

Master thesis

Rental products vs acquired products: which factors influence the choice for durable goods?



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Academic year 2017/2018

Submitted: 09 July 2018

Executive summary

This thesis is focused on the drivers of the choice that consumers have to take between renting or buying a durable good once they have the possibility to choose between these two options.

Topic relevance: the reason why the author is studying this topic is strictly connected to its relevance. Indeed, many academicians have demonstrated that consumers' status is now achieved by having the control of an item, no matter if bought or rented. This is probably the reason why there has been a rising interest in renting products with all-in formulas. Many companies are using these formulas, offering complete product and maintenance package. This is a way to enhance the relationship between brands and firms, and to increase the long-term profitability of companies.

Central research question: the central research question of this paper aims at understanding which factors influence consumers' choice between renting or buying a durable good.

Research sub-questions: as (empirical) sub-questions the author will also research which the most important factors in the choice are and if the presence of financial constraints and genders plays a role in the or not.

Literature findings: the author first analyzed the literature, with the consumers' perceived benefits of renting, such as the avoidance of some purchase-related risks (product alteration and obsolescence, risks of making an inconvenient product selection, maintenance responsibility, full price of products that a consumer only use few times).

The author has also saw that consumers indeed face a decision struggle when acquiring a durable good with a medium-long expected consumption over time: they have to choose if to rent or buy it. It has been discovered that, from other academic studies, that there is not only a single factor affecting this choice, but instead, there are many variables, also depending on the product. These factors are:

Financial relevance (price), product expected duration, product type, expected usage over time, risk avoidance, flexibility, ownership importance, environmental sensibility, demand for up-to-date products, the presence of financial constraints, and presence of additional services.

Hypothesis and research methodology: To test if the factors that according to the literature are relevant also taken all together in this field research, an online survey has been run, asking to choose if to rent or buy a mobile phone, as an example of durable good.

The survey has been online on Qualtrics from 05/06/2018 to 13/06/2018, and after having collected a total of 281 answers (of which 221 valid) data have been statistically analyzed through a conjoint analysis: this was the best method to let the author understand which factors consumers took into account while making the choice of renting vs buying a mobile phone under different conditions.

The author also studied if financial constraints and gender have a moderation effect in the choice of renting vs buying.

Field research key findings:

- There is a struggle between renting and buying in the case of durable goods.
- Consumers might choose to reduce perceived risks by renting instead of buying.
- Risk avoidance and additional services are the relevant factors consumers take into account while making the choice. Price is not statistically significant but relevant in the choice
- Price is the most relevant factor in the decision-making phase, while risk avoidance is the second and additional services the third.
- Financial constraints do not play a moderation effect in the choice.
- Gender does not play a moderation effect in the choice

Comparison of literature findings and field research findings: the first and the second field research outcome is coherent with the literature outcomes, while the third only partially. Indeed, literature states that among the relevant factors there is price, risk avoidance, additional services, flexibility and demand for up-to-date products. Ownership importance was also questioned by other academicians: some believe this was relevant while others not.

In this research, risk avoidance and additional services and partially price are relevant in the choice. Price is the most important factor consumers care about but it was not statistically significant because of the necessary survey design.

The fact that also financial constraint did not play a moderation effect was also divergent with the literature outcomes.

Answer to central research question: The afore-mentioned results stated that the answer to the central research question was that only the factor *risk avoidance*, *additional services* and *price* are relevant in the decision-making process.

Managerial recommendations: Based on these results, several industries and markets (both B2C and B2B) might extract several advantages from the rental markets. As the author discussed in the

introduction chapter, many companies can design valuable rental alternatives to the “buy” option, in order to gain extra profits and long-term customer retention.

To do this, the author demonstrated in this paper that there are different factors that consumers’ value more compared to others. Taking into consideration that different products have different decision factors, it can be concluded that managers have to implement rental plans at an attractive price.

It has been demonstrated indeed that price is the most important factors that consumers evaluate when making this choice. The price will then depend on the different industries that will invest on this, after having checked to the profitability of this choice.

Secondly, managers have to realize that offering additional features over time is a consistent plus compared to just sell the product to the consumers. This will increase some costs for sure, but it can also justify premium prices and most importantly will enhance the relationship between the brand and customers. In the long term, this is likely to increase the profits.

Future research recommendations: For further academic research, the suggestion is to overcome the research limitations of this paper. This means that other academicians should study also the B2B market to capture the trend coming from that side of it.

The other suggestion is to do other researches focusing on different kind of durable goods.

This will let us understand which the differences of the different product categories are, and which the common points in order to extract a general rule that is applicable to all the market for durable goods.

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1.0 Introduction

1.1 Thesis background

To buy or to rent a product? Many of us sometimes ask themselves why to pay a full price for a drill when we use it just use it a few times in a year, or why to buy a new car if we can rent it and change model after few years.

Some people might prefer to rent then if it is financially reasonable. For others, the possibility to have the drill at home every time they need it without going to rent it in a shop is more valuable than the eventual financial saving.

In the end, a decision between renting or buying a product to acquire and use it must be taken.

Thus, here it comes the question: which factors influence the choice of the renting over buying?

To this and other sub-questions, the author has tried to give an answer in this paper.

Overall, this thesis resides in the area of consumer behavior. In fact, how to acquire a product or service depend on the consumer's preferences, choices, evaluations and eventual biases in the choice process. Thus, it is necessary to understand how people make their decision and how do they evaluate alternatives; the author covered this in the first chapter of the literature review.

If we look at the history of consumption, renting seems to be a quite new trend. Indeed, McCracken (1988) states that consumption in the past was supposed to let owners reach a desired status, rather than being just a way to use a product. On the other hand, nowadays, status might also be obtained by having new items and products quite often, this way being the first to be able to show them to others.

Thus, reputation and status are now reached by having the control and the disposal of an item; it is not relevant anymore if the product has been bought or rented.

This is probably the reason why there has been a rising interest in renting products with all-in formulas. A significant example is provided by the automotive industry: the Swedish car manufacturer Volvo has introduced "Volvo private leasing", to let private consumers lease their car instead of buying them. The offer comes with the car, a maintenance program, insurance, and the possibility to change the car and subscribe to a new leasing contract after some years.

Similarly, The German car manufacturer BMW launched its formula "All-in private lease".

It might be important for the reader to know that leasing is “an agreement between two parties whereby one party allows the other the use his property for a certain period of time in exchange for a periodic fee” (Farlex Financial Dictionary, 2012).

Moreover, there are two kinds of leasing: capital lease (more long-term oriented in which the lessee owns the asset only at the end of the lease period but can use it also before) and the operating lease (short-term oriented, in which the lessor has the ownership at any time).

Another good example of the importance of the renting trend can be found in the mobile phone sector: almost in every country in Europe and the US, mobile phone companies provide the consumers with the choice to buy the phone or rent it with included a subscription plan with data, minutes for calling and SMS.

Another strong trend that can affect this preference is the upcoming circular economy. Indeed, this can influence consumer in preferring a short-term renting instead of buying durable goods (Boesler, 2013).

The reasons behind this increasing trend are various, but among them one has been identified in the change of consumers’ lifestyle: they now want to explore different kinds of ownership and product acquisition modalities, experimenting new consumer’s horizons.

As a result, a growing number of modern consumers are choosing to rent or lease goods instead of buying as an alternative form of consumption, compared to the traditional “buy” option (Watson, 2006).

The starting point of the thesis overall is the intrinsic difference between renting and buying in the case of durable goods. Indeed, according to Lovelock and Gummesson (2004), the rental choice for acquiring a product or service present some differences compared to buying for many factors.

However, what makes the difference between renting and buying from the consumer’s viewpoint? There is not a single answer, but different factors and preferences (Pocheptsova et al, 2008). Overall, there are many product categories in which is possible to decide to prefer an ownership formula (to buy) or pay per use formula (to rent).

The author in this thesis studied the concept within the area of durable goods, defined in the economic environment as goods with quite a few years of expected duration (depending on the

product, usually between 2 and 5) such as cars, machinery, equipment, household goods, mobile phones, and furniture.

Finally, the author has also covered specifically the housing market, as it is a particular sector and a “product” with particular features. The empirical analysis has been run by analyzing data of a survey which was asking to choose between renting and buying a mobile phone under different conditions.

1.2 Managerial and academic relevance

In these years, there is a rising interest of companies in inventing new business formulations that let consumers to rent or to lease their products, to make them more appealing to consumers’ eyes and win the competitive race.

Indeed, above the author went through the examples of two big automotive companies that are taking this path (Volvo and BMW), but also a variety of less famous B2B companies are launching renting options for their equipment’s, in order to increase the loyalty of their consumers in the long term.

Obviously, managers are always interested in the world of consumer behavior, which is the academic area covered in this thesis.

Indeed, knowing how buyers think and act, let managers to better understand and give tailored answers to consumers’ needs and requirements, increasing their brand loyalty and the overall profitability of their companies.

The possibility to launch successful and profitable renting formulas in order increase the profitability of the business, the consumer loyalty and by this having a competitive advantage should be of interest to every manager.

It is important to give some numbers about the phenomenon in one of the most significant actors in the rising renting trend, such as the automotive industry. Indeed, the rental car sector in 2016 had a global value of \$58.26 billion and an expected value of \$124.56 billion by 2022 (Zion Market Research, 2017) and with an expected growth rate of 6.6% per year until 2027 (Future Market Insights, 2017). This helps us to understand why it is financially interesting to have deeper insights into this trend, even if there are natural differences among different product categories that the author might consider in this paper.

The trend of renting seems to be strong even in B2B industries: the US-based Equipment Leasing Association, in a study of 2005, found that in 2003, 80% of American companies leased all or some of their equipment.

From the academic perspective, consumer behavior is one of the pillars of research for marketers for decades.

Indeed, the possibility to understand how consumers think, feel and act during a purchase evaluation decision is of great relevance for academia.

An example of past research in consumer behavior might be identified in the works of Comegys et al. (2006), Dubois (2000) and Morgan and McCabe (2012).

In addition to this, apparently, there is a link between the topic covered from this thesis and the perceived risks linked with the buying process; this has been widely studied in the past years, to understand how much it affects the consumers' selection process (Chaudhuri, 1997; Mitchell, 1999).

There are also some contributions to the topic of renting and buying in general; Trendburo (2008), and Moeller et al. (2010).

However, there is not a big trend in past researches from academia to debate which factors do consumers look at while making the choice; the only papers are written by Pocheptsova et al (2008) and few others, in which it has been discovered a link between the decision to rent or buy and the expected usage length over time of the product, and Huey (2007) found that the necessity of mobility and geographical flexibility for industrial companies of their equipment affect also the choice if to buy or rent.

1.3 Research question

Overall, it seems that there are not papers that try to understand altogether the factors influencing the choice (renting or buying) in the academic world.

Then, the knowledge gaps this thesis wanted to fulfill was to enhance the understanding of what drives the consumers in the choice of renting a durable product/service, what he takes into account and what value more in the decision-making process.

The central research question of this thesis is the following:

- Which decision factors influence consumers' choice between renting or buying a durable product?

As theoretical sub-questions:

- *What is renting?*

- *What is buying?*

As empirical sub-questions:

- *What are the factors relative importance in the decision-making process between renting and buying?*

- *Does the presence of financial constraints influence the choice of renting vs buying?*

- *Does the variable gender influence the choice of renting vs buying?*

First, the author has studied the academic literature in order to understand better what has been discovered so far and which factors academicians found that affect the choice to rent vs buy. A bunch of factors have been then identified.

After that, online survey has been run, and the data statistically analyzed in order to understand which of the previously discovered factors influence the choice, and how they act taken all together and not one by one like other academicians discovered so far.

2.0 Literature Review

2.1 Renting and buying

First, the author need to define what is to buy and what is to rent.

The first is an acquisition mode in which a consumer pays in order to acquire a product and in return obtain full ownership of the good; ownership authorizes him to have the complete control over the item, including the rights linked to the possession of it (Moeller and Wittkowski, 2010).

If renting, the consumer has still the disposal of the product and can use it without limits but has to pay a fixed amount in every period (agreed before) and do not have the legal ownership of the good: it has the potential to substitute the possession or ownership of the good.

It implicates an agreement between two parties; the renter has the right to use the good (*ius usus*, the right of using it) for a specified period, under the payment of a rental fee.

However, the owner has the legal ownership of the product and the other property rights, not the renter (Moeller and Wittkowski, 2010).

Nevertheless, which are some the advantages for consumers in choosing the renting option for individual consumers? Berry and Maricle (1973) found that the renter avoids some purchase-related risks, such as product consumption and obsolescence, risks of making inopportune product choices, maintenance responsibility, and also avoids paying the full price of products that a consumer only use few times.

Another point of interest linked to the consumer's choice is that some authors also discovered that there are consumers' bias that occurs when they have to take a choice between a buying or renting durable goods.

Generally, there are more biases for the buying choice compared to renting (Lambrecht and Skiera, 2006). A behavioral study of Nunes (2000) shows that consumers use simplified heuristics when estimating the expected usage of products they are thinking to acquire: the result of the study was that the author found many consumers overestimating their future usage rate when choosing the buy option.

This is also valuable for services; a study of Della Vigna and Malmendier (2006) found that consumers paid more when they chose the total monthly fee ("buy") compared to per-visit price ("rent") when acquiring gym affiliations.

2.1.1 Summary of renting and buying

Buying: Ownership authorizes the owner to have the absolute control of the object, included the rights linked to the possession of it.

Renting: The consumer has still the access to the product and can use it freely but has to pay a fixed amount of the price in every period and do not have the official ownership of the good.

Among the advantages of renting, the renter avoids some purchase-related risks, such as product alteration and obsolescence, risks of making an inconvenient product selection, maintenance responsibility, full price of products that a consumer only use few times.

2.2 Factors affecting consumers' choice for renting a durable good

First, it is possible to know that consumers face a decision between renting and buying?

Pocheptsova et al. (2008) found that this phenomenon arises when they expect a long future length of consumption for the future.

Indeed, the author found that the concept of buying in case of a product characterized by a long-expected consumption in the future is perceived as more enduring and nonreversible option than renting, encouraging consumers to think more judiciously about the possible decisions.

