The Behavior Perspective Model and Healthy Food Marketing Online: Experiment Using Conjoint Analysis and E-mail Marketing

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Foreword and Acknowledgements

Submitted in partial fulfillment of the requirements of the BSc Psychology degree, Reykjavík University, this thesis is presented in the style of an article for submission to a peer-reviewed journal.
Abstract

Former researches in marketing have mainly observed consumer choice as an attitude and intention but not as a process of behavior. Current research uses Behavioral Perspective model in understanding consumer behavior. With decreasing public health it is noticeable that interest on healthy food is growing. Nevertheless, early researches have argued that high price and low accessibility on healthy food have influenced people to unhealthy consumption. The main objective of this study is to display the use of Behavioral Perspective Model as an instrument to understand consumer choice in healthy food. The current research uses Conjoint Analysis and E-mail marketing experiment. Conjoint Analysis was used to gather information about preferences and purpose of the consumer purchase. The results showed that price, picture and delivery were most the important attributes. Moreover, the e-mail marketing experiment was conducted to understand which reinforcements might influence consumer to purchase healthy food. The results from the e-mail marketing study revealed that informational reinforcing e-mail conducted more opened e-mails and clicks on a web store than utilitarian reinforcing e-mail. The findings provided marketers information about how to increase the attractiveness and value of the product. Furthermore, more demanded healthy food could lead to increased public health.

Keywords: Healthy food, consumer behavior, Behavioral Perspective model, e-mail marketing, conjoint analysis, online marketing.

Útdráttur


Lykilhugtök: Heilsumatur, neytendahegðun, Atferlislíkan Foxall's, markaðssetning með tölvupósti, sameinuð greining, stafræn markaðssetning.
The Behavior Perspective Model and Healthy Food Marketing Online: Using Conjoint Analysis and E-mail Marketing Experiment

Online marketing is a unique field in the marketing area and people are not quite sure of its efficiency (Drèze & Hussherr, 2003). It is simple in use and cheap in comparison to other media. Researches in marketing have mainly observed consumer choice as an attitude or intention but not as a process of behavior. (Kiang, Raghu, & Shang, 2000). Since these shortcomings, marketing is lacking researches in online consumer behavior (Drèze & Hussherr, 2003; Smith, 2013).

Online consumer behavior defines consumer behavior in online environment and how intentions and drive differs from in-store consumption (Cheung, Chan, & Limayem, 2005). To understand consumer behavior it’s vital to recognize the basic clarification of behavior. “ Behavior is everything that all-living creatures do, interaction to the environment and function of the body” (Johnston & Pennypacker, 1993). Looking at consumer behavior in behavioral perspective companies can gain advantage in marketing, since it looks at a purchase decision as a process of consequences (Foxall, 2004). The Behavioral Perspective Model seeks to explain consumer behavior as a function of its consequences in normal time and space of environment (Foxall, 2004). These events in consumption environment can work as a stimulus that signals the consumer that could affect consumers’ choice. Examples of these events are physical, social, regulatory and temporal. These reinforcements can all adjust consumers’ behavior towards or away from the product considering the settings have similarities with consumption environment (Foxall, 1992). By recognizing which reinforcements are important, companies can use them to increase the value of the product.

Utilitarian and informational consequences are the essence of consumer behavior. Utilitarian consequences are responses that derive from economical and
functional benefits from the product itself (Foxall, 2004). It tells the consumer what he gets by purchasing the product. An example of utilitarian reinforcing is that purchasing healthy food relates to better health and individuals feel better after the consumption. However, informational consequences are based on response from other people and have a social function. Example of informational reinforcement would be purchasing healthy food could increase your social status and you could get an attention from others. Furthermore, utilitarian and informational punishments can also derive as consequences that motivates consumer away from the product.

![Behavior Perspective Model Diagram](image)

*Figure 1. A graphical presentation of the Behavior Perspective Model.*

The Behavior Perspective Model lacks a research background in online environment but has been used in a research to get an increased comprehension about consumer choice (Sigurdsson, Menon, Sigurdarson, Kristjansson, & Foxall, 2013).

Current research performed an E-mail marketing study with reinforcing stimuli influenced by the BPM model. Earlier researches in e-mail marketing used both utilitarian and informational advertising stimuli with a baseline measure. The utilitarian stimuli were that if they bought one book they would get another one for free. The informational stimuli were that if the individual bought a book the company would provide another one to charity. Despite that the participants opened e-mails with
informational stimuli furthermore than e-mails with utilitarian stimuli, it was reversed when it came to the purchase itself (Sigurdsson et al., 2013). Another research that used BPM model for E-mail marketing showed that Informational reinforcing stimuli produced more openings of e-mails and clicks on a link for purchase (Sigurdsson, Hinriksson, & Menon, In print). These stimuli could be certain factors or attributes in the product that could motivate consumers to purchase it.

Researchers debated on which factors where most powerful when individuals shopped online. Research from Fagerstrøm and Ghinea (2011) argued that price had the biggest influence on likelihood that individual would buy the product. It had both positive and negative impact, as high price decreases likelihood of purchase while low price increases it.

This research uses conjoint analysis to find out which attributes are most important. Conjoint analysis collects trade-off information from many elements and shows why consumers prefer one brand over another. In the end companies have information about preferences and purpose of the consumer purchase (Green, Krieger, & Wind, 2001). The aim of the research is to gain knowledge on healthy food marketing, with the goal of increasing public health.

