

*The effect of customer feedback ratings on purchase decision in
ecommerce.*

By

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[All] praise is [due] to Allah, Lord of the World ...

[Al-Quran 1:2]

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Abstract

This research investigates to what extent online product rating influences customer purchase decision. Customer reviews and ratings are now available across all product listings in ecommerce. Customers use reviews not only as an informational supplement but also to cross check and validate concerns and messages about a product. While there has been intensive research about the importance of customer reviews and how reviews information can be used for creating customer value, a largely unexplored question remains in addressing the fact is, whether review positively impacts purchase decision. We investigated this extent of review-purchase decision relationship taking valence (number of stars) of review and three other factors that impact customers purchase decision. Using conjoint analysis the study reveals that rating has a polynomial relationship with purchase decision. 1% increase in the rating results to 0.344 increase in customers utility where 1% increase in rating increases customers willingness to pay by 859.5 yen. Taking rating, brand equity, delivery schedule and price as attributes that impact purchase decision, rating is found to be the most important attribute to impact purchase decision. Customers online shopping frequency is found to impact this rating-purchase decision relationship while customer experience of most frequently purchased goods does not have a significant impact in moderating this rating and purchase decision relationship.

Declaration

Except otherwise indicated, the thesis is the result of my own work

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CHAPTER 1: INTRODUCTION

1.1 Problem Statement

Researchers have always been keen to identify elements that motivate customers to shop online. Age, computer literacy, time spent in internet, even education level are said to have an impact to explain the online shopping population (Swinyard, & Smith, 2003). To answer why people do not shop online, Swinyard, and Smith, (2003) suggests that fear (in 70% of the cases surveyed) is the reason people do not shop online. Moreover customers who purchase online, there is always a sense of risk as customers and sellers do not meet in person and the customer has to believe what he sees in the computer (Reichheld and Schefter, 2000). Online customer review has been the tool to address these areas of trust building, product orientation, fear removal and thus influence customers to pick the right product of their choice. Positive Online Customer Reviews presented with numerical ratings are found helpful in creating consumer trust and thus increase sales (Sparks, B. A., and Browning, V., 2011). Being third party information provided by other customers who have bought and used the product before, customer reviews are trustworthy and even preferred over advertisement to the customers. Now customers are becoming more and more reliant on online customer reviews to gather specific information about any product or service (Litvin, Goldsmith & Pan, 2008). So review is playing a very important rule in bridging customers with sellers and with the increased trust, more and more customers are purchasing online. Due to its increased importance, brands and sellers are always very keen to collect and actualize more and more positive reviews from customers, from different online forums. After every purchase, customers are always asked for a rating and review. Brands also try to ensure a positive rating from customers through their offering of products or services according to the mentioned

feature and attributes. But customers reviews are independent customer opinions and hence not necessarily always positive. Online customer review not only reflect on product or service quality dimensions, it also focuses on the area of product delivery, product performance, size, color, expectation and reality match, customer support services and so on. Review can be presented in different forms, some websites want customers to review the product in different sections as delivery, performance and match with expectation and so on while mostly other websites ask customers to put the review in detail writing and invite to share product pictures with reviews. Though sellers are always keen to have positive reviews and ratings from customers, customers through their independent and individual opinion do present their opinions which can be both positive or negative and that is why online customer reviews are so much appreciated by other customers and indicated as more persuasive (Ba and Pavlou 2002; Willemsen, et al. 2011). Now as it is of no doubt that review plays a key role in influencing purchase decision, question is what is the magnitude of impact of review and rating to purchase decision. Does positive rating always lead to positive customer impression and results to better purchase likelihood? Well there are a mix of results regarding this question. Researchers like Zhu and Zhang, (2010), Pavlou and Dimoka (2006), Ba and Pavlou, (2002), Willemsen, et al. (2011), Chevalier, J. A., and Mayzlin, D., (2006); Ögüt, H., and Onur Taş, B. K., (2012); Ye, Q., Law, R., and Gu, B., (2009); have found review to have a monotonously positive impact on sales, that is, the better the review, the higher the likelihood of the product being purchased. In contrast, Li and Hitt, (2008), Doh and Hwang, (2009), Maslowska, E., Malthouse, E. C., and Bernritter, S. F. (2017) and Doh, S.-J., and Hwang, J.-S., (2009) have found the review not to always have a straightforward positive relationship with sales. Having negative reviews along with positive ones seem important as well, as the influx of negative reviews with positive ones seem to be more trustworthy to customers.

Compared to the influence of a 4.5 star rating, positive reviews with a 5 star rating has a lower influence on sales and, in some cases, a higher rating decreases the likelihood of sales. Although generally a better rating is better for a seller, the question remains whether a positive rating can be too high in that it is seen “a bit fishy”, that is, suspiciously suggesting manipulation by the seller. Is there a threshold in the rating so that after a certain level, the rating, instead of increasing the likelihood of purchase decreases the likelihood? This research is focused on answering these questions. The research will firstly investigate the relationship between rating and purchase decision and examine whether it is inverted u-shaped. Secondly, while previous studies considered only the rating, this study will investigate the interaction of the rating with other factors affecting the purchase decision.

1.2 Research Questions

The study examines the relationships between rating and other factors with the online purchase decision. The study considers variables that are said to have a strong influence on online purchase decisions. In this way the study extends existing literature. It is aimed at attaining the following objectives

1. Examine the magnitude and functional form of the relationship between rating and online purchase decision. Examine whether the relationship is linear or nonlinear and identify the threshold where the relationship turns from positive to negative.
2. Comparing the preference of rating, brand, price and delivery time on the online purchase decision and test the interaction of these factors.

The study will contribute to the field of knowledge by

1. Revealing the magnitude of the impact of online ratings on online purchase decisions and its functional form.
2. The thesis adds light on the impact of other variables like price, delivery. Along with rating, these variables also do play a very strong role in influencing purchase decision. Therefore, exploring the relationship magnitude of rating and purchase decision, controlling for other very important purchase decision influencing factors, is supposed to elicit persuading and more logical results.
3. As an online rating is a strong influential decision making tool, brands and ecommerce platforms are eager to pull as many reviews as possible and get the highest rating - even from untrustworthy sources. Companies might be even tempted to further incentivize good ratings or outward manipulate the rating, for instance, by asking its employees to post positive reviews. By shedding light on the rating purchase decision relationship the thesis will help brands to decide whether it is justified to go for the highest rating however possible.
4. This is paving the way and offers a guideline for sellers, brands and online stores so that they might get a proper understanding of the relationships and, therefore, can follow necessary strategies in generating reviews or to use reviews as the tool to attract and convince customers to buy the product.
5. A guide for private label brand owners and private label brands of ecommerce itself to think and take a proper strategy regarding customer reviews. A recent survey by webretailer.com shows that among the 1500 sellers on the online retailer Amazon.com surveyed more than 50% sell private label brands. Among those 17% are selling exclusively private label brands (Webretail, 2017). Though it is hard to say how many sellers are selling

private label brands in different online channels, it can be inferred that the number is quite large and increasing day by day. The analysis will reflect upon the rating, brand and purchase decision spectrum, where the interplay among private label brands, in-store brand and a renowned brand will be in place. Upon this analysis, private label brand manufacturers will get insight of customer views and priorities regarding this brand, rating and purchase decision trio.

CHAPTER 2: LITERATURE REVIEW

2.1 Factors affecting online purchases

Many factors affect customer purchase decision making in online. Lohse and Spiller, (1998); Swaminathan et al. (1999) and Zellweger, (1997) concluded that competitive price, ease of information search, customer service, product description and information, convenience are the key factors shaping the online store transactions. Rowley and Okelberry, (2000) founded that factors such as low shipping costs with timely delivery, competitive low prices, security, customer service with fast email responses, product comparison, fast and convenience are the key attributes to attract customers online. Burke, (2002) found that there are Must Have attributes (price, product specifications, usage instructions, warranty information, home/office delivery of the product and a list of products currently on sale in online) and Should Have attributes (numbers of products in stock, detailed products photograph, product price and feature comparisons, expert ratings of product quality) for success of an ecommerce. The survey was done with a sample of 2120 people in USA and thus focus on finding what ecommerce businesses should focus on. Low shipping cost, marketing in real time, entertainment (D'Ambra and Rice, 2001), improved customer experience (Hoffman and Novak, 1996) are attributed to recent ecommerce success measures along with some traditional measures as dedicated customer services (Raghunathan and Madey, 1999), (Rapert and Brent, 1998), (Griphith and Krampf, 1998), extended customer knowledge base, (Loftus, 1997), faster information search (Hoque and Lohse, 1997). As the popularity of online sales goes up and up, new dimensions and attributes are being added to the existing ones. Among the factors discussed, online customer reviews had been and has been a dominant factor influencing purchase decision.

In the online marketplace, customers after purchasing any product are asked to write review and recommendations. These reviews have been seen to play a vital role in influencing the decision making of consumers (Han, Lee, and Park, 2008). Powerreview.com a research firm that develops and markets consumer engagement technology founds that customers take ratings and reviews strongly for necessary information consideration before making any purchase. A recent study shows that among the customers surveyed, 95% said that they go through ratings and reviews before purchase and price, ratings and reviews, recommendation from friends/family, brand and free shipping are the top most important five factors that impact customer purchase decision (PowerReview, 2014).

2.2 Definition of Online Customer Review

Online customer reviews can be defined as peer-generated product evaluations posted on company or third party web sites (Mudambi and Schuff, 2010).

Hennig-Thurau et al. (2004) describes review

“as any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet.”

From popular sites like Amazon.com or ebay.com to any typical ecommerce site, almost every ecommerce site has customer review section where normally a customer after purchasing a product can share his/her concerns, positives, negatives feedback regarding the performance, utility, delivery or any other site or product or service related attributes. Mostly these feedback sections are open ended and normally restricted to a certain word limit. Customers can add or share related couple of product pictures with the review. Such feedback is shown in the review section of the

product so when any other customer or any one goes in that particular product page he can easily see what other customers felt about the product or service.

Another important aspect of review is feedback rating, where a customer rates the performance of the product or the service from a scale of 1 to 5 star where 1 is the lowest satisfaction rank and 5 being the highest. Ideally, the average star rating of the product is also an indication of the product or service performance or represents other customer view of the product or service.

2.3 The Role of Online Customer Reviews

Online customer review has been analyzed as

- Valence- average number of stars rated on a five-point scale and
- Volume- number of total reviews (Maslowska, Malthouse and Bernritter, 2017).

Primarily online customer reviews (OCR) was mostly seen in the seller website or in the ecommerce website. But with the progress of ecommerce, OCR has seen new dimensions. Popular ecommerce like Amazon, eBay has affiliated business partnership options using which anyone can promote any particular product hosted on amazon in their personal or any other website. Ecommerce sites also sell reviews and business or any other stores after buying reviews from amazon or eBay can post these on their own website as well. OCR has been gaining new dimensions and momentum as popularity of online purchase progresses and OCR now not only appears in the original ecommerce website, it also do appear in other related websites.

In order to investigate why reviews are so important (Treisman, 1969) famous selective attention theory can be quoted

“Because consumers are cognitive misers with limited cognitive resources, and as such they often use heuristics instead of elaboration, they may rely on heuristic cues in the shopping environment”.

Product reviews have been shown to influence consumers via heuristic processing during which consumers use peripheral cues rather than the content of reviews to form opinions. The role of review can be stated from the perspectives of non-biased and genuine customer feedback about the product that are perceived to be more acceptable than any traditional marketing efforts and messages. As reviews delegate opinions and experiences of other customers, they tend to be more acceptable product characteristics to form the purchase decision. (Nielsen, 2012) study shows that when it comes to trust, customers are more inclined to believe in recommendations and reviews from other customers.

To understand importance and role of OCR in ecommerce, researchers have found, Ratings and reviews increases the perceived usefulness and even the acceptance of the website (Kumar and Benbasat, 2006). Customers attachment to OCR can also be explained by the principle of social proof, one that states that one means we use to determine what is correct is to find out what other people think is correct (Cialdini, 2009). In today’s ecommerces like Amazon, eBay review and rating is presented in a very graphical and detailed way to other customers. To understand why sites do so, Mudambi and Schuff (2010) found that reviews help sites to increase customer’s stickiness to the sites and sites even can make review a sellable information product to be sold to other portals and retailers. The analysis of review and rating as a powerful influential tool in online

marketplace have been investigated by other scholars and their studies show the reasons as easy accessibility through internet by anyone from anywhere (Bakos and Dellarocas, 2011, Duan et al., 2008); much more unbiased and divergent opinion as reviews are put on by customers from different sectors and backgrounds (Lee et al., 2008, Senecal and Nantel, 2004); very easy to understand and discussions are in detail and more control to retailers given they control the information that is asked and presented (Dellarocas, 2003).

So review is connected with developing customer trust and for being third party individual user opinion, reviews are so trustworthy and important to other customers. Therefore, review also has a positive connection and plays a major role in purchase decision. Clemons et al., (2006) finds that product sales is influenced by highly positive ratings.

As previously mentioned the helpfulness and trustworthiness of review has been mostly mentioned in analyzing why review is so important to customers hence becoming important to sellers, brands and ecommerce sites. Zhu and Zhang (2010) found that OCR affects purchase decisions (Jarvenpaa and Todd, 1997; Lohse and Spiler, 1998; Szmanski and Hise, 2000; Liu and Earnett, 2000) have categorized the factors impacting purchase decisions of online stores in four major groups and OCR has been found in their research to have impact on sales and purchase decision making, they put OCR as a customer service group attribute.

2.4 Review and Purchase Decision

The principle of social proof and Conformity effect (the tendency of individuals to comply with the group norm) suggest that the higher the review, the higher the probability that the product will be purchased. Pavlou and Dimoka (2006) study with eBay sellers finds that extreme ratings to have more impact than moderate ratings and so does Forman et al., (2008) with books as moderate reviews to have less impact than extreme reviews. A product rated with 5 star is more likely to be

purchased than a product rated with less than 5 stars. Chevalier and Mayzlin (2006) in their study to examine the impact of reviews to book sales find that the relationship between review and book sales is always positive and increase in review leads to increased sales. Öğüt and Onur (2012) in the study to investigate impact of review to hotel booking found increase in customer rating to have strong and positive increase in hotel booking. The study analyzed hotel online booking of London and Paris and found 1% increase in rating had an increase of booking of 2.68% in Paris and 2.62% in London. Ye, Law and Gu (2009) study with hotel booking also finds that number of bookings are significantly increased with positive reviews. The same positive relationship has been found by Ho-Dac, Carson and Moore (2013) in their study of Blu-ray and DVD players but they found the relationship varies across brand segments where positive review increase the sales of weak brands and seem to have no impact for sales for strong brands. Chen, Wu and Yoon (2004) find review to have strong impact on sales where increase in review results in increased sales but rating is not found to impact sales. The study was done with books and reviews were found to be more effective to increase sales for less popular books than popular books. Park, Lee and Han (2007) study finds increase in purchase intention as review is increased. So review and purchase decision are found to be significant and positively connected. That is as the number of review valence and volume is increased, it is more likely that the purchase decision will be increased.

