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The paradox of bad news

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ABSTRACT

The company Futurebrand argued that global news reporting deep countries crisis might have a positive effect on image perceptions of the country regardless of the nature of the news. According to Futurebrand, the nuclear disaster in Japan 2011, Chilean Miner's rescue and the Iceland volcanic eruption in 2010, the global news did have a positive effect on those countries as a brand. The company further argued that latent goodwill and decades of building a strong reputation provided an underlying resilience that has helped the country to survive and even flourish in difficult times.

In this paper the focuses is on whether the volcanic eruption in Iceland 2010 did have any effect on the country image. The research is based on survey done in 2014 (n=370). The research was benchmarked on two previous studies, one from 2008 and another from 2009

A nine point scale was used where 1 equals apply very poorly to a particular country and 9 equals apply well to a particular country. The countries that were rated in addition to Iceland were; Finland, The Faroe Islands, Greenland, Norway and Scotland. These same countries were rated in the benchmark researches. All countries were rated on the same attributes. To examine the image effects the methodology of perceptual mapping was used.

The findings show that the image of Iceland seems to be very similar as it was in 2008 and 2009 based on similar studies. The country is closely connected to the same four attributes, i.e. safe place to visit, opportunity for adventure, scenic and natural beauty, and friendly and hospitable. The position of other countries is also much the same which is noteworthy when it is kept in mind that four independent samples, from different time periods, are being compared. From this it is deduced that the volcanic eruption in 2010 only had a minor effect on the image of Iceland among tourists visiting the country in the summer of 2014 and might perhaps strengthen the country connection with nature and related attributes.

INTRODUCTION

This paper aims to explore to what extent a natural hazard, like the volcanic eruption in Iceland 2010 has on the image that foreign tourists hold of Iceland as a destination.

Tourist destination image is one of the most important factor in marketing destinations (Nicoletta & Servidio, 2012a) and in tourists decision making process, image can have a significant influence whether or not tourists decide to travel to a specific destination (Bigné, Sánchez, & Sánchez, 2001; Chen & Tsai, 2007). Image is not a fixed concept, as it changes over time along with increased information search and knowledge about the destination (Molina, Gomez, & Martin-Consuegra, 2010; Nicoletta & Servidio, 2012a; Qu, Kim, & Im, 2011).

The media coverage is one of the influential sources in image formation (Govers, 2011) as well as word of mouth communication between individuals (Berry & Seltman, 2007). The volcanic eruption in Iceland 2010 got a fair amount of international media coverage, where it led to flight cancellation around Europe and had a negative influence on many travelers, but according to Futurebrand, the media coverage did in fact have a positive effect on Iceland as a brand. Given these facts, we ask the following research question: *Has the image of Iceland, among foreign tourists, changed following the volcanic eruption in 2010?* In order to answer the research question, data was collected in Iceland in June and July 2014 and cross analyzed with three previous studies, one that was done in 2008 and two in 2009. The questionnaires used in all the studes were identical and the findings are used to compared the image of Iceland to five other countries; Finland, Scotland, Faroe Islands, Norway and Greenland.

This paper is devided into five sections. The first section covers the concept of image, and how different sources influence it's formation. In the second section, perceptual maps are discussed and how they are used to measure image. The third section covers the methodology, where the participants, the prodeceure and the questionnaire are described and in the fourth section the results are presented and the research question is answered. Finally, the fifth section covers the discussion about the findings, the limitations and ideas for future researches.

1 IMAGE AND IMAGE PROBLEMS

Image is a complex concept and not easily defined. It is a simplification of many ideas in the consumers mind, and may be a product, company, place or a person (Kotler & Gertner, 2002; Nadeau, Heslop, O'Reilly, & Luk, 2008). Image is an individualized concept (Frías, Rodríguez, & Castañeda, 2008), as each individual evaluates it based on his own mental perception (Beerli & Martín, 2004; Gartner, 1994). There are many different variables that affect the brand image (Hsieh, Pan, & Setiono, 2004), which customers can use in order to differentiate a object, evaluate its quality, diminish purchase risk and obtain a level of satisfaction (Lin and Lin, 2007). Barich and Kotler (1991) defined image as „sum of beliefs, attitudes and impressions that a person or group has of an object“.

It is important to understand how individuals behave (Nadeau et al., 2008) to understand their attitudes and feelings towards an object and how they evaluate the quality of a product (Erickson, Johansson, & Chao, 1984). The information that individuals receive from others can have a great effect on their decision making process and whether they decide to buy a product (Kotler, Haider and Rein, 1993) or determining on which destination to visit (Baloglu & McCleary, 1999; Molina et al., 2010).

1.1 TOURISM DESTINATION IMAGE

Destination image is a multi-dimensional concept (Baloglu & McCleary, 1999; Beerli & Martín, 2004; Frías et al., 2008; San Martín & Rodríguez del Bosque, 2008; Zhang, Fu, Cai, & Lu, 2014). It is not easily defined due to its complexity, but many researchers have agreed on two main components; cognitive and affective components (Baloglu & McCleary, 1999; Beerli & Martín, 2004; Greaves & Skinner, 2010; Stern & Krakover, 1993). The cognitive component consists of the beliefs and knowledge about the destination, whereas the affective component refers to the feelings about the destination (Baloglu & Brinberg, 1997; Gartner, 1994; Walmsley & Jenkins, 1993). This approach was first defined by Gartner (1994), which also suggested the third component to a destination image, the conative component, which refers to the tourists' behavioral pattern.