Impact of important attributes in social media was studied with conjoint analysis from 2015 (Menon & Sigurdsson, in print). They argued that price had the greatest importance ranking as high price had the most negative utility and low price positive utility. Shipping also had a high impact factor, where the level of paying for shipping had high negative impact. Through this researchers can see the impact factor in different level of attributes with each individual.

In understanding which elements can make a good impression online it is vital to identify the trends in public health and who is the usual healthy food consumer.
Previous researches found out that interest in purchasing healthy food was present but because of low accessibility and high price people were less likely to buy it (Walker, Keane, & Burke, 2010; Story, Kaphingst, Robinson-O’Brien, & Glans, 2008). Since high price and low accessibility on healthy food, individuals preferred unhealthy and cheaper food instead (Walker et al., 2010). Research indicated that popular figures and brands were useful to promote healthy food (Gunnarsdottir & Thorsdottir, 2010).

Earlier research on food websites showed that companies with healthy food could use the Internet to gain advantage on companies that produce unhealthy food (Weber, Story, & Harnack, 2006). They argued that there were opportunities to promote a healthier choice of food.

The main aim of this study is to show how the Behavioral Perspective Model can be used as an instrument to understand consumers choose in healthy food. Finding the consequences in healthy food that had the greatest utility in consumer settings, companies can use it to increase sale of their product. Current hypotheses is that by using BPM model to understand the consumer motivation to buy healthier food, the public health in today's society could increase.

**Method**

**Study 1**

**Participants.**

The research was conducted in March 2015 as a part of BSc thesis in psychology from Reykjavik University. Participants were 86 individuals that were real consumers at Gló restaurant. The sample used was judgment sample were participants were chosen by a goal in mind. Participants were only consumers at Gló since they had the best knowledge of the product and that may perhaps reflect in detailed results. Distribution of gender was 18 men and 64 women, four did not mention their gender. The range of
participant’s age was from 18 to 66 and older, however utmost of the participants were at the range of 18-25 years old. No payment or rewards were available for the participants. Every participant signed an informed consent to be sure they were notified of every angle of the research (Appendix A).

**Measures.**

Researchers used Conjoint Analysis to measure importance of attributes and levels of the attribute in marketing. Conjoint analysis is one of the most used research methodology in market research up to the present time (Green & Srinivasan, 1990). Conjoint analysis collects information about preferences of attributes on the target product and purpose of the consumer purchase.

Researchers emphasized on exploring actual product and a company that was well known in the community. Collaboration was found with Gló. Gló specializes in healthy food and manage both restaurant and brand. Furthermore they offer a food bag that contains a food and nutrition for the entire day. The food bag can only be purchased online and the company wanted to target that product in order to increase sale.

Conjoint analysis focuses on attributes in the product and how different levels in the attributes can motivate consumers to purchase the product. Deciding what attributes should be explored, researchers performed a pair of pre-tests. First a high-powered store manager at Gló was interviewed. The goal was to perceive whatever attributes the company itself though was important. Afterwards twelve attributes were remained: Portion size, price, reviews, charity, nutrition, pictures, meat, base of the food, delivery, ingredients, order way and origin of the materials.

To reduce the numbers of attributes from twelve to seven researchers presented a pre-test for eight real consumers at Gló, they got the list and were requested to rank the attributes from one (highly important) to twelve (least important).
As seen on Table 1 the final attributes were seven and each attribute had a different level. The final attributes were: Portion size, price, reviews, pictures, meat, delivery and ingredients. Each attributes contains a different levels that were believed to have a diverse motivation on consumer behavior as showed in Table 1.

Table 1

Attributes and Different Levels

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td>1 Low profile picture</td>
</tr>
<tr>
<td></td>
<td>2 Juicy picture</td>
</tr>
<tr>
<td></td>
<td>3 No picture</td>
</tr>
<tr>
<td>Portions</td>
<td>1 1500 Kcal</td>
</tr>
<tr>
<td></td>
<td>2 2000 Kcal</td>
</tr>
<tr>
<td></td>
<td>3 Not mention</td>
</tr>
<tr>
<td>Price</td>
<td>1 3590 ISK.</td>
</tr>
<tr>
<td></td>
<td>2 5490 ISK.</td>
</tr>
<tr>
<td></td>
<td>3 7490 ISK.</td>
</tr>
<tr>
<td>Reviews</td>
<td>1 Celebrity review</td>
</tr>
<tr>
<td></td>
<td>2 Anonymous review</td>
</tr>
<tr>
<td></td>
<td>3 No review</td>
</tr>
<tr>
<td>Meat</td>
<td>1 Free Chicken</td>
</tr>
<tr>
<td></td>
<td>2 Non-Plumbed chicken</td>
</tr>
<tr>
<td></td>
<td>3 Plumbed chicken</td>
</tr>
<tr>
<td>Delivery</td>
<td>1 Home delivery</td>
</tr>
<tr>
<td></td>
<td>2 Home delivery for 900 ISK.</td>
</tr>
<tr>
<td></td>
<td>3 Picked up</td>
</tr>
<tr>
<td>Ingredients</td>
<td>1 Organic</td>
</tr>
<tr>
<td></td>
<td>2 Non-Organic</td>
</tr>
</tbody>
</table>

Orthogonal array experimental design technique was used to make 18 different sets of product configuration. These product configurations with different levels of the attributes were set up in 18 stimuli cards. Current study researchers used the real website of Gló, and expected that participants were going to buy the food there
Alongside the functional analysis participants were also asked to answer basic questionnaire including background questions that included demographic information (e.g. age and gender). Also there were questions about online behavior information and physical activity. Additionally were questions about food consumption and the information to distinguish between super consumers and non-consumers at Gló (e.g. Have you bought a food bag from Gló, how often do you buy food from the internet? how often do you consume fast food? and the importance of raw food) (see Appendix D). Every question had a five scale Likert scale from one to five, as one means highly likely and five for highly unlikely.