In fact, it would not be possible to rent a product that can be consumed just once; this means that there might be a congruency between the decision process of buying vs renting and the expected length of consumptions over time (which is also confirmed by other studies).

In addition, Moore and Taylor (2009) found that one of the core drivers for renting over buying durable goods is expected duration of the product over time: when it is short, consumers prefer to rent, while for longer expected duration they prefer to buy it, *ceteris paribus*.

Therefore, it has been found that consumer faces less harsh evaluation process when he decides to rent instead of purchase (Pocheptsova et al, 2008). The author of the study designed an experiment which discovered that when the first preferred option was not available for purchase the participants were more likely to accept the second-best choice for renting, but not for buying.

This is a point of high interest for marketers because it has been found that consumers choose to rent a product that they would not buy, even when the purchase overall price is equivalent to rental cost.

Finally, which are the factors consumers consider while making the decision? First, it clearly depends on the type of product the consumer is considering buying or renting.

However, some general factors can be defined (Preville, 2015); in a study of industry equipment it has been found that consumers while making this decision, consider how much the equipment will be used in the future, the expected duration of the product and the expenditure of purchase vs the one of rent and the amount of income available.

The findings of this research also discovered that the high price of the products could affect the decision to rent instead of buying, by making it more affordable in the short term, if the consumer has financial constraints.

Another important outcome of this research is that some consumers might prefer to rent instead of buying because they have the possibility to give the product back (risk avoidance).

Indeed, they could be able, if not satisfied with the product, to give it back, but this is not always possible if they bought a product and used it for some time.

Interesting, the author also found that the environmental aspect (thus, renting and using a product just when you need it, avoiding waste) is one of the main factors affecting the choice.

If we take again into consideration industrial equipment, in another qualitative study in the American market (Huey, 2007), it has been demonstrated that firms that have to move frequently from a work site to another tend to rent their equipment, while more geographically stable firms prefer to buy it. The author can call this factor as *flexibility requirement*.

According to this study, that found these results through interviews with different general managers of American firms, many reasons emerged to support why renting equipment is facing a strong trend over buying:

- The cost of owning, with maintenance and taxes, is higher than renting.
- Companies that provide renting contract usually offer the possibility to include also maintenance costs and service, freeing the acquiring firm from this commitment.

Other managers prefer to buy their equipment and the main reason, according to the author, is to avoid the risk of eventual shortcomings in shops while they need the equipment for their jobs.

Another final category of American managers does not see any trend in renting or buying, as they explained that it just depends on singular situations.

Another study (Trendburo, 2008) found that there is a significant change in consumer preferences from a prominence on the ownership of goods to a focus on the usage of them. That is, it does not matter who owns the good, but only the fruition of it.

The drivers of renting over buying found in this study are a rising *demand for premium and up-to-date products*, an increasing desire for experiences and rising levels of *environmental awareness*. About the rising demand for up-to-date products, also Okada (2001) found that the wish to replace a still functioning product with a new one is linked to the fast-paced technological improvements made now thanks to new innovations.

Another study (Van Hecke, 2009) shows, from the algebraic point of view, which factors should determine the choice of renting or buying for a durable good (a bicycle in this case).

The author found that the three determinants to make the best (financially speaking) decision should be the number of months you need the product (time), the rental cost and product cost (price) and the interest rate of the bank to consider the opportunity costs of your money (cost opportunity).

Finally, an interesting study of Moeller and Wittkowski (2010) found that among the factors that influence the choice of renting over buying is the *importance of possession* (how much consumer value the possession of a product), the *convenience orientation* (how much consumers look for convenience when acquiring a product) and *the environmentalism* (to what extent consumers evaluate environmentalism to avoid buying product that they use just a few times).

2.2.1 Summary of factors affecting consumers' choice for renting a durable product

When consumers expect a long consumption over time, they have to decide if buying or renting, if this is possible.

It has been found that the concept of buying in case of a product characterized by an expected extended consumption is perceived as more permanent and nonreversible than the renting option, encouraging consumers to think more critically about the possible options.

According to the literature, the most important factors affecting the choice of renting over buying durable products are: *financial convenience*, *expected duration of the product*, *the type of product*, *expected usage over time*, *the presence of financial constraints*, *flexibility*, *rising demand for up-to-date products*, *environmental sensibility* and *the importance of possession*.

2.3 The housing case

One of the most frequent choices people have to do is whether to buy or rent a house; indeed, in many countries, home ownership decreased because of the financial crisis of 2008 (Williams, 2012).

In the US, 63% of American families possess their home (Shelton, 2001); in Switzerland 34% (Bourassa et al, 2010), and in New Zealand, most of the people decide to buy a house instead of renting it (Hargreaves, 2002).

However, over the last 15 years the number the number of these people decreased from 73.7% in 1986 to 66% in 2000 (Hargreaves, 2002).

These different figures mean that this sector is national-sensitive, and it is difficult to extract universal rules.

2.3.1 Summary of the housing case

In many countries, home-ownership has decreased after the financial crisis. Even in countries with high pro-capita income, the home-ownership rate can be low (Switzerland).

However, it seems that it is not possible to have a general trend worldwide, as this is very national-sensitive and can depend on many factors.

2.4 The housing case: advantages and disadvantages of renting

Generally, homeownership has various advantages over renting: it provides an accommodation and it might be also a financial investment for the owner at the same time (Hutchinson, 1994).

The renting option provides just the first feature, while the equity function is not possible because the eventual capital gain is only for the homeowner.

Another interesting effect of homeownership is that it enhances civic pride and elector attendance to political elections (Rohe et al, 2002, Dietz et al, 2003), stimulated various societal outcomes such as less crime, and higher educational outcomes (Parcel and Haurin, 2002).

A disadvantage of renting a home is that it exposes the household to eventual future modifications of the monthly rent. Owning a home gives financial stability from this point of view, as it removes ambiguity over the future monthly price.

However, one of the main advantage provided by renting is flexibility: it let people move to different places without the inconvenient of selling or buying a house every time.

From the financial point of view, renting offers the possibility for people to be protected against increases in interest rates (Olivier, 2014). It also covers from hidden costs related to the act of buying, such as administrative costs, transfer costs, and owner taxes.

However, in the end, which of the two option is more financially convenient? The literature here is divided.

Hill (1990) found that buying a home is financially convenient only if it appreciates annually at a rate above the overall inflation rate. However, buying a home with the idea of renting it in the long term can also be considered a good financial investment (Olivier, 2014).

In addition, Haurin et al. (1996) found also that homeownership usually creates greater overall wealth compared to renters. The authors themselves, in any case, argue that there might be some selection bias that goes against this statement; homeowners are usually older and thus wealthier with higher income compared to younger renters.

On the other hand, it must be said that there is a study of Beracha and Johnson in 2012, which showed that on average renting generates higher wealth compared to buying.

2.4.1 Summary of the housing case: advantages and disadvantages of renting

Homeownership has many advantages: it provides accommodation for the homeowner and it can be an investment at the same time, it enhances civic pride and improves electoral attendance contribute to better societal outcomes (less crime, higher educational outcomes).

However, renting provides the advantages of flexibility (it makes easier to move to another place) and can be a forced choice in presence of financial constraints of home-seekers.

2.5 The housing case: factors affecting renting over buying

It is possible to find one of the most significant examples of the choice of renting over buying in the housing case: why consumers decide to rent or buy a house? Which choice is more convenient?

If we look at the drivers of the choice, many pieces of research have been conducted.

According to a research by Leonhardt (2011), besides financial evaluations, people need also to evaluate the years they expect to stay in one location.

In particular, if people plan to stay more than 5 years, they are more likely to buy a house, otherwise, they tend to rent.

Hargreaves (2002) found that people do not take into account only financial factors but also lifestyle aspects, security of tenure, and the ability to customize the building in order to meet personal requirements.

The same author found that according to his research the three most important factors driving the choice of renting over buying are usually the expected duration, the house price appreciation, and financial affordability.

There is also a link between the decision to buy a house to other important life course events, such as a marriage and the birth of children (Long, 1992; Davies et al. 1991).

Another factor that drives the choice is that some people may decide to prefer renting because they need more flexibility or to avoid the risk of market depreciation over time (Canalog, 2017). Indeed, if the household has to move frequently renting gives better flexibility and it is also a shield that protects from eventual loss from resale price; previous research (Kan, 2000; Haurin and Gill, 2002) shows evidence that flexibility requirements increase the likelihood of renting, and Sinai and Souleles (2005) demonstrated that the less stable is the monthly rent and the higher relocations requirements, the more feasible is the renting choice.

According to other authors, the financial aspects also matters in the choice, such as the income of renters and future income expectations have been found to be significant for home ownership (Rosenthal, 1989). Again, according to another research (Henderson & Ioannides, 1987) the higher is the income the more likely people will buy a house.

Because of the fact that buying a house is a major financial investment, it is logical to suppose that the process from renting to owning is not only related to life events of the buyer, but also to financial and housing markets dynamics.

For instance, Rudel (1987) state that house price inflation is twofold: it raises the price needed to buy a house (and thus increase the probability of renting, according to Henderson and Ioannides, 1989), but at the same time increases the willingness to own it as a shield against inflation of assets and thus the eventual increase of the monthly renting (Priemus, 1989).

Finally, even if the literature is quite divided about this, some researches (Badcock, 1989; Hamnett, 1991) found that generally, households are in a more favorable financial position relative to those that rented a house for life.

2.5.1 Summary of the housing case: factors affecting the choice of renting over buying

The literature has found so far these factors that might influence the choice of renting over buying a house: the years they expect to stay in the house before moving (if they plan to stay more than 5 years, they are more likely to buy a house, otherwise they tend to rent), financial convenience, avoid the risk of market depreciation, the solidity and the future income expectations and expected house price appreciation.

Finally, there is a link between the decision to buy a house to other important life course events, such as a marriage and the birth of children.

2.6 Consumer behavior

Generally, consumers acquire products or services to satisfy needs. Nevertheless, what is the exact process to reach this result? What is the dynamic that influences the purchase or renting of a good in order to satisfy the consumer needs?

The consumer buying process has been defined as a five-stage linear course (Blackwell et al, 2003; Hawkins et al, 2003):

Need recognition: the buyer feels a difference between his actual physical or psychological state and the desired one. This situation can be instigated by either an internal or an external stimulus (Kotler and Armstrong, 2005). The first is composed of consumer attitude, personality, lifestyle, and motivation, while the latter consists of culture, group membership and purchase situations (Prakash, 2011).

Information search: the consumer uses various channels to collect data and information about products and acquisition modes that have to satisfy the aforementioned needs.

There might be different kind of sources for this process: private (family and friends), commercial (advertising and vendors), public (mass media) and experimental (using the product itself).

It has been proved (Dubois, 2000) that the most effective and trusted sources for buyers are considered to be the private and personal sources.

Alternatives evaluation: In this phase, the product and brands the consumer is aware of are taken into account and the consumer check if there is a match with his needs.

If this is the case, the option enters into the consideration set of the buyer.

The information-gathering phase and the evaluation come to an end when the consumer understands that the extra information they are receiving about the product outweighs the worthiness of the additional information itself (Hauser et al, 1993).

Purchase decision: the consumer has now ranked all its options. However, some other factors, such as the social pressure or unexpected happenings may change the ranking. A decision is then made, but even after this, there might be some sub-decision to take (Dubois, 2000).

Among these, there is a price range, time and volume of purchase and method of payment.

Finally, the decision is taken, and the consumer acquires a product or service.

Post-purchase behavior: this passage is fundamental for firms and marketers to enhance brand loyalty and purchase repetition. It can be divided into post-purchase satisfaction and post-purchase actions (Kotler and Armstrong, 2005).

However, there is a situation in which none of these processes happens: the impulsive purchase.

This phenomenon arises when a consumer acquires a product based just and only on its mental impulses and emotions.

Another case in which several steps of this model are skipped is when a consumer is considering a minor (and low-involvement) re-purchase in a situation in which the consumer is loyal to a brand.

However, the consumer buying behavior and thus the final choice might be influenced by many other factors; the environment (even if this does not affect how much consumers buy according to Morgan and McCabe, 2012), their family, cultural, personal and psychological factors (Prakash, 2011), age, sex, income, race, education and marital status (Kinnear and Bernhardt, 1986).

Obviously, marketers can manage not all of these factors, but still, they need to take them into account during the marketing mix elaboration phase for every kind of products.

2.6.1 Summary of consumer behavior

The consumer buying process can be explained also through this graph:

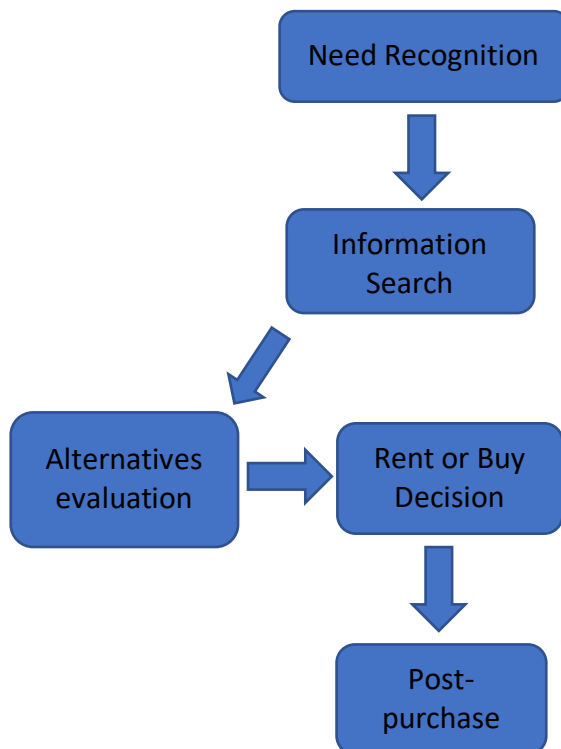


Figure 1: Consumer buying process, created by the author

2.7 Risk perception in consumers' buying process

It is important to study also the concept of risk in the consumer buying process; indeed, it has been proved that in the starting phase of the consumer buying process (Zeithaml and Bitner, 2003) consumers may face some risks related to the uncertainty related to the type of product and how they are acquiring it when the consequences linked with their choice are not completely clear from the beginning of the process.

