyers_age/frequentflyer, PerfectAirlines_NegEmo* and *QualityAir_PosEmo*. The linear regression model explains 29.2% of the variance in the data with a R-squared of 0.292. The results of the linear regression model are shown in the table below.

Table 14, Linear regression model for predicting brand superiority with interaction terms

Model variable	β	Coefficient standard error	Unstandardized beta	Significance
Constant	4.308	.884		.000
FlyLuxe	.551	1.269	.182	.664
PerfectAirlines	-1.746	1.233	-.577	.157
QualityAir	-.1936	1.229	-.640	.116
Age	-.008	.009	-.100	.407
Income	.042	.198	.030	.831
Education	.000	.096	.000	.998
FOF	-.082	.071	-.105	.251
Frequentflyer	.098	,034	.291	.005
PosEmo	.055	.121	.042	.652

NegEmo	.111	.128	.083	.384
FlyLuxe*age interaction (int.)	-.006	.013	-.092	.657
FlyLuxe*male int.	-.193	.296	-.046	.515
FlyLuxe*Frequentflyer int.	-.031	.049	-.059	.518
FlyLuxe*PosEmo int.	.137	.173	.130	.429
FlyLuxe*NegEmo int.	-.199	.188	-.171	.289
Dreamflyers*income int.	.183	.274	.147	.505
Dreamflyers*male int.	-.584	.285	-.138	.042
Dreamflyers*education int.	-.126	.136	-.256	.353
Dreamflyers*FOF int.	.054	.101	.066	.590
Dreamflyers*PosEmo int.	.091	.170	.090	.591
Dreamflyers*NegEmo int.	-.391	.185	-.324	.035
PerfectAirlines*age int.	.004	.013	.059	.775
PerfectAirlines*income int.	.038	.268	.031	.886
PerfectAirlines*male int.	.101	.286	.024	.723
PerfectAirlines*education int.	.102	.134	.206	.447
PerfectAirlines*FOF int.	.038	.100	.047	.703
PerfectAirlines*frequentflyer int.	-.208	.049	-.391	.000
PerfectAirlines*PosEmo int.	.204	.168	.201	.225
QualityAir*age int.	.020	.013	.324	.117
QualityAir*income int.	-.176	.265	-.142	.507
QualityAir*male int.	.262	.288	.062	.364
QualityAir*education int.	.133	.133	.270	.318
QualityAir*FOF int.	.011	.100	.014	.911
QualityAir*frequentflyer int.	-.126	.048	-.237	.010
QualityAir*NegEmo int.	-.259	.177	-.213	.143

For the interpretation of the results of the linear regression we first look at the airlines. The airline *Dreamflyers* (Boeing airplane) is used as the reference category for the dummy variables of airlines. The brand superiority of Dreamflyers will be the same as the constant, with other variables fixed. The results for the other dummy variables for airlines are not significant so no final conclusion can be deducted from this model.

The only significant effect of the respondent being *male* or female on brand superiority is found in the interaction term for the airline Dreamflyers (Boeing airplane). The predicted brand superiority will be *.584* lower for airlines which uses Boeing airplanes when the consumer is male instead of female. The other findings for the variable male are insignificant.

The variable *frequent flyer* was the only variable with multiple significant results. For every flight a consumer has taken in the past year, the brand superiority will increase with *(.098).* But if an airline does not use ingredient branding this positive effect will turn into a negative effect. Airlines which uses only airplanes not made by Boeing will decrease in brand superiority for every flight a consumer has taken before in the past year by *(-.208)* and airlines which uses airplanes not made by Airbus *(-.126)*. The result for the interaction term with FlyLuxe was insignificant.

The expectation was that the variable *negative emotions* would have a negative influence on brand superiority. Also this negative impact was supposed to be bigger than any positive effects. However all the results for *positive emotions* were not significant. The only significant result found for *negative emtotions* was for the interaction term with the airline Dreamflyers (Boeing airplane). For every point on a Likert scale from 1 to 5 the predicted brand superiority decreases with *.391*. Looking at the unstandardized beta's *NegEmo_Dreamflyers* is also the variable with the biggest absolute significant influence on brand superiority *(-.324).*

All the results found for the variables *age, income, education,* and *fear of flying* are insignificant.