Another definition of destination image is suggested by Echtner and Ritchie (1991). They suggested destination image to be combined of three different components, the attribute/holistic component, the functional/psychological component and the unique/common component (Echtner & Ritchie, 2003). In more recent research, Qu, Kim and

Im (2011) suggested destination image to be three dimensional, combined of cognitive, affective and unique components. They also noted cognitive image to be the most influential in forming overall image and the uniqueness to be the second most important.

Image is the essence in destination marketing (Grosspietsch, 2006). It is one of the most important component in the selection process (Baloglu and McCleary, 1999), in determining its popularity with visitors (Hsu, Wolfe, & Kang, 2004) and therefore to its marketing success (Hankinson, 2004). It also has a great influence in both the supply and demand aspects when it comes to destination marketing (Tasci & Gartner, 2007).

In a highly competitive market, it is crucial to be different from other similar destinations, and that's where positive image is a very important factor (Yilmaz, Yilmaz, İçigen, Ekin, & Utku, 2009). When promoting a destination, it is very important to have a consistency between the projected image, which is the brand identity, and the perceived image, which is the brand image (Grosspietsch, 2006; Perunjodi Naidoo, Prabha Ramseok-Munhurrin, & Ramesh Durbarry, 2012; Qu et al., 2011). Tourism Destination Organizations often promote their destination with a stereotypical symbols (Nicoletta & Servidio, 2012a), which are not accurate and are a great simplification of the reality (Kotler & Gertner, 2002). Hence, it is important to measure the image that is being projected versus the image that is perceived by tourists before, during and after the visitation (Molina et al., 2010). By doing so, the destination marketers will be able to adjust marketing strategies and minimize inconsistency (Choi, Lehto, & Morrison, 2007; Nicola Greaves & Heather Skinner, 2010; Qu et al., 2011). Nicoletta and Servidio (2012) suggested involving tourists in selecting images for promotion, wherein they could increase the value of perceived images. In a case of Macau, Choi et al. (2007) found out the image that destination marketing organizations projected would differ from those that were perceived by tourists. Grosspietsch (2006) also noted that where the projected and perceived images for Rwanda were significantly different, it was because the image the tour operators provided were more negative and gloomy than the perceived image (Grosspietsch, 2006).

1.2 IMAGE AND BRANDING

Image and branding are related concepts (Cai, 2002)(Kim, Boush, Marquardt and Kale, 2006) and image is the focal point in destination branding (Cai, 2002). According to Prebensen (2007), destination branding is selecting a consistent mix of brand elements that defines and differentiates a destination through a positive image building.

Normally, a destination marketing is built up from its culture, history and geography (Adeyinka-Ojo, Khoo-Lattimore, & Nair, 2014) but since the competition in the tourism industry is becoming even more competitive (Morgan, Pritchard, & Piggott, 2002), it is more crucial than ever to find a unique (Morgan et al., 2002) and competitive identity (Hassan, et al., 2010). Blain, Levy and Ritchie (2005) noted that while most Destination Organizations understand the importance of destination branding concept, some of them fail offer a unique identity that defines their destination from others.

Although image modifies over time, it is very robust and hence difficult to change (Anholt, 2010). To be able to create effective branding strategies, it is essential to start with an inward focus (Pike, 2005; Trueman, Klemm, & Giroud, 2004) and make sure that all tourist organizations participate in the process of branding, as well as establish partnership with all stakeholders (Klijn, Eshuis, & Braun, 2012; Pike, 2005; Vukic, Popovic, & Kuzmanovic, 2012).

If stakeholders are involved in marketing strategies, it will result in clearer brand and more success in attracting target groups (Klijn et al., 2012). Kemp, Childers and Williams (2012) noted the importance of self-brand connection to a destination branding. If there is a positive attitude towards the brand among the residents, they are more likely to promote the destination in a favorable way through word of mouth and become advocators for the brand (Kemp et al., 2012). Resident are powerful sources in promoting destinations, where they can provide external target markets with authentic and informal information (Braun, Kavaratzis, & Zenker, 2013), which are considered to be very trustworthy (Braun, 2011). The destination brand can only become successful if it conveys an image that is accurate, fair, strong, believable, attractive and involves the residents wishes and believes (Anholt, 2009; Kotler and Gertner, 2002).

Major events are one of the things that can have a significant effect on the country brand, either for the short term or the long term (Fetscherin, 2010) where it can help to either accelerate or prevent the process of country image change (Papadopoulos & Heslop, 2002).

1.3 THE FORMATION OF DESTINATION IMAGE

Image has a great influence on the decision making process and the tourist behavior (Bigné et al., 2001; Chen & Tsai, 2007; O'Leary & Deegan, 2005; Papadopoulos & Heslop, 2002). It is a concept that develops over time and some reacherchers argue it not to be fully formed unless the destination has been visited (Qu et al., 2011).

Actual experience in the destination is believed to have a great influence on tourists' image, where they will be able to evaluate the destination based on their own judgement (Buhalis, 2000). This is a crucial factor in image formation, where it has a great influence on whether the perceived image after visitation is positive or negative. Positive image occurs if the actual experience meet or exceeds the expectations that were built in the decision making process, but negative image arises when the expectations are greater than the actual experience (O'Leary & Deegan, 2005). Molina Gómez and Martín – Consuegra (2010) noted the importance for separating the image that is perceived by those who have already visited the destination from those who have not (Molina et al., 2010).

The process of destination image formation begins before the destination is visited, as individuals have already made up a certain image of that destination before visiting it with the information they receive from external sources (Molina et al., 2010).