However, what is exactly the concept of risk in the consumer behavior area? Bauer (1960) defines it as “the arising from unexpected and undefined results of an unfriendly type resulting from the product acquisition”.

The risk factor is also crucial in consumer behavior; it defines the importance of the purchase itself and the product or service the consumer is acquiring (Dholakia, 2001).

More precisely, there are two types of risk linked with the uncertainty of the choice of a product and the way to acquire it (Urbany et al, 1989); knowledge uncertainty (which is about information about potential alternatives) and choice uncertainty, which is about which is the best alternative to choose.

Consumers experience the perception of risk in every kind of product they are interested in, from leasing a car to buying sweets.

However, it is also true that different class of products have different levels of perceived risk (Uptala, 2001).

Indeed, it has been discovered that for services, like renting, the risk perception has a greater effect on consumers' decision process compared to physical goods (Murray, 1991).

The level of risks that consumers have to face while considering an acquisition of a product or service is usually social risk (especially in case of expensive items), financial risk, performance risk and physical risk (Cunningham et al. 2005).

2.7.1 Summary of risk perception in consumer buying process

It has been proved that consumers in their decision process face risks (social, financial, performance, physical) linked to what they are buying, how they are acquiring their product and the consequences of their choices.

Usually, risk is observed in the first phase of the consumer buying process, and they eventually implement risk-reduction strategies in the third phase.

For services, like renting, the perception of risk has a greater effect on consumers' decision process compared to physical goods.

2.8 Summary of the literature review

In the beginning, the author gave some definitions to better understand the phenomenon:

Buying: ownership authorizes the owner to have the absolute control over the object, included the rights linked to the possession of it.

Renting: the consumer has still the access to the product and can use it freely but has to pay a fixed amount of the price in every period and do not have the official ownership of the good.

Among the advantages of renting, the renter avoids some purchase-related risks, such as product alteration and obsolescence, risks of making an inconvenient product selection, maintenance responsibility, full price of products that a consumer only use few times.

Moreover, when consumers expect a reasonable future length of consumption over time, they face a decision to buy versus renting, if this is possible.

It has been found that the concept of buying in case of a product characterized by an expected extended consumption is perceived as more permanent and nonreversible than the renting option, encouraging consumers to think more critically about the possible options.

According to the literature, the most important factors affecting the choice of renting over buying durable goods are:

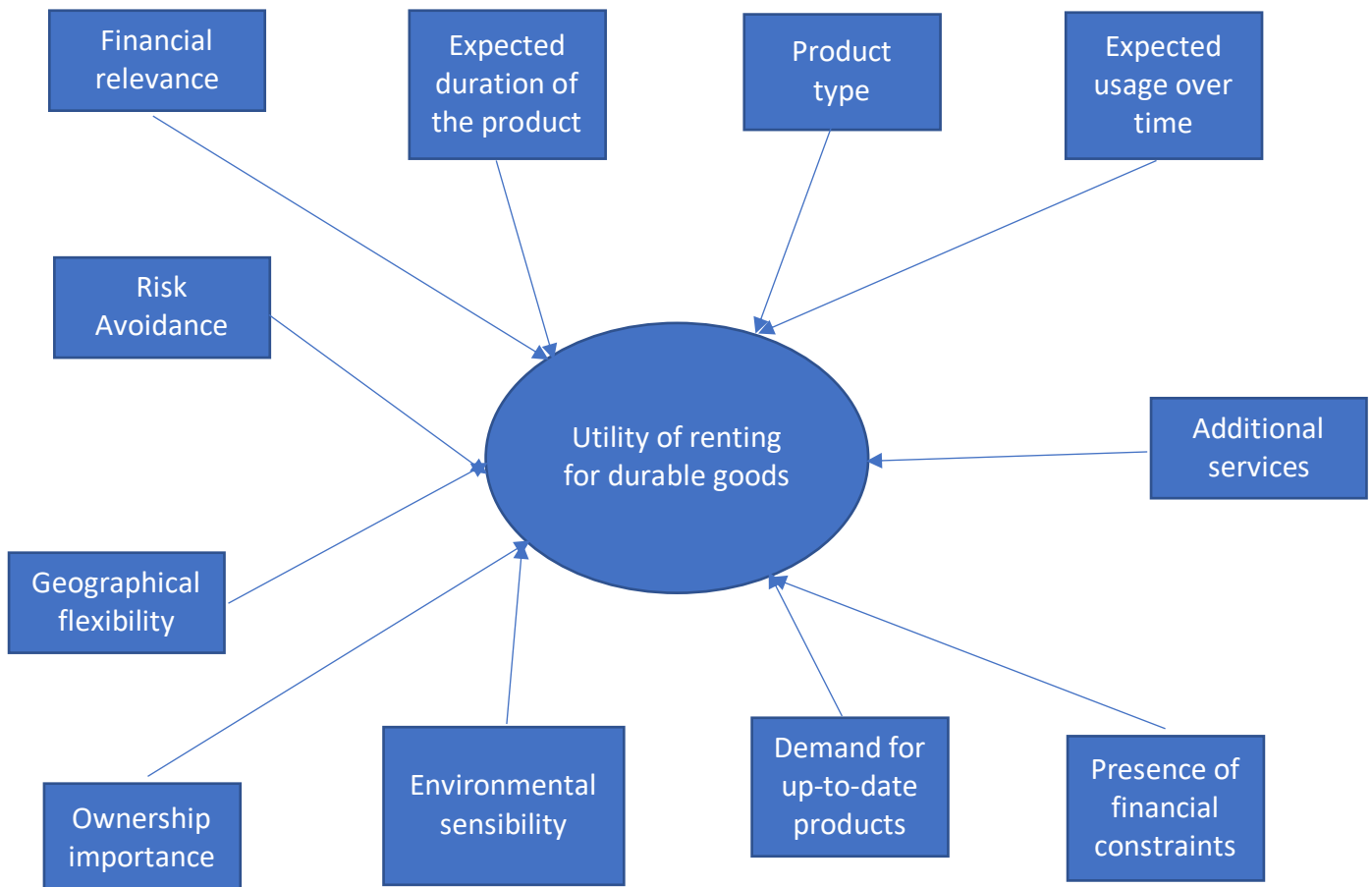


Figure 2: Most important factors affecting the choice of renting vs buying process, according to the literature, created by the author

The author also discussed the case of rent vs buy in the case of housing, by studying the advantages of homeownership: it provides a shelter for the homeowner and it can be an investment at the same time, enhances civic pride and improves voter turnout contribute to better societal outcomes (less crime, higher educational outcomes).

However, renting provides the advantages of flexibility (it makes easier to move to another place) and can be a forced choice in presence of financial constraints of home-seekers.

The literature has, so far, found this factors that might influence the choice of renting a house over buying: the years the expect to stay in the house before moving (if they plan to stay more than 5 years, they are more likely to buy a house, otherwise they tend to rent), financial convenience, avoid the risk of market depreciation, the solidity and the future income expectations and expected house price appreciation.

Finally, there is a link between the decision to buy a house for other important life-related events, such as a marriage or the birth of children.

Moreover, the author deepened the more general concept of consumer behavior when it comes to buying (or renting) a product:

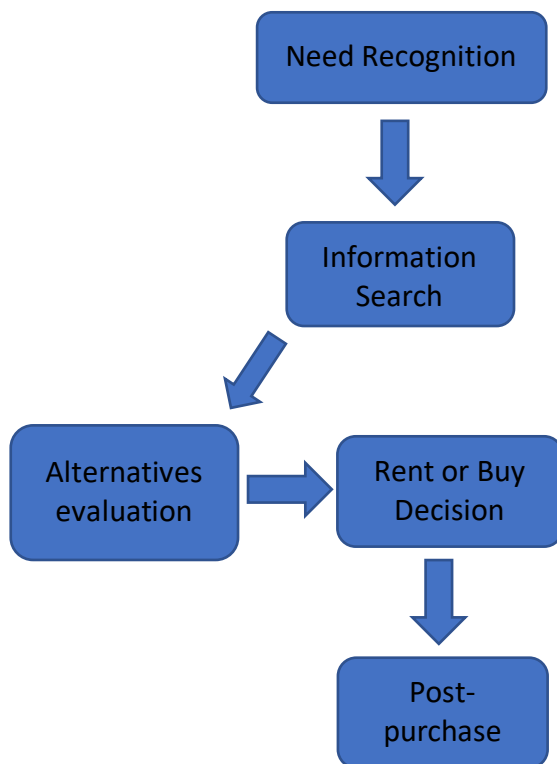


Figure 3: Consumer buying process, created by the author

Interesting, it has also been proved that consumers in their decision process face risks (social, financial, performance, physical) linked to what they are buying, how they are acquiring their product and the consequences of their choices.

Usually, risk is observed in the first phase of the consumer buying process, and if this happens, they implement risk-reduction strategies in the third phase.

Finally, it is important to say that for services, like renting, the perception of risk has a greater effect on consumers' decision process compared to physical goods.

3.0 Research Design

3.1 Research type

In the academic research environment, researchers can mainly find two kinds of study: quantitative and qualitative. The first relies more on providing visions, intuitions, and perceptions about social phenomena through social tools such as interviews or field experiments to record human behavior.

The latter focus on the links and relationships between and within phenomena, through analytical and statistical data collection and analysis.

In this kind of analysis, a bunch of hypotheses are outlined and proposed and then empirically tested, to see if they are true or not in the study.

The author of this thesis has decided to follow the quantitative way.

The main object of the research was to see if the factors affecting the choice of renting over buying in the case of a durable good discovered by single previous studies of other authors were valid altogether.

The reason behind this choice was that the author was not going to study for perceptions, intuitions, actors, places or other qualitative factors linked to the choice of renting vs. buying.

Instead, the thesis aimed at observing at the hidden choice-factors that consumers evaluate while making the choice of renting instead of buying.

To do this, a survey was needed, in which the author had proposed different scenarios to understand which of the two way of durable good acquisition the respondents chosen.

It was then necessary a quantitative analysis to understand empirically the phenomenon.

As a result, within the statistical analysis, the thesis aimed at discovering which of the forehead-mentioned factors play the most decisive role in affecting the choice. The author had also run two moderation analysis.

The goal was to provide statistically reliable results that can be useful for managers and other researchers interested in this trend.

3.2 Research methodology

This study aimed at finding out which are the factors that influence consumers decisions to renting or of buying durable goods, which are the most influencing in the process, and if there are moderation effects.

To do this, the author studied what other academic authors have discovered before him.

The author has also listed several factors that the literature has discovered to be relevant in the decision-making process, along with studying how consumers make choices (consumer behavior) and how they perceived risks in the product acquisition phase.

However, in most of the previous academic papers, other authors have studied the effect of one or two factor per time.

It was then interesting to study the validity of these factors all-together, to see if there was a different pattern and how they interact taken all together.

For this research, the author decided to consider the choice of renting or buying a mobile phone, as an example of a durable good, the topic of this thesis.

Moreover, it was an updated item, as almost all telephone providers in Europe and the U.S. offer the possibility to buy the phone paying all the price “one-shot” or by paying a monthly fee for a fixed period.

The author has then created a survey in order to ask respondents what they would choose between different rental plans and buying options, created according to what the literature review has found relevant so far.

In the survey, it was explained that consumers could decide to buy a 630€ mobile phone or to rent it by paying different amounts of money with different additional features included.

This let the author understand what the real drivers of the renting choice are and how much are relevant in the evaluation and choice phase.

The statistical method used in this thesis is conjoint analysis.

Green and Srinivasan (1990) define this statistical methodology as “a de-compositional method that estimates the structure of consumer preferences, given his or her overall evaluations of a set of alternatives that are specified in terms of levels of different attributes”.

In this statistical technique, the independent variable can be ordinal or interval/ratio, while the dependent can only be nominal.

The author had then presented different rental plans created by SPSS in the survey.

These options presented all the factors and levels taken into account in the study but just showed the most statistically significant ones (fractional factorial design).

This helped respondent to have the overall picture of the choice of renting vs buying the mobile phone under different conditions, but it must also be said that the pitfalls of this methodology are that they might be exposed to an overload of information, making respondents ignoring some small variations in the levels of the factors (Green and Srinivasan, 1978).

The reason behind the choice of this method was that it was widely recognized in the academic environment to be a statistical way to understand which are the factors that consumers take into account when facing a choice of acquiring a product or service.

This let managers understand some of the consumer preferences in the choice-making process, a valuable information for all firms.

Thus, the big virtue of this model is that it forces consumers to make choices in the same way they do in real life, by trading off features and one vs the other.

Moreover, it is useful to explain also, why other statistical techniques are not useful for this research.

First, the author chose not to use any form of T-test (one sample t-test, independent sample T-test, and paired sample t-test).

This happened because this kind of investigation processes are useful for comparing data across several observation with a single number (one sample T-test), comparing data across several observation for two independent groups (independent sample T-test) and comparing data for the same observation in two situations (Paired Sample T-test).

The author also excluded the Analysis of Variance (ANOVA) because it is more indicated in an experiment in which the researcher can manipulate the independent variables (between-subject design or within-subject design) while controlling at the same time for other variables that may influence the dependent variables and the relations between them.

For the same reasons, the author did not used also the variants of ANOVA such as ANVOCA (analysis of Covariance) or MANCOVA (multivariate analysis of covariance).

Finally, the author also excluded the Chi-Squared technique because it is intended to see how likely an observed distribution of data fits with the distribution that is expected if the variables are independent.

Instead, the most useful way to conduct this study in order to understand the underlying important factors for renting over buying was the conjoint analysis.

It constricts the consumers to choose between products (the same process everyone faces in real life) and then by seeing the results of the choice the author can understand the why of these choices. The consumers indeed chose the option that according to them gave the highest utility, and thus the alternative that maximized this utility he has chosen.

This will let us know what consumers value important in their decision-making process in the renting vs buying process.

3.3 Method used to create different choice options

To isolate just the most statistically significant options for the consumers, the fractional factorial design was used.

Therefore, not all the possible combinations of factors and levels were presented in the survey, but only the most significant.

The resulting set was called orthogonal array, in which interactions between levels of one factor with levels of another factor are thought to be insignificant.

In this case, SPSS has generated a set of 16 cards (that is, 16 different possible combinations of each factor with its levels), as shown in Appendix 1.