Procedure

Two researchers executed the procedure of current research. Consumers at Gló Fákafeni were asked if they had five to ten minutes to participate in a research. If they said yes they were informed of every angle of the research and had a seat at the research setup. The questionnaire was performed on an Apple Macbook Pro laptop on a big table at the restaurant. The questionnaire was administrated online by the Survey monkey software. The disturbance stimulus was a noise and "coming and going" on the restaurant. Participants were asked to read and signature an informed consent (See Appendix A). If the participant accepted that, administration could begin.

The questionnaire was introduced and the participants wished to answer the question by their best conscience. It was made clear to every participant that they were not required to answer all the questions or finish the research. While the questionnaire administration took place researchers went two meters away from the table to reduce stimuli, however they were available for assisting if there was any technical problem.

Once participants began the research they were told to simulate as they were going to purchase a food bag online from the Gló website. First eighteen questions
included stimuli cards that are illustrated in Table 2. Each stimuli card contained variation of the attributes (see Appendix B). Participants were told about these attributes for a better understanding. Stimuli cards were produced in a form of screenshots from Gló website. Participants were asked to evaluate the likelihood of purchasing the product with the assumed levels of the attributes. This questionnaire was followed by a nine basic background questions about demographic information. When administration was finished researchers accredited the participation and made sure that the questionnaire had been submitted to the system.

Table 2

*Factorial Design to Construct Stimulus Cards*

<table>
<thead>
<tr>
<th>Stimulus card nr.</th>
<th>Price</th>
<th>Type of picture</th>
<th>Reviews</th>
<th>Portions</th>
<th>Delivery</th>
<th>Ingredients</th>
<th>Meat</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
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<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
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<td>6</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
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<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
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<td>8</td>
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<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
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<td>3</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>11</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
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<td>13</td>
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<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>14</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
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<td>2</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
THE BEHAVIOR PERSPECTIVE MODEL AND HEALTHY FOOD MARKETING ONLINE

Data analysis.

Before analyzing the data researchers needed to recode the values from questions one to eighteen. After the recode, one was highly unlikely and five was highly likely. This was done so higher score would signify positive outcome. Conjoint analysis was used to measure what attributes had the highest importance rate when purchasing a product. The analysis was executed using IBM SPSS 20.0 statistic software.

Study 2

Participants, setting and measurement.

Participants were members of the „Gló preferred customers club“. Everyone could register to the club at the website and got a weekly newsletter. By registering in the club, individuals gave a permission to receive e-mails with information about Gló’s service and product, they were also offered a special deals. Gló preferred costumers club included 8784 people and all of them were uninformed of their participation on the research.

As in study one this experiment was accompanied with Gló and they used software called MailChimp. That is an "online e-mail marketing solution that sends e-mails and track results" (“Features,” n.d.). The target product in this part of the research is the same as in study one, a food bag from Gló.

Design and intervention.

The experiment design was A-B-C design with a baseline measure; the participants got three e-mails with different intervention in form of messages. These interventions were based on the essentials of Foxall's BPM model. The first e-mail (A) was a baseline measure, including a special offer on a food at the restaurant. The second e-mail (B) involved utilitarian messages, like functional or physical benefits of the product. However, the latest e-mail involved informational message (e.g. social). The
independent variables in study two were these different interventions. Earlier intervention was e-mail advert with utilitarian reinforcement, the purpose was to increase the sale of the food bag. The advert involved information about the product (e.g. high nutrition, price and that the good consequences of consumption) also was the picture that showed greatest motivation score on study one. The information was that the food bag had the best nutrition available and consumers would feel physically and mentally good after the consumption. The later intervention involved informational reinforcement that had the purpose of revealing the social benefits of purchasing healthy food (see Appendix C). The e-mail advert had a review from Icelandic sport star about the food from Gló. The sport star was Anna Hulda Ólafsdóttir a Scandinavian champion in weight lifting, Crossfit contestant and was nominated the Icelandic weightlifter of the years 2012, 2013 and 2014. Likewise, by the review was a picture of Anna and a URL link to the web site to purchase the food bag as showed in Appendix C.

Procedure and data analysis.

Baseline measure was constructed 31st march and up to 6th of April. The utilitarian reinforcing e-mail was sent on 23rd of April to the "Preferred customers club ". A week later, 1st may the last e-mail was sent in with the informational reinforcement. Between 23rd of April till 7th of May 2015, the MailChimp software collected results. MailChimp accumulated the results from numbers who received and opened the e-mails. Furthermore, the clicks on URL links to go to the online shop were the main tracked results. These results were redeployed to the IBM SPSS software and a one-way repeated measure ANOVA was conducted.
Results

Study 1

Table 3 shows the utility estimate and comparative importance of each attribute. First column shows the attributes and each level of it. Second column has a utility estimate for each factor and its level. Lower utility score suggest low preference and higher utility suggest greater preference. The third column shows an importance score that indicate the estimate importance of the attributes, and the last column ranks them from the greatest importance to the least important attribute on scale one to seven. Almost perfect correlation was found between observed and estimated preferences (Pearson's $r = 0.998, p < 0.05$).