There are numerous of different sources that can influence individual's perceptions about a place, both formal and informal (Beerli & Martín, 2004). The formal sources are what the destination marketers promote themselves (Beerli & Martín, 2004), but the informal sources are becoming very important factor in the image formation. The destination marketers are increasingly losing more control over the marketing process, especially because of the enormous amount of information individuals share with each other through word of mouth, via blogsites, travel review sites and social media (Govers, 2011; Pan, MacLaurin, & Crofts, 2007). Word of mouth is believed to be the most trustworthy source and therefore it is extremely important that the projected image is based on reality in order for the actual experience to meet the travelers expectations (Beerli & Martín, 2004).

The mainstream media is other indirect source that can have a significant influence on the destination image (Buhalis, 2000; Mutz & Soss, 1997; Saunders, 2008). The media has a tendency to cover negative cases rather than positive ones, with the explanation that it is what is preferred (Avraham, 2000). When it comes to remote places, the news are often brief and shallow (Avraham, 2000) but the viewers believe they are the reality (Mutz & Soss, 1997). Govers and Go (2009) noted that people might also have the tendency to cross-link assumptions and create stereotypes for places they are not familiar with. For instance they could think of Dubai as a cosmopolitan city, but also knowing it to be located in the middle-east and therefore thinking that they would not see many women on the streets or driving cars (Govers and Go, 2009). Other travelers could then offer others realistic information about the destination and increase the value for the perceived image (Nicoletta & Servidio, 2012).

Every nation, every place and every city has experienced tough times, but it varies between places how long it takes for them to get back on track. Some manage to improve their image in a short amount of time, but others are stuck in prolonged situation where they have to deal with difficulties, for example Northern England, Southern Italy and Western France. City like New York is on the other hand an example of a place that experienced some difficult times, where it was known for its high criminal rate and financial dilemma, but was able to alter its image and is now recognized to be a city with one of the most attractions and possibilities (Buhalis, 2000). In 2008, Iceland had to face a total collapse in the banking system, where all of the major banks went bankrupt together. It had a significant influence on the Icelandic economy and led to both currency restriction as well as enormous increase in the foreign exchange rate. Despite of that, it only had a marginal effect on the image of Iceland as a destination among foreign tourists (Gudlaugsson, Eysteinnsson and Sigurjonsdottir, 2011) and in only few years, Iceland has managed to turn its economy around and is now a future 15 country brand according to Futurebrand as well as the country that has one of the strongest positive momentum in the Europe region (Futurebrand, 2014),

Crisis can have significant impact on on tourism (Yeoman, Greenwood, & McMahon-Beattie, 2009) and has sometimes led to total stop in tourist arrivals (Crouch & Ritchie, 1999). Sometimes these crises will lead to a negative image, even though they are a result of an event which is out of the nations control, for example natural disasters, epidemics and terrorism (Kotler & Gertner, 2002). However, what is important, is how the countries concerned deal with these negative events. (Yeoman et al., 2009) as well as knowing the importance to fully understand the problem before trying to find a solution to a perceived image dilemma (Anholt, 2006).

In 2010, an unexpected volcano eruption occurred in Iceland, which led to total stop in international flights around Europe. Based on the foregoing issues, it will thus be interesting to explore the impact the eruption did in fact have on the image of Iceland as a destination. In the next sector we will explain the methodology used to measure this effect as well as report the results.

2 THE USE OF PERCEPTUAL MAPS TO MEASURE IMAGE

Perceptual mapping is one of the more advanced approach in marketing. It displays how goods in a market are perceived on specific attributes and which goods are competitors from the customers' perspective. Therefore, by using perceptual maps, it is possible to get strong evidence on the good's image and where it should be positioned in order to improve performance. Hence, the maps can be very helpful when marketing related decisions have to be made (Festervand, 2000; Festervand, 2002; Kara, Kaynak and Kucukemiroglu, 1996; Stanton and Lowenhar, 1977). Perceptual maps show in obvious way how the market is divided and indicate how it could be segmented into smaller and more homogeneous segments.

Figure 1 shows a hypothetical perceptual map. It will be used to describe how perceptual maps work.

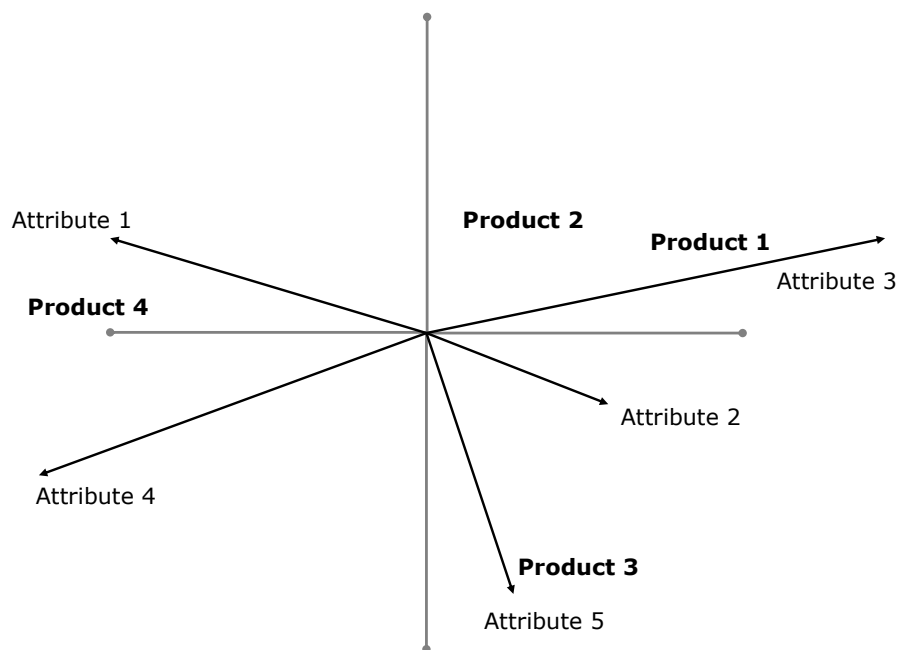


Figure 1: A hypothetical perceptual map

The map shows four products that are evaluated based on five attributes which can be both positive and negative. It is important to choose attributes that both describe the industry and individual goods. There are diversified methods that can be used to identify the attributes. Usually, there are many attributes in the beginning, which are then combined or narrowed down, using the methodology. The research reported here uses positioning analysis software developed by Lilien and Rangaswamy (2003). The results are shown in a vector format. The