3.4 The survey

As this model needs primary data to be run, the first step of the process was to design a survey, in which people living in Europe were asked to give information about demographics, their gender, and occupation.

This survey has been shared online on a specific link that has been shared among the most famous social networks and instant messaging software (Facebook and WhatsApp) in order to reach a high number of respondents.

This decision had several advantages:

- All the relevant information and questions could be presented in a structured and organized way

- The respondent could take his time in order to evaluate different options while still feeling comfortable and without the pressure of a face-to-face interview or a phone survey.
- All the survey could be done in less than 10 minutes and this was the fastest option to have a high number of respondent in a short time.
- The online software simplifies the processing and gathering of information, making easier to analyze final data.

3.5 The sample

In a study by Akaah and Korgaonkar (1988) has been shown that having less than 100 answers is possible for conjoint analysis.

Obviously, the larger the sample the more reliable is the model. Indeed, to increase the reliability of the survey and the statistical model then, the author has decided to accept at least 200 answers. As a result, the total number of collected answers has been 281 answers.

The target group was all the people between 18 and 65 years living in European countries, as the survey is conducted with homogeneous prices, and sharing it to different geographical areas can affect the results, as there might be some differences in the purchasing power. Thus, all the people that do not live in Europe during the survey will not be counted in data analysis.

3.6 Pre-Test

Before sharing the survey with a wide audience, two pre-tests were conducted from 24/05/2018 to 29/05/2018.

The first was within a group of about 10 instructed people (students and young professionals) to check if the survey was clear or presented some ambiguous topic or questions.

The participants of this test shared their comments about possible improvements to make it clearer with the author, and indeed the survey has been improved by analyzing and implementing their feedbacks.

After that, the author ran another test (from 30/05/2018 to 04/06/2018) with other 15 people that were asked to fill out the survey without being conscious that this was only a test.

As the completion rate was almost 100% and the answers were looking coherent with the questions, the pre-test was considered successful and then the survey launched the day after.

3.7 Factors and levels

The author assumed that the factors identified in the literature are the only relevant for the subject, which is some of the factors listed in section 2.8.

How was the author going to use the outcomes of the literature review? As the major outcomes are summarized in figure 2, the author considered some of them to be tested in my study.

The author chose to avoid considering the factors “*product type*” “*expected the duration of the product*”, “*expected usage over time*”, and “*environmental flexibility*”.

The reason for the exclusion of the first is in the definition of the variable itself, it depends from one product to another: different product type might have different choice processes and valuation factors, and indeed this was a limitation of the study.

Related to this, the variable “*expected duration of the product*” and “*expected usage over time*” are related to the product the author chooses to consider (but again, those depends from every single product).

It has been also excluded “*environmental flexibility*” because it is a subjective sensibility, and this thesis wanted to study objective and generalizable phenomena.

On the other hand, the author chose to begin his academic journey based on the remaining outcomes of the literature review. Some of these have been considered all together to understand if they are consistent and relevant in the rental vs buying decision processes and if so, to what extent.

It is useful to recap that the author is focusing on renting versus buying a durable good (In this case a mobile phone).

The author created different rental conditions for acquiring a phone, and the consumer in the survey had to decide if to buy or rent it.

To create these conditions, coherently with the literature review outcomes, the author had chosen to focus on the following factors in the thesis:

- **Flexibility:** In this case, this was designed as geographical flexibility and in the model is called International SIM.

The author reported that in the literature one of the major drivers of the success of renting over buying is the possibility to have the right product in the right place in the right moment.

As in this study the author is focused on a mobile phone, which is a product that is mobile per se, the author has decided to insert a geographical limitation in the rental plan to understand if the respondent was sensible to this factor or not. More specifically, if this geographical limitation was present in the plan, the user could not use the phone with a foreign SIM card and thus, for example, could not use the phone if he went in the United States or other extra-EU countries.

- **Price:** to make the rental plans realistic, the author studied Dutch and Italian market and category prices, by checking which might be some realistic prices for mobile phones in the moment (May 2018) and observing some of the major phone services providers (T-Mobile, Vodafone Nederland, Tele2, KNP Nederland, Wind, Tim and Vodafone Italia) and has hypothesized a price of 630€ for the buy option of the phone and different prices for the rental option: 27€ per month (640€ in total for 2 years), 29€ per month (696€ in total) and 31€ per month (744€ in total).

- **Demand for up-to-date products:** another important driver of the choice of renting over buying has been discovered in the possibility to have new and updated products in some rental contracts.

In our model, the author offered the possibility to have a new phone in some rental plans.

This was called as *Phone upgrade*. It was explained in the survey that if one consumer decides to have a new phone after, let us say, one year, he will sign another contract of 2 years again from the moment he has the new phone model.

- **Risk Avoidance:** our model could offer the possibility to give back the phone after one or two months from the beginning of the contract, and the author call it in the survey *Phone return*.

- **Importance of ownership:** the rental plans could give the full ownership of the phone to the subscriber or not. In the case that option is not available, the consumer could use a phone that is owned by the mobile phone service provider and cannot sell the phone to other users until the last payment of the contract. In the model, the author called it *Phone ownership*.

- **Additional services:** A dedicated technical service for rental subscribers could be present or not, for all the duration of the plan, might be included or not. This in the survey was called *technical service*.

Subscribers could use it for free in case of necessity for all the duration of the rental contract.

- **Financial Constraints:** A dedicated question in the survey (the ability to pay an unexpected certain amount without asking for any loan) was used in order to discover if the respondent was in presence of a financial constraint or not.

If so, the author used this variable to see if this affect the utility of renting with a moderation effect analysis.

To sum up, in this table is possible to see all the factors with the respective levels of the rental plans:

Factors	Levels
Price (monthly)	27€, 29€, 31€
International SIM	Yes / No
Phone upgrade	Yes / No
Phone return	Yes/No
Phone Ownership	Yes / No
Technical Service	Yes / No

Figure 4: Factors and levels

3.8 Conceptual model and Hypotheses

Thanks to the answers that respondent gave to different proposed rental plans in the survey, the author could see if and how the attributes are significant or not in the choice of renting over buying for consumers.

Thus, the hypotheses of my study are the following:

H1: The variable “Price” has a significant effect on the choice of renting over buying.

H2: The variable “Flexibility” has a significant effect on the choice of renting over buying.

H3: The variable “Updated Products” has a significant effect on the choice of renting over buying.

H4: The variable “Product Ownership” has a significant effect on the choice of renting over buying.

H5: The variable “Risk Avoidance” has a significant effect on the choice of renting over buying.

H6: The variable “Technical Service” has a significant effect on the choice of renting over buying.

The model equation is the following:

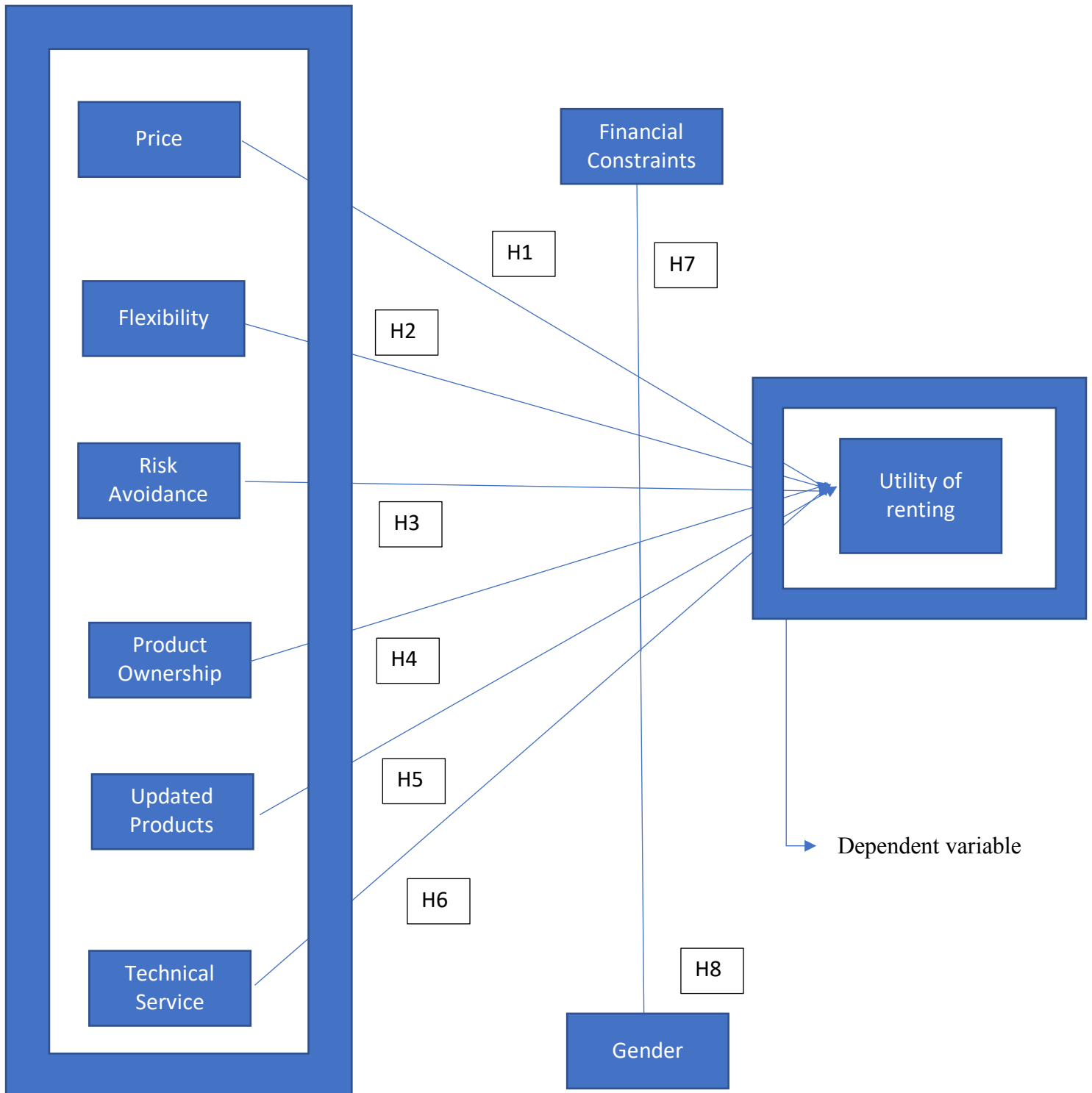
$$Utility\ of\ renting = \beta_0 + \beta_1 Price + \beta_2 Flexibility + \beta_3 Updated_products + \beta_4 Product_ownership + \beta_5 Risk_avoidance + \beta_6 Maintenance_service + \varepsilon$$

The entire variables presented above (*Price, Flexibility, Updated Products, Product Ownership, Risk Avoidance, Technical Service*) are the independent variables, while the variable *Utility of renting* is the dependent variable.

Finally, the variable the author will check if the presence of financial constraints and also gender affects the utility of renting over buying or not, with the additional hypothesis:

H7: The variable “Financial Constraint” has a moderation effect on the choice of renting vs Buying

H8: The variable “Gender” has a moderation effect in the choice of renting vs buying



4.0 Research Outcomes

4.1 Data reliability and screening

The survey has collected a total number of 281 answers, and the method used to gain valuable answers of people of different ages, nationalities and financial availability was snowball sampling. This method consists of a recommendation to fill out the survey from initial subjects to generate additional answers and spread the word to other people.

More specifically, it means that respondents were found through Facebook, text messages, status updates on LinkedIn and personal approaches. To get a wide sample of respondent the survey was shared also through the personal LinkedIn network of Dr. Arie Barendregt.

To have a reliable dataset, a number of 60 answers have been deleted using the case-wise deletion. This method consists of canceling participants with any missing responses, to avoid data biases (Wills et al, 2012).

After this screening process, the author had an overall number of 221 answers to analyze, which is a statistically representative sample of the population, as shown in this table:

		Statistics				
		What is your age?	What is your gender?	In which country do you live?	What is your occupation?	If an unexpected expense of 1000€ arise today, would you be able to afford it without asking for any loan?
N	Valid	221	221	221	221	221
	Missing	0	0	0	0	0

Figure 5: Data validity summary

4.2 Demographics

It was possible to see that all the answers were in the target range of 18 to 65 years old (see appendix 3), and the one with the highest frequencies were 24 years (12,2%), 23 years and 22 years.

It is important to note that the author has a very wide range of respondents, with people of 43 different ages, which was very important for the validity of the model.

This increased the reliability and validity of the overall model.

When it comes to gender, the author had a total of 130 male (58,8%) and 91 females (41,2%), as shown in this chart:

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	130	58,8	58,8	58,8
	Female	91	41,2	41,2	100,0
	Total	221	100,0	100,0	

Figure 6: Respondents' gender distribution

Again, it is very positive that the model had a relatively balanced representation of the population for both genders.

Indeed, the author did not reach a perfectly balanced gender distribution for our respondents (50% females and 50% males) but this was not an issue for the research reliability.

Another important information about our sample is geographical provenience: the 100% of the respondents come from Europe; highest number of respondents comes from Italy and the Netherlands. Other countries represented in the samples are Belgium, Greece, Norway, and Slovenia (see Appendix 3).

Finally, the model has information about respondents' occupation: 37,6% are full-time employees and 36,2% are students.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Student	80	36,2	36,2	36,2
	Part-time employee	22	10,0	10,0	46,2
	Full-time employee	83	37,6	37,6	83,7
	Self-employed	15	6,8	6,8	90,5
	Other	21	9,5	9,5	100,0
	Total	221	100,0	100,0	

Figure 7: Respondents' occupations

4.3 Model significance and model fit

Correlations ^a		
	Value	Sig.
Pearson's R	,707	,001
Kendall's tau	,700	,000

Figure 8: Correlations between observed and estimated preferences

This table shows both Pearson's R and Kendall's tau, which provide a model fit between the observed and estimated preferences.

This because the conjoint analysis procedure calculates correlations among the observed and predicted preferences for the utilities of cards showed to survey respondents.

The coefficients above are an indicator of the reliability of reproduction of empirical data by the results of the conjoint analysis the author obtained by running the model. The numbers under the column "value" are the values of the correlation between real value and an estimated value of the model.