At last, a conjoint analysis is made to see which attributes of flight tickets are valued the most important by customers. A binary logistic regression is made and this analysis can calculate how much a customer is willing to pay for an increase in each attribute. The product in this conjoint analysis will be a flight ticket from Amsterdam (Schiphol airport) to New York (JFK airport). The attributes in this conjoint analysis are chosen based on the first three attributes consumers can choose from at sites who sell flight tickets. The attribute airplane type is added for the purpose of this research.

Table 15, overview of attributes and attribute range

Attribute	**Options**
Price	€300, €350, €400
Airplane type	Airbus, Not Boeing, Not Airbus, Boeing
Amount of Stops	Direct flight, 1 Stop, 2 Stops
Quality of service	Low service, High service

The binary logistic regression made it possible to analyze a couple of results for this test, the model fit statistics, the effect of each attribute (Sign, significance), the willingness to pay for each attribute and the best configuration of the product, the flight ticket from Amsterdam to New York. This last result will obviously will be a €300 ticket for a direct flight with a high service airline.

The model fit statistics shows that the model is overall statistically significant, following the omnibus test of model coefficients with $\alpha < 0.1$. Also the classification table shows that the model is able to predict 65% of the cases correctly.

The results of the model can be found in the table below. With the results of the binary logistic regression the effect of each attribute can be analyzed. Three elements will be observed: Sign, significance and the odds. For the significance level $\alpha < 0.1$ is used.

The constant is positive with a coefficient of .022 and is not significant. Price has a negative sign and a coefficient of -.003 and is significant. If the price rises with 1 euro the odds ratio of choosing this flight ticket decreases by 99.7% - 100% = 0.03%

Amount of stops has a positive sign and has a coefficient of .383. This variable is also significant and if the amount of stops decreases with one stop the odds of picking this flight ticket will increase by 146.7% - 100% = 46.7%.

Quality of Service has a negative sign and a coefficient of -.423. This is the fact because I actually put high and low service in the wrong order in the survey and the data. Quality of service is significant and the odds of this variable show that if the airline offers low service the odds that the respondent pick this flight will decrease with 65.5% - 100% = 34.5%.

Last, the dummy variables for the different type of airplanes are insignificant for airlines which fly with Airbus airplanes and airlines which fly with airplanes not made by Boeing. However, the dummy variable for airlines which fly with airplanes not made by Airbus is significant. This dummy variable has a positive sign and has a coefficient of .225. The odds for picking this flight if the flight will be with an airplane not made by Airbus will increase with 125.3% - 100% = 25.3%

Table 16, Binary logistic regression outcome

Variable	**Coefficient β**	**Significance**	**Odds**
Constant	.022	.765	1.023
Price	-.003	.000	.997
Amount of stops	.383	.000	1.467
Quality of Service	-.423	.000	.655
Airbus airplane	.186	.106	1.205
Not Boeing airplane	.200	.118	1.221
Not Airbus airplane	.225	.059	1.253

The willingness to pay for each attribute can be calculated by keeping the other variables fixed. This way we can allow the variable price to compensate for the increase or decrease of the measured attribute. The formula for this calculation will be the following:

$\Delta\text{Utility} = \beta_i + \beta 1 \Delta price$

With this formula the difference in coefficient β in the table can be compensated by price

For ΔUtility=0, $\Delta price - \beta_i / \beta 1$

For example the variable amount of stops has a coefficient of .383, while the variable price has a coefficient of -.003. Putting these numbers in the formula will give -.383 / -.003 = 127.67.

So a respondent is willing to pay €127,67 more for one less stop during the flight. All the results for willingness to pay for each attribute can be found in the table below.

The results for the dummy variables for airplane types should be interpretated differently, because they all refer to the reference category (Boeing airplane). This means the result of willingness to pay is in comparison to a Boeing airplane for all the dummy variables. However, only the results for the dummy variable not Airbus airplane is significant. The other two are insignificant so these will be left out of the calculation.

Table 17, Willingness to pay for each attribute

Variable	Coefficient	Willingness to pay for an increase of 1 for each attribute in euros
Amount of stops	.383	€127,67
Quality of service	-.423	€141
Not Airbus airplane	.225	€75
Price	-.003	

Summarizing the significant results for willingness to pay from the respondents for each attribute. First, the respondents are willing to pay €127,67 for each less stop made between departure from Amsterdam and arrival at New York. This can build up to €255,34 between two stops and a direct flight. Second, the respondents are willing to pay €141 less for an airline with low service than an airline with high service on board. Last, consumers are willingly to pay €75 more to fly with an airplane which is not made by Airbus instead of and Boeing airplane. This will mean that airlines can mostly ask higher prices for a flight ticket if they offer direct flights. Next will be the service they provide and last the type of airplane.