This is also true as from sites like Amazon, eBay, every ecommerce sites and sellers encourage buyer of the product to write reviews. Amazon holds more than 10 million product reviews across different product categories (Floyd et al., 2014). Sites and sellers keep constant buzzing the buyer through email, messaging to write reviews. Amazon also considers the ranking of any product by taking total number of reviews, sales and other factors into consideration. That's why sites like Jumpsend, Feedbackexpress and so many on are enabling new sellers to get reviews on amazon.

Customers who visit websites that have online customer reviews in them find ratings to be extremely important or important in their buying process in 50% of the cases surveyed (Forrester Research, 2000). In a recent survey by Cisco Internet Business Solutions Group (2013) where respondents were asked three most important factors contributing to their buying decisions, OCR was placed as one of them (52% of the case).

But does it always hold true that the better the review the more likely that the product will be purchased? Is it more likely that a 5 star rating will be more appreciated than something less than 5 star? Considering other things remain unchanged, there are contrasting findings. Sometimes product category moderates the influence. As Mudambi and Schuff (2010) study shows that extreme ratings are less helpful than reviews with moderate ratings for the case of experienced goods, but for search goods, this effect does not hold true. Ho-Dac, Carson and Moore (2013) study shows that though there is impact for less popular books, for popular books no impact on sales is found. This impact of review get decreased over time or age of the product (Hu, Liu and Zhang 2008). The impact is also found to decrease over time for newly launched products and negative reviews have greater influence on sales than positive reviews (Cui, Lui and Guo, 2012). In fact 82% shoppers seek negative review before purchase as a foundation of authenticity (PowerReview, 2014). Maslowska, Malthouse and Bernritter (2017) showed that products with the average star rating of 4.5 through 5 are less likely to be purchased than those between 4 and 4.5 stars. Purnawirawan et al., (2015) found that Valence has a curvilinear effect on usefulness and a ceiling effect on attitudes. These researches question the positive relationship between review and purchase decision and stresses that the relationship is not always positive and it varies across factors like product category, review trustworthiness, time and so on.

Why that is the relationship might not always be positive? Skeptical mentality allows customers to view something marked as perfect to be fishy, means too good to be true (Dooley, 2012). That means a 5 star rating may arouse element of suspicion in the minds of the customer. Even consumers know that reviews can be manipulated in some cases and positivity of reviews can also results from the rewards of the company given to reviewers, so highly positive reviews trustworthiness is questioned (Li and Hitt, 2008). That is why too much positive might sound fishy to customers.

With contrasting findings of the review and purchase decision relationship, a question remains in the area, what is the relationship of OCR to online purchase decisions? Is it positive if then how far the positivity stretches or what are the factors that moderate this review purchase decision relationship?

CHAPTER 3: CONCEPTUALIZATION AND HYPOTHESES

In discussing the role of OCR in purchase decision in the context of the literature review, there are some areas where further works need to be done.

1. How OCR influences customers online purchase decision? Is the relationship between OCR and purchase decision linear, positive, negative or what is the dynamics of the relationship?
2. Comparing to OCR, how customer purchase decision is influenced by factors like price, delivery and brand.
3. Which factors are interacting in the purchase decision?

As from the literature review, we came to know that OCR impacts purchase decision in different ways. Though it is not unrecognized that OCR has a strong influence on online purchase decision and in most of the cases customers do check OCR before making the buy decision (Powerreview, 2014), extreme OCR had much more positive impact on sales than moderate reviews (Pavlou and Dimoka 2006) where Mudambi and Schuff (2010) found that extreme review are less helpful than moderate ones for experience goods and Maslowska, Malthouse and Bernritter (2017) research shows that 4.5 rating is performing better than 5 in increasing sales. In light of these situation, what we want to find out is

1. How far OCR positively impacts purchase decision? Is this relationship linear or not.
2. If its not liner then, we want to find out at which point does the positive impact turns negative.

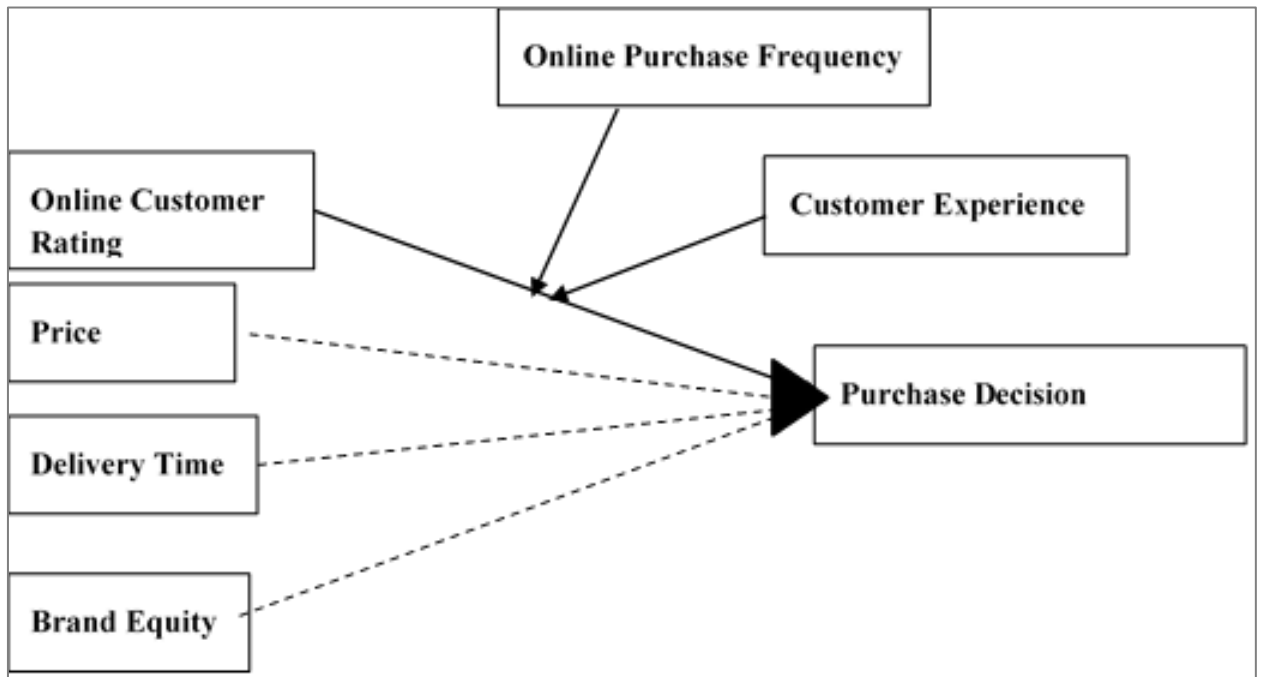
3. Considering the complex set of factors that impact purchase decision, how OCR is preferred in determining the purchase decision.

As OCR (Online Customer Review) can be explained by both valence (average number of stars rated on a five-point scale) and Volume (Number of total reviews usually presented in written description), in this research we will examine the Valence side of review that means the rating and from now on we will use OCR (Online Customer Review) to indicate rating of a product that in online is usually presented by numbers ranging from 1 to 5 with 1 being the lowest and 5 being the highest. So we will examine impact of rating on purchase decision in an environment where it is proved that online customer review (both rating and review) impacts purchase decision.

3.1 Conceptual framework and hypotheses

The conceptual framework for this research is presented in Figure 3-1.

Figure 3-1: Conceptual Framework



Source: Author creation inspired by literature review

In conjunction with past researches that show that online rating of a product has a strong impact on purchase decision. Some researchers say the relationship is positive to sales, (Chevalier and Mayzlin, 2006);, (Öğüt and Onur, 2012);, (Ye, Law and Gu, 2009);, purchase intention increases as review is increased (Park, Lee and Han, 2007). So we will say that rating of a product impacts its purchase decision and thus will investigate the nature of this impact whether it is positive or negative or diminishes at the extreme positive ends, whether the relationship is linear, u-shaped, curvilinear or what. To investigate this relationship, we need to consider other market factors that highly impact purchase decision. Many factors

impact purchase decision but to make the research feasible and considering the context, we will take three important factors namely Brand Equity, Price and Delivery. These three factors were mentioned by (Schaupp and Belanger, 2005), (Jarvenpaa and Todd 1997, Lohse and Spiler, 1998,; Szmanski and Hise, 2000; Liu and Earnett, 2000) where they have shown the impact and strong influence of these factors upon purchase decision. We will hereby analyze the nature of impact of OCR in purchase decision where delivery, brand equity and price will act as control variables.

Customers purchase decision is formed by considering different factors. Therefore, in the concept, we cannot just analyze OCR and purchase decision keeping other factors out of analysis. The inclusion of brand, price and delivery, (some of the most significant factors affecting purchase decision), will generate a better and more meaningful result.

We will also say that customers online purchase frequency, customer experience have a moderating impact on the rating and purchase decision relationship as is suggested by previous findings (Cui, Lui and Guo, 2012);, (Mudambi and Schuff, 2010).

Therefore in light of the objectives we have the six hypotheses.

Hypothesis 1: Rating has an inverted u-shaped relationship with purchase intention.

That is the increase in rating first increases purchase intention and when the rating is close to the maximal value it decreases the likelihood of purchase. Though OCR is said to influence purchase decision and in general higher the rating of a product higher the likelihood that the

product will be purchased. However, when the rating is too good, it is fishy and too hard to believe. So, though a 4 star or 4.5 star rating is normally preferable from a 3 star rating but when it tends to be perfect, gets close to 5 it is too hard to believe. Thus in discussing the nature of the review, we say that OCR and purchase decision are not linearly related. We assume that the likelihood of a product being purchased get increased as it gets better review but after rating crosses some certain points the increase in rating might not positively affect purchase decision and in some cases might decrease the likelihood of purchase decision. After examining the trend of the relationship, we will examine how far the positivity or negativity stretches and if at certain point positivity diminishes then which point is that.

Hypothesis 2: Price has a negative effect on purchase decision.

That is the increase in price negatively affects purchase intention and decreases purchase intention. As mentioned by Rowley and Okelberry (2000); Burke (2002), competitive low price plays a major role in attracting customers online, therefore as the price is increased it is likely that purchase decision will be impacted.

Hypothesis 3: Delivery time has a negative effect on purchase intention, that is, a longer delivery time decreases purchase intention.

It means that the increase in delivery time is likely to decrease the likelihood of product purchase. Fast pace delivery is highly sought by customers who buy online (Burke, 2002); (D'Ambra and Rice, 2001);, (Rowley and Okelberry, 2000). To ensure fast paced and low cost delivery, ecommerce sites are adopting different measures as delivery by drone, differentiated delivery options for differentiated goods, ensured delivery (Amazon prime)

and so on. These efforts resemble the importance of fast paced delivery to customers buying online. So with the varying delivery options, customer decision is likely to be influenced.

Hypothesis 4: Brand equity has a positive effect on purchase decision.

That is the brand with higher equity is likely to be preferred over other brands in online. Customers have many brand choices in online, in fact in online customers get to know multiple numbers of private level, local and international brands that are typically not available in physical outlets. Brand is inevitably an important factor that affects purchase decision and thus we will examine whether the brand with higher brand equity will be preferred over the other brands of comparatively low brand equity.

Hypothesis 5: Customer Purchase frequency has a moderating impact on rating purchase decision relationship.

Through this hypothesis we will examine the role of customers purchase frequency. We will examine the discrepancy of results of rating and purchase decision relationship along with varying customer purchase frequency.

Hypothesis 6: Customer experience impacts rating-purchase decision relationship.

To look at rating, customer might already have a pre-mindset, a mindset that developed from purchasing the items they buy most from online. We will say such past experiences, derived from most purchased type of product, impacts rating-purchase decision relationship.

CHAPTER 4: METHODOLOGY

4.1 Research Method

To measure the desired impact of OCR on purchase decision and thus attain the preset research objectives, one particular method seems promising, “Conjoint Analysis”. Conjoint analysis is a statistical based technique used in market research to gain insights about how people value different attributes that make up a product or service. Conjoint analysts develop and present descriptions of alternative products or services that are prepared from fractional factorial, experimental designs. They use various models to infer buyers' part-worths for attribute levels, and enter the part-worths into buyer-choice simulators to predict how buyers will choose among products and services (Green, Krieger and Wind, 2001). A market offering is always composed of different value attributes of product and services. Say for example, there are variations in prices for different stock keeping units (SKUs) and different SKUs also come in different colors and shapes. Within these variations, how a certain combination of size, color and price is preferred over others and which attribute play more important role over other can be analyzed through this conjoint analysis. Conjoint analysis was the brainchild of Professor Paul E. Green of Wharton School of University of Pennsylvania. Later on other professors as V. 'Seenu' Srinivasan, Richard Johnson and Jordan Louviere are said to make this methodology more and more advanced. For the advanced applications of this methodology, is has been widely used in the areas of product management, brand management, new product launching, market share analysis, testing and so many cases. This method has been one of the most

influential means of getting ideas about consumer preferences in the purchase process. To understand consumer preferences, different techniques are used in traditional marketing approaches that can unveil the relative significance of attributes. So when prices, brand, location, size and so many different dimensions are in the market, traditional approaches can only unveil may be the preference of importance among these factors. But by using conjoint analysis, along with having a clear idea about consumer preference about different product attributes, we can also get to know the combination of such attributes that are preferred over other combinations. Thus, this technique greatly helps marketers to design the desired color, price and shape for a newly launched or existing product and hence delivers the best desired combination of values to customers.

As mentioned earlier, in online purchase decision-making process, customers deal with different factors namely brand, price, delivery, product, service and so on, therefore, conjoint analysis will help us to diagnose the extent of relationship of OCR with purchase decision considering the interaction of other factors.