By watching at these results, the model had high correlations value for both Pearson's R (0,707) and Kendall's Tau (0,700): both of them had an excellent level of significance (0,001 and 0,000).

This means that the model is overall significant and that our empirical data have a confirmation with the initial hypotheses: that is, our model is near to reality.

4.4 Factor utilities

		Utilities	
		Utility Estimate	Std. Error
Price	648 euro	-1,126	2,117
	696 euro	-1,210	2,274
	744 euro	-1,293	2,431
International_SIM	No	,000	,000
	Yes	,055	,260
Phone_upgrade	No	,000	,000
	Yes	,046	,260
Phone_return	No	,000	,000
	Yes	,541	,260
Phone_ownership	No	,000	,000
	Yes	,013	,260
Technical_service	No	,000	,000
	Yes	,539	,260
(Constant)		3,593	2,257

Figure 8: Model Utilities and standard errors

The table replicates the part-worth (the utilities) scores and the respective standard errors for each factor with its respective levels.

Generally, the higher the utility coefficients and the higher is the preference for the feature in our rental plans. As expected, it can be seen an inverse relationship (a negative utility score) for all the levels of the prices and utility that consumers extract from them. That is, the higher the prices, the fewer utility consumers can find in the model: the more negative is a number under the “utility estimate” column; the lower is the utility for consumers.

As all the utilities are expressed in the same unit, it is possible to add together all the utility of the feature. Obviously, the plan with the highest utility is the one with the lowest price (648€) and all the other features present.

The table also shows the standard error for each utility estimates.

From this table it is possible to understand which factors are relevant or not through the t-statistics. This means that according to these results, the factor *Phone return* and *technical service* are statistically significant while the others are not statistically significant in the choice of renting vs buying.

4.5 Model coefficients

Coefficients

	B Coefficient Estimate
Price	-,002
International_SIM	,055
Phone_upgrade	,046
Phone_return	,541
Phone_ownership	,013
Technical_service	,539

Figure 9: Research model coefficients

The table shows the linear regression coefficients for the factors that have been specified as linear for the analysis. In particular, Price has been considered as LINEAR (LESS), that means that lower prices are preferred to higher prices in the choice phase, while all the other factors have considered as LINEAR (MORE), which means that having the possibility to use the phone internationally is better than not having it, having the possibility to upgrade the phone is better than not having it and so on.

The utility for a singular factor level is the result of the multiplication between the level and the coefficient. For instance, if the author multiplies the price level 648€ for the *price* coefficient (-0,002) the result is -1,126, which is indeed the number it is possible to see in the utility estimate column in figure 7.

4.6 Factors' relative importance

Importance Values	
Price	25,300
International_SIM	12,745
Phone_upgrade	14,479
Phone_return	16,540
Phone_ownership	14,112
Technical_service	16,824

Figure 10: Averaged Importance Score

The importance values table shows the level of the utility values for each factor present in the model. That is, the one with the highest utility are the one that is considered the most important for consumers. In fact, it is a measure of how important the factor was compared to the overall preference and expected utility.

The values are the results of the ratio between the utility ranges for each factor and divided by the sum of the utility ranges for all factors. The values that it is possible to see here in the table represent percentages and the total sum is 100.

In our case, it is possible to see that Price is the factor with the highest relative importance in the choice (25,3%), and after technical service (16,82%) and phone return (16,54%). This means that consumers consider much more the price of the plans, compared to the presence or not of the possibility to use the phone abroad.

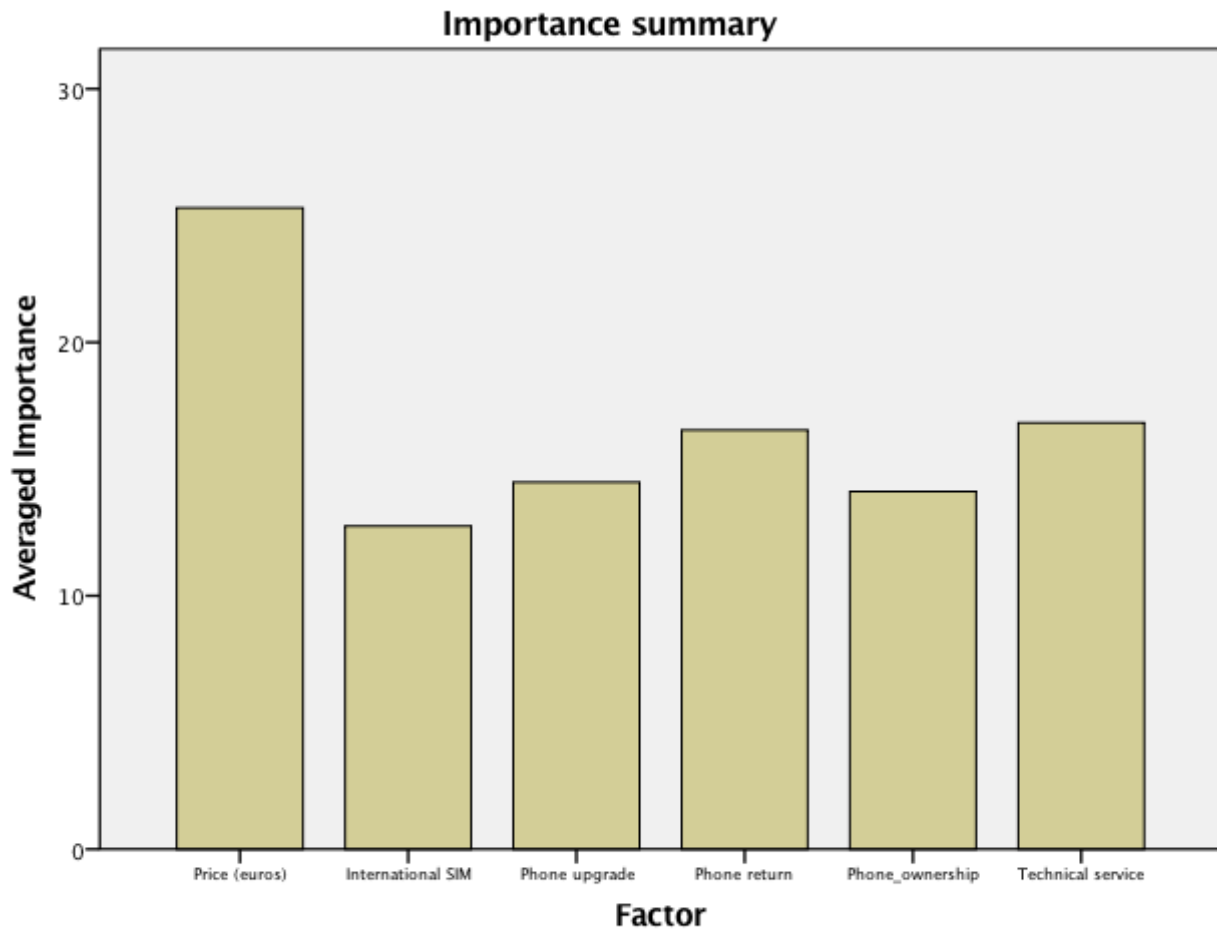


Figure 10: Averaged importance summary graph

This graph is a representation of the table the author showed before. It is easy to see that *price* has the most influence compared to the other factors in the choice of renting vs buying. That is, there is a large difference in the perceived utility of rental plans that are considered too expensive compared to others that are more financially convenient.

It is possible to see that both *phone upgrade* and *technical service* are immediately after price in the relative importance table. This means that rental plans that have these features compared to others without them are perceived much more favorably to consumers' eyes.

4.7 Moderation effects of the variable *financial constraint* and *gender*

It is useful to remark that the last question of the survey (which was asking to the respondents if they were able to afford a 1000€ unexpected expense without asking for any loan) was used as a moderator variable.

This kind of variable is defined as a qualitative or quantitative dependent variable that affects the direction or the strength of the relationship between a dependent and an independent variable (Baron and Kenny, 1986).

In this case, the author discovered if the presence of financial constraints influences the utility of renting over buying or not.

The author has then run two other conjoint analysis: the first by analyzing the answers of people that answered “yes” to the question (Financial constraint=NO) and the second by analyzing respondents’ answer of people that answered “no” to the question (Financial constraint=YES)

To investigate if a moderation effect of financial constraint is present, the author has to compare the utilities and the significance of factors of both the conjoint analyses.

Below the results of people who do not have any financial constraint:

		Utilities	
		Utility Estimate	Std. Error
Price	648 euro	-,922	2,096
	696 euro	-,991	2,251
	744 euro	-1,059	2,406
International_SIM	No	,000	,000
	Yes	,044	,257
Phone_upgrade	No	,000	,000
	Yes	,058	,257
Phone_return	No	,000	,000
	Yes	,534	,257
Phone_ownership	No	,000	,000
	Yes	,010	,257
Technical_service	No	,000	,000
	Yes	,552	,257
(Constant)		3,344	2,234

Figure 11: Model Utilities and standard errors for consumers without financial constraints

In addition, here the utilities and significance output of people who have financial constraints:

		Utilities	
		Utility Estimate	Std. Error
Price	648 euro	-1,672	2,203
	696 euro	-1,795	2,366
	744 euro	-1,919	2,530
International_SIM	No	,000	,000
	Yes	,086	,271
Phone_upgrade	No	,000	,000
	Yes	,013	,271
Phone_return	No	,000	,000
	Yes	,560	,271
Phone_ownership	No	,000	,000
	Yes	,022	,271
Technical_service	No	,000	,000
	Yes	,504	,271
(Constant)		4,258	2,349

Figure 12: Model Utilities and standard errors for consumers with financial constraints

As it is possible to see that there no differences in factor significances between the overall model the author discussed before and the models with/without financial constraints, the author can affirm that this does not moderate the effect of renting over buying.

The only difference between these two groups is that consumers without financial constraints value more plans with technical service, instead, groups with financial constraints care more about the possibility to give the product back, as represented in these charts:

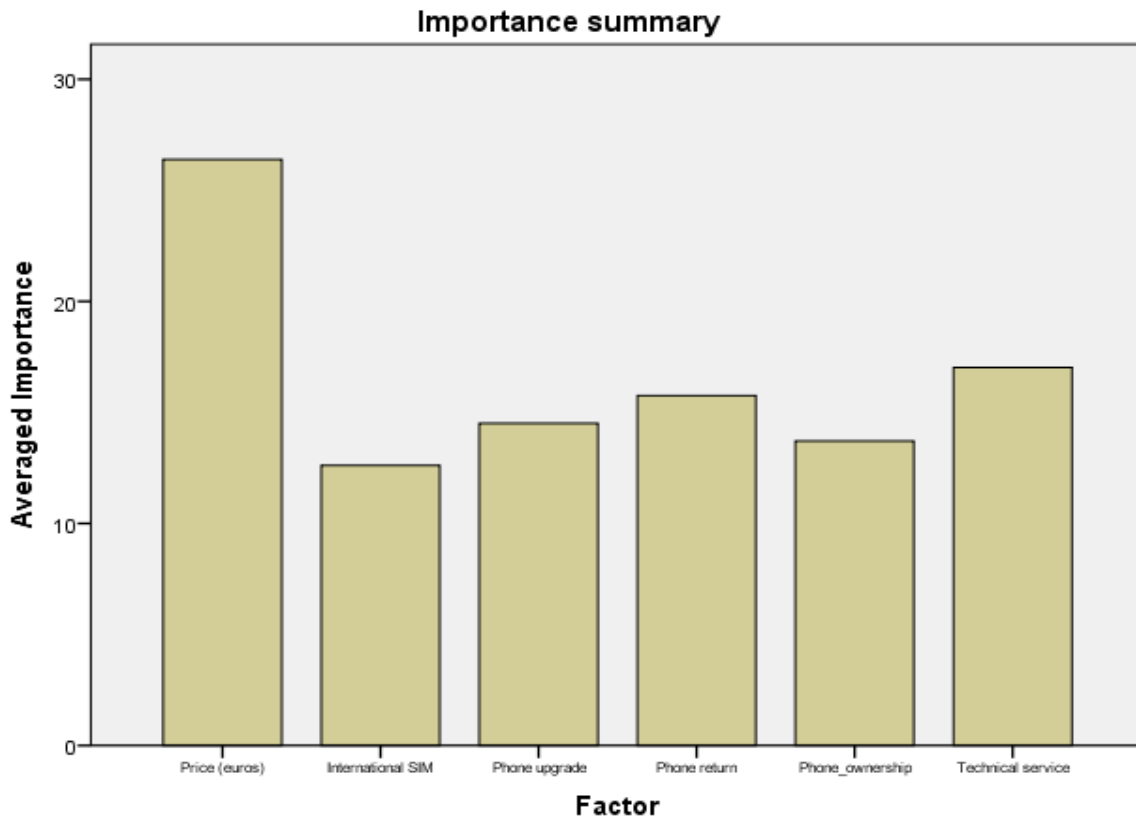


Figure 13: Importance summary for consumers without financial constraints

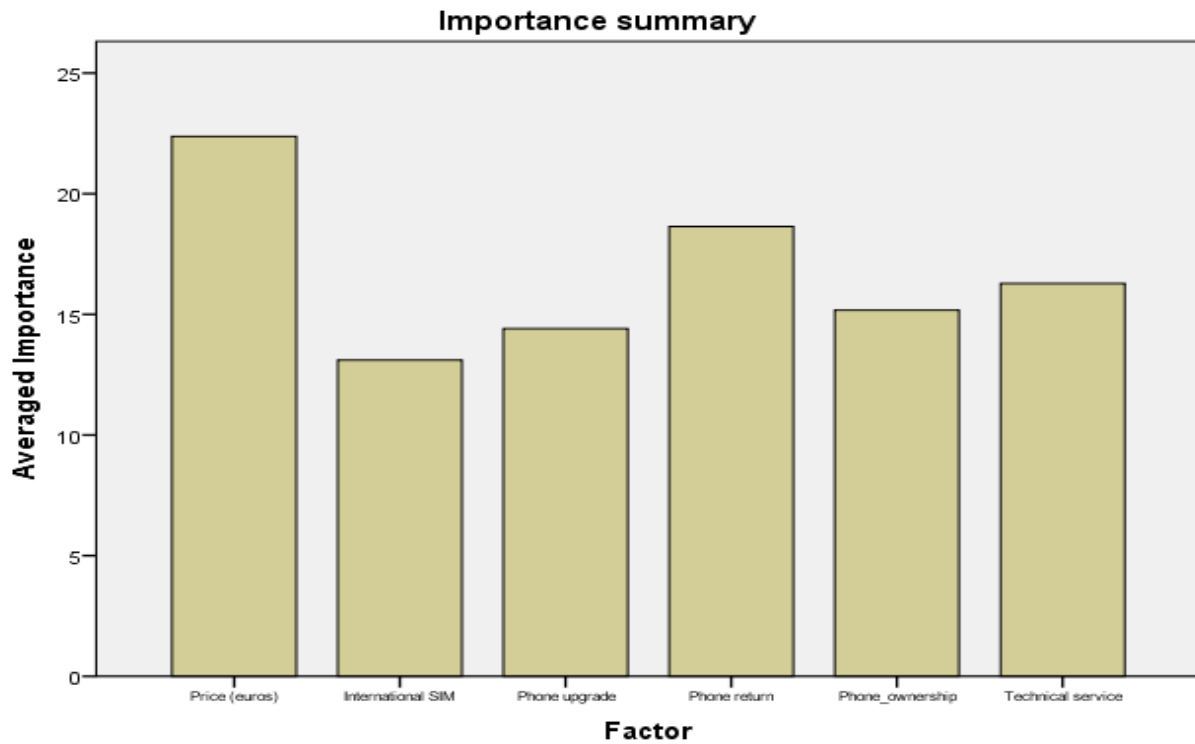


Figure 14: Importance summary for consumers with financial constraints

The other difference is that people with financial constraint have more negative expected utility connected to price compared to the other group.

