Inter-Industry Analysis of the Impacts and Attitudes of a Chat Versus Human Representative

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"It is not the strongest or the most intelligent who will survive but those who can best manage change"

Charles Darwin

ABSTRACT

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Technology disruptions are known to keep on changing the way people interact with brands thus contributing to experiences that may or may not lead to better events if companies don't invest on understanding the critical pain points in the consumer journey.

The aim of this dissertation is to understand the impacts that the implementation of a chat has on the user and compare this effect with the outcome that traditional agents have for similar situations, leading to an observation if there are differences when satisfying a need through digital or physical instruments. Other objects of research include investigating which are the drivers that lead to a better consumer experience through chat coupled with understanding which are the attributes that makes the software unique from all other platforms and which retract the acceptance. To finish, it is studied which are the current attitudes towards the inevitable diffusion of chatbots.

It was possible to conclude that for low involvement situations chat leads to underperforming valuations of loyalty, that the drivers of a satisfying experience are focused on the outcome whereas to foster loyalty it additionally needs to transmit sincerity, that the value added of this channel is its convenience and communication style although the impersonality and technical difficulties may repeal users and the sample is not yet comfortable with the upcoming of chatbots.

Keywords: Chat; Chatbot; Automation; Digital; Experience

SUMÁRIO

Título: Análise entre indústrias do impacto e atitudes face a um Chat versus a um Representante Humano

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As disrupções tecnológicas levam a que as pessoas mudem a maneira como interagem com as marcas, contribuindo para melhores ou piores experiências dependendo se as empresas investem em perceber os pontos críticos na jornada do consumidor.

O objetivo desta dissertação é de perceber os impactos que a implementação de um *chat* tem e comparar este efeito com o resultado que os agentes tradicionais têm em situações similares, levando a perceber se existem diferenças na satisfação de uma necessidade através de meios digitais ou físicos. Outros objetos de pesquisa incluem investigar quais os fatores que levam a uma melhor experiência no *chat*, juntamente com a compreensão de quais os atributos que tornam o *software* único face a outras plataformas e também quais retraem a sua aceitação. Para terminar, é também analisado as atitudes atuais face à difusão dos *chatbots*.

Foi possível concluir que para situações de baixo envolvimento o *chat* leva a avaliações inferiores de lealdade, que a avaliação de uma experiência satisfatória é focada somente no resultado providenciado, mas para gerar lealdade é necessária também sinceridade, que o valor adicional deste canal é a conveniência e o estilo de comunicação apesar de a impessoalidade e dificuldades técnicas poderem repelir os utilizadores e a amostra não se encontra ainda confortável com a iminente chegada dos *chatbots*.

Palavras-Chave: *Chat*; *Chatbot*; Automação; Digital; Experiência

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

RM – Relationship Marketing

AI – Artificial Intelligence

WoM – Word of Mouth

SSTs – Self-Service Technologies

PDI – Purchase Decision Involvement

1

Introduction

CHAPTER 1 - INTRODUCTION

1.1 Problem Statement

The objective of this thesis is to undercover if the introduction of chat as a platform to interact with a brand will lead to a better experience to the consumer when compared to the use of traditional agents while testing for different products and services to get an overall perception of the effect that it has in different industries. Therefore, the Problem Statement is:

"What are the Impacts and Attitudes of implementing a Chat Versus a Human Representative?"

1.2 Aim of the Study

By studying this, it will be possible to undercover some aspects that haven't yet been extensively researched like which option between a salesman or a chat will lead to a better experience depending on the level of involvement or what are the drivers that lead to a good experience or even which are the current thoughts towards the adoption and use of a chatbot? With the purpose of structuring this study in a more accurate way and bearing in mind the aim of the study, the following research questions were developed and will be answered throughout the essay:

\\ **RQ1.1: Between chat and salesmen, which service representative leads to a better customer experience in low involvement product/service categories?**

\\ **RQ1.2: Between chat and salesmen, which service representative leads to a better customer experience in high involvement product/service categories?**

\\ **RQ2.1: Which are the factors that contribute to the generation of satisfaction in a chat?**

\\ **RQ2.2: Which are the factors that contribute to the generation of loyalty in a chat?**

\\ **RQ3: Which are the pros and cons of a chat?**

\\ **RQ4: What are the attitudes that people have towards chatbots?**

1.3 Scope of Analysis

As the intent of this dissertation is to investigate how people react to the use of a chat versus how they react through human representatives, people from all ages will be considered with no exclusions as there might be contrasting opinions on the same issue and there will be no prohibition of people answering if they hadn't ever used a chat as their opinions may add value, because they might be resisting the acceptance and that is also of high interest to this topic.