4.2 Key Conjoint Analysis Terms

Attributes (Features): In simple words, attributes are the characters or constituent features of a product, say for laptop attributes might be, color, price, size, weight etc.in our case we have four attributes as Brand, Price, Delivery and OCR.

Levels: Attributes are made up of different levels or levels can be termed as the details of the attributes. In our case, we have different levels for different attributes.

Table 4-1: List of Attributes and Levels

| <i>Attributes</i> | <i>Levels</i> |
|-------------------|--|
| Brand | Casio, Franklin and Sold by Amazon |
| Price | ¥10989, ¥11899, ¥13980 |
| Delivery | Tomorrow, Within 3 Days, Within 1 week |
| Rating | 4.4, 4.6, 4.8, 4.9 and 5 star rating |
| | |

To do a proper conjoint analysis, levels should be selected in a way that there are differences among them. The difference should not be so obvious that it becomes expected to go for a particular level. The levels for the four attributes are selected keeping these points in mind. For the brand section, we selected Casio as it is a well-known brand for our desired product, Amazon as it delegates ecommerce own brand and Franklin as it delegates a known private label brand. For price, we have analyzed amazon.com to get the price normally charged by leading brand Casio and other prices shadow prices offered by market followers who are very close to the market leader. Delivery levels are taken considering delivery schedules offered by the selected brands and rating levels are selected based on the literature review where previous studies indicated difference in results.

Task: In conjoint analysis, task means the number of times a respondent will choose. The details of the tasks of our study are presented in the appendix 1.

Concept or Profile: Profile is the combination of attributes along with their respective levels presented as an imaginary product or service choice to the customer. The hypothetical

product or service offering upon which respondents will give their responses. Details of the profiles are presented in the Table 4-3.

Relative importance: Relative importance is also said as attribute importance. It is simply the relative value of attributes expressed in percentage. After applying the method over the collected survey data, each of the four attributes are supposed to show a relative importance percentage that is an indication of customer's preference over these attributes.

Parts worth/Utility Values: Part worth can be said as the desirability of levels to customers. Utility is the desirability and thus higher the utility higher the importance or desirability of that level. So naturally in consumer decision making levels that have higher utility or worth play more important role in decision making.

4.3 Types of Conjoint Analysis

As time goes on researchers are coming with new utilities and modifications in conjoint analysis. But typically conjoint analysis can be classified as

1. Choice based conjoint analysis (CBC)
2. Adaptive conjoint analysis (ACA)

Choice Based Conjoint Analysis: Choice based conjoint analysis also known as Discrete Choice Modelling (DCM) allow customers to make decisions imitating a real life scenario. Here customers are presented with combinations of different product attributes and levels termed as choice, these choices match the real life hypothetical product or service offering. Respondents each time are presented with two/three choices (combinations of different

attribute levels) among which he/she has to pick one that best fits her desirability. The benefit of such exercise is that it mimics the real life decision-making process customers go through and by making customers/respondents decide among variations of choices, their preferences over product attributes and levels can also be easily traced and the best or most desired product offering can thus be decided.

Adaptive conjoint analysis: ACA unlike the CBC is a ranking exercise and adapts choices presented to customers based on their previous answers. In the case where there are more attributes and levels, ACA is a better option. In cases of launching a new product, examining the acceptability of product features and product and in high involvement purchase situations, ACA is said to generate more positive outcomes.

In our case we will use Choice based conjoint analysis. As we do have only four attributes and couple of levels for each attribute, the experiment is quite manageable with CBC. Reasons why CBC is gaining popularity and why it will be used as the measure of experiment can be stated as

- CBC mimics the real life scenario customers have to go through. For any purchase decision, customers do pick a product over others considering its different ins and outs and matching it with the desirability of the customer. CBC thus is easy to understand and respondents are more likely to feel attached to real life purchase scenario here.

- Use of none option, Use of Product or alternative specific attributes, being able to deal with interactions are also some of the key features that are making CBC more and more popular.

4.4 Design of the study

As we have four attributes, each with different number of levels, having a full fledged design answered by respondents would be a somewhat impossible task as then there will be $(5*3*3*3) = 135$ profiles. To make it feasible, we need to design firstly a fractional factorial design, a subset of the whole design. We need an orthogonal design to develop the minimum number of combination of potential profiles to test with respondents, so that respondents feel comfortable to participate in the survey, genuinely answer through the choices and statistical analysis can segregate the main effects from the design.

4.5 Number of Choice and number of Tasks

To come up with the orthogonal design, we first need to decide the total choices and profiles. We decide to have three different profiles for each choice and twelve profiles in total.

We also have to decide about the total number of choices. We decide to have total number of choices as twelve. Choice means an offering of different profiles from where respondents will pick one that he/she is most likely to agree to purchase. Again as to do a proper study, the number of choices also need to be at least equal to or greater than the total number of

profiles. That's is why we decide to make total choices as twelve so that the design gets meaningful as well respondents don't feel so stressed with the survey.

Finally, to do the orthogonal design, to get 12 choices and 12 profiles out of 135 combinations, we have used xlstat, a statistical excel add-ins. This works with Microsoft excel and using the add-ins we have thus came up with twelve profiles for our fractional study along with twelve choices where each choice contains three profiles. The orthogonal design derived from xlstat is presented in Table 4-2.

Table 4-2: Orthogonal Design

| Orthogonal Design for conjoint analysis: | | | |
|---|-----------------|-----------------|-----------------|
| Comparison | Choice 1 | Choice 2 | Choice 3 |
| Comparison 1 | 12 | 1 | 11 |
| Comparison 2 | 2 | 3 | 4 |
| Comparison 3 | 7 | 6 | 5 |
| Comparison 4 | 8 | 9 | 10 |
| Comparison 5 | 1 | 12 | 2 |
| Comparison 6 | 5 | 4 | 3 |
| Comparison 7 | 6 | 7 | 8 |
| Comparison 8 | 11 | 10 | 9 |
| Comparison 9 | 3 | 2 | 1 |
| Comparison 10 | 4 | 5 | 6 |
| Comparison 11 | 9 | 8 | 7 |
| Comparison 12 | 10 | 11 | 12 |

Table 4-3: List of Profiles for the Fractional Factorial Design

| Observations | Rating | Delivery | Brand | Price |
|---------------------|---------------|-----------------|--------------|--------------|
| Profile 1 | 4.6 | Next Day | Amazon | 10989 |
| Profile 2 | 4.9 | Same Day | Amazon | 13980 |
| Profile 3 | 5 | Within 3 Days | Sharp | 13980 |
| Profile 4 | 4.9 | Next Day | Sharp | 11899 |
| Profile 5 | 5 | Same Day | Amazon | 10989 |
| Profile 6 | 4.8 | Within 3 Days | Amazon | 10989 |
| Profile 7 | 4.6 | Same Day | Franklin | 11899 |
| Profile 8 | 4.8 | Next Day | Franklin | 11899 |
| Profile 9 | 4.9 | Within 3 Days | Franklin | 10989 |
| Profile 10 | 4.4 | Next Day | Franklin | 13980 |
| Profile 11 | 4.4 | Same Day | Sharp | 10989 |
| Profile 12 | 4.4 | Within 3 Days | Amazon | 11899 |

In the light of our research, after collecting data and doing the analysis, we are supposed to get the individual part-worth. This part-worth is in indication of impact of OCR on purchase decision. As we are supposed to get part-worth for each level, say for OCR 4.4, 4.6, 4.8, 4.9 and 5, we can then easily see whether OCR 5 has higher preference on purchase decision than OCR 4.9. The five levels of OCR and their respective part-worth will thus eventually help us to diagnose the extent of relationship of OCR with purchase decision. Besides having part-worth, we can also do the simulation, one of the key areas for seeing the market response by varying the levels. The simulation will help to justify the results of part-worth and attribute importance. Respondents will pick a profile from a choice set of three different

profiles. Each profiles has varying rating, price, delivery time and brand names levels. Therefore the combination respondents pick over others will tell us the interaction of these attributes and their relative impact on purchase decision. This was the second objective of our study.

4.6 Additional Questions

In the last section of the survey, respondents will be asked four basic online shopping related questions. These questions (presented in Table 4-4), would firstly help us to understand the respondents online shopping nature and to investigate any possible relationship between the results of the study and respondents online shopping nature. The detail of the additional questions are presented in Appendix 1. We will conclude the questionnaire by asking respondents name, age and gender.

Table 4-4: Additional Questionnaire.

| |
|---|
| 1. How often in a month do you buy products online |
| 2. Each time you are going to buy something new online, Do you check the product ratings? |
| 3. Which category of products do you buy most often from online? |
| 4. What is most important thing to you before making a purchase decision in online? |

4.7 Data Collection

4.7.1 Sample

Considering the scope and feasibility, we decided the sample to be the international students living in Beppu, Oita, Japan. Ritsumeikan Asia Pacific University of Beppu, Oita, has the largest pool of international students in Oita and one of the most in Japan, having

international student from almost 88 countries of the world. This sample size is also quite unmanageable and thus we decide to go with convenience sampling. Mostly current undergraduate and graduate students of the university are targeted for this research.

4.7.2 Data collection





Before designing the survey, we need to have the profiles and choices at hand. As mentioned earlier, xlstat, a Microsoft Excel add-ins did this task for us. The fractional study gave us twelve profiles and twelve choices. The fractional study is the optimized listings of choices that are supposed to elicit statistically closer results as with the full design. In fact without the fractional design, the survey would be just too long to have proper responses from respondents

So once we have the fractional design, we decide to design the survey questionnaire. The survey questionnaire will contain the optimized twelve choices derived in the fractional design and some additional questions. As the study deals with online shopping experience, we decide to add some relevant online shopping related questions in the survey. The question will begin with a general question asking whether respondents has online shopping experience or not. This question is necessary, as it will classify the online shoppers from nonshoppers. People who do not have the online shopping experience are then excluded from the study.

To facilitate data collection, we decide to do the survey online. Firstly, doing it online will help us to reach many people fast and in little time and the data collection process from the

survey will be easier and quicker in online. Secondly, as the target population are mostly adept to online environment, doing it online might be the best choice to reach them. Therefore, an online version of the survey was created in google forms as per this link <https://goo.gl/forms/RIMB6Q9YWtlvZYGs1>.

Figure 4-1: Snapshot of Survey Questionnaire

| Profiles | 1 | 2 | 3 |
|---|---|--|---|
| Brands | <i>Amazon Electric Dictionary</i> | <i>Amazon Electric Dictionary</i> | <i>Casio Electric Dictionary</i> |
| Customer Feedback Ratings (Stars) | 4.4 out of 5 ★★★★☆ | 4.6 out of 5 ★★★★☆ | 4.4 out of 5 ★★★★☆ |
| Price | ¥ 11899 | ¥ 10989 | ¥ 10989 |
| Delivery | Within 1 week | Get it within 3 Days | Get it tomorrow |
|  Tick to buy |  |  |  |

Question *

Profile 1

Profile 2

Profile 3

Choice 1

A snapshot of the survey questionnaire is presented in Figure4-1. The detailed survey is presented in Appendix 1. Google forms is a free survey design platform and the generated survey can be shared easily in social networking sites and can be mailed directly to

respondents. However, there were options for multiple response but we motivated for a single response and blocked the option to edit something once it is submitted.

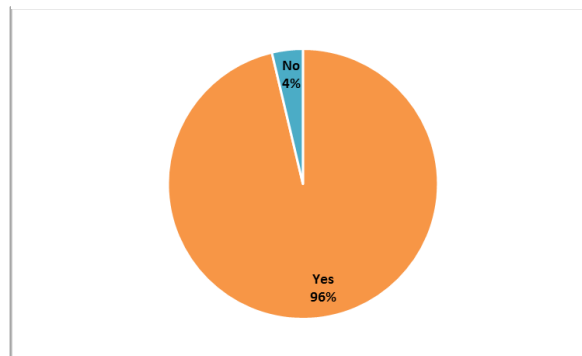
Though we created the survey on first of September but it was not open to respondents then. After careful evaluation and necessary modifications, we opened the survey on 20th of September and was scheduled to stay open for at least one-month period. As mentioned earlier, convenience random sampling technique was used to collect data. The survey link was forwarded to different social media groups as Masters Helpline, Mini Share. These SNS groups are dedicated for University students where most members come from Ritsumeikan Asia Pacific University and nearby universities. These groups made it easier to reach to the target population.

CHAPTER 5: RESULTS

5.1 Respondents Profile

A total of 80 responses were collected through the survey. Below are the details about the respondent's profile. Firstly, respondents were asked about whether they do have online shopping experience or not.

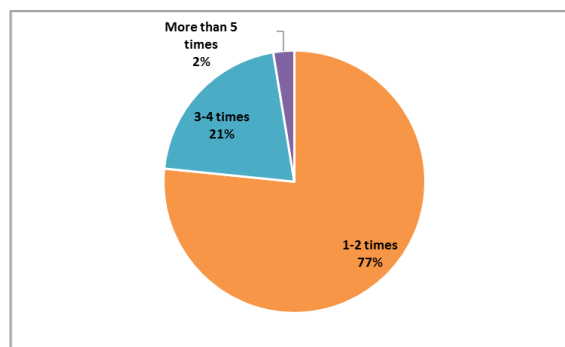
Figure 5-1: Respondents Profile (Gender)



77 of the 80 respondents, 96.3% of the respondents said that they do have the online shopping experience. So these 77 respondents will be included in our study.

In a question, they were asked how often they shop online.

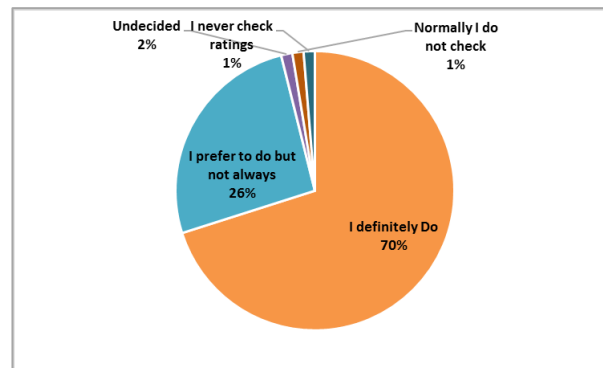
Figure 5-2: Respondents Profile-Online Shopping Frequency



59 of the 77 respondents, 76.6% of the respondents said that they shop 1-2 times a month, 20.8% said 3-4 times a month and only 2.6% said they shop more than 5 times online in a month.