When it comes to gender, we have the following results for the group MEN:

Utilities

		Utility Estimate	Std. Error
Price	648 euro	-1,705	2,033
	696 euro	-1,831	2,184
	744 euro	-1,957	2,334
International_SIM	No	,000	,000
	Yes	,064	,250
Phone_upgrade	No	,000	,000
	Yes	,124	,250
Phone_return	No	,000	,000
	Yes	,539	,250
Phone_ownership	No	,000	,000
	Yes	,049	,250
Technical_service	No	,000	,000
	Yes	,604	,250
(Constant)		4,073	2,168

Figure 15: Importance summary for male consumers

And the following for WOMEN:

Utilities

		Utility Estimate	Std. Error
Price	648 euro	-,321	2,258
	696 euro	-,344	2,425
	744 euro	-,368	2,592
International_SIM	No	,000	,000
	Yes	,044	,277
Phone_upgrade	No	,000	,000
	Yes	-,063	,277
Phone_return	No	,000	,000
	Yes	,544	,277
Phone_ownership	No	,000	,000
	Yes	-,038	,277
Technical_service	No	,000	,000
	Yes	,448	,277
(Constant)		2,924	2,407

Figure 16: Importance summary for women consumers

For the same reasons of the case of financial constraints, the author can affirm that there is not a moderation effect with genders by watching the factors significance that remain the same. This means that male do not have more likelihood of renting over buying compared to woman and vice versa.

However, there was an interesting different price perception for women: they give higher utility score to price compared to men (that is, they perceive less adversely price compare to males).

5.0 Conclusion and Recommendations

5.1 Literature review outcomes

The idea behind this thesis was to investigate the rental vs buy decision-making process. In order to do this, the author segmented the topic: it has been studied the trend by only inspecting the consumers' point of view (and thus not B2B) and only the market of durable goods.

It is then useful to recap what the literature review outcome was: the author explained first what actually renting and buying are.

After that, the author reported also which of the consumers' perceived benefits of renting are, such as the avoidance of some purchase-related risks (product alteration and obsolescence, risks of making an inconvenient product selection, maintenance responsibility, paying the full price for products that a consumer only use few times).

The author also explained that consumers indeed have a decision struggle when acquiring a durable good with a medium-long expected consumption over time: they have to choose if to rent or buy it (if they have the possibility to choose).

However, in the end, according to the literature, why consumers choose to rent instead of buying (and vice versa)? Which are the truly relevant factors that consumers take into account?

The author discovered that, from other academic studies, that there is not only a single factor affecting this choice, but instead, there are many variables, also depending on the product. These factors are:

Financial relevance (price), expected duration of the product over time, product type, expected usage over time, risk avoidance, flexibility, ownership importance, environmental sensibility, and demand for up-to-date products, the presence of financial constraints, and presence of additional services.

5.2 Field research outcomes

The author had then decided to use, as an example of the choice of renting vs buying a durable good, a smartphone. This because it is a widespread good that everyone knows and which is financially relevant and with a multiyear expected duration. All these facts made the product coherent with the literature outcome and with the purpose of the thesis.

Based on this, the author has created a model to see if Price (*financial relevance*), the possibility to give the product back (*risk avoidance*), possibility to upgrade the phone to a new model (*demand*

for up-to-date products), and a technical service (*additional services*) influence the choice of renting over buying.

In this way, the author will see if the factors that have been discovered by other studies are relevant to the choice of renting over buying or not.

As explained in the research methodology chapter, the author avoided to consider *environmental sensibility* because it is a subjective feature and to avoid an exaggerated complexity of the model and the survey.

Based on these premises, a survey has been run and after having collected 221 valid answers, data have been statistically analyzed. The outcomes suggested, as proposed by the literature, that consumers' indeed have to decide if to rent or buy a durable good.

Indeed, the author did not see a strong trend in one of the two possible choices, but instead, the model had a wide distribution of people that decided to rent but also many others went for buying. The results were: 47% of respondents went for buying, while 39% for renting and the remaining did not take a decision.

After that, it has been demonstrated that consumers considered as relevant factors in the choice of renting over buying the possibility to give the product back and the presence of additional services such as maintenance or technical services. Other factors, such as demand for up-to-date products or product ownership were not found relevant.

These results showed also that consumers face risks in this decision-making face in the case of durable goods: the fact that they considered relevant the possibility of giving the product back was a proof that they want to implement risk-reduction strategies.

The author also explained that, even without considering the statistical relevance of the factors, *price*, *risk avoidance* and *additional services* were found the more relevant.

However, how is it possible that the factor price is considered the most important among the others but was not found to be statistically significant? The reason behind this was in the small range of differences in prices in the levels of price (just 96€ of differences between the maximum and minimum price). However, these were the necessary figures to ask in the survey, higher prices would not have been perceived as credible and thus all the other answers would have been biased by only the perception of an exaggerated price. Because of this, the author has decided to interpret also *price* as a relevant factor in the choice of renting over buying. Indeed, it was the one which was considered the most important in the importance summary.

Finally, the author has discovered that there is not a moderation effect from the presence of financial constraints and also gender in the choice of renting over buying.

5.3 Comparison of literature outcomes and field research outcomes

Proceeding for points, the literature suggested that consumers face indeed a decision struggle if to rent or buy a durable good. This was confirmed by the field outcome. Indeed, the author did not see a single strong trend over the other, but instead many people decided to rent (39% of respondents) and many others to buy (47% of the respondents) the smartphone. This means that the choice might be also influenced by personal tastes, biases and beliefs and not only by objective factors.

After this, the author demonstrated that, in agreement with other academicians, that there is not only a single factor that consumers take into account, but instead more than one.

Indeed, according to the literature, many factors were relevant in the choice, but are they confirmed in this research? Our Hypotheses were:

H1: The variable “Price” has a significant effect on the choice of renting over buying.

H2: The variable “Flexibility” has a significant effect on the choice of renting over buying.

H3: The variable “Updated Products” has a significant effect on the choice of renting over buying.

H4: The variable “Product Ownership” has a significant effect on the choice of renting over buying.

H5: The variable “Risk Avoidance” has a significant effect on the choice of renting over buying.

H6: The variable “Maintenance Service” has a significant effect on the choice of renting over buying.

The author will proceed by analyzing one by one:

- The factor *price* (financial relevance) is confirmed as relevant in the choice. Consumers value more rental plans that are cheaper compared to other with higher prices. This has a considerable weight in the choice. The factor has not been found as statistically significant, but this was a direct consequence of the design of the price levels in the survey as explained in paragraph 5.2. As a proof, the factor price was also found to be the most important factor consumers consider while making the choice. Thus, H1 is accepted.

This means that our research findings agree with the literature in this.

- *Flexibility* is not relevant to the choice of renting vs buying and thus this research did not confirm the literature in this. However, the explanation for this is that for this research the

author chooses a product that is mobile per definition. As the phone is already flexible when it comes to taking it wherever we need it, consumers might not have valued the flexibility factor as important because the product was already “geographically flexible”.

Thus, H2 is rejected.

- The possibility to upgrade the phone (*demand for up-to-date products*) was also statistically not significant, in contrast with the literature.

The result is that people that are evaluating if to rent or buy a durable good do not consider the possibility to have updated products as a relevant factor in the choice.

The explanation is that consumers might prefer to buy a new model of the product without being tied to any rental contract, but instead have the freedom that the buy option gives.

This means that H3 is refused.

- *Importance of ownership* was also not statistically relevant in the choice. Because of this, consumers in the evaluating phase do not consider product ownership as a relevant factor in the choice. This means that people do not care if they own or not the product they are using. The explanation for this is that it can depend on the type of good the author is studying.

It is likely that if the author propose a more “intimate” item, such as a cloth, people might go for buying instead of renting just because they want to own it.

The result is that H4 was refused.

- The literature also affirmed that *risk avoidance* was significant in the choice.

The field outcomes confirmed this hypothesis. This means that when people have to acquire a durable good which is financially expensive or might have some kinds of risk (social, for instance) appreciated the possibility to give the product back for free without constraints.

H5 is accepted.

Linked to this, as researchers in the literature review have stated that consumers face risks every time they buy (or rent) products and this is especially true for durable (and usually expensive) goods, the author also confirm that consumers implement risk-reduction strategies when acquiring durable goods.

- The author also accepted the hypothesis that technical service (*additional services*) has a significant effect on the choice of renting vs buying, as proposed from the literature review. The consequence is that people that are evaluating if to rent or buy a durable good, consider

the possibility to have additional services (in this case was a dedicated technical service for free) as a relevant factor in the choice. For other goods, the kind of additional service can be different: it can indeed depend on the type of good respondents are evaluating.

H6 is accepted.

5.4 Answer to central research question and empirical sub-questions

The primary goal of the model is represented from the central research question:

- Which decision factors influence consumers' choice between renting or buying a durable product?

The author discovered that within the factors taken into considerations *risk avoidance*, and *additional services* are the statistically relevant factors in the choice of renting vs buying. *Financial relevance* has also been found to be the most important factors in the decision-making phase, even if not statistically significant as a consequence of the necessary survey design with a short price range in the rental cards. No other factors were found relevant in this study.

The first empirical sub-question of this thesis was:

- What is the factor relative importance in the decision-making process between renting and buying?

The author just exposed that our statistical analysis affirms that *risk avoidance*, and *additional features* and *financial relevance* are statistically relevant in the choice of renting over buying. However, to answer this research sub-question, the author had to understand which factors were more important compared to others for consumers.

The field outcomes stated that *price* is by far the most important factor in the decision-making process: cheaper rental plans have much higher chances of being chosen compared to those with higher prices but more features.

The second most relevant factor in the decision-making process is the presence of *additional services*. This means that people would choose to rent instead of buying a durable good if they have additional services that might help them with all the product lifecycle, *ceteris paribus*.

The third most important factor (with a score very near with *additional services*) was *risk avoidance*. People apparently care about the possibility to give a product back after they have tried it or showed to friends and relatives without additional fees.

Overall, the author can affirm that these three just-mentioned factors are very important in the renting vs buying decisions: this because they are both statistically significant but also relevant according to consumers choices.

The second empirical sub-question of the thesis was:

- *Does the presence of financial constraints influence the choice of renting over buying?*

To answer this question our H7 was: *the variable "Financial Constraint" has a moderation effect on the choice of renting over buying.*

The empirical results suggest however that there is not a moderation effect between the presence of financial constraint and the utility of renting. Thus, also H7 is refused.

This might happen for several reasons: in the online survey, the author cannot check if people declared the truth or not. Indeed, it is considered as a sensitive question and people might just declare that they do not have financial constraint even if they do.

Another explanation is linked to the type of good the author is focusing on.

Within the survey, the author asked respondents if they were able or not to pay 1000€ for an unexpected expense without asking for any loan.

It might be that consumers planned the expense when need a durable good, and thus it is not considered as an unexpected expense.

Because of this, if people have a financial constraint, it is likely that they will wait for acquiring the good until they can save enough money to have it, instead of renting it by paying a premium price just because now they do not have enough financial resources.

It is necessary to say, however, that even if not statistically significant, the presence of financial constraints affect the relative importance of factors: consumers with financial constraints value more the possibility to give the product back (thus, are more risk avoidant) instead of having additional services compared to people who do not have this kind of constraint.

The final empirical sub-question was: *Does the variable gender influence the choice of renting vs buying?*

The author discovered from the statistical analysis that it is not the case, thus H8 was rejected.

The only difference in genders, is a different perception in prices of women compared to males. The first group did not perceive price levels as negative as males did.

5.5 Managerial recommendations

The managerial relevance of this topic is consistent. Several industries and markets (both B2C and B2B) might extract several advantages from the rental markets.

As the author discussed in the introduction chapter, many companies can design valuable rental alternatives in order to gain extra profits and long-term customer retention.

To do this, the author discovered in this paper that there are different factors that consumers value more compared to others. Taking into consideration that different products have different decision factors as discussed in the research limitations paragraph, the author can conclude that managers have to implement rental plans at an attractive price. It has been demonstrated indeed that price is the most important factor that consumers evaluate when making this choice. The price will then depend on the different industries that will invest on this, after having checked to the profitability of this choice.

Secondly, managers have to realize that offering additional features over time is a consistent plus compared to just sell the product to the consumers. This will increase some costs for sure, but it can also justify premium prices and most importantly will enhance the relationship between the brand with its products and customers. In the long term, this is likely to increase the profits.

Finally, companies should also understand that people want to avoid risk as much as possible in many product categories: they should implement actions that go towards this direction, such as giving the possibility to give the product back if they are not satisfied.