Table 3

Conjoint Impact Estimate and Comparative Importance of Attributes

<table>
<thead>
<tr>
<th>Attributes and levels</th>
<th>Utility Estimate</th>
<th>Importance score</th>
<th>Importance ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low profile picture</td>
<td>0,138</td>
<td>13,28</td>
<td>2</td>
</tr>
<tr>
<td>Juicy picture</td>
<td>0,012</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No picture</td>
<td>-0,149</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Portions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1500 Kcal</td>
<td>-0,001</td>
<td>8,48</td>
<td>6</td>
</tr>
<tr>
<td>2000 Kcal</td>
<td>-0,027</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not mention</td>
<td>0,028</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Price</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3590 ISK.</td>
<td>0,745</td>
<td>39,31</td>
<td>1</td>
</tr>
<tr>
<td>5490 ISK.</td>
<td>0,014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7490 ISK.</td>
<td>-0,759</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reviews</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Celebrity review</td>
<td>0,024</td>
<td>9,61</td>
<td>5</td>
</tr>
<tr>
<td>Anonymous review</td>
<td>0,001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No review</td>
<td>-0,025</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free Chicken</td>
<td>0,048</td>
<td>11,37</td>
<td>4</td>
</tr>
<tr>
<td>Non-Plumbed chicken</td>
<td>0,06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Plumbed chicken</td>
<td>-0,108</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Delivery</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home delivery</td>
<td>0,48</td>
<td>11,77</td>
<td>3</td>
</tr>
<tr>
<td>Home delivery for 900 ISK.</td>
<td>0,14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Picked up</td>
<td>-0,062</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ingredients</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organic</td>
<td>0,008</td>
<td>6,17</td>
<td>7</td>
</tr>
<tr>
<td>Non-Organic</td>
<td>0,008</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 1 indicates the average impact value of each factor when participants were asked to estimate the likelihood to purchase the food bag. Average impact score from each factor was computed by the utility range and dividing by the sum of utility ranges for all factors.

![Impact score of all attributes](image)

*Figure 1. Impact score of all attributes.*

The results were represented as a percentage of the total (100%). The most important attribute was the price, where the average impact score was 39.3%. This impact score was highest by superiority, where the second most important attribute had 26% lower average impact score than price. With the average impact score of 13.3%, the second most important factor was the picture of the food. Delivery of the food, if individuals could order home delivery or they should get it at the restaurant, had an average impact score 11.8%. The origin of the chicken that was used in the food bag had the impact score of 11.4% and types of review of the food had the average impact score of 9.6%. The size of portions in the food bag measured in calories had the average impact score of 8.5% and had was ranked second lowest in important scale. The least important factor was that the ingredient was organic or not, and it had the average impact score of 6.2%.
Figure 2 displays the utility score of different levels in each attribute. It also shows how these different levels could be used to increase the value of the product.

**Figure 2.** Utility scores for different attributes and their corresponding levels.

Figure 2 shows a utility score for the factor pictures. The low profile picture level showed the highest utility score of 0.138. That indicates a higher likelihood of purchasing the food bag than seeing juicy picture (0.012) or no picture (-0.149) at all. The utility score of the levels in portion size factor showed that by not mentioning the numbers of calories the purchase was more likely (0.028). The utility score was negative for both the levels that reveal the numbers of calories, which were 1500 calories (-0.001) and 2000 calories (-0.027).

The biggest range in utility score was in the factor price of the food bag. The stimuli level of the price 3590 ISK had a great positive score (0.745), higher than the level 5490 ISK (0.014). The level 7490 ISK showed a high negative effect on purchasing the product (-0.759).

Figure 2 showed a utility score for the factor Review. The stimulus level celebrity review had the utility score of 0.024 and had a higher effect on the likelihood
of purchasing the food bag than the stimulus levels anonymous review (0.001) and no
review (-0.025). The different stimuli levels of chickens origin is showed in figure x.
Non-plumbed chickens stimuli level was 0.060 and was a little higher utility score than
the stimuli level Free chicken (0.048). The lowest utility score was -0.108 at the level
plumbed chicken.

Different stimuli levels of the attribute delivery of the product are showed in
Figure 2. The stimuli level home delivery had greater effect than picked up at the
restaurant. The utility score of home delivery was 0.048 and for home delivery for 900
ISK. was the score 0.014. Nevertheless the stimuli level picked up at the restaurant was
-0.062 and therefore unlikeliest that participants would purchase the product with that
stimuli level. The last factor was if the ingredients were organic or non-organic, the
difference between the stimuli levels where small. The organic level showed utility
score of 0.08 and the non-organic level had the score of -0.08. Neither of these levels
showed sufficient score to distinguish between them.