1.4 Research Methodology

To get adequate insights to develop this thesis, primary data was used, collected through qualitative and quantitative research (In-Depth Interviews and Surveys) and secondary data, mainly articles to support the evidences found while in the research phase with the intent of answering the research questions previously mentioned. With this plan it was possible to achieve a research that includes all categories – exploratory, descriptive and explanatory.

It was chosen to carry out this method of research as through in-depth interviews it is possible to understand and explore more easily insights into the underlying reasons why some people might be adopting this new technology more easily than others and why is there some reluctance to accept it. Finally, to generalize what was found thus far, an online survey was developed to get a snapshot of the market environment and to be able to answer the research questions.

1.5 Academic and Managerial Relevance

By developing this thesis, it is possible to use the acquired insights by players of all industries who are considering implementing a chat to understand if it is in fact worthy to make such investment and which are the core aspects that must be considered to have a seamless experience through all channels. Also, by getting to know the current insights and which are the most valued points and the factors of distress, it is possible to implement a communication strategy that overcomes possible struggles of acceptance of this channel.

Regarding academic relevance, this paper could be used in future classes to demonstrate that digitalization of traditional agents need to be carefully implemented as it can have a significant impact on the customer experience either positively or negatively and that market studies need to be done to understand this accurately. Also, it can be used to demonstrate that with the

internet and the fourth industrial revolution we are living in a fast-paced era where marketers need to keep up with that velocity. This document will also be useful as little research has been done on the implications of artificial agents on businesses from the consumers' point of view and what are the consequences that it can have on the brand equity of a company.

1.6 Dissertation Outline

In the subsequent chapter a literature review will be developed by investigating past work that has been done related to certain topics that are of interest like what are the consequences of the level of involvement, which are the types of relationship marketing that exist and what is the effect of the moderator variable "automated systems/traditional agents", how to achieve satisfaction and loyalty to be able to answer more meticulously the research questions.

On chapter 3, the methodology will be addressed by describing the planning, execution and analysis of this data and on chapter 4 the results will be exploited to reach some conclusions and then on chapter 5 the main ideas from this thesis will be highlighted, limitations that have been found throughout the course of the development of this document and some suggestions for future research.

2

Literature Review

CHAPTER 2 – LITERATURE REVIEW

2.1 Conceptual Framework

With the objective of clarifying the theoretical concepts that will be analyzed in this chapter, a conceptual framework was built. As the scheme shows, this chapter is folded in 5 sub-topics. First purchase decision involvement (PDI) will be presented as well as the different types of involvement that exists and the consequences that the level of involvement has on the purchase behavior. Second, a review of what Relationship Marketing (RM) is will be shown as a marketing branch that is dedicated to the development of close relationships with customers which has different perspectives and benefits. Third, it is inspected how service automation impacts the customer experience and which comparisons between man and machine have already been made and the state of art of chatbots will be presented. Fourth, satisfaction theories, measures and impacts are observed. The last concept is customer loyalty which is presented in the 5th section. Theories, ways of measure and outcomes that it fosters are also mentioned. The model is presented below:

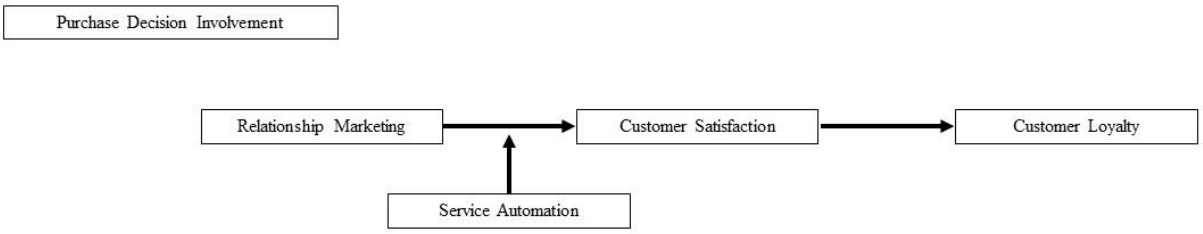


Figure 1 - Conceptual Framework

2.2 Purchase Decision Involvement Introduction

Decisions about purchasing a specific product or service are based on factors that influence the choices that we make in our everyday life. One of these criteria is the involvement that an individual has when in the purchasing process. Involvement is the amount of interest that a product arouses in somebody (Day, 1970; Mitchell, 1979; Cohen, 1983) and PDI is characterized by the extent to which a consumer has an interest in the purchase decision process, if there is a concern with which alternative is bought and if the person believes that there are better alternatives than others (Mittal, 1989). If someone attributes importance to the