Strictly connected to this, managers that are facing consumers with financial constraints, have to realize that consumers are more risk avoidant (that is, they value more the possibility to give the product back) compared to people that do not have financial issues.

5.6 Academic recommendations for further research

For further academic research, the suggestion is to overcome the research limitations of this paper. This means that other academicians should study also the B2B market to capture the trend coming from that side of the market. It is indeed necessary to study it for having a complete picture of the trend of renting vs buying.

The other suggestion is to do other researches focusing on different kind of durable goods. This will let us understand which the differences of the different product categories are, and which the common points in order to extract a general rule that is applicable to all the market for durable goods.

Finally, academic researchers should find a way to extract reliable data about the link between financial constraint and the choice of renting vs buying.

5.7 Research limitations

The first limitation of the thesis consists in the topic segmentation: the author just focused on consumers' decision of renting vs buying, while it actually exists a very consistent trend in the B2B market. However, the author covered this topic in the literature review chapter, while he did not cover this in the research methodology and execution.

The other limitation of this paper is on the choice of focusing just on the product category (in this case a mobile phone).

It is indeed likely that by evaluating a different durable good (which might be a drill or a washing machine) different factors are evaluated by consumers and with different priorities. The result is that it is difficult to extract a general rule for all renting vs buying for all durable goods; instead, a more general studied might be necessary.

Another limitation was in the model design and survey levels of price. The fact that the difference price ranges were too small resulted in the fact that financial relevance was found not to be statistical significance even if the author showed that it was the most important factors consumers care about. The reason behind the choice of this price levels, was that creating rental cards with price levels of 500€, 1000€, 1500€ would not have been perceived as realistic from respondent. The final limitation consists in the difficulty of capture the presence of financial constraints in an online survey. As discussed before, people might declare the false for this question because it is a sensitive topic.

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Appendix

Appendix 1: Rental plans orthogonal design

	Price	International_SIM	Phone_upgrade	Phone_return	Phone_ownership	Technical_service	STATUS_	CARD_
1	648 euro	No	No	No	Yes	Yes	Design	1
2	696 euro	Yes	Yes	No	Yes	Yes	Design	2
3	648 euro	No	No	No	No	No	Design	3
4	696 euro	Yes	No	No	No	No	Design	4
5	696 euro	No	Yes	Yes	No	Yes	Design	5
6	648 euro	Yes	Yes	Yes	Yes	No	Design	6
7	648 euro	No	Yes	No	No	No	Design	7
8	648 euro	Yes	Yes	Yes	No	Yes	Design	8
9	696 euro	No	No	Yes	Yes	No	Design	9
10	648 euro	No	Yes	No	Yes	Yes	Design	10
11	744 euro	No	No	Yes	No	Yes	Design	11
12	744 euro	Yes	Yes	No	No	No	Design	12
13	648 euro	Yes	No	Yes	Yes	No	Design	13
14	648 euro	Yes	No	Yes	No	Yes	Design	14
15	744 euro	No	Yes	Yes	Yes	No	Design	15
16	744 euro	Yes	No	No	Yes	Yes	Design	16

Appendix 2, rental cards profiles:

Profile Number 1

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
6	648 euro	Yes	Yes	Yes	Yes	No

Profile Number 2

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
8	648 euro	Yes	Yes	Yes	No	Yes

Profile Number 3

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
13	648 euro	Yes	No	Yes	Yes	No

Profile Number 4

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
14	648 euro	Yes	No	Yes	No	Yes

Profile Number 5

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
10	648 euro	No	Yes	No	Yes	Yes

Profile Number 6

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
1	648 euro	No	No	No	Yes	Yes

Profile Number 7

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
7	648 euro	No	Yes	No	No	No

Profile Number 8

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
3	648 euro	No	No	No	No	No

Profile Number 9

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
5	696 euro	No	Yes	Yes	No	Yes

Profile Number 10

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
2	696 euro	Yes	Yes	No	Yes	Yes

Profile Number 11

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
9	696 euro	No	No	Yes	Yes	No

Profile Number 12

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
4	696 euro	Yes	No	No	No	No

Profile Number 13

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
16	744 euro	Yes	No	No	Yes	Yes

Profile Number 14

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
15	744 euro	No	Yes	Yes	Yes	No

Profile Number 15

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
12	744 euro	Yes	Yes	No	No	No

Profile Number 16

Card ID	Price (euros)	International SIM	Phone upgrade	Phone return	Phone_ownership	Technical service
11	744 euro	No	No	Yes	No	Yes

Appendix 3: Sample age

		Sample age			
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18	1	,5	,5	,5
	20	1	,5	,5	,9
	21	3	1,4	1,4	2,3
	22	23	10,4	10,4	12,7
	23	26	11,8	11,8	24,4
	24	27	12,2	12,2	36,7
	25	20	9,0	9,0	45,7
	26	13	5,9	5,9	51,6
	27	5	2,3	2,3	53,8
	28	5	2,3	2,3	56,1
	29	6	2,7	2,7	58,8
	30	3	1,4	1,4	60,2
	31	2	,9	,9	61,1
	32	4	1,8	1,8	62,9
	33	5	2,3	2,3	65,2
	34	8	3,6	3,6	68,8
	35	4	1,8	1,8	70,6
	36	3	1,4	1,4	71,9
	37	1	,5	,5	72,4
	38	2	,9	,9	73,3
	39	2	,9	,9	74,2
	40	2	,9	,9	75,1
	41	1	,5	,5	75,6
	42	1	,5	,5	76,0
	43	4	1,8	1,8	77,8
	44	6	2,7	2,7	80,5
	45	3	1,4	1,4	81,9
	46	3	1,4	1,4	83,3
	47	3	1,4	1,4	84,6
	48	4	1,8	1,8	86,4
	49	4	1,8	1,8	88,2
	50	5	2,3	2,3	90,5
51	3	1,4	1,4	91,9	
52	2	,9	,9	92,8	

53	2	,9	,9	93,7
54	3	1,4	1,4	95,0
55	1	,5	,5	95,5
56	4	1,8	1,8	97,3
57	1	,5	,5	97,7
58	2	,9	,9	98,6
59	1	,5	,5	99,1
60	1	,5	,5	99,5
65	1	,5	,5	100,0
Total	221	100,0	100,0	

Appendix 4: Respondents' geographical provenience

In which country do you live?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Belgio	1	,5	,5	,5
	belgium	1	,5	,5	,9
	Belgium	5	2,3	2,3	3,2
	France	1	,5	,5	3,6
	Germany	1	,5	,5	4,1
	Greece	1	,5	,5	4,5
	Holland	1	,5	,5	5,0
	it	2	,9	,9	5,9
	IT	3	1,4	1,4	7,2
	Italia	3	1,4	1,4	8,6
	italy	7	3,2	3,2	11,8
	Italy	96	43,4	43,4	55,2
	ITALY	1	,5	,5	55,7
	Italy	1	,5	,5	56,1
	Milano	1	,5	,5	56,6
	nederland	1	,5	,5	57,0
	Nederland	1	,5	,5	57,5
	Netherland	1	,5	,5	57,9
	netherlands	4	1,8	1,8	59,7
	Netherlands	52	23,5	23,5	83,3
	nl	1	,5	,5	83,7
	NL	8	3,6	3,6	87,3

Norway	1	,5	,5	87,8
Parma	1	,5	,5	88,2
Netherlands	1	,5	,5	88,7
Rome	1	,5	,5	89,1
Slovenia	1	,5	,5	89,6
The Netherlands	1	,5	,5	90,0
The Netherlands	1	,5	,5	90,5
the Netherlands	1	,5	,5	91,0
The Netherlands	19	8,6	8,6	99,5
Netherlands	1	,5	,5	100,0
Total	221	100,0	100,0	

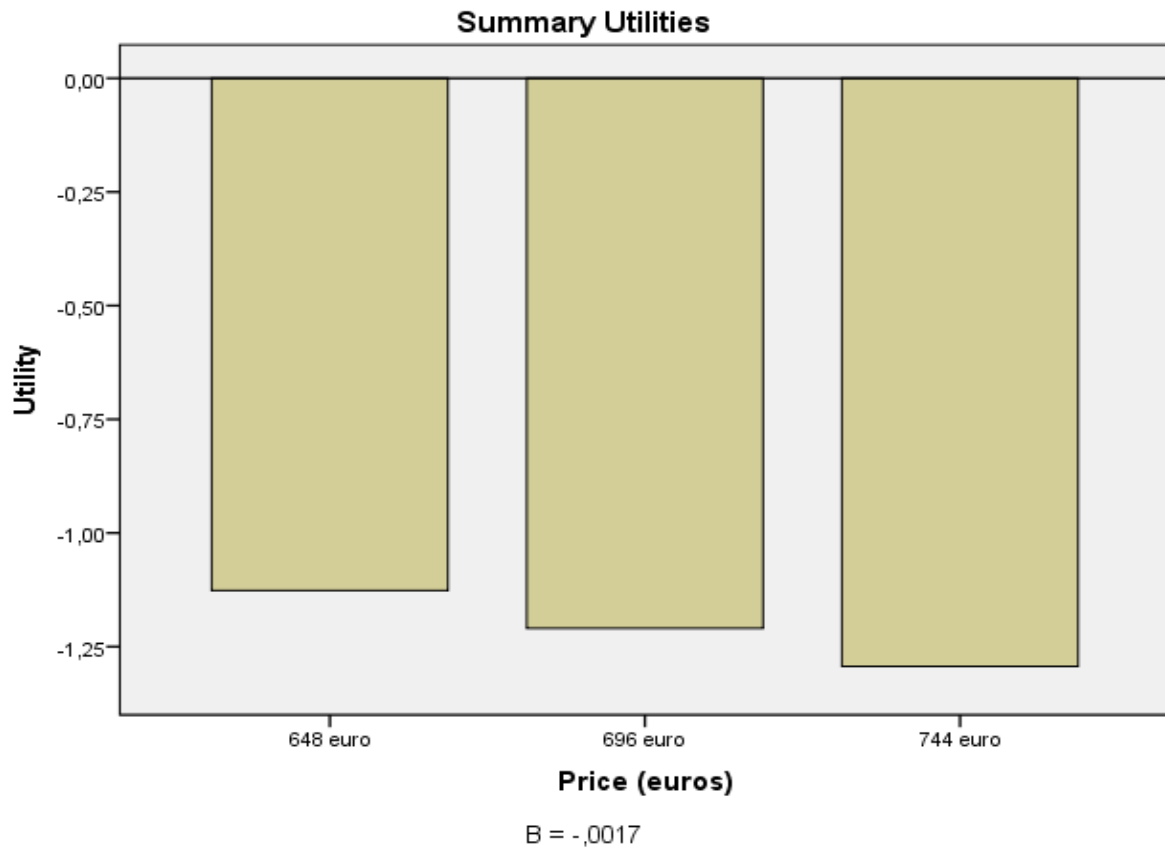
Appendix 5: General Model Description

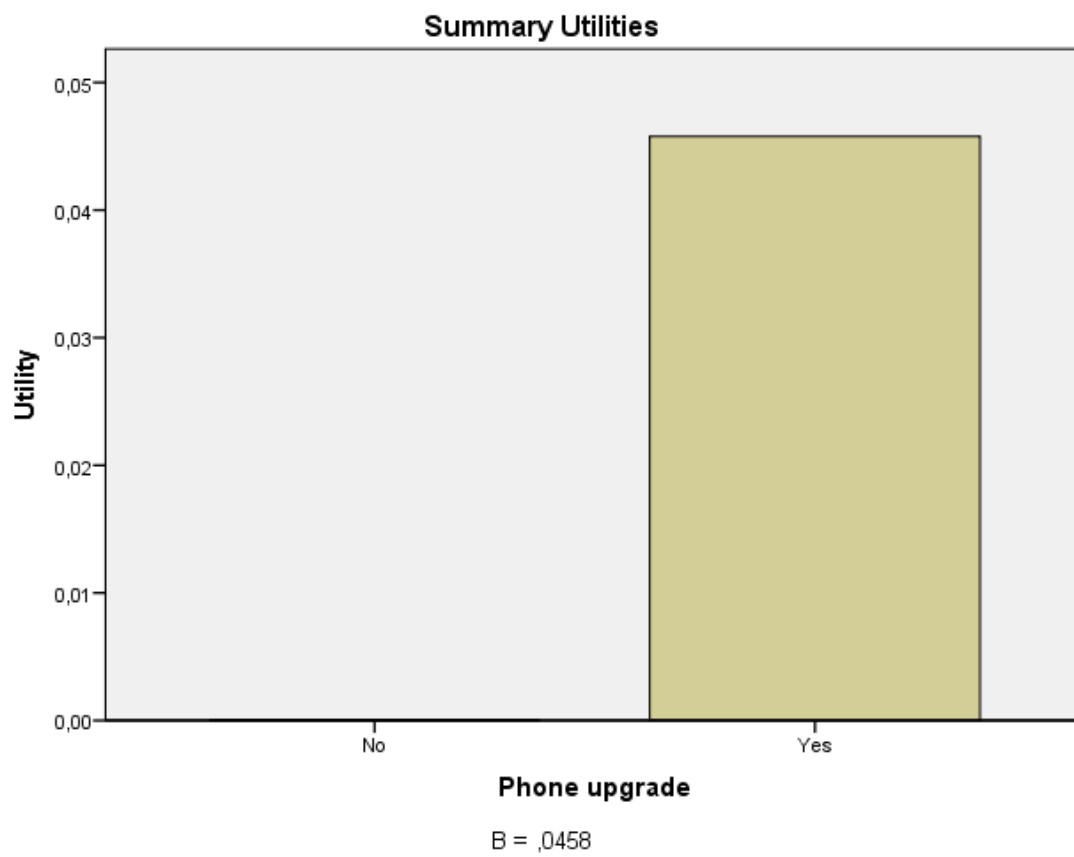
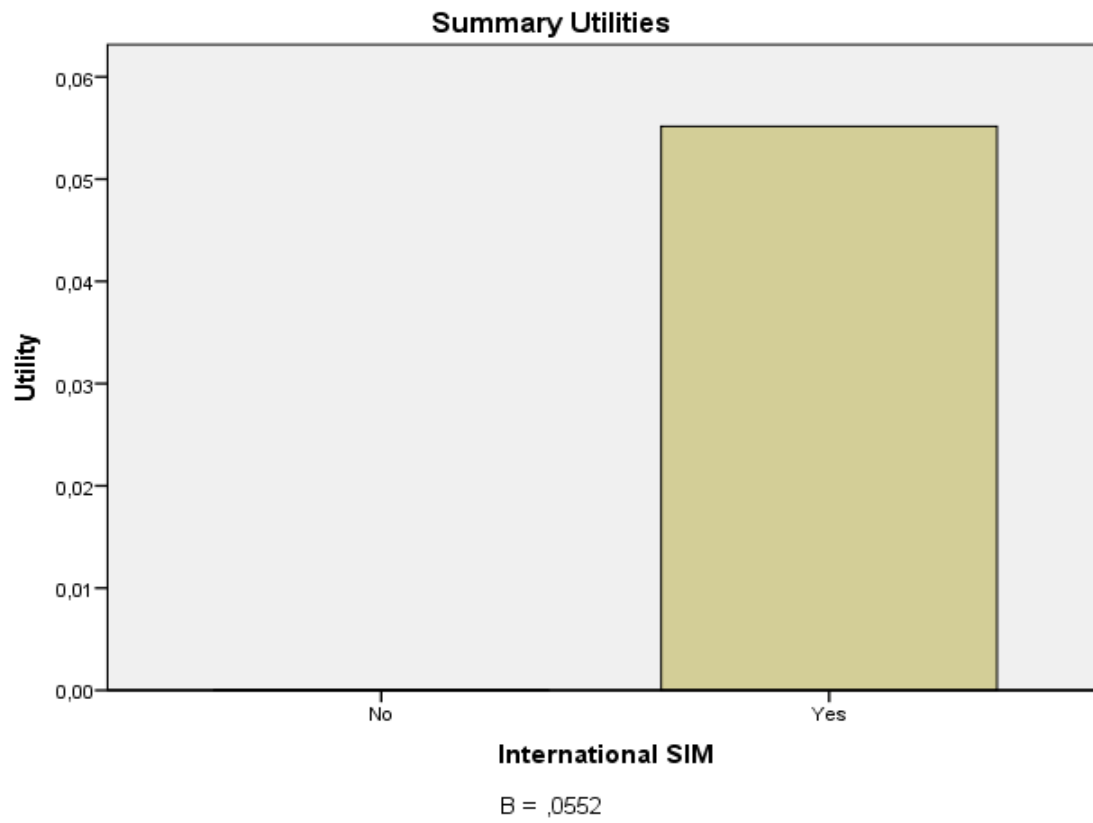
Model Description