8. Conclusion

The goal of this research was to measure the consumer reaction on brand misconduct in a B2B2C market. This was done through an empirical study in the commercial airline industry concerning airlines and airplane manufacturers. The misconduct was committed by airplane manufacturer Boeing by a mistake in the production of the Boeing 737MAX airplane. The consumer reaction about this misconduct is measured through a couple of variables, like different kind of demographics, has the consumer a fear of flying, is the consumer a frequent flyer and a list of emotions about the misconduct. The second part of the research was a conjoint analysis about the attributes of the product in this B2B2C market, a flight ticket. The conjoint analysis can show what is the most important attribute of the product and what is a consumer willing to pay for each attribute of the product.

a. Significant findings

Principal component analysis was used to retrieve the variables brand superiority (table 10), fear of flying (table 11), positive emotions and negative emotions (table 12) and after this two linear regression were made. The first linear regression (table 13) would predict the brand superiority for each airline based on what type of airplane they use. The second linear regression (table 14) would predict the brand superiority for each type of airline used in the research and what variables will have a significant effect on their brand superiority. Unfortunately, much of the findings in the second linear regression were not significant.

Because of the results in table 14, H1 could not be supported. There were no significant findings on any of the variables on brand superiority for airlines which make flight with Airbus airplanes. However, there is a strong negative significant effect of a consumer being a frequent flyer for airlines which make flights with airplanes not made by Boeing. H2 could not be supported as well. Significant effects for airlines flying with Boeing airplanes on brand superiority were found for negative emotions, if the consumers is a male and if the consumers is a frequent flyer. Negative emotions and male gave a negative effect for brand superiority, while a flight in the past year would give a positive effect on brand superiority. Given the

negative effect on brand superiority for a flight in the past year for airlines which make flights with airplanes not made by Boeing, the significant effect for frequent flyer is the other way around in this hypothesis. H3 could also not be supported for the same reasons as for the first hypothesis. But also here is found a significant negative effect on brand superiority for airlines which make flights with airplanes not made by Airbus when a consumer is a frequent flyer. However, this effect is smaller than for airlines which fly with airplanes made not by Boeing. At last, H4 is not supported because of this negative effect. A consumer being a frequent flyer will have a negative effect on brand superiority for Airlines which fly with airplanes not made by Airbus, while for airlines which fly with Boeing airplanes this effect on brand superiority would be positive.

Looking at the conjoint analysis (table 16) about the attributes of the product the hypotheses could be partially supported if the results for the dummy variables for airplane types were significant. The dummy variable for the not made by Airbus airplane type was significant. Consumers are willingly to pay €75 more for a flight in an airplane not made by Airbus instead of a Boeing airplane. However, in a duopoly market with Boeing and Airbus the two big players in the market, 'not made by Airbus' and 'made by Boeing' will mean the same thing. Because of this result in the choice experiment, H4 will be partially supported. Consumers are willing to pay more for an airline without ingredient branding but using components of brands affected by brand misconduct. H_4 is supported for consumers which fly only once or twice a year, while this hypothesis is not supported for consumers which fly more often like businessman or elite athletes.

b. Implications

After the conclusions of the research the implications can be made. Also the research question of this thesis can be answered: *What is the optimal response for brands in a B2B2C market with and without ingredient branding after a brand misconduct (product failure) by the manufacturer of a component?* First of all there are no significant findings found for the effect on brand superiority for brands selling the end-product which not used a component of a manufacturer which committed brand misconduct. But there can be done some implications about the other brands in the industry. Consumers which are frequent flyers will usually rate

airlines which are ingredient branded higher than airlines which are not ingredient branded, no matter of any misconduct. This could be by having less choice or wanting to have a good image or reputation to others (Ringle et al., 2011). So airlines which fly with Boeing airplanes could focus more on business people or athletes, which usually fly more often than other people. Given the negative effect of male on brand superiority they should focus on female group of business people and athletes. Airlines which are not being ingredient branded should focus more on consumers which only fly once or twice a year, for vacation purposes or something similar.