product/purchase-decision task then high involvement exists, whereas if it is unimportant, one is observing low involvement behavior (Greenwald and Leavitt, 1984).

Nevertheless, involvement is not a "High or Low" type of variable with only two options, but a continuum (Laurent and Kapferer, 1985). Thus, there are different types of connections that one can have with the purchasing process which are described in the next topics and the effects that it has.

2.2.1 Cognitive and Affective Involvement

Based on Kim and Sung (2009) there are two different dimensions to PDI, the first is related to the extent to which people seek for specific criteria of a product while in their selection process and the other is when the purchaser searches for aspects that exalt emotions in the user, for instance, while buying a camera one can be immersed in Cognitive Involvement if is deciding which to buy based on the amount of megapixels that it has or if one is looking for the most fun to use, the involvement is Affective. Both types of involvement can happen at the same time as it is possible to pursue a camera that has a lot of megapixels and that is fun to use.

2.2.2 Brand and Level of Involvement

A brand is sometimes a powerful tool to distinguish products within a product category. If that is the case, and people only buy a certain product due to the loyalty they have with the brand (for example Apple's iPhone), the PDI will be high. If not the case, people will be buying mostly due to functional aspects of the product (Kim and Sung, 2009) thus having low PDI like when choosing between popular over-the-counter drugs.

2.2.3 Consequences of Level of Involvement

The level of involvement is a continuum, however, there are consequences regarding how one positions himself. If a purchaser has high involvement in the purchasing decision, there will be an impact on the decision process and information seeking as many brands are researched to maximize satisfaction, different sources are taken into consideration, these people are more likely to be influenced by reference groups, more prone to manifest their preferences and so on while when an individual in profiled as a benefiter of low involvement in the purchase process, the inverse occurs (Laurent and Kapferer, 1985). Thereupon, it should be known what

type of products are being dealt with and how typically people interact with that category and from there build a consistent communication strategy with the clients.

2.3 Relationship Marketing Introduction

According to Yang and Peterson (2004) nurturing a healthy relationship with your clients will be an investment that translates into satisfied and loyal customers which will consolidate and improve a firm's competitive position. As a result, RM has emerged and is defined as "all marketing activities directed towards establishing, developing, and maintaining successful relational exchanges" (Grönroos 1990, p. 23). The adoption of this practice allowed managers to understand that they should build long-lasting personal relationships instead of short-term careless relations (Liang, Chen and Wang, 2008b) by going from having customers as strangers where communication has the pure objective of luring new customers to the business to having customers as partners where there is a deep connection between the customer and the firm leading to the possibility of offering personalized products/services which will bring much more added value than a standardized approach (Zeithaml and Bitner, 1996).

2.3.1 Relationship Marketing Types

As described by Möller and Halinen (2000) there are two theories regarding RM each with its own unique features – the first one is Market-Based RM that is concerned with the management of the customers where the main focus stands on how to treat each consumer individually, how to satisfy the needs of every customer adequately yet in a profitable way and the other is Network-Based RM that is concerned with the effective control of the agents who participate in the business like managing interactions with external partners. Managing the portfolio of customer relationships and developing strategic partnerships are, respectively, examples of activities that each theory convey. As the latter is more concerned with how to suitably allocate the resources for each stakeholder, our interest for this dissertation is more regarding the former approach as the intent is to find out for a certain level of involvement, which is the practice that adds the most value.

2.3.2 Relationship Marketing Benefits

Organization Benefits

As the objective of this relationship is to "build and maintain a base of committed customers who are profitable for the organization" (Zeithaml and Bitner, 1996, p. 173) it is implicit that

there are benefits for the organization as customers will increase their purchases, there will be lower costs associated with customer service, free advertising through word of mouth [WoM] as satisfaction is considered to be an antecedent or intermediary for positive WoM (Swan and Oliver, 1989; Ha and Im, 2012), employee retention and allows to understand the value of a customer throughout their lifetime.