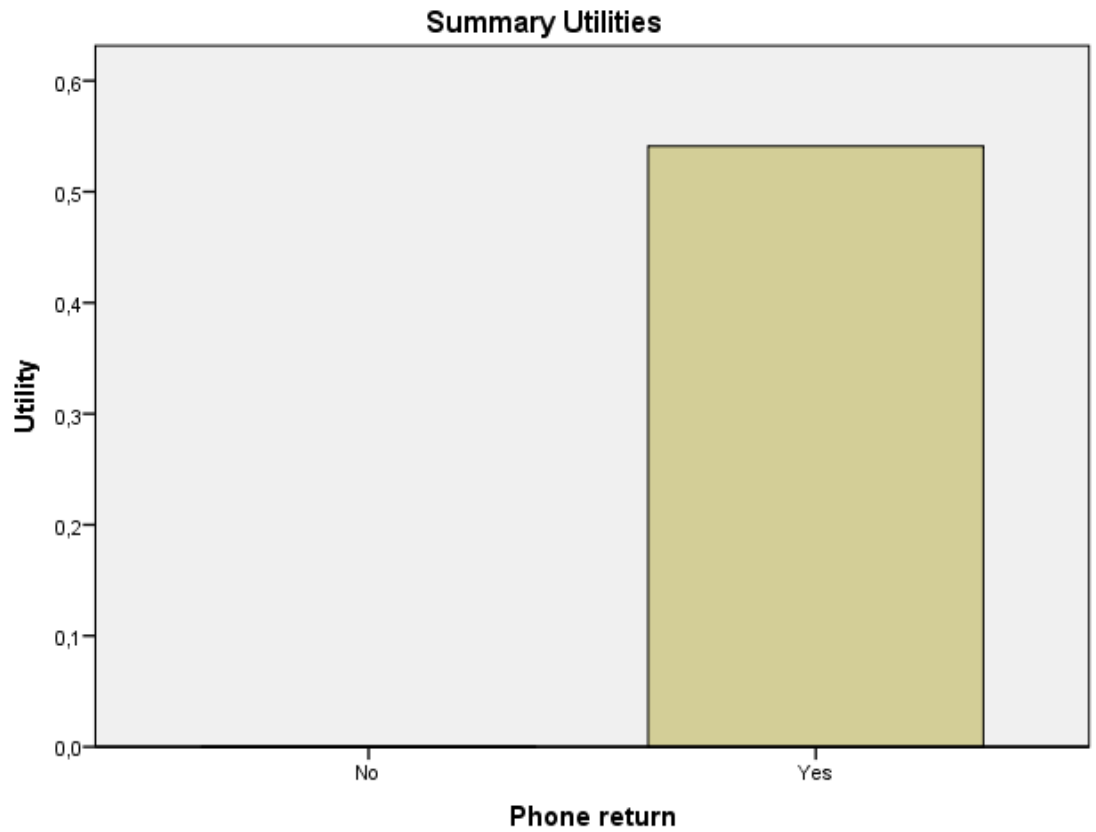
	N of Levels	Relation to Ranks or Scores
Price	3	Linear (less)
International_SlM	2	Linear (more)
Phone_upgrade	2	Linear (more)
Phone_return	2	Linear (more)
Phone_ownership	2	Linear (more)
Technical_service	2	Linear (more)

All factors are orthogonal.

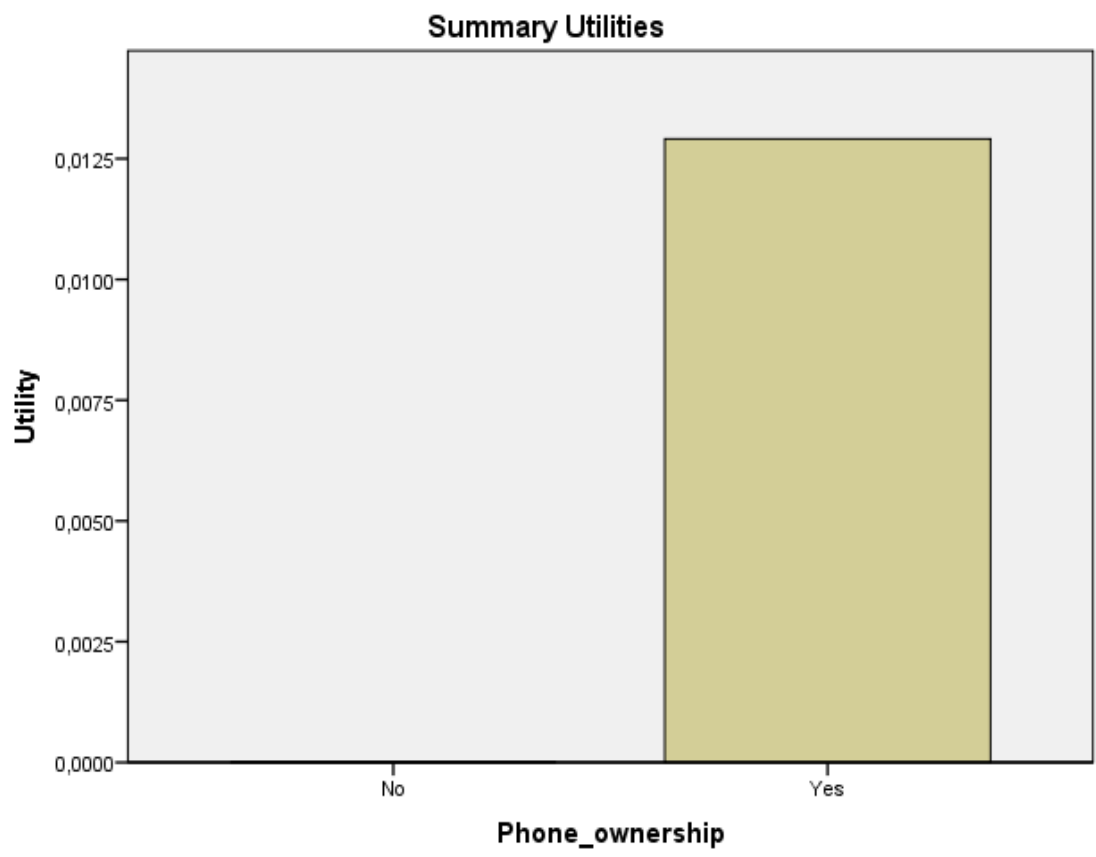
Appendix 6: Factors summary utilities



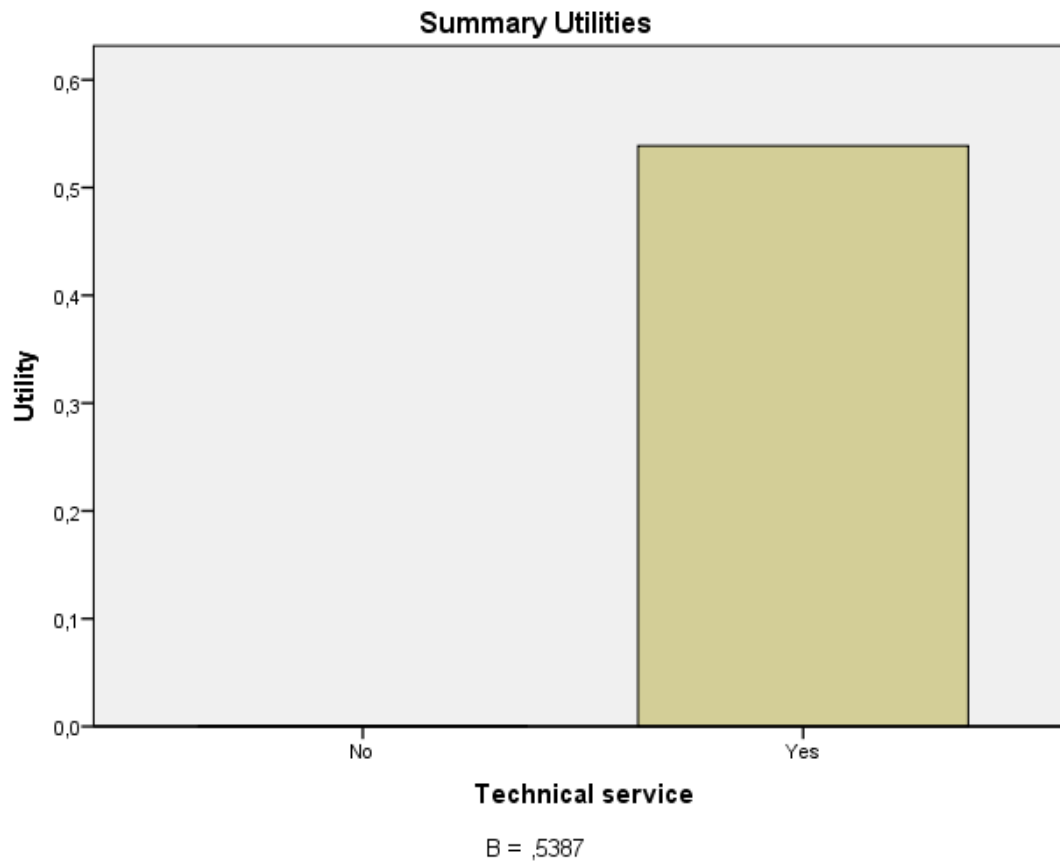




B = ,5411



B = ,0129



Appendix 7: Moderation effect analysis of respondents without financial constraints outputs

Importance Values

Price	26,393
International_SIM	12,609
Phone_upgrade	14,505
Phone_return	15,753
Phone_ownership	13,714
Technical_service	17,026

Averaged Importance Score

Coefficients

B Coefficient

Estimate

	Estimate
Price	-,001
International_SIM	,044
Phone_upgrade	,058
Phone_return	,534
Phone_ownership	,010
Technical_service	,552

Correlations^a

	Value	Sig.
Pearson's R	,710	,001
Kendall's tau	,678	,000

a. Correlations between observed and estimated preferences

Appendix 8: Moderation effect analysis of respondents with financial constraints outputs

Importance Values

Price	22,378
International_SIM	13,109
Phone_upgrade	14,410
Phone_return	18,644
Phone_ownership	15,176
Technical_service	16,283

Averaged Importance Score

Coefficients

B Coefficient

Estimate

	Estimate
Price	-,003
International_SIM	,086
Phone_upgrade	,013
Phone_return	,560
Phone_ownership	,022
Technical_service	,504

Correlations^a

	Value	Sig.
Pearson's R	,696	,001
Kendall's tau	,711	,000

a. Correlations between observed and estimated preferences

Appendix 9: Moderation effect analysis of males

Importance Values

Price	26,981
International_SIM	12,285
Phone_upgrade	14,310
Phone_return	16,046
Phone_ownership	13,097
Technical_service	17,283

Averaged Importance Score

Coefficients

B Coefficient

Estimate

Price	-,003
International_SIM	,064
Phone_upgrade	,124
Phone_return	,539
Phone_ownership	,049
Technical_service	,604

Correlations^a

	Value	Sig.
Pearson's R	,750	,000
Kendall's tau	,700	,000

a. Correlations between observed and estimated preferences

Appendix 10: Moderation effect analysis of women

Importance Values

Price	22,958
International_SIM	13,387
Phone_upgrade	14,715
Phone_return	17,229
Phone_ownership	15,527
Technical_service	16,183

Averaged Importance Score

Coefficients

	B Coefficient
	Estimate
Price	,000
International_SIM	,044
Phone_upgrade	-,063
Phone_return	,544
Phone_ownership	-,038
Technical_service	,448

Correlations^a

	Value	Sig.
Pearson's R	,649	,003
Kendall's tau	,477	,005

a. Correlations between observed and estimated preferences