In the next question in an attempt to check what is the likelihood of the respondents to check for ratings before buying in online, results show

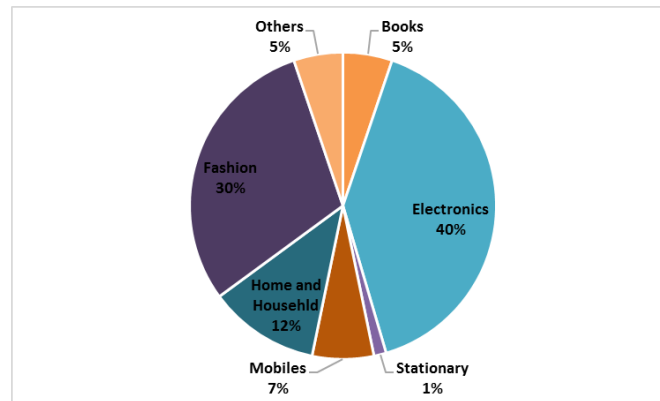
Figure 5-3: Respondents Preference to Rating.



The highest percentage of respondents 70.1%, 54 f 77 respondents, said that they definitely do check rating before making any new purchase online. 26%, 20 out of 77 respondents said that they prefer to check but not always check for rating in new online purchases. The other three choices as whether they are undecided about rating, normally do not check rating, never check rating had a total percentage of almost 3%.

In the next question respondents were asked about which category of profile do they buy most often in online, a total of seven popular categories were mentioned by their names with them another option for choices other than the mentioned seven categories.

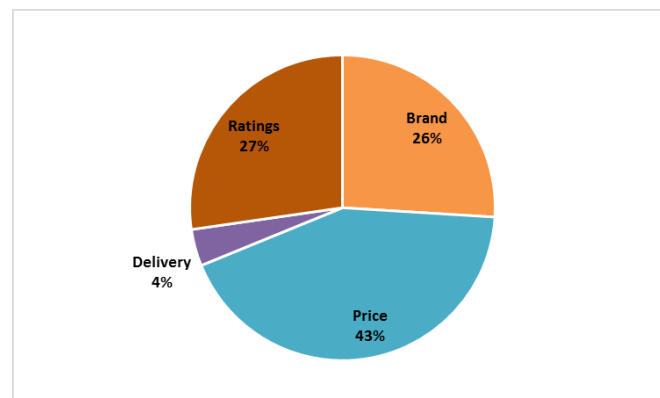
Figure 5-4: Respondents Most Purchased Items Online.



Majority of the respondents 40.3% selected electronics as their most bought item in online followed by Fashion items 29.9%, Home and Household items 11.7%, Mobile and Gadgets 6.5%. Stationary had only 1.3 % where Books and others had an equal response of 5.2%.

In the next question respondents were asked about their preferences among the four attributes before buying any new product. There were brand, price, delivery and rating and they were asked before making a new purchase decision, which one is most important to them.

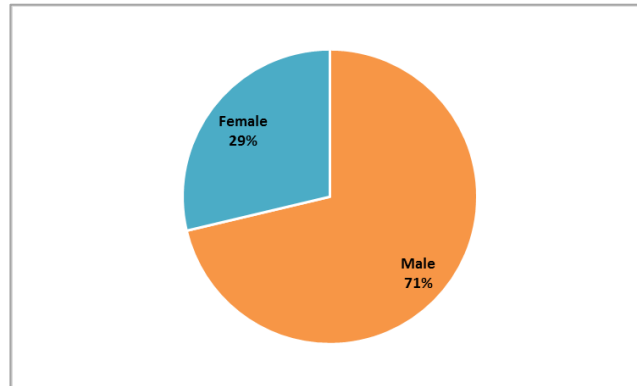
Figure 5-5: Respondents preference among the attributes



The results show that 42.9%, 33 of 77 respondents selected that they prefer price most over other three attributes. The second most preferred attribute was rating having a 27.3%

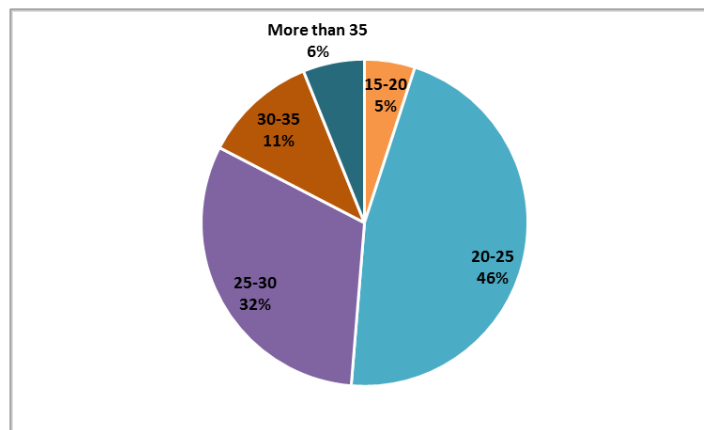
respondents agreed with and brand being the third having 26%. The least preferred attribute was delivery having only 3.9% preference 3 out of 80 respondents.

Figure 5-6: Respondents profile- Gender.



71.3% of the respondents were male and the rest 28.7% were female.

Figure 5-7: Respondents profile- Age Group



Of the respondents, 46.3% are aged between 20-25, 31.3% are aged between 25-30, 11.3% are aged between 30-35, 5% are aged between 15-20 and the rest are aged above 35.

5.2 Results of the Analysis

Two of the most important findings of any conjoint analysis are

1. Utilities
2. Importance

The utilities show the aggregate utilities of each level. All the utilities of any single attribute equals to zero. The importance shows the aggregate importance of the attributes. Attribute importance is the difference between the highest and the lowest level aggregate utilities expressed in percentage. Attribute importance are more easily interpreted to mass people than aggregate level utilities.

Firstly, in the utilities part, the analysis shows the following utilities

Figure 5-8: Aggregate Utilities

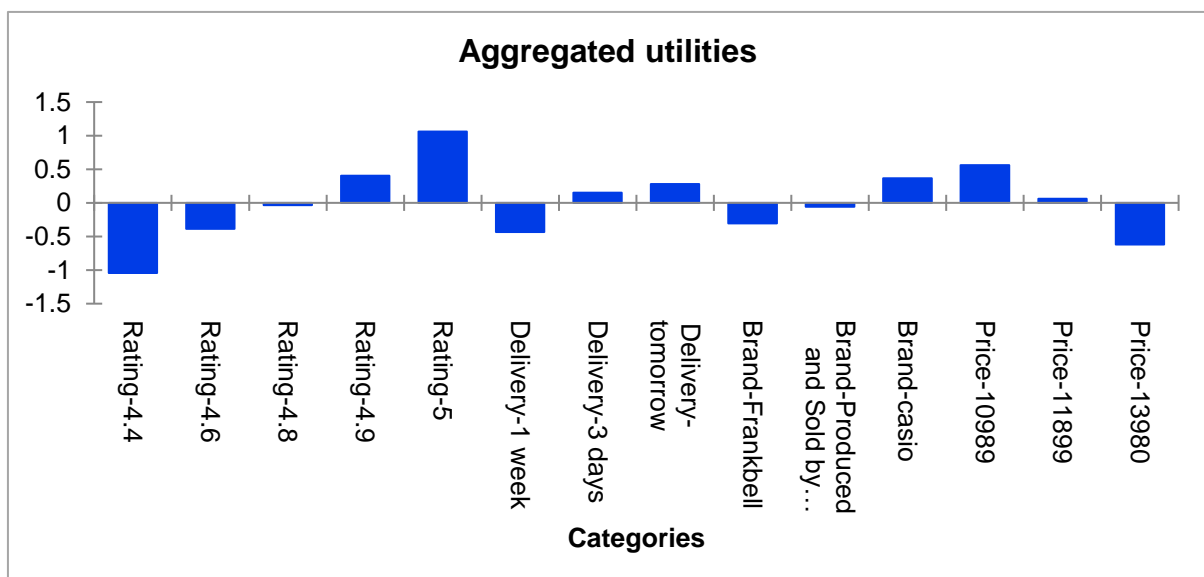


Table 5-1: Aggregate Utilities

| Aggregated utilities: | | | |
|------------------------------|---------------|------------------|-----------------|
| Attribute | Levels | Utilities | Std. Dev |
| Rating | 4.4 | -1.046 | 0.199 |
| | 4.6 | -0.385 | 0.145 |
| | 4.8 | -0.034 | 0.173 |
| | 4.9 | 0.402 | 0.104 |
| | 5 | 1.063 | 0.167 |
| Delivery | 1 week | -0.435 | 0.086 |
| | 3 Days | 0.154 | 0.102 |
| | Tomorrow | 0.281 | 0.084 |
| Brand | Franklin | -0.307 | 0.161 |
| | Amazon | -0.058 | 0.116 |
| | Casio | 0.365 | 0.11 |
| Price | 10989 | 0.559 | 0.091 |
| | 11899 | 0.061 | 0.115 |
| | 13980 | -0.621 | 0.125 |

Within rating, 5 star rating generates the highest utility, 1.063 followed by rating 4.9 as 0.402, rating 4.8 as -0.034, rating 4.6, as -0.385 and rating 4.4 as -1.046. In the delivery attribute, Delivery by tomorrow has the highest utility, as 0.281 followed by 3 days delivery as 0.154 and within one week delivery -0.435. The lower standard deviation values confirms that the utility values are well representative of the mean.

The brand section had three levels as, Casio, Amazon and Franklin. Here Casio has the highest utility 0.365 followed by Amazon -0.058 and then Franklin -0.307. The final attribute is Price. Price had three levels as ¥13980, ¥11899 and ¥10989. Here the least price that means ¥10989 has the highest utility 0.559 followed by ¥11899 as 0.061 and ¥13980 as -.621. Standard deviation calculation of the utilities shows the following result

In the rating part, rating 4.9 has the least sigma, 0.104 followed by rating 4.6 that has the sigma for utility calculation as 0.145, then rating 5 as 0.167, rating 4.8 as 0.173 and finally rating 4.4 as 0.199. Delivery within one-week utility calculation has a sigma value of .086 but in the delivery attribute, delivery by tomorrow has the least sigma, .084 and the other one, delivery within three days as 0.102.

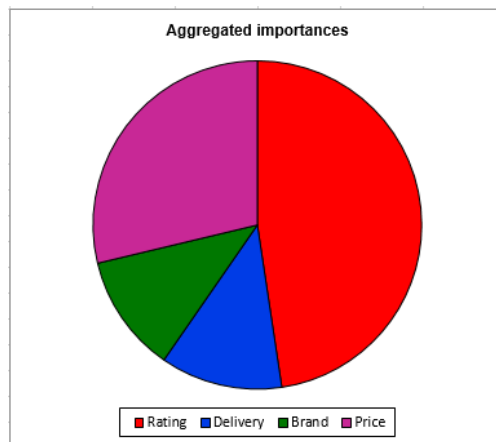
On the other hand, in the brand section, Franklin has the highest standard deviation 0.161 and Casio has the least 0.110 Amazon being in the middle having standard deviation 0.116. In the price section, ¥ 10989 has the lowest standard deviation, 0.091 followed by ¥ 11899 having 0.115 and ¥ 13980 having 0.125.

In the importance part, the analysis shows the following importance

Table 5-2: Aggregate Importances

| Aggregated importances : | Source | Rating | Delivery | Brand | Price |
|---------------------------------|---------------|---------------|-----------------|--------------|--------------|
| | Importance | 47 % | 12 % | 12 % | 29 % |

Figure 5-9: Aggregate Importances



Rating has the highest importance 47.622%. Then Price showed the second highest importance after rating as 28.745% whereas Delivery and Brand have close importance as delivery shows 12.014% and Brand 11.620%.

The results of goodness of fit statistics shows the following

Table 5-3: Goodness of fit statistics (Conditional Logit)

| Goodness of fit statistics (Conditional Logit): | Statistic | Likelihood ratio (R) | R (Upper bound) | Aldrich-Nelson | Cragg-Uhler 1 | Cragg-Uhler 2 | Estrella | Adjusted Estrella | Veall-Zimmermann |
|--|------------------|-----------------------------|------------------------|-----------------------|----------------------|----------------------|-----------------|--------------------------|-------------------------|
| | Value | 391.316 | 2030.24 | 0.298 | 0.345 | 0.388 | 0.375 | 0.358 | 0.433 |

Table 5-4: Goodness of fit statistics.

| Statistic | Independent | Full |
|-------------------------------------|--------------------|-------------|
| Observations | 2772.000 | 2772.000 |
| Sum of weights | 2772.000 | 2772.000 |
| DF | 2771.000 | 2762.000 |
| -2 Log(Likelihood) | 2030.236 | 1638.919 |
| R²(McFadden) | 0.000 | 0.193 |
| R²(Cox and Snell) | 0.000 | 0.132 |
| R²(Nagelkerke) | 0.000 | 0.254 |
| AIC | 2032.236 | 1658.919 |
| SBC | 2037.064 | 1707.206 |
| Iterations | 0.000 | 5.000 |