software positions the vectors and determines their length based on the average scores for each good's attributes. Many similar methods exist (Gwin, 2003; Sharp and Romaniuk, 2000; Bijmolt and Wedel, 1999; Sinclair and Stalling, 1990; Kohli and Leuthesser, 1993; Shugan, 2004).

The length of the vectors indicates how well or decisively the attributes can distinguish between the products. A long vector indicates that the attribute is decisive in consumers' minds. The further the product is from the center of the map the more decisive is its differentiation based on that attribute. It is important to consider that the vectors are read in both directions from the center of the map even though only one of the vectors is shown (Lilien og Rangaswamy, 2003). We can for example see that product 1 is less connected to attribute 4 than the other products. The size of the angle between the vectors also gives important information. A narrow angle indicates that the attributes are closely related since the correlation between them is high.

3 THE EFFECT OF THE VOLCANIC ERUPTION ON THE IMAGE OF ICELAND

This section of the paper details the methodology used, data analysis and results. We start by explaining the methodology used and then explain the analysis before giving detailed accounts of the results.

3.1 METHODOLOGY

The questionnaire was the same as used in three earlier ressearches; two that was done in the summer of 2009 (Gudlaugsson, Eysteinnsson and Sigurjónsdóttir, 2011) and one in 2008 (Gudlaugsson and Magnússon, 2009) and are those results used here as benchmark. The data collection was conducted among foreign tourists in Iceland in June and July 2014 and was numbers of valid answers total 370. The questionnaire was submitted in three different places; in the flybus shuttles, at Geysir in Haukadalur, and in the central area of Reykjavik city.

A a nine point scale was used where 1 = this attribute applies very badly to this country and 9= this attribute applies very well to this country. The countries that were evaluated in addition to Iceland were; Finland, The Faroe Islands, Greenland, Norway and Skotland. These same countries were evaluated in the benchmark research. The participants evaluated all the countries on the same attributes which were: (1) Scenic and natural beauty, (2) Peaceful and quiet, (3) Good tourist facilities, (4) Friendly and hospitable, (5) Good food and drink, (6) Safe place to visit, (7) Good entertainment and nightlife, (8) Unique and different, (9) Opportunity for adventure, (10) Modern, (11) Wild and (12) Good cultural experience. These same attributes were used in the research that was conducted before the volcano eruption and used here as a benchmark.

3.2 DATA ANALYSIS

To analyse the data the two data sets from 2009 surveys were merged into one, and they combined into one database along with the data from the 2008 and 2014 surveys. That created a very large data set with 89.200 elements (number of attributes x number of countries x number of valid answers). To find out if answers were statistically different an ANOVA test was used with a 5% level of significance. If a difference was detected its effect was examined by calculating Eta squared. To examine the image of Iceland before and after

the volcano eruption the data from 2014 was compared to the data from 2008 and 2009 using perceptual mapping technique discussed in chapter 2.

3.3 RESULTS

In table 1 the descriptive statistics for Iceland are presented. It also shows whether there are differences between the answers to the different surveys.