Customer Benefits

There's also benefits for the customers as well as they will get a better and more personalized service value, reduction of consumer stress in initial problems that may rise, their special needs are accommodated and consumers learn what to expect from the company (Zeithaml and Bitner, 1996).

2.4 Automation Introduction

With the emergence of the 4.0 industry and with the technology that comes alongside it which are the intelligent production robots (Gubán and Kovács, 2017), businesses from all types of industries started their digitalization and automation of the company's operations as a consequence of this fourth industrial revolution (Marjanovic *et al.*, 2017; Stăncioiu, 2017). Knowing this, companies need to be able to adapt to these new practices as it has a severe impact on the customer experience (Frankel, 2014).

To further emphasize this state of transition, it is believed that "by 2019 20 percent of user interactions with smartphones will take place using virtual personal assistants" (Gartner, 2016), that revenues for Artificial Intelligence (AI) systems will reach $46 billion by 2020 (IDC, 2017) and that retailers are expected to spend almost $32 billion by 2020 in automation (Taillon and Mueller, 2014).

Automation is therefore a reality as technologies are replacing the usual human functions (Singh and Debasish, 2016) and the impacts of these are of high importance. Although automation has been proven that it can lead to a positive impact on overall satisfaction (Beatson, Coote and Rudd, 2006), how can it be achieved?

2.4.1 Automation Impacts on Consumer

Self-Service Technologies

It has been found that self-service technologies (SSTs) which are a type of automation like ATMs that allow users to produce a service action without the involvement of employees (Meuter *et al.*, 2000) can impact positively the customer's satisfaction. This is achieved through a combination of factors like if the tech can solve an urgent need, if the SSTs are better than the other approaches and if it has accomplished its' purpose. However, one must also be aware that a technology malfunction, a failure in the process or a customer-driven failure will lead to a decrease in satisfaction (Meuter *et al.*, 2000).

Artificial Intelligence & Chatbots

Another technology advent are the AI agents which are considered all computer applications that help people carry out certain tasks by allowing an interaction with them where the user tells the program what to do either by speaking directly with it or by typing (Etlinger, 2017).

One of the types of these AI systems are chatbots which are defined as a type of bot that has a conversational interface where the user is able to interact with it via voice, text, images, or a combination of these (Etlinger, 2017; Fichter and Wisniewski, 2017). This is a topic of high interest since 40% of US millennial consumers already engage in conversations with this tool on a daily basis (Retail Customer Experience, 2017) and it is estimated that by 2020 the use of chatbots will increase over 1000% (Bazilian, 2017). Even though chatbots still have a very limited use, sometimes one task only (Etlinger, 2017; Klie, 2017), it has been proven that a properly assembled chatbot can influence positively the loyalty that customers have towards brands (3Cinteractive Corporation, 2017), but there is a lack of studies examining which variables drive satisfaction (McLean and Osei-Frimpong, 2017).

2.4.2 Chatbot State of The Art

History

The first chatbot was created in 1966 by Joseph Weizenbaum the responsible for ELIZA to coming to "life" (Weizenbaum, 1983). After the development of this pioneer project, many other chatbots have emerged like A.L.I.C.E in 1995 (Wallace, 2017) and more recently Siri

which is the personal assistant used in Apple's devices, Cortana in Microsoft's and even Amazon's Echo (Weinberger, 2017).

Types

Depending on how a chatbot works, one can understand the type that one is dealing with. If the bot only responds to very specific questions and the answers are defined *à priori,* then it is a "rule-based" bot. However, if the bot can learn from the interactions that occur, it is a "machine-learning based" bot which has more potential than the first mentioned as it is not as limited (Fichter and Wisniewski, 2017).

Functions

Even though the history of chatbots have more than 50 years, there is still a very short array of tasks that these chatbots can develop successfully (Etlinger, 2017; Klie, 2017). The functions that these can carry out are the following (Sansonnet, Leray and Martin, 1973):

- Dialogical Agent: When the chatbot can analyze and understand the problems that the user has by allowing the user to interact through text or voice;
- Rational Agent: Must be able to execute the help requests that the user explicitly transmits;
- Embodied Agent: Anthropomorphic entity that has the objective of restoring trust.