Negative effects have a bigger influence than positive effect (Huber et al., 2010). This is also the fact in these studies, where negative emotions have the biggest significant effect on brand superiority of all the variables. The best ways to counter this effect is to not to advertise (Gao et al., 2015) and accept the blame and make sure the problem will be fixed (Benoit, 1995).

To come back on the question about what was better for airlines to say: ''We only use components of companies which did not commit brand misconduct'' or ''We don't use components of companies which committed brand misconduct.'' The linear regression in this research (table 14) leaned more to the way that ingredient branding is more important in this industry than the brand misconduct. This will lead to the conclusion that ''*We only use components of companies which did not commit brand misconduct*'' is more effective because this will show to consumer what you are actually using and not what you don't use. But the significant results in the conjoint analysis (table 16) is opting for, ''We don't use components or companies which committed brand misconduct'', to be the better option. Consumers are willing to pay €75 more for saying ''we do not use Airbus'' instead of ''We use Boeing'', which in a duopoly will mean the same thing.

The last implication is that airlines should not fully focus on which type of airplane they use or advertise with. Concluding to the results of the conjoint analysis airplane type is not the most important attribute of a flight ticket. Airlines should better be focusing on making more direct flights or offering high service on board.

c. Limitations

The research of this thesis was made to analyze to consumer reaction to brand misconduct in the commercial airline industry, concerning mostly brand misconduct and ingredient branding. Not many significant effects could be found and this is because the research had some limitations. First of all the impact of the coronavirus on the commercial airline industry was big. There was less travel between countries and less flights, which meant the amount of consumers in the industry dropped. Another effect of the coronavirus was that consumers were less willingly to participate in the survey that was distributed, because of the recommendations to have less physical contacts between people. It was necessary to distribute the survey on airports, where this is the place where consumers of the commercial airline industry will be. Distributing the survey online to random people would cause to have irrelevant opinions of people who have no intention to use the products in the research. The amount of useful completed survey was too low to get a representative sample, but also the differentiation of consumers filling in the survey was less because of the low amount of passengers of flights. Second, only a couple of variables was used for this research. Adding more or use different variables could help improve to find a significant effect on brand superiority. Also adding more emotions in the principal component analysis would give more specific outcomes of these variables. Last, the research did not take place in the real commercial airline market. Names of airlines and the capabilities were made up to reduce the effect of consumers picking a favorite airline. This could have caused to make the survey more confusing for the participants and maybe led to wrong answers.

d. Future research

Also a couple of recommendations are made for future research on this topic. First of all the research could be done again but with an extended range of respondents. The survey was only distributed at airports in the Netherlands, but this could also be done in other countries to get more differentiated participants and analyze a worldwide effect. Second, the research should be done in an industry with brand misconduct. But the product failure should be in the most important attribute of the product. In this research the type of airplane was the less important

attribute of a flight ticket according to the respondents. Last, the research should be done in a more competitive market. The manufacturing of airplanes is a duopoly with Airbus and Boeing having more than 90% market share between them. In a more competitive market there are more competitors and the words ‘’not Boeing made’’ have a much more different meaning, because the product could be made by several other brands. This would likely lead to other conclusions about if it is better to say ‘’We only use components of companies which did not commit brand misconduct’’ or ‘’We don’t use components of companies which committed brand misconduct.’’

Bibliography

Bala, R., & Bhardwaj, P. C. (2017). Pharmaceutical Product Recalls: Category Effects and competitor response. *Marketing science, 36*(6), pp. 931-943.

Baumeister, R., Bratslavsky, E., Finkenauer, C., & Vohs, K. (2001). Bad is stronger than good. *Review of general psychology, 5*(4), 323-370.

Bennet, D. (2016). An empirical study of industrial customer buying behaviour: how airline buy airplanes. *London South Bank University*.

Benoit, W. (1995). *Accounts, Excuses, and Apologies: A Theory of image restoration strategies.* Albany: State University of New York Press.

Borat, A., & Tellis, G. (2016). Halo (Spillover) Effects in Social Media: Do Product Recalls of One Brand Hurt or Help rival brands. *Journal of marketing research, 53*(2), pp. 143-160.