Table 1: Descriptives Statistics for Iceland

		Descriptives							
		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Scenic and natural beauty Iceland	2008	333	8,22	1,041	,057	8,11	8,33	3	9
	2009	791	8,19	1,012	,036	8,12	8,26	1	9
	2014	363	8,36	,907	,048	8,27	8,45	3	9
	Total	1487	8,24	,996	,026	8,19	8,29	1	9
Peaceful and quiet Iceland	2008	333	8,13	1,073	,059	8,02	8,25	2	9
	2009	789	7,93	1,160	,041	7,85	8,01	1	9
	2014	363	8,24	,972	,051	8,14	8,34	4	9
	Total	1485	8,05	1,105	,029	7,99	8,11	1	9
Good tourist facilities Iceland	2008	332	7,50	1,343	,074	7,36	7,64	2	9
	2009	788	7,48	1,293	,046	7,39	7,57	2	9
	2014	362	7,65	1,261	,066	7,52	7,78	1	9
	Total	1482	7,53	1,298	,034	7,46	7,59	1	9
Friendly and hospitable Iceland	2008	331	7,73	1,312	,072	7,58	7,87	1	9
	2009	787	7,66	1,236	,044	7,58	7,75	2	9
	2014	359	7,88	1,214	,064	7,75	8,01	1	9
	Total	1477	7,73	1,251	,033	7,67	7,79	1	9
Good food and drink Iceland	2008	330	6,29	1,883	,104	6,09	6,50	1	9
	2009	785	6,51	1,764	,063	6,39	6,63	1	9
	2014	362	6,82	1,614	,085	6,66	6,99	1	9
	Total	1477	6,54	1,765	,046	6,45	6,63	1	9
Safe place to visit Iceland	2008	332	8,42	,895	,049	8,33	8,52	2	9
	2009	788	8,35	,918	,033	8,28	8,41	3	9
	2014	361	8,48	,847	,045	8,39	8,56	4	9
	Total	1481	8,40	,897	,023	8,35	8,44	2	9
Good entertainment and nightlife Iceland	2008	324	6,36	1,840	,102	6,16	6,57	1	9
	2009	745	6,25	1,856	,068	6,12	6,38	1	9
	2014	348	6,66	1,761	,094	6,47	6,84	1	9
	Total	1417	6,38	1,836	,049	6,28	6,47	1	9
Unique and different Iceland	2008	328	8,44	,914	,050	8,34	8,54	4	9
	2009	787	8,39	1,009	,036	8,32	8,46	1	9
	2014	357	8,44	,954	,050	8,34	8,54	3	9
	Total	1472	8,41	,975	,025	8,36	8,46	1	9
Opportunity for adventure Iceland	2008	329	8,38	,843	,046	8,29	8,47	4	9
	2009	779	8,36	,813	,029	8,31	8,42	5	9
	2014	359	8,58	,757	,040	8,50	8,66	5	9
	Total	1467	8,42	,811	,021	8,38	8,46	4	9
Modern Iceland	2008	331	7,25	1,571	,086	7,08	7,42	1	9
	2009	782	7,04	1,516	,054	6,94	7,15	1	9
	2014	360	7,26	1,483	,078	7,11	7,41	1	9
	Total	1473	7,14	1,523	,040	7,07	7,22	1	9
Wild Iceland	2008	331	8,15	1,101	,060	8,03	8,27	2	9
	2009	775	7,94	1,357	,049	7,85	8,04	1	9
	2014	359	8,09	1,286	,068	7,96	8,23	1	9
	Total	1465	8,03	1,288	,034	7,96	8,09	1	9
Good cultural experience Iceland	2008	330	7,41	1,363	,075	7,26	7,55	2	9
	2009	774	7,01	1,610	,058	6,90	7,13	1	9
	2014	350	7,48	1,521	,081	7,32	7,64	1	9
	Total	1454	7,22	1,550	,041	7,14	7,30	1	9

Table 2 shows the results of an ANOVA test for the 2008, 2009 and 2014 surveys.

Tafla 2: The results of an ANOVA test

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
Scenic and natural beauty Iceland	Between Groups	7,714	2	3,857	3,902	,020
	Within Groups	1466,961	1484	,989		
	Total	1474,675	1486			
Peaceful and quiet Iceland	Between Groups	26,852	2	13,426	11,151	,000
	Within Groups	1784,360	1482	1,204		
	Total	1811,212	1484			
Good tourist facilities Iceland	Between Groups	7,406	2	3,703	2,201	,111
	Within Groups	2488,120	1479	1,682		
	Total	2495,526	1481			
Friendly and hospitable Iceland	Between Groups	11,481	2	5,740	3,683	,025
	Within Groups	2297,272	1474	1,559		
	Total	2308,753	1476			
Good food and drink Iceland	Between Groups	49,737	2	24,869	8,061	,000
	Within Groups	4547,351	1474	3,085		
	Total	4597,089	1476			
Safe place to visit Iceland	Between Groups	4,297	2	2,149	2,678	,069
	Within Groups	1186,043	1478	,802		
	Total	1190,340	1480			
Good entertainment and nightlife Iceland	Between Groups	38,807	2	19,403	5,796	,003
	Within Groups	4733,707	1414	3,348		
	Total	4772,514	1416			
Unique and different Iceland	Between Groups	1,093	2	,546	,574	,563
	Within Groups	1397,426	1469	,951		
	Total	1398,519	1471			
Opportunity for adventure Iceland	Between Groups	12,558	2	6,279	9,648	,000
	Within Groups	952,780	1464	,651		
	Total	965,339	1466			
Modern Iceland	Between Groups	16,412	2	8,206	3,549	,029
	Within Groups	3399,076	1470	2,312		
	Total	3415,488	1472			
Wild Iceland	Between Groups	11,635	2	5,817	3,520	,030
	Within Groups	2416,327	1462	1,653		
	Total	2427,962	1464			
Good cultural experience Iceland	Between Groups	67,829	2	33,915	14,373	,000
	Within Groups	3423,792	1451	2,360		
	Total	3491,621	1453			

As can be seen in table 2 the ANOVA test shows a difference between the different measurements for 9 attributes out of 12. These are the attributes Natural beauty

[$F(2,1.484)=3,9, p=0,02$], Peaceful and quiet [$F(2,1.482)=11,2, p=0,000$], Friendly and hospitable [$F(2,1.474)=3,7, p=0,025$], Good food and drink [$F(2,1.474)=8,1, p=0,000$], Good entertainment and nightlife [$F(2,1.414)=5,8, p=0,003$], Opportunity for adventure [$F(2,1.464)=9,6, p=0,000$], Modern [$F(2,1.470)=3,5, p=0,029$], Wild [$F(2,1.462)=3,5, p=0,03$], and Good cultural experience [$F(2,1.451)=14,3, p=0,000$]. A post hoc test shows where the difference is. In this research the Tukey post hoc test was used. The effect size was also calculated using Eta squared by using the following formula:

$$Eta\ squared = \frac{\text{Sum of squares between-groups}}{\text{Total sum of squares}}$$

Cohen (1988) classifies 0.01 as a small effect, 0.06 as a medium affect and 0.14 as a large effect. Post-hoc comparisons for Natural beauty indicated that the mean score for 2009 (M=8.19, SD=1.01) was significantly different from 2014 (M=8.36, SD=0.9). 2008 (M=8.22, SD=1.04) did not differ significantly from either 2009 or 2014. The effect size was < 0.01 which indicates that the effect is very small.