The standard coefficient calculation has the following results for the levels

Table 5-5: Standardized coefficients

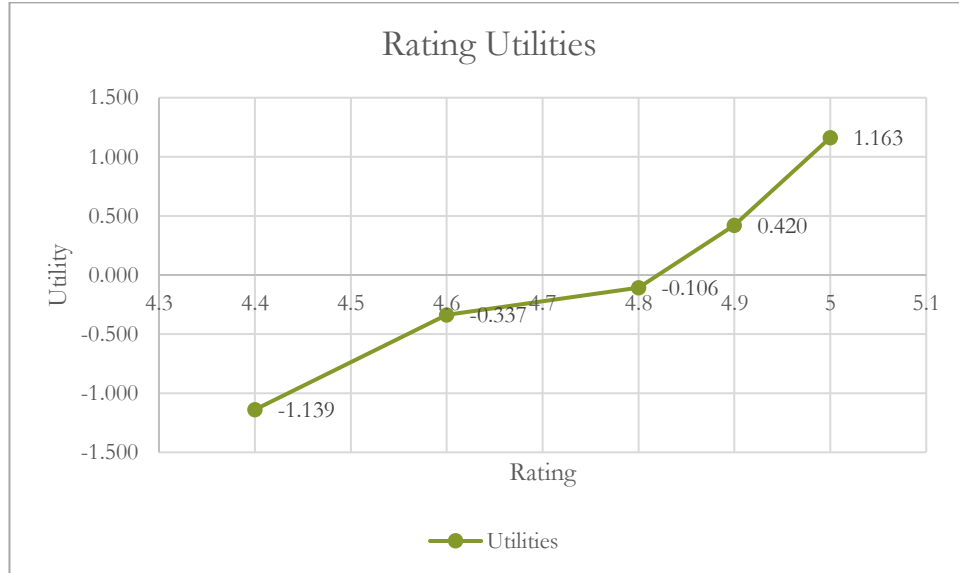
| Standardized coefficients: | | | | | | |
|-----------------------------------|--------------|-----------------------|------------------------|--------------------------------|-------------------------------|-------------------------------|
| Source | Value | Standard error | Wald Chi-Square | Pr > Chi² | Wald Lower bound (95%) | Wald Upper bound (95%) |
| Rating-4.4 | -1.139 | 0.151 | 57.148 | < 0.0001 | -1.434 | -0.844 |
| Rating-4.6 | -0.337 | 0.11 | 9.374 | 0.002 | -0.553 | -0.121 |
| Rating-4.8 | -0.106 | 0.129 | 0.679 | 0.41 | -0.36 | 0.147 |
| Rating-4.9 | 0.42 | 0.079 | 28.297 | < 0.0001 | 0.265 | 0.575 |
| Rating-5 | 1.163 | 0.124 | 88.015 | < 0.0001 | 0.92 | 1.406 |
| Delivery-1 week | -0.381 | 0.063 | 35.919 | < 0.0001 | -0.505 | -0.256 |
| Delivery-3 days | 0.18 | 0.078 | 5.331 | 0.021 | 0.027 | 0.333 |
| Delivery-tomorrow | 0.2 | 0.064 | 9.729 | 0.002 | 0.074 | 0.326 |
| Brand-Franklin | -0.306 | 0.12 | 6.483 | 0.011 | -0.542 | -0.071 |
| Brand-Amazon | 0.051 | 0.086 | 0.357 | 0.55 | -0.117 | 0.219 |
| Brand-Casio | 0.255 | 0.083 | 9.49 | 0.002 | 0.093 | 0.418 |
| Price-10989 | 0.682 | 0.067 | 102.216 | < 0.0001 | 0.55 | 0.815 |
| Price-11899 | 0.025 | 0.085 | 0.083 | 0.773 | -0.143 | 0.192 |
| Price-13980 | -0.707 | 0.095 | 55.955 | < 0.0001 | -0.892 | -0.522 |

CHAPTER 6: DISCUSSION

As we try to analyze the results, to the first hindsight, the research results seem consistent and significant as we show in both utility and aggregate importance, rating gets the highest priority. In utility section, different levels show different magnitude of utilities but all of them are proved to be significant as, Rating as an attribute shows 47.622% importance, the highest among the four attributes, second to rating was price having 28.745% aggregate attribute importance.

After plotting the utilities against their respective rating scale, we get the following graph

Figure 6-1: Utilities of Rating

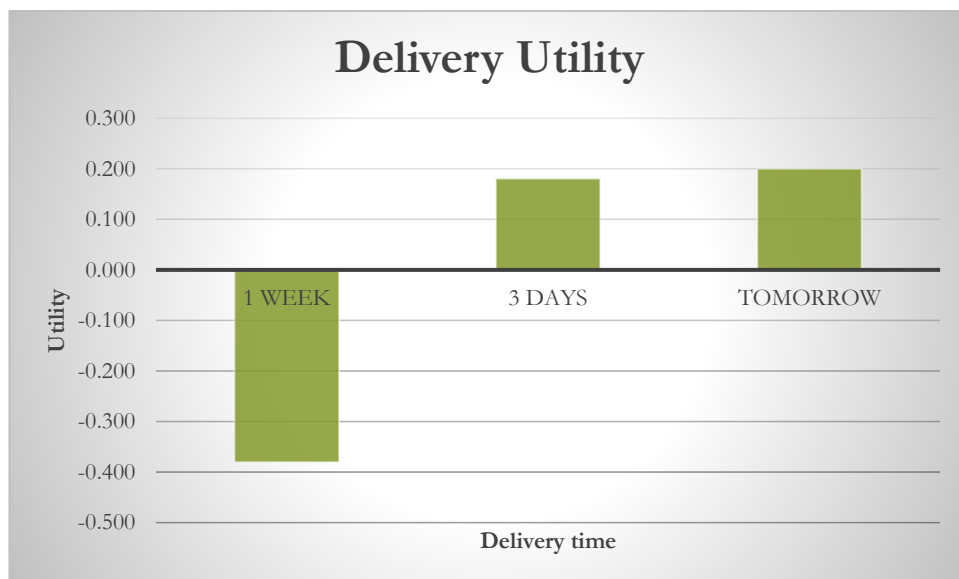


Couple of things can be deduced from the graph. Firstly as the number of stars of rating get increased, its respective utility also increase. So we see, rating 4.4 has a utility of -1.139 and as it progresses, the utility becomes more positive. Rating 5 has the highest utility of 1.163.

So this clearly indicates a positive relationship of rating with utility. What is the indication of this positive relationship of rating with utility? To simply put, it can be deducted that as the product gets better rating, the purchase likelihood also increases. Customers are more willing to go for a product that has better rating. Among the competitive market dimension, the product that has got the higher rating is shown to be preferred more over other products of lower rating if other things remain constant.

In similar way, when we put the delivery utilities along with respective delivery schedules, we see the following pattern.

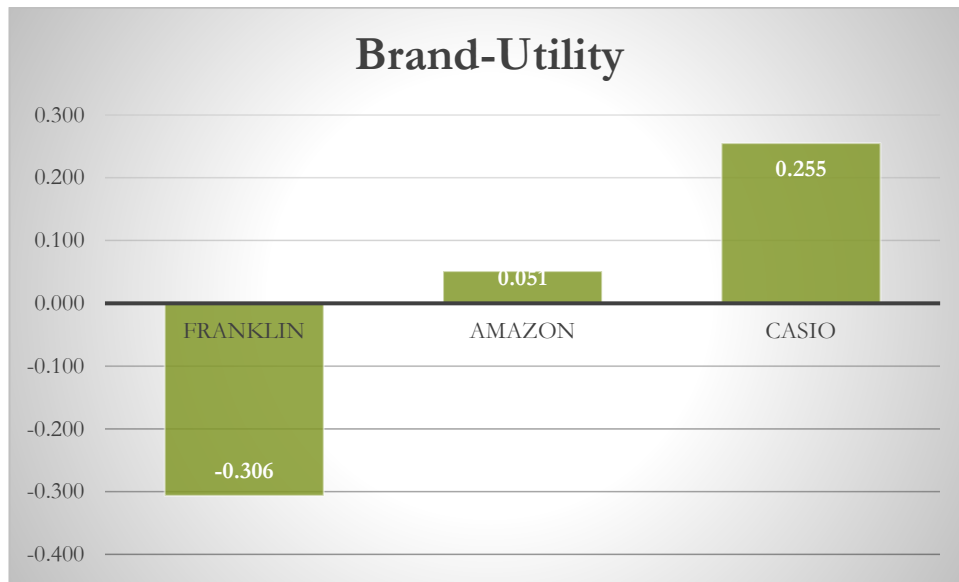
Figure 6-2: Utilities of Delivery



This also shows that as the delivery time is decreased, it is more preferred from customers. So considering delivery only, customers are more willing to go for a product that takes less delivery time. This allow us to accept H3 that is delivery has a negative impact to purchase

decision. Because, the analysis clearly explains that with the increase in delivery time, likelihood of product purchase get decreased.

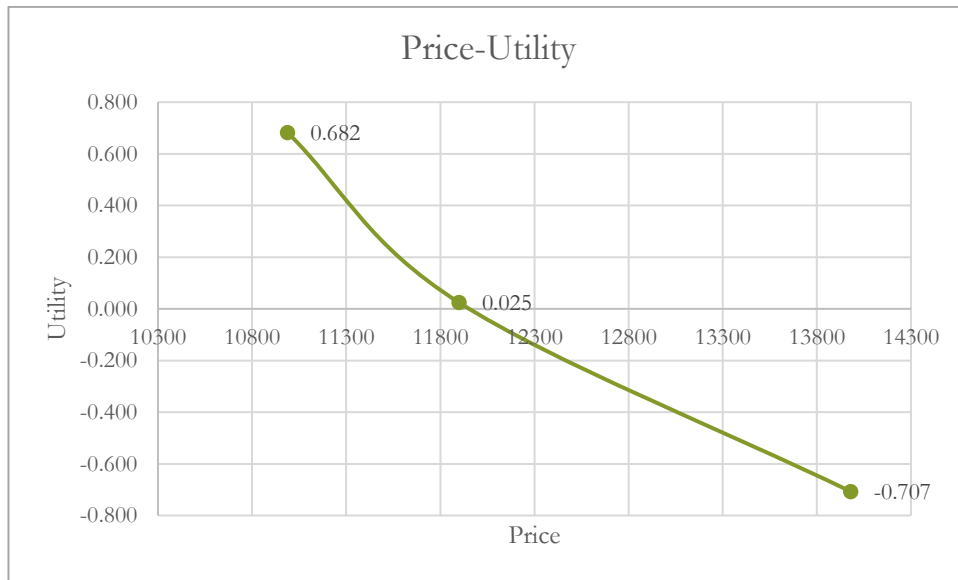
Figure 6-3: Utilities of Brand



When we see the brand utility, we can see that Casio one of the most renowned brand in this category has the highest utility. This result resonates with people having preference over the brand that is highly recognized. So we can accept H3 that is Brand equity has a positive effect on purchase decision.

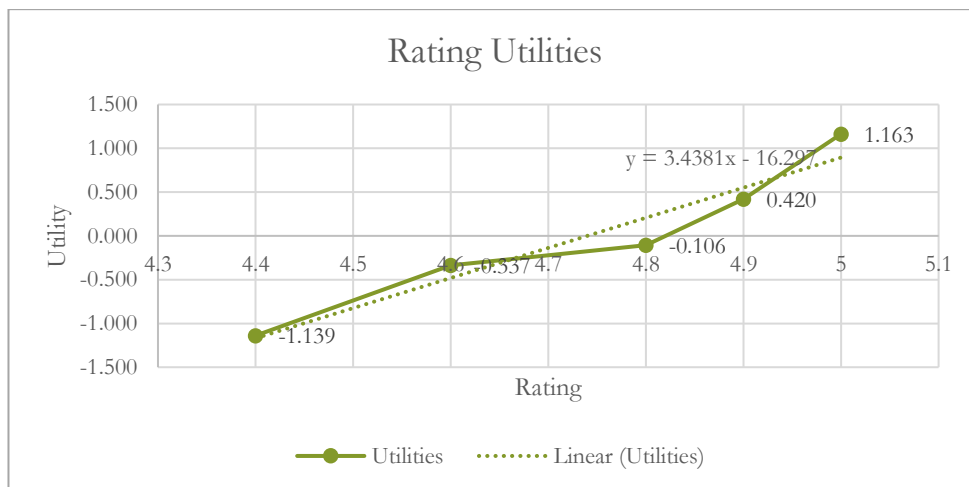
Therefore the most preferred product combination is one with the most renowned brand having top most rating that has least delivery time and least price. This combination exhibits to generate the maximum utility for a customer. This result depicts an average customer's expectation in real life and this suggests the significance of the outcomes of the analysis.

Figure 6-4: Utilities of Price



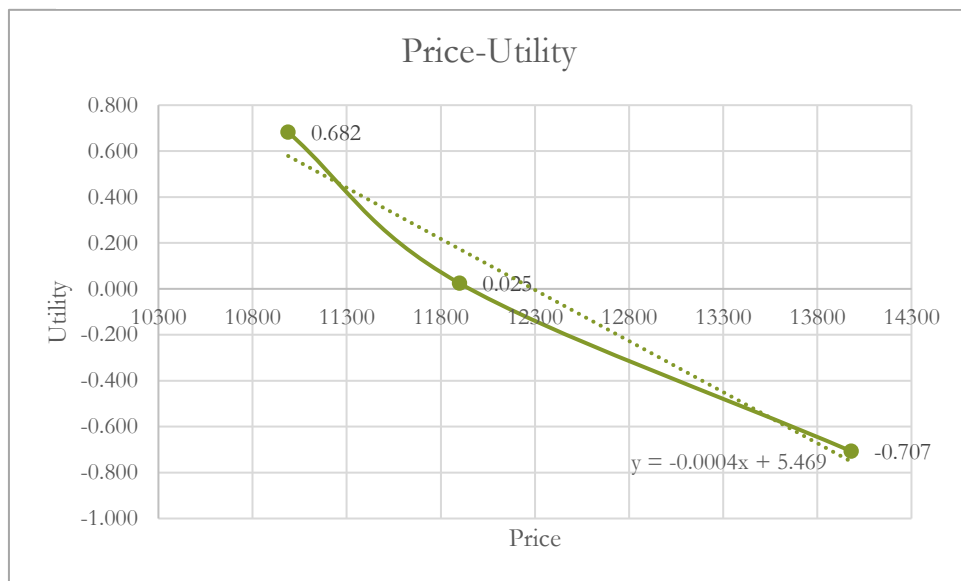
In the price utility graph, we can see that with the increase in price, the utility gets decreases. This shows that, when it comes to buying online, customers are more price sensitive here and more willing to go for a lower price option. Thus we can accept H2 that is price has a negative effect on purchase decision.

Figure 6-5: Utilities of Rating



To know the magnitude of relationship more closely, let's derive the linear relationship between rating and utility. From the equation it is seen that, for a single unit increase in rating, the utility is increased by 3.44. That means for 1% increase in the rating, it might result in an increase of 0.344 in the utility. This linear equation also signifies the increasing positive relation of rating with utility.

Figure 6-6: Price and Utility Linear Relationship



Seeing the price utility linear relationship, we can say that every yen increase in price is supposed to result in the decrease of overall utility. Therefore, a ¥1000 increase in price might result in a decrease of 0.4 in aggregate utility. That means if someone wants to increase the utility taking price as a factor, decreasing the price can be a way.