Cleeren, K., Dekimpe, M., & van Heerde, H. (2017). Marketing research on product-harm crises: a review, managerial implications, and an agenda for future research. *Journal of the academy of marketing science, 45*, pp. 593-615.

Cleeren, K., van Heerde, H. J., & Dekimpe, M. G. (2013). Rising from the Ashes: How Brands and Categories Can Overcome Product-Harm Crises. *Journal of marketing, 77*(2), 58-77.

Colston, H. L. (1999). “Not good” is “bad,” but “not bad” is not “good”: An analysis of three accounts of negation asymmetry. *Discourse Processes, 28*(3), 237-256.

Coombs, T. (2007). Protecting Organization Reputations During a Crisis: The Development and Application of Situational Crisis Communication Theory. *Corporate reputation review, 10*, 163-176.

Cunha, M., Forehand, M., & Angle, J. (2014). Riding Coattails: When Co-Branding Helps versus Hurts Less-Known Brands. *Journal of consumer research, 41*(5), 1284-1300.

Davies, G., & Olmeda-Cifuentes, I. (2016). Corporate misconduct and the and the loss of trust. *European journal of marketing, 50*(8), pp. 1426-1447.

Desai, K., & Keller, K. (2002). The Effects of Ingredient Branding Strategies on Host Brand Extendibility. *Journal of marketing, 66*(1), 73-93.

Fleischer, A., Tchetchik, A., & Toledo, T. (2015). Does it pay to reveal safety information? The effect of safety information on flight choice. *Transportation research part C: Emerging technologies*, 210-220.

Gao, H., Xie, J., Wang, Q., & Wilbur, K. C. (2015). Should Ad Spending Increase or Decrease before a Recall Announcement? The Marketing–Finance Interface in Product-Harm Crisis Management. *Journal of marketing, 79*(5), 80-99.

Gershoff, A. D., & Koehler, J. J. (2011). Safety First? The Role of Emotion in Safety Product Betrayal Aversion. *Journal of consumer research, 38*(1), 140-150.

Helm, S., & Özergyn, B. (2015). Service inside: the impact of ingredient service branding on quality perceptions and behavioral intentions. *Industrial marketing management, 50*, 142-149.

Hsiao, C., Shen, G., & Chao, P. (2014). How does brand misconduct affect the brand–customer relationship? *Journal of business research, 68*(4), pp. 862-866.

Huber, F., Meyer, F., Vogel, J., & Vollmann, S. (2011). Corporate social performance as antecedent of consumer ' s brand perception. *Journal of brand management, 19*(3), pp. 228-240.

Huber, F., Vogel, J., & Meyer, F. (2009). When brands get branded. *Marketing Theory, 9*(1), 131-136.

Huber, F., Vollhardt, K., Matthes, I., & Vogel, J. (2010). Brand misconduct: Consequences on consumer–brand relationships. *Journal of business research, 63*(11), pp. 1113-1120.

Janiszewski, C., & van Osselaer, S. (2000). A Connectionist Model of Brand–Quality Associations. *Journal of marketing research, 37*(3), 331-350.

Kalafatis, S., Remizova, N., Riley, D., & Singh, J. (2012). The differential impact of brand equity on B2B co-branding. *Journal of business & industrial marketing, 27*(8), 623-634.

Keller, K. (2013). *Strategic brand management: Building, measuring and managing brand equity.* Essex: Pearson always learning.

Liu, Y., & Shanker, V. (2015). The Dynamic Impact of Product-Harm Crises on Brand Preference and Advertising Effectiveness: An Empirical Analysis of the Automobile Industry. *Management science, 61*(10), 2514-2535.

Montgomery, D., Chapman-Moore, M., & Urbany, J. (2005). Reasoning About Competitive Reactions: Evidence from Executives. *Marketing Science, 24*(1), 138-149.

Norris, D. (1992). Ingredient Branding: A strategy option with multiple beneficiaries. *Journal of consumer marketing, 9*(3), 19-31.

Norris, D. (1993). Intel inside, branding a component in a business market. *Journal of business & industrial marketing, 8*(1), 14-24.

Nousi, A., van Gerwen, L., & Spinhoven, P. (2008). The Flight Anxiety Situations Questionnaire and the Flight Anxiety Modality Questionnaire: norms for people with fear of flying. *Travel medicine and infectious disease, 6*, 305-310.