Post-hoc comparisons for Peaceful and quiet indicate that the mean score for 2009 (M=7.93, SD=1.16) was significantly different from 2014 (M=8.24, SD=0.97) and 2008 (M=8.13, SD=1.07). The mean score for 2014 did not differ significantly from 2008. The effect size was 0.015 which indicates that the effect is very small.

Post-hoc comparison for Friendly and hospitable indicated that the mean score for 2009 (M=7.66, SD=1.24) was significantly different from 2014 (M=7.65, SD=1.21). 2008 (M=7.73, SD=1.31) did not differ significantly from either 2009 or 2014. The effect size was < 0.01 which indicates that the effect is very small.

Post-hoc comparison for Good food and drink indicated that the mean score for 2008 (M=6.29, SD=1.88) and 2009 (M=6.51, SD=1.76) were significantly different from 2014 (M=6.82, SD=1.61). The mean score for 2008 did not differ significantly from 2009. The effect size was 0.01 which indicates that the effect is very small.

Post-hoc comparison for Good entertainment and nightlife indicated that the mean score for 2009 (M=6.25, SD=1.86) was significantly different from 2014 (M=6.66, SD=1.76). 2008 (M=6.36, SD=1.84) did not differ significantly from either 2009 or 2014. The effect size was < 0.01 which indicates that the effect is very small.

Post-hoc comparison for Opportunity for adventure indicated that the mean score for 2009 (M=8.36, SD=0.81) and 2008 (M=8.38, SD=0.84) were significantly different from

2014 (M=8.58, SD=0.76). The mean score for 2008 did not differ significantly from 2009. The effect size was 0.013 which indicates that the effect is very small.

Post-hoc comparison for Modern did not show any significant difference between either 2008 (M=7.25, SD=1.57), 2009 (M=7.04, SD=1.51) or 2014 (M=7.26, SD=1.48). The effect size was < 0.01 which indicates that the effect is very small.

Post-hoc comparison for Wild did not show any significant difference between either 2008 (M=8.15, SD=1.1), 2009 (M=7.94, SD=1.36) or 2014 (M=8.09, SD=1.29). The effect size was < 0.01 which indicates that the effect is very small.

Post-hoc comparison for Good cultural experience indicate that the mean score for 2009 (M=7.01, SD=1.61) was significantly different from 2014 (M=7.48, SD=1.52) and for 2008 (M=7.41, SD=1.36). The mean score for 2014 did not differ significantly from 2008. The effect size was 0.019 which indicates that the effect is very small.

As can be seen the effect size, where a difference was detected, is in all cases small. In some cases there is not even a difference between the 2008 and 2009 measurement on the one hand and the 2014 measurements on the other and if there were any, the measurement for 2014 was in all cases higher than it was in 2009. From this it is deduced that the volcano eruption in 2010 only had a marginal effect on how the participants evaluated Iceland on the various image attributes.

To examine the effects on image of Iceland the methodology of perceptual mapping was used. A perceptual map for 2008 was constructed as well as for 2009 and 2014. The result for 2008 can be seen in figure 2.

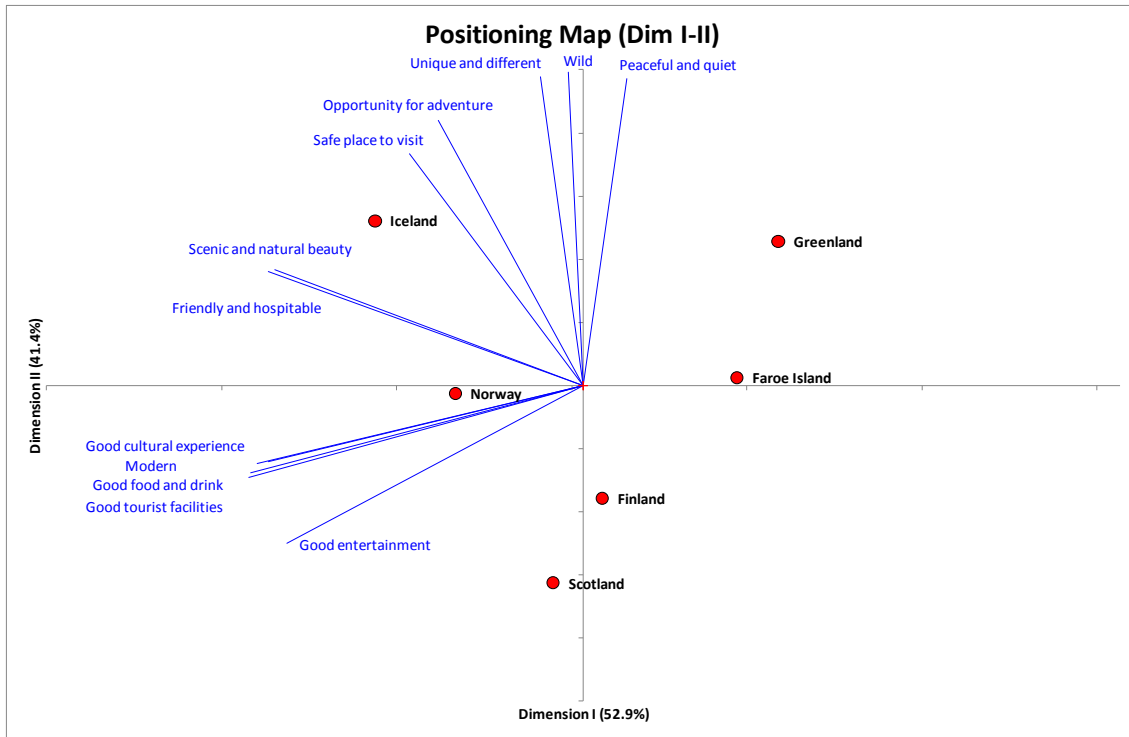


Figure 2: A positioning Map for 2008

As can be seen Iceland has a very distinct position in the perceptual map and is closely connected with Safe place to visit, Scenic and natural beauty, Friendly and hospitable, and Opportunity for adventure. One of the most commonly used indicators of internal consistency is the Cronbach alpha coefficient. Ideally, the Cronbach alpha coefficient of a scale should be above 0.7. For 2008 the coefficient was 0.817 which is above 0.7 and therefore the scale is considered reliable.