Taking these two linear equations of price and rating with utility into consideration, we can see the impact of rating on price. Taking price as an independent variable, we find the equation

$$\text{Price} = -8595.25 * (\text{Rating}) + 54415$$

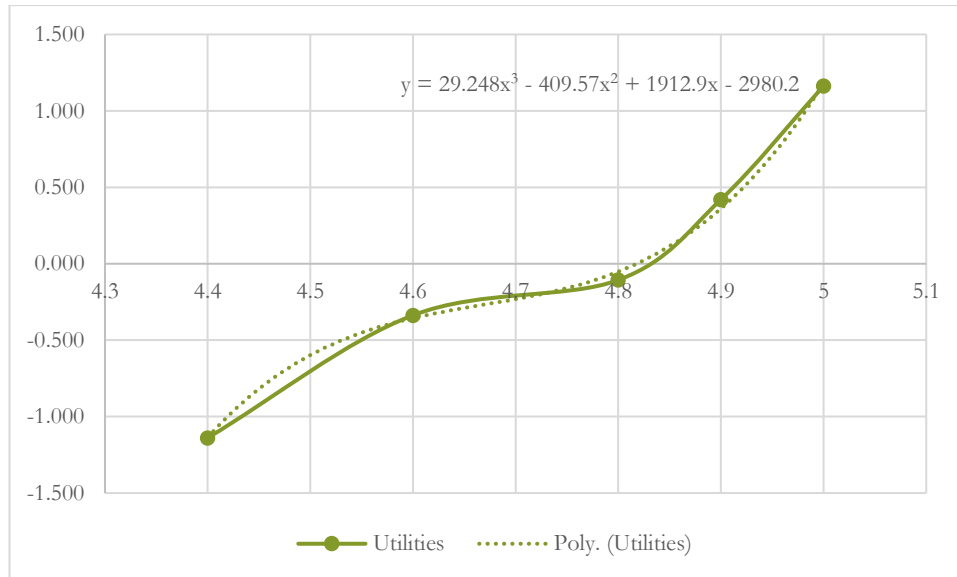
We can conclude that, 1% increase in rating results consumer willingness to pay increase by 859.5 yen. As the increase in rating results in decrease in price and the resulting decrease in price increases the overall utility. This goes with Ögüt and Onur (2012) as their study shows that higher customer ratings helps to charge higher prices. Ögüt and Onur (2012) showed 1% increase in rating leads to 2.68% increase in room sales where we find that 1% increase in rating results to 859.5 yen increase in consumer willingness to pay.

Though the rating utilities show that rating 5 derives the maximum utility, in real life it is rather impossible or suspicious to find a 5 star rated product (Maslowska, Malthouse and Bernritter, 2017). Here brands willing to capture higher market share can better target to attain the maximum rating possible as the experiment shows say for example rating 5. But as other research proves that having a 5 star is somewhat fishy and in real life it is near to impossible, it is thus better to try to reach to best rating closest to 5.

6.1 The relationship between OCR and purchase decision

To answer whether OCR has an inverted u-shape relationship with purchase decision, we have to plot the utilities against respective ratings.

Figure 6-7: Rating and Purchase Decision Relationship



This graph clearly shows that OCR does not hold a linear relationship with purchase decision. Polynomial equation with an order of 3 having the equation as $y = 29.248x^3 - 409.57x^2 + 1912.9x - 2980.2$ is one that shows the best fit with the actual dots of utilities against ratings. So we can say that from our study, OCR holds a polynomial relationship with purchase decision and thus we can reject H1 that rating has an inverted u-shaped relationship with purchase decision. Now in other consideration, it is clearly evident that OCR holds a positive relationship with purchase decision and the better the rating the higher the utility is. Thus we can say that having a better rating might be great to increase the likelihood of products purchase. This result also matches with the findings of Resnick and Zeckhauser (2002), Zhang and Dellarocas (2006), Chevalier and Mayzlin (2006) who suggest that rating has a

positive relationship with sales. However in the additional questions of the survey, respondents were asked about the most important attribute among the four namely rating, brand, price and delivery and in answering that question 42.9% of the respondents said they are most concerned about price (47.9%) followed by rating (27%). So why there is a mismatch between respondents answer to that particular question and their answers in the simulation. A possible explanation can be:

Respondents answered the survey in a simulated environment and their perception of rating trustworthiness is high or at least least questioned here in the simulated environment. As Pavlou and Gefen (2004) put when participants perceive the rating to be trustworthy and credible and true representative of other opinion in the marketplace, then rating is likely to be more effective. The results stand strong as respondents answer to additional questions confirms that 96% of the respondents always check or prefer to check rating before buying any new stuff online.

6.2 The Dynamics of the Relationship through Market Simulation

Our findings of the positive polynomial relationship of rating with purchase decision can also be cross examined by the market simulator exercise. Market simulation exercise is another strong analytical tool of conjoint analysis that helps us to change and see the effects of different product level combination on the market share. Through this simulation exercise, we can examine the relative market share for different level values keeping other things constant. Using xlstat we then generate couple of product profiles and identify the market share of our desired product profile along with other profiles.

Table 6-1: Simulation 1

| Product ID | Rating | Delivery | Brand | Price | Market share (Total) |
|-------------------|---------------|-----------------|--------------|--------------|-----------------------------|
| Product 1 | 4.4 | 1 week | Franklin | 10989 | 4.811 |
| Product 2 | 4.6 | 1 week | Franklin | 10989 | 10.728 |
| Product 3 | 4.8 | 1 week | Franklin | 10989 | 13.512 |
| Product 4 | 4.9 | 1 week | Franklin | 10989 | 22.873 |
| Product 5 | 5 | 1 week | Franklin | 10989 | 48.077 |

Table 6-2: Simulation 2

| Product ID | Rating | Delivery | Brand | Price | Market share (Total) |
|-------------------|---------------|-----------------|--------------|--------------|-----------------------------|
| Product 1 | 4.4 | 1 week | Amazon | 10989 | 4.811 |
| Product 2 | 4.6 | 1 week | Amazon | 10989 | 10.728 |
| Product 3 | 4.8 | 1 week | Amazon | 10989 | 13.512 |
| Product 4 | 4.9 | 1 week | Amazon | 10989 | 22.873 |
| Product 5 | 5 | 1 week | Amazon | 10989 | 48.077 |

Table 6-3: Simulation 3

| Product ID | Rating | Delivery | Brand | Price | Market share (Total) |
|-------------------|---------------|-----------------|--------------|--------------|-----------------------------|
| Product 1 | 4.4 | 1 week | Casio | 10989 | 4.811 |
| Product 2 | 4.6 | 1 week | Casio | 10989 | 10.728 |
| Product 3 | 4.8 | 1 week | Casio | 10989 | 13.512 |
| Product 4 | 4.9 | 1 week | Casio | 10989 | 22.873 |
| Product 5 | 5 | 1 week | Casio | 10989 | 48.077 |

For the first three simulations, we change the rating and see the impact in market share. We do the same thing for all three brand levels. As evident in all the three simulations, the profile

that has the highest rating seem to capture the highest market share and clearly, rating and market share are positively related. In these three simulations, we have only changed the brand but we can also examine the results by changing other attributes and levels.

Table 6-4: Simulation 4

| Product ID | Rating | Delivery | Brand | Price | Market share (Total) |
|-------------------|---------------|-----------------|--------------|--------------|-----------------------------|
| Product 1 | 4.9 | 3 days | Franklin | 13980 | 23.903 |
| Product 2 | 4.9 | 3 days | Amazon | 13980 | 34.181 |
| Product 3 | 4.9 | 3 days | Casio | 13980 | 41.916 |

Table 6-5: Simulation 5

| Product ID | Rating | Delivery | Brand | Price | Market share (Total) |
|-------------------|---------------|-----------------|--------------|--------------|-----------------------------|
| Product 1 | 4.9 | 3 days | Franklin | 13980 | 28.852 |
| Product 2 | 4.9 | 3 days | Amazon | 13980 | 41.259 |
| Product 3 | 4.8 | 3 days | Casio | 13980 | 29.889 |

In simulation 4, we see the impact across different brands and we find that Casio is by far the strongest brand among these three. Now as we change the rating of Casio from 4.9 to 4.8, the respective market share also drops by almost 12%. This clearly indicates two things. Firstly rating has far greater influence than brand as is also shown by attribute importance and rating has a positive relationship with purchase decision one that is strong at the top from 4.8 to 5. In this regard, what can be ideal situation for comparatively weak brands like Franklin to capture the market share? The answer is focus on rating.

Table 6-6: Simulation 6

| Product ID | Rating | Delivery | Brand | Price | Market share (Total) |
|-------------------|---------------|-----------------|--------------|--------------|-----------------------------|
| Product 1 | 5 | 3 days | Franklin | 13980 | 39.767 |
| Product 2 | 4.9 | 3 days | Amazon | 13980 | 27.055 |
| Product 3 | 4.9 | 3 days | Casio | 13980 | 33.178 |

As shown in this simulation results, compared to simulation 4, if Franklin can increase its rating from 4.9 to 5, then it has a chance to take the market leading position. This simulation results also partly align with Chen, Wu and Yoon (2004) who showed that recommendations is much more important for weaker and less familiar brands than popular brands. Therefore private label brands should emphasize more on rating to penetrate the market. As customers place more importance on rating than brand, private label brands need to devise strategies to ensure getting more and more reviews with 5 stars or close to 5 stars.

The results of all the six simulations also explain that rating is by far the strongest among the four attributes to impact purchase decision and increase in rating hence increases the purchase likelihood. The simulations conclude that rating does not hold an inverted u-shape relationship with purchase decision, its rather straightforward positive and these results affirm that H1 should be rejected.

As our analysis suggests that rating is more important than brand in online purchase decision, why is that? One reason can be, though consumer are more brand aware than before and when it comes to brand they have a certain idea in their mind regarding what it might be but more importantly they crosscheck the promises of brand through checking the rating given

by other customers. Secondly it has something to do with the product category, the more unaware the customer is about the product the more likely he is to search information through reviews and rating (Chen, Wu and Yoon, 2004). It can also be said that when people go to online, they are open to ideas and products, want to know more thus rating feeds their curiosity. Thirdly this phenomenon can also be a strong characteristics of online shopping environment as customers cannot see the physical product, they want to lessen their anxiety and rating has a role in assuring customers. Brand names demonstrate product attributes but customers might use rating to get assured of the attributes beforehand.

6.3 Respondent Shopping Frequency and Rating

The data we collected featured some other insights as frequency of purchase, gender. We split the data according to the respondents online shopping frequency in a month. Among our 77 respondents, 3 did not have the online shopping experience. Among the 77, 59 respondents said they purchase 1/2 times a month in online. The number of respondents who said that they purchase 3/4 times and more than 5 times a month are 18. To see if shopping frequency has any impact on moderating the rating-purchase decision, we take the utilities separately and get the following results:

Table 6-7: Utilities Based on Shopping Frequency

| Aggregate Utilities | | | | |
|---------------------|----------|-------------------|------------------------------------|---------------------------------|
| Purchase Frequency | | The Overall Study | 1-2 times a month (59 respondents) | 3-4 & more than 5 times a month |
| Rating | 4.4 | -1.139 | -1.381 | -0.492 |
| | 4.6 | -0.337 | -0.078 | -0.507 |
| | 4.8 | -0.106 | -0.249 | -0.027 |
| | 4.9 | 0.42 | 0.355 | 0.555 |
| | 5 | 1.163 | 1.353 | 0.471 |
| Delivery | 1 week | -0.381 | -0.292 | -0.238 |
| | 3 days | 0.18 | 0.234 | -0.092 |
| | Tomorrow | 0.2 | 0.057 | 0.329 |
| Brand | Franklin | -0.306 | -0.442 | -0.353 |
| | Amazon | 0.051 | 0.289 | 0.153 |
| | Casio | 0.255 | 0.153 | 0.2 |
| Price | ¥ 10989 | 0.682 | 0.655 | 0.439 |
| | ¥ 11899 | 0.025 | 0.04 | -0.135 |
| | ¥ 13980 | -0.707 | -0.695 | -0.303 |

Figure 6-8: Utilities Based on Shopping Frequency

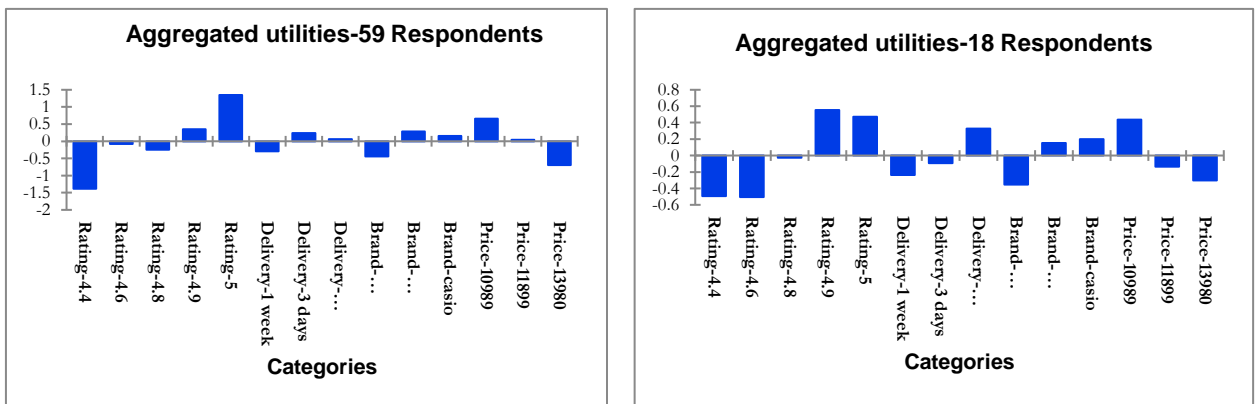


Table 6.8: Aggregate Importances across Different Purchase Frequency Groups

| Source | Total-77 respondents | Frequency 1-2 times | Frequency 3-4 and more than 5 times |
|-----------------|-----------------------------|----------------------------|--|
| Rating | 47.622 | 51.185 | 36.301 |
| Delivery | 12.014 | 9.855 | 19.403 |
| Brand | 11.620 | 13.688 | 18.910 |
| Price | 28.745 | 25.272 | 25.386 |

It is evident that purchase frequency has a strong role on the use of rating and the rating to purchase decision relationship. People who are more frequent online shoppers view rating as less important. Besides brand and delivery seem to play a comparatively more important role than the overall study to the people who shop online more frequently. So we can accept H5 that customer purchase frequency has a moderating role in determining rating and purchase decision relationship.