Rappaport, A. (2005). The Economics of Short-Term Performance Obsession. *Financial analysts journal, 61*(3), 69-75.

Ringle, C. M., Sarsteds, M., & Zimmermann, L. (2011). Customer Satisfaction with Commercial Airlines: The Role of perceived safety and purpose of travel. *Journal of marketing theory and practice, 19*(4), 459-472.

Roehm, M., & Tybout, A. M. (2006). When Will a Brand Scandal Spill Over, and how Should Competitors Respond? *Journal of marketing research, 43*(3), 366-373.

Rubel, O., & Naik, P. (2011). Optimal Advertising When Envisioning a product-harm crisis. *Marketing science, 30*(6), pp. 1048-1065.

Shaver, P., Murdaya, U., & Fraley, C. (2001). Structure of the Indonesian Emotion Lexicon. *Asian journal of social psychology, 4*(3), 201-224.

Simonin, B., & Ruth, J. (1998). Is a Company Known by the Company It Keeps? Assessing the Spillover Effects of Brand allainces on customer brand attitudes. *Journal of marketing research, 35*(1), 30-42.

Siomkos, G., Triantafillidou, A., Vassilipokoulou, A., & Tsiamis, I. (2010). Opportunities and threats for competitors in product-harm crises. *Marketing intelligence & planning, 28*(6), 770-791.

Skolnick, R., Schare, M., Wyatt, K., & Tillman, M. (2012). Aviophobia assessment: validating the Flight Anxiety Situations Questionnaire as a clinical identification measure. *Journal of anxiety disorders, 26*(8), 779-784.

van Heerde, H., Helsen, K., & Dekimpe, M. (2007). The impact of a product-harm crisis on marketing effectiveness. *Marketing science, 26*(2), pp. 230-245.

Washburn, J., Till, B., & Priluck, R. (2000). Co-branding: Brand equity and trial effects. *Journal of consumer marketing, 17*(7), 591-604.

Wellalage, N., & Locke, S. (2012). Factors Affecting the Probability of SME Bankruptcy: A Case Study on New Zealand Unlisted Firms. *Business Journal for Entrepreneurs*.

Worm, S., & Srivastava, R. (2014). Impact of component supplier branding on profitability. *International journal of research in marketing, 31*(4), 409-424.

Zou, P., & Li, G. (2016). How emerging market investors' value competitors' customer equity: Brand crisis spillover in China. *Journal of business research, 69*(9), pp. 3765-3771.

Appendix

Survey thesis

Start of Block: Default Question Block

Dear reader,

Thank you in advance for participating in this survey. My name is Eric de Rooij and I am a Master student at the Erasmus University in Rotterdam. This survey is part of the research for my master thesis.

I would like to ask you to answer the questions in this survey. This will take approximately 10 minutes. Please, take as much time as you need to read and answer all the questions carefully. The information you will provide will be used confidentially and only for empirical purposes. The questionnaire is fully anonymous.

The questions in this survey will be about the commercial airline industry. In the first part questions are asked about how you feel about flying and what is your opinion on different kinds of airlines. In the second part your preferences are asked about a couple of options between attributes of a flight ticket.

Kind regards,
Eric de Rooij

Page Break

Q1 What is your age?

_____

Q2 What is your gender?

- Male (1)
- Female (2)

Q3 What is your net income?

- €0 - €20.000 (1)
- €20.000 - €40.000 (2)
- €40.000 - €60.000 (3)
- more than €60.000 (4)

Q4 What is your highest level of education?

- ○ None (1)
- ○ Vmbo (Pre-vocational education) (2)
- ○ Havo (Higher general continued education) (3)
- ○ Vwo (Prepatory scientific education) (4)
- ○ Mbo (Middle level applied education) (5)
- ○ Hbo (University of applied sciences) (6)
- ○ WO (bachelor) (7)
- ○ WO (Master (8)
- ○ Post Master (9)

Page Break

Q5 How many times did you have a flight with commercial airlines in the past year?