In figure 3 the result for the combined 2009 measurements is shown. As can be seen the results are almost exactly the same. Iceland is closely connected to the same four attributes, i.e. a Safe place to visit, Opportunity for adventure, Scenic and natural beauty, and Friendly and hospitable. The position of other countries is also pretty much the same which is very interesting when it is kept in mind that three independent samples are being compared. Since the discussion of the image of the comparison countries is beyond the scope of this paper it has to wait for a better time.

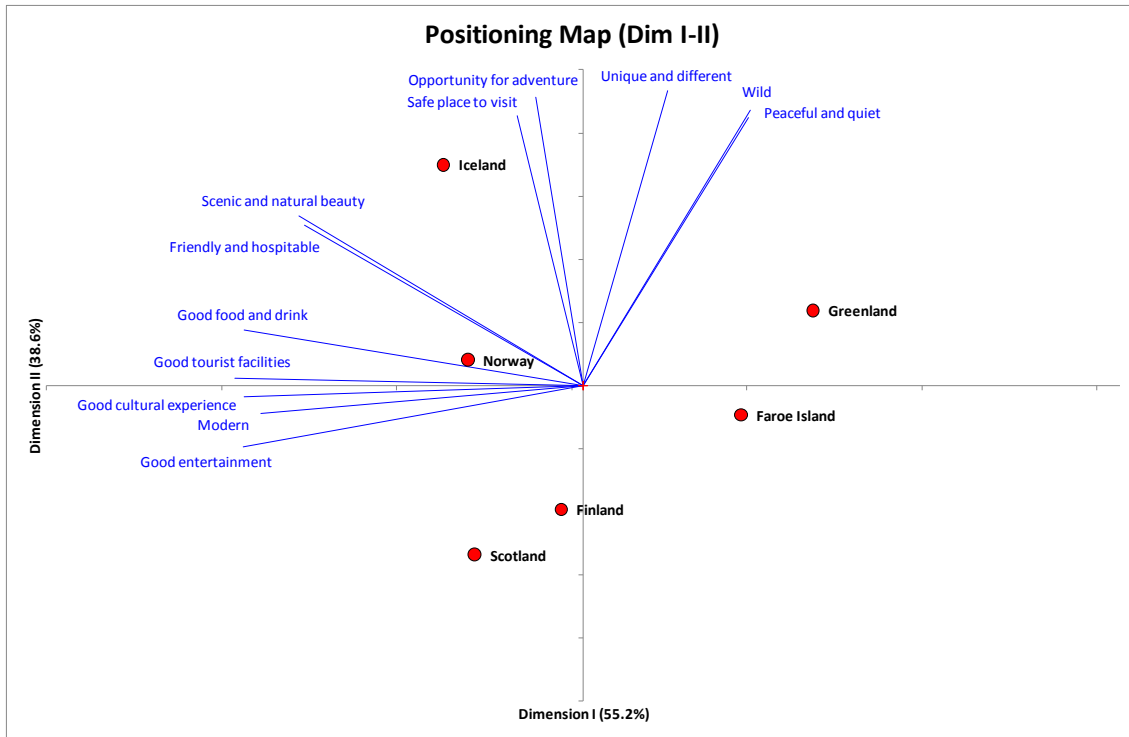


Figure 3: A positioning Map for 2009

Cronback's alpha for the 2009 measurements is 0.79 which is above 0.7. Therefore the scale used has internal reliability.

In figure 4 the result for the 2014 measurements is shown. As can be seen the results are almost exactly the same, not only for Iceland but also for the other countries. Iceland is closely connected to the same four attributes, i.e. a Safe place to visit, Opportunity for adventure, Scenic and natural beauty, and Friendly and hospitable. As mention before the position of other countries is pretty much the same which is very interesting when it is kept in mind that three independent samples in different time are being compared. Compared to other countries the image of Iceland and Norway is much stronger since those two countries has stronger connection to possitive attributes than other countries.