To attract to this segment of frequent online shoppers, it seems that increasing the rating is most important as suggested by the study, moreover this segment shows that there is a point where the positivity of increasing utility along with increased rating gets disrupted, first in rating 4.6 and then in rating 5. This result resembles with Maslowska, Malthouse and Bernritter (2017) who showed that 5 star is too good to be true. Therefore, brands should focus on reaching the maximum rating point but be skeptical about having 5 star as it might create confusions. It indicates that some negative comments might even make the overall image of the rating much more acceptable. But as most frequent shoppers comprise of only 18 respondents, it is always better to comprehend the analysis by having a more rich pool of

respondents. Results of the comparatively less frequent online shoppers seem to mostly resemble with the main study but question remains as the utility of rating 4.8 shows a higher negative value than rating 4.6 whereas 4.9 has a positive utility and 5 has the maximum positive utility. From the overall study, it can be an indication that rating 4.6 and 4.8 has almost nearest acceptance to customers, thus customers are somewhat undecided in between but when it comes to 4.9 they are excited and the utility goes up well over.

6.4 Comparison across Gender

To find out whether the preference of attributes varies across gender, we separate the respondents by respective gender. The results as shown in figure 6-9 confirms that there is no significant difference of preference to rating across gender.

Figure 6-9: Utilities across Gender

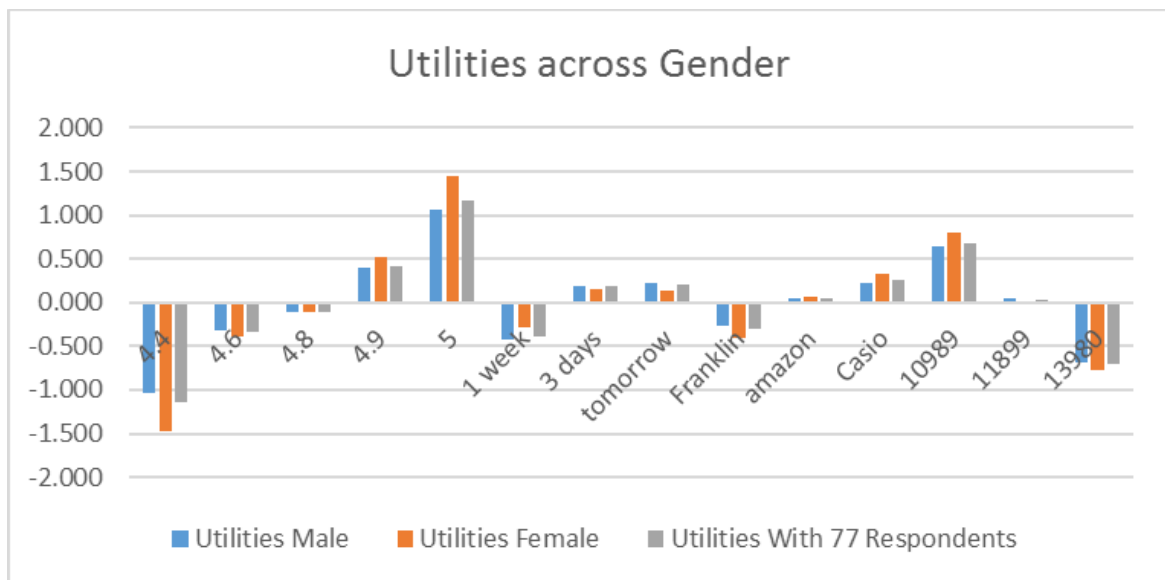
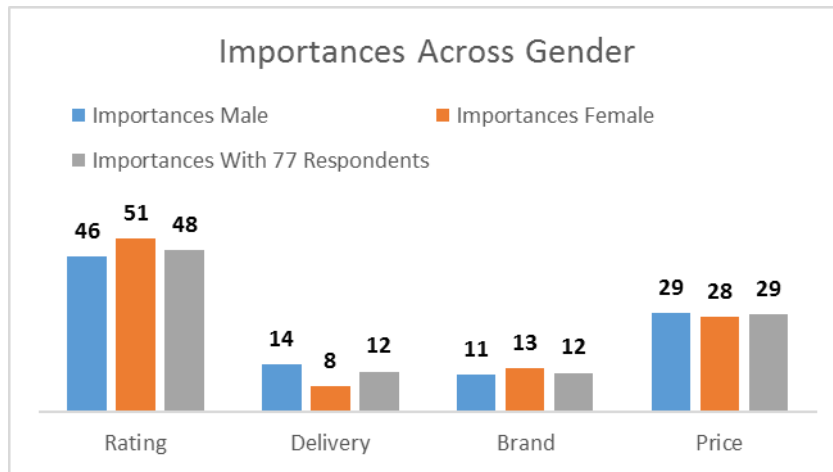


Figure 6-10: Importances across Gender



Irrespective of gender, rating has been seen to be of highest importance. This is important for brands to think of their targeting and strategic decisions.

6.5 Comparison across Product Category

In the survey questionnaire, we also asked respondents about the most frequently purchased product category. Previous researches showed that, respondent's choice preference and influence of rating to sales and purchase decision varies across product category. Therefore by separating the respondents by their most frequent purchase product online, we try to see whether the results show any difference as there is always a chance that customer's accumulated experience over purchasing something frequently online might have an impact on their next purchase.

We asked respondents to pick their most purchased product names by giving 7 different categories and others for products that does not belong to these 7 categories. Mainly these 7 categories of products can be termed as search goods and for the ease of our analysis, we grouped them as:

1. Electronic goods (Containing Electronics and Mobile gadgets)
2. Fashion goods.
3. Books and Household (others and stationaries are also included here)

Figure 6-11: Utilities across Product Categories

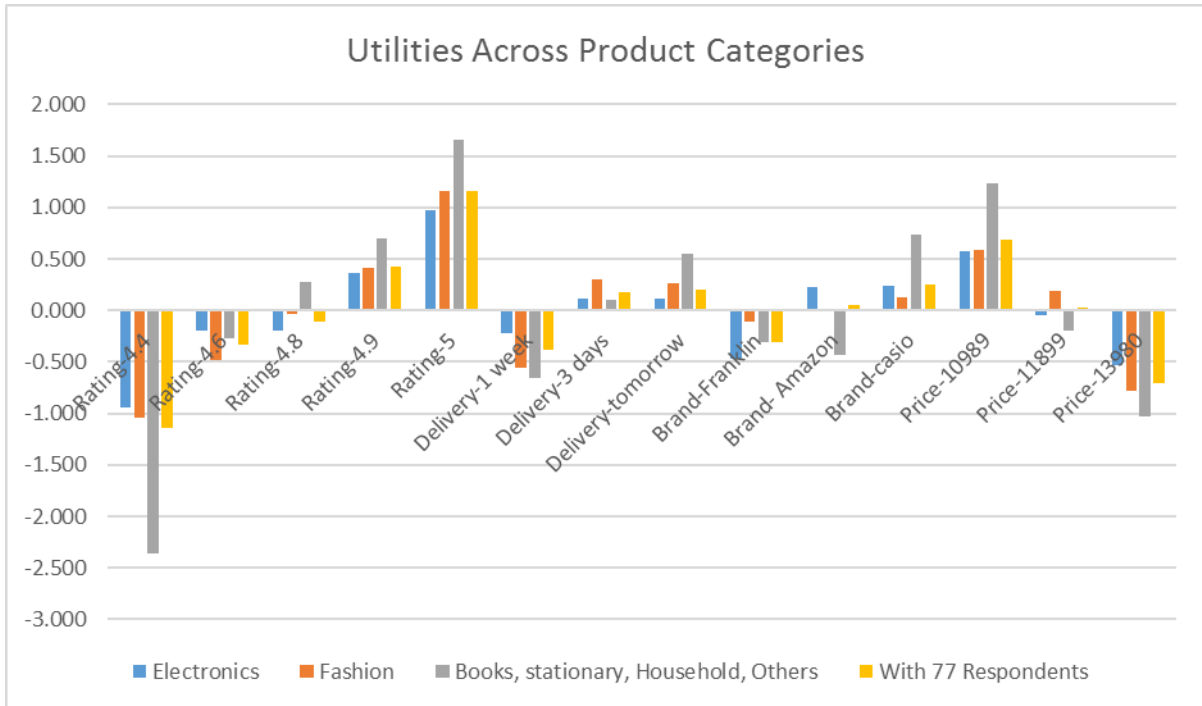
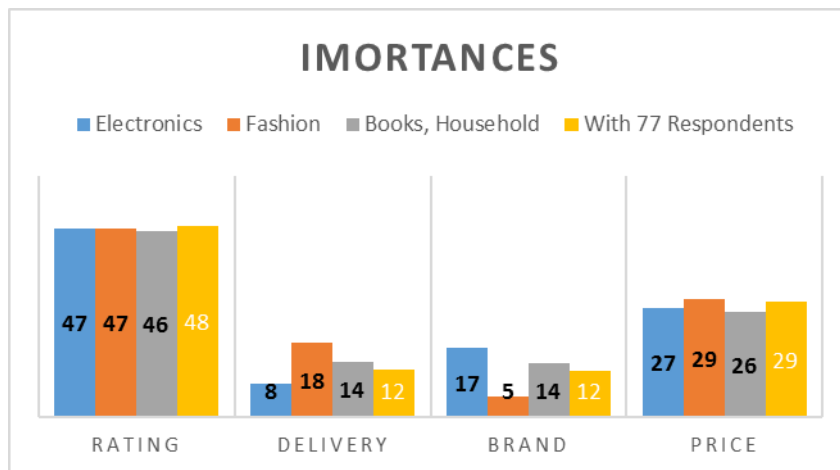


Figure 6-12: Importances across Product Categories



The results here firstly assures that there is no significant difference of preference to rating across groups of respondents based on their most frequent purchased category of goods. Comparing with the main study (done with 77 responses), we see little differences in importances and utilities. The shape of the utilities curve seems to be polynomial and strongly positive. Customers most purchased type of products form customer experience and therefore we can reject H6 that customer experience has an impact on the rating-purchase decision relationship. The results affirm our analysis that relationship of rating to purchase decision is not inverted u-shaped. We just see some subtle changes in the extent of change as the levels changes especially in both lower and upper ends of rating.

6.6 Comparison across Respondents Preference

Finally we also examine the results of our experiment by having separate utility analysis by grouping respondents by their choice to survey question that asked respondents to pick the most important decision influencer to them among rating, brand, price and delivery.

Figure 6-13: Utilities across Respondent's Preference to Attributes

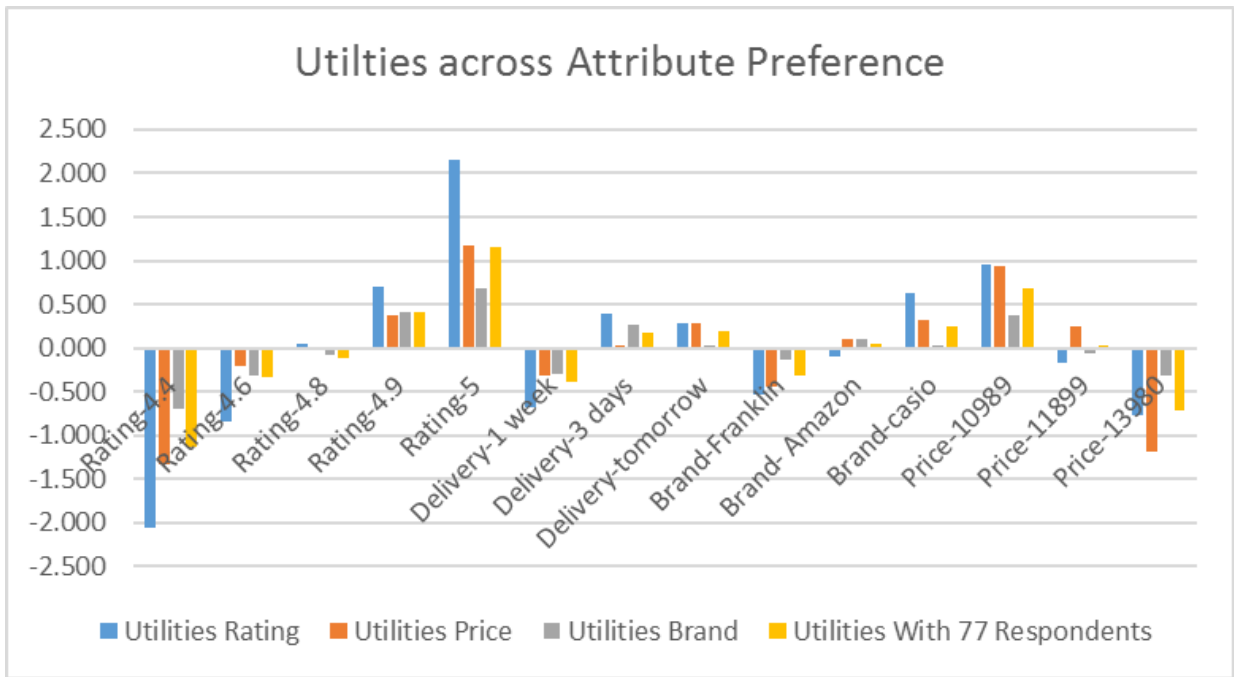
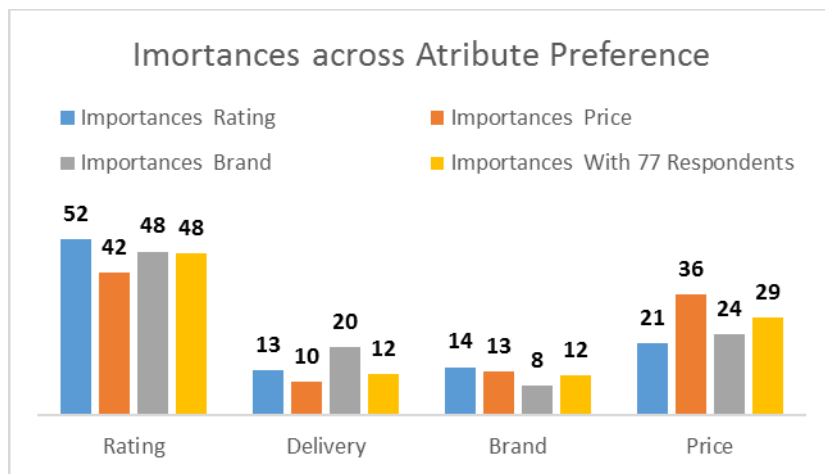


Figure 6-14: Importances across Respondent's Preference to Attributes



The results affirm our study findings as groups, having variant preference to four attributes, demonstrates that rating is of highest importance and the relationship between rating and purchase decision also seems not to be inverted s-shaped rather strongly positive. This results also eliminates the doubt that raised as respondents picked price to be of highest

importance in answering the additional question in the survey whereas during simulation, it came out that rating is most important. This analysis shows that indeed rating not price is by far the most important.