**Study 2**

Table 4 displays descriptive results of the e-mail responses established by the
type of reinforcement. The baseline measure e-mail was sent to 8784 individuals. The
utilitarian reinforcing e-mail was sent to 8794 individuals in total but 13 participants
unsubscribed from the database after receiving the e-mail. Therefore, the informational
reinforcing e-mail was sent to 8781 customers. The utilitarian reinforcement e-mail was
opened 3855 time, however only 3103 individuals opened the informational
reinforcement. While the baseline measure e-mail was opened 3602 times. The ratio of
total openings based on total e-mails sent was 43.8% in utilitarian reinforcement, while
informational reinforcement had the ratio 35.3% and the baseline measure had 41%
opening ratio. The baseline measure produced 0.003% clicks on the link from customers
that opened the mail. In the e-mail was a link that sent the individuals to the Gló web store for purchasing the target product. Furthermore, 0.01% of customers who opened the utilitarian reinforcing e-mail, clicked on this link. Nevertheless, the informational reinforcing e-mail produced 0.024% clicks ratio on the link. The target product was sold in similar quantity in the period of these stimuli. The baseline measure and the utilitarian reinforcing e-mail produced six sold units, however the informational reinforcing e-mail produced seven transactions of the food bag.

Table 4

E-mail Response for Types of Stimuli interventions

<table>
<thead>
<tr>
<th>Variables</th>
<th>Baseline</th>
<th>Utilitarian reinforcement</th>
<th>Informational reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Openings</td>
<td>3602</td>
<td>3855</td>
<td>3103</td>
</tr>
<tr>
<td>Clicks in link</td>
<td>11</td>
<td>37</td>
<td>76</td>
</tr>
<tr>
<td>Sales</td>
<td>6</td>
<td>6</td>
<td>7</td>
</tr>
<tr>
<td>Unsubscribed</td>
<td>10</td>
<td>13</td>
<td>3</td>
</tr>
</tbody>
</table>

A repeated measure ANOVA was conducted to compare the influence of stimuli intervention type on number of openings of e-mails. The means of the sample of interventions are shown in Figure 3.
Mauchly’s test specified that the assumption of sphericity had been breached ($\chi^2(2) = 427.94, p < 0.05$), therefore degrees of freedom were adjusted using Greenhouse-Geisser estimated of sphericity ($e = 0.95$). The Greenhouse-Geisser correction determined that quantity of opened e-mails varied statistically significantly between the reinforcing interventions ($F(1.909, 16722.68) = 14.841, p < 0.05$).

Post hoc tests revealed that a utilitarian reinforcing message reduced marginally the openings of the e-mails compared to the baseline measures. However, this difference was not statistically significant ($p = 0.128$). The informational reinforcing message obtained a decrease in openings of the e-mail and was significantly different than the utilitarian reinforcing e-mail ($p < 0.05$). Eventually the informational reinforcing message produced a drop in quantity of openings compared from the baseline measure and the difference was statically significant ($p < 0.05$). Consequently, assumption could be made about that informational reinforcing message statistically significantly reduced e-mails openings compared to both utilitarian reinforcing message and baseline measure (see Figure 3).

*Figure 3.* Estimated marginal means of opened e-mail between different interventions.
A repeated measure ANOVA was conducted to compare the influence of intervention type on number of clicks on links to web store. The means of the sample of interventions are shown in Figure 4. Mauchly’s test specified that the assumption of sphericity had been breached ($\chi^2(2) = 1739.25, p < 0.05$), therefore degrees of freedom were adjusted using Greenhouse-Geisser estimated of sphericity ($e = 0.85$). The Greenhouse-Geisser correction determined that numbers of clicks to a link varied statistically significantly between the two interventions ($F(1.695, 14846.256) = 22.13, p < 0.05$).

![Figure 4](image)

*Figure 4.* Estimated marginal means of clicks between different intervention

A Tukey Post hoc tests showed that the baseline message affected a reduction in clicks on a web store link in e-mail, compared to utilitarian reinforcing message. The difference was statistically significant ($p < 0.05$). Furthermore, the informational reinforcing message was significantly more probable to stimulate a click on a web store link than the baseline message ($p < 0.05$). The informational reinforcing message statistically significantly increased clicks on a web store link in e-mail compared to the utilitarian reinforcing message (see Figure 4).
Discussion

The current study offers a perception into consumer’s intentions and choices in the process of purchasing a healthy food. The application of Behavioral Perspective Model was used to understand consumer responses. The aim of the study was to figure the most important attributes in order the gain the product value. Moreover, how these attributes in partnership with utilitarian or informational reinforcing e-mail, motivated consumer closer or further away from finalizing the purchase.

The results from the Conjoint Analysis showed that price had the greatest importance in the likelihood of consumer purchasing the food bag from Glò. The highest (7490 ISK) price showed the most negative influence in purchasing, while the lowest price (3590 ISK) had the most positive influence. The central price (5490 ISK) showed a little positive influence, for notice the central price was the right price of the target product. By reducing the price from 7490 ISK to 5490 ISK the product value could by increased more compared to reducing the price from 5490 ISK to 3590 ISK. By increasing the product value, the product would be more in demand for consumers. The results from Fagerstrøm and Ghineas (2011) research agreed with these findings. That price had the greatest influence in purchasing a product. Moreover, that high price could reduce the value and likelihood of purchasing and low price could increase it. Another research using Conjoint Analysis research agreed with these findings, as price was the most important factor (Menon & Sigurdsson, in print).

The type of picture was the second most important attribute in the product. Remarkably, the Low profile picture had higher motivation score than a juicy picture of the chicken. However, showing no picture had ample lower motivation score than both the picture levels. Third most important attribute was the delivery of the food bag, the highest motivation factor for purchasing was the home delivery for no additional costs.
However, the home delivery for 900 ISK had higher motivation score than picking it up at Glós restaurant. It could be interpreted that home delivery will increase the accessibility of the product. According to Menons and Sigurdssons (in print) research delivery of the product was also most of the important attribute. However, they to not completely agree in every finding, since paying for home delivery had the highest negative influence but in this research it was picking the product up at the restaurant. Probability is that the influence of levels in this attribute differs in the type of the product. These results are consistent with prior results where high price and low accessibility where the main factors that prevented consumers from purchasing healthy food (Story, Kaphingst, Robinson-O’Brien, & Glanz, 2008; Walker et al., 2010).