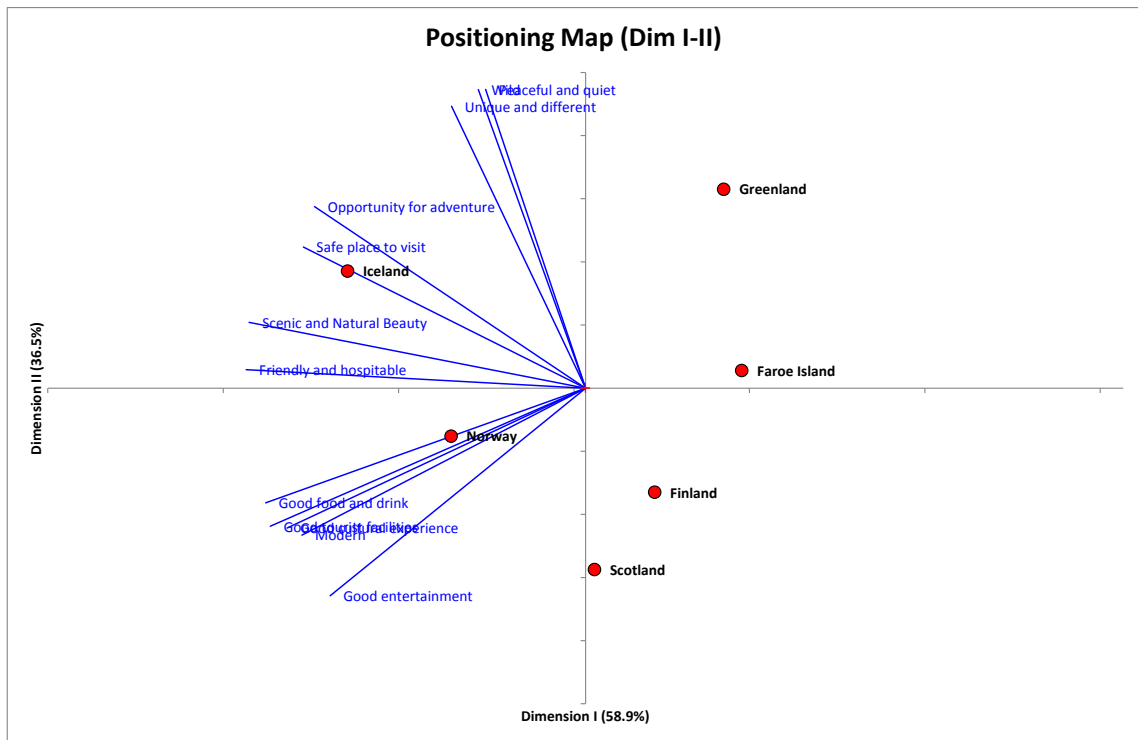


Figure 4: A positioning Map for 2014

Cronback's alpha (for Iceland) for the 2014 measurement is 0.79 which is above 0.7 and therefore the scale used has internal reliability.

The perceptual maps show that the volcano eruption does not seem to have had critical effect on the image of Iceland among tourists visiting the country in the summer of 2014. If any, the effect might be positive for the image since values are in most cases higher in 2014 than in 2008 and 2009.

4 DISCUSSION

Destination image is a complicated concept, which changes with increased information search and knowledge (Molina et al., 2010; Qu et al., 2011).

The aim of this paper was to explore whether the volcano eruption in 2010 had a significant effect on the image of Iceland among foreign tourists in Iceland in summer 2014. The volcano eruption in Iceland in 2010 got a great amount of international coverage in the media, where it had a negative influence on many travelers. But according to Futurebrand, the global news did in fact have a positive effect on the image of Iceland. To assess the effect of the volcano eruption, we benchmarked our results to two previous studies.

The result of Anova test showed significant difference in 9 out of 12 image attributes between the years of 2008 and 2009 on one hand and in 2014 on the other, where most of the difference is between the years 2009 and 2014. In all cases, the mean score for the attributes in 2014 were higher than they were in 2009 and 2008 but according to the effect size, eta squared; the difference is not important.

The results of the perceptual maps showed the perceived image of Iceland among foreign tourists compared to the five other countries. The position of Iceland is very distinct and indicates that the tourists perceive it to be a *save place to visit*, that it offers *opportunities for adventure*, that it is *scenic and has natural beauty* and its people are *friendly and hospitable*. The perceptual maps did show a similar position for Iceland, as well as the other countries regardless of what year they were presenting. It can therefore be argued that the volcano eruption in Iceland in 2010 did not have a significant effect on the image of Iceland among foreign tourists, and certainly not negative ones. That might support the literature that a destination image is very robust and hard to change (Anholt, 2010). It has also been mentioned, that in order to differ from others destinations, a positive (Yilmaz et al., 2009), competitive (Hassan, et al., 2010) and unique (Morgan et al., 2002) image is the key, which can only be achieved if the image that the Destination Organization is projecting is accurate to the image that is perceived by tourists (Naidoo et al., 2012; Qu et al., 2011). In this context, it might be worthy noting that according to the Icelandic tourist board (2014), a vast majority of tourists that traveled to Iceland felt that the experience had met their expectations and they also felt likely that they would return to Iceland in the future. From this it might be concluded that the projected image of Iceland is compatible to the perceived image of tourists, which might also be a reason why this natural hazard did in fact not have an influence on the destination image of Iceland. Findings from earlier research, which was done

to explore the effect of the Icelandic banking crisis in 2008 support this as well, whereas it was concluded that the banking crisis did not have a marginal effect on the image of Iceland among foreign tourists (Gudlaugsson, Eysteinnsson and Sigurjonsdottir, 2011).

It should be kept in mind, that this research was conducted among tourists that already had taken the decision to travel to Iceland and therefore it only shows the influence the volcano eruption had on their image, but not on the image that others potential travelers might perceive. Nevertheless, reviews and recommendations from former travelers through word of mouth have a great influence on potential travelers, and their perceived image is therefore greatly influenced by those who have already experienced the country (Beerli & Martín, 2004). The fact that this research was done four years after the eruption might also have some influence on the results, as there is a possibility that it had a negative effect on the image for the short term, as it caused this inconvenience and portrayed the country as a hazardous place.

For further researches, it might be interesting to replicate this research among travelers that have not taken the decision to travel to Iceland and compare their perceived image to those who have already experienced the destination. It might also be interesting to explore if the projected image of Iceland is actually compatible to the perceived image and thus be able to examine if that could be the reason for this stable image tourists have of Iceland.

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