Table 6-9: Hypothesis- Decision Summary

| Hypothesis | Description | Outcome | Decision |
|-------------------|--|--|-----------------|
| Hypothesis 1 | Rating and purchase decision has inverted u-shape relation. | Purchase decision has increasing relationship with rating | Rejected |
| Hypothesis 2 | Price has a negative effect on purchase decision. | With increase in price, likelihood of purchase get decreased. | Accepted |
| Hypothesis 3 | Delivery time has a negative effect on purchase intention | Increased in delivery time decreases purchase likelihood | Accepted |
| Hypothesis 4 | Brand equity has a positive effect on purchase decision | The more popular the brand, the higher the utility | Accepted |
| Hypothesis 5 | Purchase frequency has a moderating impact on rating purchase decision relationship. | Customers preference to rating varies along with their online purchase frequency. | Accepted |
| Hypothesis 6 | Customer experience impacts rating-purchase decision relationship. | Customers experience of mostly buying a particular category of product do not necessarily affect their next purchase decision. | Rejected |

CHAPTER 7: CONCLUSION

7.1 Theoretical Contributions

Through this study we do have some findings that might help decision makers in strategy setting in online market place and open areas for future research as well

1. Our study shows that rating has a polynomial and positive relationship with purchase decision. The extremity of positive trend is equally highest in both final ends, as when it jumps from 4.4 to 4.6 and from 4.9 to 5 star rating generating an increase of utility of 0.661.
2. An increase in rating by 1% results to increase the willingness to pay by 859.5 yen.
3. 1% increase in rating leads to 0.344 increase in utility.
4. Rating has by far the most importance. Apart from rating, when these four attributes are considered, price is seen as the second most important decision influencer having an aggregate importance of 28.745%.
5. The preference to rating is seen to be impacted by shopper's frequency of online purchases. Shoppers who purchase more frequently (3-4 times and more than 5 times a month) are giving less importance to rating than shoppers who purchase less frequently (1-2 times a month). The shift in respondents preference is mostly transferred to brand choice and delivery schedule. On the hand, less frequent online shoppers puts the highest importance on rating.
6. Customer's experience one that is formed by their most purchased products online does not impact how customers will prefer rating in their next purchase decision.

7.2 Limitations of the study and Scope of future research

The study is a reflection of the attributes and levels. Once the attributes and the levels are changed, results are supposed to be a bit different. In our case we selected four attributes as rating, delivery, price and brand and each of them had different levels. The levels and the attributes had a huge impact on the respondents choice. Say for example, if there has been a bit more price difference between the highest and lowest price, there might have been some varying responses. We selected Casio, Amazon and Franklin as the three brands delegating three different brand dimensions and category. This choice of brands impacted the choices of the respondents. If instead of Amazon a different brand was selected, there might have had varying response. This study, though is an indication about the purchase decision rating relationship dynamics, is broadly a reflection of the attributes and the levels. When the levels are changed, attributes are changed, results and the corresponding relationship dynamics are supposed to be changed.

We approached with an orthogonal design. Due to the feasibility and plausibility of the study, it was not possible to approach with a full fledge design having 135 profiles. Xlstat, an Excel add-ins did the optimized orthogonal design. There is always a probability that the profiles generated through the optimized study are not enough. As we took only twelve out of the 135 possible combinations, it thus has a probability that some important profiles are not considered in the study. Alternatively, in other cases, we have considered three profiles to compare as a set for a single choice. There is always a probability that a choice could have a relatively easy pick for the respondents while others might have been a bit hard and time

consuming. Should we have some more profiles or some more choices, our results could have had statistically a bit more perfect.

Our respondents are mostly students of university. This means that the data we have derived might be representative of a particular segments mindset and might not be delegated for all. As in our case we have seen that, respondent's main purchase segments are Electronics and Fashion items. In almost 70% of the cases surveyed, they mostly buy these categories of products from online. And almost in 50% of the respondents are aged between 20-25 and 70% of the respondents shop 1-2 times a month in online. Thus it is natural that this age group share some common mindset, perception and it might not represent the whole population. Therefore the results of the study should be used wisely considering that respondents mostly belong to a particular age group and classification.

As we have used choice based conjoint analysis, this technique itself comes with some limitations. For making an experimental study, there is a possibility of Bayesian shrinkage. In future similar studies can be done using variations of method. Here we took CBC, but the same exercise can be done through a ranking based conjoint analysis or through Hierarchical Bayes conjoint analysis and see if there are any differences in results.

Though we had 77 respondents, it might not be enough considering the huge size of the sample. Though, statistically at least 36 respondents were needed for the survey but for survey and statistically as well, the more is always the better.

In this study, we had four attributes and three levels for each attribute except for rating which had 5 levels. There are areas of development, as the attributes that we have picked are

motivated by previous literatures. But the fact is online purchase decision is not merely influenced by these four attributes, there are tens of others factors working behind. Depending on the situation, perspective and other variables, even role of these attributes change time to time. A person being price sensitive now might not be so when he is picking a bag for his date. That is why there are so many variables and attributes. But for a single study, it is almost impossible to consider them all or even most of them. Even though a prior MaxDiff analysis could make the inclusion of attributes more logical. Then there might be chances that if new or other levels/attributes are added that the results might get changed. For future research scopes, this can be considered. However, for choice based conjoint study, to make the study feasible and plausible we had to throw some attributes and levels that do play an important role in purchase decision. When taking the study of this research into consideration, these factors should be kept in mind. In further research, if more attributes are considered with more levels, then the research could provide broader insights. As for conjoint analysis, there is always a chance that adding more attributes and levels would ultimately make the survey a bit lengthy and respondents will lose interest in the middle. Therefore, any other approach can be taken to investigate the scenario taking more attributes and levels into consideration.

In our study, we have designed the choices making respondents think that they are going to buy an electric dictionary. Based on this imaginative scenario, respondents gave their choice and set the preferences for rating, brand, price and delivery. Electric dictionary as the product to include in the research has some well backed literatures and rationale but still the selection of this product has some impact and shortcomings on the research itself. First of all

respondents preferences for an electric dictionary might not be the same for a household product say for example washing machine or for a book. Consumer preferences over the attributes change according to the product as well. (Mudambi and Schuff, 2010); (Ho-Dac, Carson and Moore, 2013). If this research was done taking any other product into consideration, there is a probability that the preferences respondents gave for electric dictionary would change and thus the results also would change. Thus it is advisable to consider the product category wisely before taking any decisions. Indeed this might be a better scope for further research taking other categories of product into consideration and see how customers response change along the different categories of product.

We have used convenience sampling technique to collect data. One of the limitations of convenience sampling is that there is a chance of researcher bias. This bias might have an impact on the collected data and its consecutive interpretations.

7.3 Conclusion

The results of the research have been significant in many cases. We have used conjoint analysis to a great extent to prove the nature of relationship between rating and purchase decision. Moreover through conjoint analysis, we have been able to investigate this relationship mimicking a real life choice scenario where a customer faces dilemma across variations in rating, price, brand, and delivery. Considering these multitude of factors this research has shown that rating and purchase decision does not have an inverted u-shape relationship rather it has a polynomial relationship with purchase decision. We have shown that 1% increase in rating would lead customers willing to pay to increase by 859.5 yen. We

also find that 1% increase in rating results in 0.344 increase in utility. It also showed that the relationship is strongly positive one that's extent is strongest in both upper and lower ends. This clearly goes with (Forman et al. 2008); (Chevalier and Mayzlin 2006); (Clemons et al. 2006); (Ghose and Ipeirotis, 2006); (Chen et al. 2008) and the nonlinearity also holds true with (Maslowska, Malthouse and Bernritter, 2017) but the results do not get along with (Mudambi and Schuff, 2010) in that we find extreme ratings to have higher impact on purchase decision. We did not find any element of suspicion with the increase in rating as indicated by (Maslowska, Malthouse and Bernritter, 2017). The simulation and finally the comparison of results across different profiles, product categories and attribute preferences groups also affirm the results of our study. We find that a shopper's frequency of monthly online purchases could significantly affect this relationship of preference to rating. By analyzing the results based respondents demographics we did not find any significant variability of utility with the main study. Respondent's online experience, one that is formed by their most purchased category of products, also does not significantly impact respondent's preference to rating. Finally, the results show that 5 star rating is what can cater the maximum utility to a customer but this also brings some questions as in real life it is mere impossible to have a 5 star rated product until and unless something fishy is going on. Therefore there is a chance that the simulative environment of the survey might not really provoke that sense of suspicion to high rating among respondents and that's why they took it naturally and preferred high rating over less rated products, this might be a limitation of this research one that also opens new door to research to see whether any structural change in the survey module or in the method do really brings any change in the results.

Rating is playing a dominant role in shaping purchase decision. Brand seems to be less important than rating, this means that private label brand managers should focus more on attaining a higher rating to ensure sales and brand penetration to customers. In the competitive environment, maintaining a high rating will most likely enable the high likelihood of the product purchase but definitely other factors like brand, price and delivery are also important and customers online purchase frequency will moderate this rating-purchase decision relationship, therefore the research might help decision makers in this area to shape their strategies.

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APPENDIX**Appendix: 1 (Survey questionnaire)**

Comparison 1 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|--|-----------|-----------|----------------------|
| Rating | 4.4 | 4.6 | 4.4 |
| Delivery | 1 week | 3 days | tomorrow |
| Brand | Amazon | Amazon | Casio |
| Price | 11899 | 10989 | 10989 |
| Code | 1 | 2 | 3 |
| Enter the code of the selected choice: | | | <input type="text"/> |

Comparison 2 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|--|-----------|-----------|----------------------|
| Rating | 4.9 | 5 | 4.9 |
| Delivery | tomorrow | 1 week | 3 days |
| Brand | Amazon | Casio | Casio |
| Price | 13980 | 13980 | 11899 |
| Code | 1 | 2 | 3 |
| Enter the code of the selected choice: | | | <input type="text"/> |

Comparison 3 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|--|-----------|-----------|----------------------|
| Rating | 4.6 | 4.8 | 5 |
| Delivery | tomorrow | 1 week | tomorrow |
| Brand | Franklin | Amazon | Amazon |
| Price | 11899 | 10989 | 10989 |
| Code | 1 | 2 | 3 |
| Enter the code of the selected choice: | | | <input type="text"/> |

Comparison 4 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|----------|-----------|-----------|-----------|
| Rating | 4.8 | 4.9 | 4.4 |
| Delivery | 3 days | 1 week | 3 days |
| Brand | Franklin | Franklin | Franklin |
| Price | 11899 | 10989 | 13980 |
| Code | 1 | 2 | 3 |

Enter the code of the selected choice:

Comparison 5 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|----------|-----------|-----------|-----------|
| Rating | 4.6 | 4.4 | 4.9 |
| Delivery | 3 days | 1 week | tomorrow |
| Brand | Amazon | Amazon | Amazon |
| Price | 10989 | 11899 | 13980 |
| Code | 1 | 2 | 3 |

Enter the code of the selected choice:

Comparison 6 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|----------|-----------|-----------|-----------|
| Rating | 5 | 4.9 | 5 |
| Delivery | tomorrow | 3 days | 1 week |
| Brand | Amazon | Casio | Casio |
| Price | 10989 | 11899 | 13980 |
| Code | 1 | 2 | 3 |

Enter the code of the selected choice:

Comparison 7 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|----------|-----------------------------|-----------|-----------|
| Rating | 4.8 | 4.6 | 4.8 |
| Delivery | 1 week | tomorrow | 3 days |
| Brand | Produced and Slod by Amazon | Franklin | Franklin |
| Price | 10989 | 11899 | 11899 |
| Code | 1 | 2 | 3 |

Enter the code of the selected choice:

Comparison 8 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|----------|-----------|-----------|---------------|
| Rating | 4.4 | 4.4 | 4.9 |
| Delivery | tomorrow | 3 days | Within 3 Days |
| Brand | Casio | Franklin | Franklin |
| Price | 10989 | 13980 | 10989 |
| Code | 1 | 2 | 3 |

Enter the code of the selected choice:

Comparison 9 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|----------|-----------|-----------|-----------|
| Rating | 5 | 4.9 | 4.6 |
| Delivery | 1 week | tomorrow | 3 days |
| Brand | Casio | Amazon | Amazon |
| Price | 13980 | 13980 | 10989 |
| Code | 1 | 2 | 3 |

Enter the code of the selected choice:

Comparison 10 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|--|-----------|-----------|----------------------|
| Rating | 4.9 | 5 | 4.8 |
| Delivery | 3 days | tomorrow | 1 week |
| Brand | Casio | Amazon | Amazon |
| Price | 11899 | 10989 | 10989 |
| Code | 1 | 2 | 3 |
| Enter the code of the selected choice: | | | <input type="text"/> |

Comparison 11 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|--|-----------|-----------|----------------------|
| Rating | 4.9 | 4.8 | 4.6 |
| Delivery | 1 week | 3 days | tomorrow |
| Brand | Franklin | Franklin | Franklin |
| Price | 10989 | 11899 | 11899 |
| Code | 1 | 2 | 3 |
| Enter the code of the selected choice: | | | <input type="text"/> |

Comparison 12 :

| Factor | Profile 1 | Profile 2 | Profile 3 |
|--|-----------|-----------|----------------------|
| Rating | 4.4 | 4.4 | 4.4 |
| Delivery | 3 days | tomorrow | 1 week |
| Brand | Franklin | Casio | Amazon |
| Price | 13980 | 10989 | 11899 |
| Code | 1 | 2 | 3 |
| Enter the code of the selected choice: | | | <input type="text"/> |

Additional Questionnaire

1.1 How often in a month, do you buy products from online? *

- 1-2 times
- 3-4 times
- More than 5 times

1.2 Each time you are going to buy something new in online, Do you check the product ratings (number of stars)?

- I definitely do
- I prefer to do but not always
- Undecided
- Normally I do not check
- I never check ratings

1.3 Which category of product do you buy most often from Online?

- Books
- Electronics
- Music
- Stationary
- Mobile and Gadgets
- Home and Household Items
- Fashion Items (Clothes, Shoes, Bags)
- Others

1.4 What is the most important thing to you before making the purchase decision in online?

- Brand
- Price
- Delivery time
- Ratings (How many stars the product was rated by other customers)

Gender *

- Male
- Female
- Prefer not to say

Age

- 15-20
- 20-25
- 25-30
- 30-35
- Other...