_____

Q6 the next questions are about flight anxiety.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I have a fear of flying (1)	○	○	○	○	○	○	○
I am more afraid of flying than I should be (2)	○	○	○	○	○	○	○
I go out of my way to avoid flying (3)	○	○	○	○	○	○	○
The idea that something will go wrong is constantly on my mind (4)	○	○	○	○	○	○	○
I have a fear of dying (5)	○	○	○	○	○	○	○
I think the particulair plane I am on will crash (8)	○	○	○	○	○	○	○

Page Break

In this research the commercial airline industry consists out of 4 different airline companies. These four airlines are exactly the same and offer the same service and prices to their customers. The difference between these airlines is the manufacturer they choose for their airplanes. Each airline industry is asked to choose an airplane supplier. They could choose to advertise for flights with airplanes of the two biggest manufacturers (Airbus & Boeing) or to specify to definitely not use one the two big manufacturers and use the other big manufacturer and/or one of the smaller manufacturers.

The outcomes are as follows:

Airlines:

- FlyLuxe (Airbus)
- Dreamflyers (Boeing)
- Quality Air (Not Airbus made)
- Perfect Airlines (Not Boeing made)

In the commercial aircraft industry are two suppliers of airplanes. Boeing and Airbus. In the past year two airplanes, The Boeing 737 MAX, of manufacturer Boeing have crashed. These two accidents killed all passengers, over 300 in total, on board of these airplanes. After investigation was concluded that both accidents were caused by product failure of the airplane and this was at fault of manufacturer Boeing. (Source: Sky, https://news.sky.com/story/boeing-737-max-crashes-horrific-culmination-of-failures-12073294)

Now, Imagine you need to travel from Amsterdam (Schiphol Airport) to New York (JFK Airport). The following questions will be about your preferences for this flight.

Page Break

Q7 These questions are about the airline FlyLuxe (Airbus airplane). How do you feel about this airline?

	Strongly disagree (22)	Disagree (23)	Somewhat disagree (24)	Neither agree nor disagree (25)	Somewhat agree (26)	Agree (27)	Strongly agree (28)
This airline offers better quality than other airlines (1)	○	○	○	○	○	○	○
This airline has a better image/reputation than other airlines (2)	○	○	○	○	○	○	○
I feel loyal to this airline (3)	○	○	○	○	○	○	○

Q8 People sometimes have different emotional reactions when they see or hear advertisements. Please indicate the extent to which each of the emotions below describes your reaction to the airline FlyLuxe.

	Did Not Feel Emotion (1)	Slight Emotion (2)	Moderate Emotion (3)	Very Intense Emotion (4)	Extreme Emotion (5)
Fear (1)	○	○	○	○	○
Hapiness (2)	○	○	○	○	○
Sadness (3)	○	○	○	○	○
Trust (4)	○	○	○	○	○
Safeness (5)	○	○	○	○	○
Nervous (6)	○	○	○	○	○
Excited (7)	○	○	○	○	○
Relaxed (8)	○	○	○	○	○
Stressed (9)	○	○	○	○	○

Page Break

Q9 These questions are about the airline Dreamflyers (Boeing airplane). How do you feel about this airline?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
This offers better quality than other airlines (1)	○	○	○	○	○	○	○
This airline has a better image/reputation than other airlines (2)	○	○	○	○	○	○	○
I feel loyal to this airline (3)	○	○	○	○	○	○	○

Q10 People sometimes have different emotional reactions when they see or hear advertisements. Please indicate the extent to which each of the emotions below describes your reaction to the airline Dreamflyers.

	Did Not Feel Emotion (1)	Slight Emotion (2)	Moderate Emotion (3)	Very Intense Emotion (4)	Extreme Emotion (5)
Fear (1)	○	○	○	○	○
Hapiness (2)	○	○	○	○	○
Sadness (3)	○	○	○	○	○
Trust (4)	○	○	○	○	○
Safeness (5)	○	○	○	○	○
Nervous (6)	○	○	○	○	○
Excited (7)	○	○	○	○	○
Relaxed (8)	○	○	○	○	○
Stressed (9)	○	○	○	○	○

Page Break

Q11 These questions are about the airline Quality air (not Airbus airplane). How do you feel about this airline?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
This offers better quality than other airlines (1)	○	○	○	○	○	○	○
This airline has a better image/reputation than other airlines (2)	○	○	○	○	○	○	○
I feel loyal to this airline (3)	○	○	○	○	○	○	○

Q12 People sometimes have different emotional reactions when they see or hear advertisements. Please indicate the extent to which each of the emotions below describes your reaction to the airline Quality Air.