Informational consequences attributes like the type of meat and reviews had the importance rank four and five. Reviews about Glós food was ranked number five on importance ranking. A review from a celebrity had the highest motivation score, more than anonymous review. Nevertheless, the lowest motivation score was when showing no review. Former research supported that finding as it showed that popular figures where useful to promote healthy food (Gunnarsdottir & Thorsdottir, 2010). The two least important attributes were portions and organic or not organic product.

The results from the e-mail marketing study revealed that informational reinforcing e-mail conducted most of clicks on a web store link to purchase the food bag. While the utilitarian reinforcing e-mail motivated more clicks on the link to the web store than the baseline measure. Utilitarian reinforcing e-mail motivated the most quantity of opened e-mails. Researcher can probably not examine the results from the total openings, since it is difficult to conclude that the interventions motivated the opening of the e-mail. However, the difference in sales of food bag from the web store was not noteworthy, only one extra item sold in the week that informational reinforcing
e-mail was sent compared to the other interventions. Earlier research supports these findings - the informational reinforcing stimuli produced more opened e-mails than the utilitarian reinforcing stimuli (Sigurdsson et al., 2013). However in the aforementioned research the utilitarian reinforcing stimuli produced more purchases of the target product. Furthermore, another research showed the supported the findings. They showed that informational reinforcing e-mail produced more opened e-mails and clicks (Sigurdsson et al., In print).

This current study has its limitations like any other. First, Conjoint Analysis does not measure a behavior in actual environment. Moreover, the Conjoint Analysis had several attributes, which could lead the participants to simplification approaches. The limitations of the E-mail marketing study were few. It would have been preferred to use A-B-C and A-C-B withdrawal design with target segmentation. For example the consumers would be split in to two groups, as they would get different intervention in different phases of the research. Another limitation is because the interventions were executed week-to-week it is difficult to dismiss Carry-over effects. That is the likelihood that effects from earlier reinforcing interventions may still be existing when conducting the different reinforcing intervention. Consumer might delay the purchase of the product that was presented in the phase of utilitarian reinforcing e-mail until week later, then it is measuring the quantity of sold items in the phase of informational reinforcing e-mail. The current research sent E-mails to a "special newsletter club" at the Gló restaurant, often used to send recipes, information concerning events and special offers. The e-mails sent in present study contained other messages from the Restaurant that produces distracting stimuli that could have been prevented in another settings. These limitations should be acknowledged while interpreting the findings.
Future researches should improve these limitations and emphasize on supplementary things. The attribute accessibility of healthy food has been fueled by earlier researches but was not directly evaluated, simply as the delivery of the food bag. Furthermore, by producing the research alongside with a qualitative study, for example an eye tracking measure or qualitative interviews. Through this marketers could get precise information about individual behavior in a consumption settings.

These findings have both theoretical and applied implications. The Behavior Perspective Model is a fairly new approach in marketing researches. Current research improves knowledge on the theoretical implication of the model. This research is appreciated extension to the shortage of marketing studies focusing on consumption as a behavior.

From the applied perspective the findings offers evidence about how different attributes influence the consumptions of healthy food. Former researchers argued about presented opportunities in online marketing of healthy food (Weber et al., 2006), consistent to the findings of present research. The findings provide marketers information about how to increase the attractiveness and value of the product. From the industry perspective, increased value of the product would cause a growth in sale of the target product. Nonetheless, higher value of healthy food could lead to more consumptions of it, which causes a better healthiness. Consequently it applies the perspective of public health.
References


Sigurdsson, V., Hinriksson, H., & Menon, R. G. V. (In print). Operant behavioral economics for e-mail marketing: An Experiment based on the behavioral perspective model testing the effectiveness of motivational operation, utilitarian and informational stimuli. Managerial and decision economics. doi:10.1002/mde.2725


Appendix A
Form of Informed Consent

Eyðublað fyrir upplýst samþykki

Rannsókn: Hegðun neytanda á vefmiðli

Tilgangur þessa eyðublaðs er að tryggja að þátttakandi skilji þæði tilgang rannsóknarinnar og hvert hans hlutverk er í rannsókninni. Eyðublað þetta verður að veita nágar upplýsingar svo þátttakandi geti tekið upplýsta ákvörðun um þátttöku sína í rannsókninni. Vinnumlegast leið til rannsakandans ef einhverjar spurningar vakna eftir lestur þessa eyðublaðs.

Boð um þátttöku:

Tilgangur:
Tilgangur þessarar rannsóknar er að skoða hegðun neytanda á hollum vörum á vefmiðlum, þannig má fá mikilvægar upplýsingar á hegðun neytanda og hvernig einstaklingar bregðast við hau og lágu vörugjaldi og skoða þannig hvort neysla eykst eða minnkar og hvort auglysingar hafi áhrif á þá skynjun. Verkefni:
Í rannsókninni verður þér sýndar vörur á netinu og þú sem þátttakandi átt að svara spurningum sem tengjast vörurnu eftir bestu getu.

Þarf ég að taka þátt?
Þátttakandi hefur fullan ákvörðunarrét hjort hvort hann tekur þátt í rannsókninni eða ekki. Ef þú ákvéður að taka þátt þetta eyðublað fyrir upplýst samþykki og bedín um að skrifa undir það. Þú hefur fullan rétt á að hæfta þátttöku í þessari rannsókn hvænir sem er.

Hversu lengi mun rannsóknin standa yfir?
Rannsóknin felur í sér 27 spurningar og áætluður þátttökutími er 5-10 mínútur

Hver er minn ábati af því að taka þátt? þú munt sem þátttakandi getur lærð meira um þína kauphegðun með það að markmiði að spara tíma og peninga. Einnig færðu kjörið takiferi til að lærar meira um stafræna markaðssetningu sem er talin ein af framtídarleiðum í markaðsfraði og í senn vitundarvakningu
Hverjar eru áhætturnar við að taka þátt?
Engin fyrirsjáanleg áhætta fylgir þáttöku í þessari rannsókn. Ef hins vegar þú finnur fyrir kvíða eða óþægindum á meðan á rannsókn stendur, vinsamlegast látta rannsakandann vita.
Hvern hef ég samband við ef mig vantar meiri upplýsingar?
Eftirfarandi aðili er starfandi við rannsóknina og má hafa samband við hann hvemar sem er ef þörf er á frekari upplýsingum varðandi þessa rannsókn: Brynjur Þór Hreggviðsson (brynjarh09@ru.is) og Ólafur Þór Jónsson (olafurtj12@ru.is). Ég hef leið ofantalda lýsingu á rannsókninni; neytendahegðun á hollustu vörum á vefmiðlum. Ég geri mér grein fyrir skilyrðu þátttöku minnar.

Dagsetning: ________________________________
Nafn: ________________________________
Undirskrift rannsakanda: ________________________________
Undirskrift þátttaka: ________________________________
Appendix B
Stimuli Cards

Kjúklingur

Meginuppistada pokans er hráfnæði en ein málið dagins er eldastur kjúklingaréttur. Pokinn inniheldur allar málið dagins þ.e. ljóftengin, chia morgungraut, hráfnæðir dagins, kjúklingarétt dagins, grænna sofa og fleiri gömsætt í millimi.

Allur kjúklingur i pokanum er vistvænn frá Litttu guþ hænumi.
Litla gula hanað undan landbúnað þar sem veitoð kjúklinganna
er höfði að leiðarfjarði í gegnum allt framleiddslutferði.

Ved
5490 kr.

Skammtastærð
2000 hitoeinningar

Pokinn er sendur heim að dyrum án aukakostnaðar.
Pokinn er tilbúinn kl. 11 virka daga og kl. 11:30 um helgar.

Allt hræfni sem er notað í okkar réttum er lífrænt

„Eg borða alltaf á Gló eftir æfingu” Gunnar Nelson.
„Síðan ág fór að nýta mér matarpokana frá Gló, hef ág náð mun meiri árangri” Annie Mist

Dæmi um eiginleika:
Verð
Skammtastærð
Afhendingardeið
Umsagnir
Kjúklingur
Lífrænt
Mynd

Bæta í kórfu
Appendix C

Intervention A - Baseline measure

Páskahátíð
Hei og sæl

Nú er hægt að panta hnetustæk fyrir Páskana hji Gló, pantanir berist á pantanir@gló.is

Og svo længur mig að minna á niðra flotta
Barnamatsætning okkar á Gló Köpavogi, sem er ÓKEFPIS fyrir yngri en 12 ára allan apríl á _ _ _ _

Páskasteikin
Við erum byrjuð að taka við póttunum á YNDBS hnetustækinni okkar fyrir þús glóši: "_ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _._

Hnetustæki 500 g (þrjótfræði vegafri) 1995 kr.
Sveippsauði 300 ml (þrjótfræði vegafri) 790 kr.
Hindberjchutney 490 kr.

PÁSKATILBUD á öllum pakkunum:
Hnetustæki + sveippsauði + chutney = 2943 kr.

ATHI Pantanir berast á pantanir@gló.is

Opunartími Þjóð um Páskana

Laugavegur
Skóðaságur 2.ápríl ... 11 - 21
Fístadagurinn laugi ... 11 - 21
Laugardagurinn 4.ápríl ... 11:30 - 21
Páskadagur 5.ápríl ... 11:30 - 21
Annar í þláum 6.ápríl ... 11 - 21

Hæfnfjarður
Skóðaságur 2.ápríl ... 11 - 21
Fístadagurinn laugi ... 11 - 17
Laugardagurinn 4.ápríl ... 11:30 - 17
Páskadagur 5.ápríl ... 11:30 - 17
Annar í þláum 6.ápríl ... 11 - 17

Loðað er frá 2 - 6.ápríl á Engjatígl, í Fískaféni og Köpavogi.

Gledilega háttíð!

© 2015 Gló Veitingar ehf. • Engjatígl 17-19 • 105 Reykjavík
Sert á nettangið << Test Nettang >> • Álsker á þáttistla
The Behavior Perspective Model and Healthy Food Marketing Online

Intervention B - Utilitarian reinforcing e-mail

April 2015

Gleðilegt sumar *

Kasu vinn
Pá er sumarð gengi í garð, í þæð minnsta semkvæmt afmanefni. Framundan er tlmi tilhökkunar og hækkandi sólar.

Nú er að koma helgi og þá er ekki úr vegi að gera arbeys vel við vig. Á eftir átta ég að úthléia helgarnammi sem mér finnst voða gott, þó finnði uppskriðina nöðst í þröfnun.