	Did Not Feel Emotion (1)	Slight Emotion (2)	Moderate Emotion (3)	Very Intense Emotion (4)	Extreme Emotion (5)
Fear (1)	○	○	○	○	○
Hapiness (2)	○	○	○	○	○
Sadness (3)	○	○	○	○	○
Trust (4)	○	○	○	○	○
Safeness (5)	○	○	○	○	○
Nervous (6)	○	○	○	○	○
Excited (7)	○	○	○	○	○
Relaxed (8)	○	○	○	○	○
Stressed (9)	○	○	○	○	○

Page Break

Q13 These questions are about the airline Perfect Airlines (not Boeing airplane). How do you feel about this airline?

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
This offers better quality than other airlines (1)	○	○	○	○	○	○	○
This airline has a better image/reputation than other airlines (2)	○	○	○	○	○	○	○
I feel loyal to this airline (3)	○	○	○	○	○	○	○

Q14 People sometimes have different emotional reactions when they see or hear advertisements. Please indicate the extent to which each of the emotions below describes your reaction to the airline Perfect Airlines.

	Did Not Feel Emotion (1)	Slight Emotion (2)	Moderate Emotion (3)	Very Intense Emotion (4)	Extreme Emotion (5)
Fear (1)	○	○	○	○	○
Hapiness (2)	○	○	○	○	○
Sadness (3)	○	○	○	○	○
Trust (4)	○	○	○	○	○
Safeness (5)	○	○	○	○	○
Nervous (6)	○	○	○	○	○
Excited (7)	○	○	○	○	○
Relaxed (8)	○	○	○	○	○
Stressed (9)	○	○	○	○	○

Page Break

Now, Imagine you need to travel from Amsterdam (Schiphol Airport) to New York (JFK Airport). The following questions will be about your preferences for this flight.

You will be asked about your preferences of the attributes of this product supplied by different airline companies. The attributes you need to make decisions over are price, airline quality, type of airplane, and amount of stops between departure and arrival.

Price: €300 / €350 / €400
Airline quality: High service / Low Service
Type of airplane: Airbus / Not Boeing / Not Airbus / Boeing
Amount of stops: Direct flight / 1 Stop / 2 Stops

The questions can be very similar, so make sure to read the questions carefully.

Q15 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €350, High Service, Airbus airplane, 2 Stops (1)
- ○ €400, High Service, Not Boeing airplane, Direct flight (2)

Q16 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, High Service, Not Airbus airplane, 1 Stop (1)
- ○ €300, High Service, Not Airbus airplane, Direct flight (2)

Q17 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, Low Service, Airbus airplane, 1 Stop (1)
- ○ €350, Low Service, Boeing airplane, Direct flight (2)

Q18 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €400, High Service, Airbus airplane, Direct flight (1)
- ○ €300, Low Service, Airbus airplane, Direct flight (2)

Q19 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €400, Low Service, Boeing airplane, 1 Stop (1)
- ○ €300, High Service, Boeing airplane, Direct flight (2)

Q20 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, Low Service, Not Boeing airplane, 2 Stops (1)
- ○ €350, High Service, Not Boeing airplane, 1 Stop (2)

Q21 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, High Service, Boeing airplane, 2 Stops (1)
- ○ €350, Low Service, Not Airbus airplane, Direct flight (2)

Q22 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €350, High Service, Airbus airplane, 2 Stops (1)
- ○ €300, Low Service, Airbus airplane, Direct flight (2)

Q23 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €400, High Service, Not Boeing airplane, Direct flight (1)
- ○ €400, Low Service, Boeing airplane, 1 Stop (2)

Q24 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, High Service, Not Airbus airplane, 1 Stop (1)
- ○ €300, High Service, Boeing airplane, Direct flight (2)

Q25 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, High Service, Not Airbus airplane, Direct flight (1)
- ○ €300, Low Service, Not Boeing airplane, 2 Stops (2)

Q26 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €300, Low Service, Airbus airplane, 1 Stop (1)
- ○ €350, High Service, Not Boeing airplane, 1 Stop (2)

Q27 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €350, Low Service, Boeing airplane, Direct flight (1)
- ○ €300, High Service, Boeing airplane, 2 Stops (2)

Q28 Which option would you prefer for a flight from Amsterdam to New York?

- ○ €400, High Service, Airbus airplane, Direct flight (1)
- ○ €350, Low Service, Not Airbus airplane, Direct flight (2)