Njótt helgarnar
Kærleksrátt Sólla ^_—.Æ

Matarpoki Gló
Gló þjóður upp á matarpoka sem inniheldir allar málfir dagasins þ.e. ljósfræg þia margraut, hjáltaðretta dagasins, kjökkvænti dagasins, grænast sats og fleira gónsæt í millimála.

Pókinn inniheldir þarska viku með hátt næringildi og er byggður upp á þesta fáræsla hreinsins hverju sinni. Næringin er góð og þér líður vel á íkams og sál.

Pókinn er söttr á einn af veitingastóðum Gló .
Verð: 5490.

Pókinn má kaupa á vefsíðu okkar þær.

Kakó kúlur
2 ½ dl pekanhøf
2 ½ dl döllur
3 msk kakóduft
1 msk kókosóló
¼ tak sjóursafligur
1/8 tak chil píps
kakóduft eða kókosemið til að velja uppár

Intervention C - Informational reinforcing e-mail

**Vorlegt kryddjurtar salat**
Finnst ykkur ekki dásamlegt að tölvun bjarð og falllega daga? Fuglavnir synja og ég er ekki frá því að að tilverka það orðið súvæltaars.

Í dag útbýð þegar kryddjurtar salat sem rémir vel við vorstemninguna sem leiður í loftinum. Uppskartina finnst því hér nöði í bréfinu.

Sólskina skvæða Sollur *^_^*

**Matarpoki Gió**
*Sem þráttakona og möður legg að ríka hversu á holl* matarmóti. Á Gió fæ að fulkomin næringu sem svalar bæði orkuð og næringu þráttamóttins og bæði og þar að að finnir ekki fersklin og þragðar það matin ásamt mjölk þar. Fyrir mig er maturinn því næring bæði fyrir niðurne og sér.*


Pókann má kaupa á vefsíðu okkar [here](#).

**Á döfinni Gió Fákafani**

*Næring Háumens* Eiðisabet Margeinsdóttir
4. maí kl. 19 - 20:30

*Hreinn Matamói* Ásdis Regna Einarssdóttir
5. maí kl. 18 - 20

*30 Dagar: Leði til hendi Lífstíma* Davíð Kristinsson
6. maí kl. 19 - 21

*Lifandi health* Edda Magnúsdóttir
12. maí kl. 18 - 20

*20 ár af helstu* Matti Ósvaldi
13. maí kl. 18 - 18:30

*Get Your Summer Gio On* David Avocado Wolfe
21. júní - Summer Solstice Smoothies!
Fæðsla og Smoothie kennisla með David Wolfe

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Sent á nafngjöd <neffang> • Afskrá af þölfissta
Appendix D

Conjoint analysis - questionnaire

1 - 18. Hversu líklegt eða ólíklegt er að þú kaupir þennan matarpoka á þessari vefsíðu? (mynd fylgir með)
   - Mjög líklegt
   - Frekar líklegt
   - Hvorki né
   - Frekar ólíklegt
   - Mjóg ólíklegt

19. Hver er aldur þínn?
   - 18 – 25 ára
   - 26 – 35 ára
   - 36 – 44 ára
   - 45 – 54 ára
   - 55 – 65 ára
   - 66 ára eða eldri

20. Hvert er kyn þitt?
   - Karlkyn
   - Kvennkyn

21. Hversu oft í viku stundar þú líkamsrækt eða aðra hreyfingu?
   - Aldrei
   - Einu sinni til tvisvar sinnum í viku
   - Þrisvar til fjórum sinnum í viku
   - Fimm til sex sinnum í viku
   - Daglega

22. Hversu mikil er meðal notkun þín á internetinu á dag í klukkustundum (klst) ?
   - 0 – 2 klst. á dag.
   - 3 – 5 klst. á dag
   - 6 – 10 klst. á dag
   - 12 - 14 klst. á dag
   - 15 klst. eða oftar

23. Hversu líkleg/ur ertu að kaupa matarbakka frá Gló í gegnum heimasíðu þeirra www.glo.is?
   - Mjög líkleg/ur
   - Frekar líkleg/ur
   - Ekkí viss
   - Frekar ólíkleg/ur
   - Mjóg ólíkleg/ur
24. Hversu oft kaupir þú matarbakka frá Gló á internetinu á mánuði?
   - Aldrei
   - Sjaldnar en einu sinni á mánuði
   - Einu sinni til tvisvar sinnum á mánuði
   - Þrisvar til fjórum sinnum á mánuði
   - Fimm til sex sinnum á mánuði
   - Sjö sinnum eða oftar á mánuði

25. Hversu líklegt eða ólíklegt er að þú kaupir matvöru í gegnum internetið á næstu sex mánuðum?
   - Mjög líklegt
   - Frekar líklegt
   - Hvorki né
   - Frekar ólíklegt
   - Mjög ólíklegt

26. Hversu oft kaupir þú skyndibita í hverri viku?
   - Aldrei
   - Einu sinni til tvisvar sinnum í viku
   - Þrisvar til fjórum sinnum í viku
   - Fimm til sex sinnum í viku
   - Daglega

27. Hversu mikilvæg er neysla hráfaðís í þinum augum?
   - Mjög mikilvægt
   - Frekar mikilvægt
   - Hef ekki skoðun
   - Frekar ömikilvægt
   - Mjög ömikilvægt