The ability to perform these functions led to wide adoptions of chatbots in departments like customer service (Arcand, 2017) for basic tasks like recommendations of products, surveys, easy transactions, and so on (PR Newswire, 2017). However, it is known that chatbots can't yet fully replace humans in this type of service (Kirkpatrick, 2017), so what are the differences between the outcome of a service made by a human and by a robot?

2.4.3 Automation versus Humans as Service Intermediaries

Many industries are integrating new practices of automation in their processes, like the banking, hospitality and travel sector. However, little has been disclosed about the comparison of the impact that a bot has compared to a human representative.

In the banking industry, Accenture (2017) has found that AI is simplifying the sector, changing the way that banks interact with consumers. Even though, consumers are giving more

importance to the humanness of the service and prefer human interactions (Accenture, 2017), for some tasks it is pointed out that there is a preference for artificial agents in spite of humans (3Cinteractive Corporation, 2017).

There's also evidence that customers get less dissatisfied when using SSTs instead of personal assistance, that is due to the responsibility that people employ on these agents as it is a common belief to think that if an outcome doesn't correspond to the expectations in a positive way, it is due to wrongdoings from the service employee whereas when there is a problem with a technology the user believes it is due to something that the user did or due to some other external constraint (Scherer and Wangenheim, 2016).

In cases where there are a lot of interactions and the outcome is positive, people will get more satisfied if the situation is handled by a human being rather than with a SST (Scherer and Wangenheim, 2016).

One of the reasons why this might happen is because empathy in robots is very limited (Asada, 2015). Empathy is the ability to understand the other's emotional state and being aware of what caused that situation (Gonzalez-Liencres, Shamay-Tsoory and Brüne, 2014) and it has been stated that empathy is a necessary pre-requisite for a successful experience (Zeithaml, Berry and Parasuraman, 1996). Even in a perfect simulation of a human's capabilities, a robot will never be a substitute for a living connection (Rosenthal-Von Der Pütten *et al.*, 2014).

Even though there are pros and cons to the mentioned hypothesis, the two have the potential to affect satisfaction, and both AI (3Cinteractive Corporation, 2017) and human beings (Grewal, Krishnan and Lindsey-Mullikin, 2008) have direct consequences on loyalty, however no study was found about a direct comparison between the effect that these technologies have on loyalty compared to human representatives.

2.4.4 Unified Theory of Acceptance and Use of Technology (UTAUT)

Mentioned on the work of Venkatesh *et al.* (2003), there are different factors that influence the adoption of technology which are performance expectancy that is related with how someone believes that the technology will help to improve their duties, effort expectancy that is the extent to which it is believed that it will be difficult to learn how to operate the system, social influence that is how one thinks that others expect himself of using the technology and facilitating conditions which is defined as "degree to which an individual believes than an organizational

and technological infrastructure exists to support use of the system" (Venkatesh et al., 2003, p.453) which are moderated by gender, age, voluntariness and experience. This is an important theory to be mentioned as the acceptance of chat as a method to interact with a brand will be investigated.

Although no technologies would ever be adopted by companies to produce negative experiences to the consumer, brands need to be aware of how to produce satisfactory products and services.

2.5 Customer Satisfaction Introduction

Satisfaction can be seen as the result of the subjective evaluation if the alternative has performed accordingly to what was expected of it to perform like (Engel, Blackwell and Miniard, 1993). This satisfaction can be either related to a transaction-specific satisfaction that is the emotional evaluation of a specific transaction or accumulative satisfaction that is related to the overall evaluation of the experience. The latter has a direct impact on repurchase intention and mediates the impact of the first mentioned and repurchase intention (Zhang and Liu, 2017). The interpretation of this concept can be seen from multiple angles that is why it can also be seen as the psychological state that results of the merger of disconfirmed expectations mixed with consumer's past experiences with the product (Oliver, 1981) which can be translated to how past experiences mediate the effect of more recent negative ones (accumulative satisfaction) and other view focus more on consumer satisfaction being an end result of a purchase experience (Vavra, 1997).

2.5.1 Theoretical bases of Customer Satisfaction

Two theoretical bases of how customers evaluate their satisfaction level are widely adopted by most literature. The first is Expectancy-Disconformation theory (Oliver, 1980) which states that the evaluation of current satisfaction with a product/service is always compared with the previous expectantions that people had. This way, if performance is superior to the expectations, there will be positive disconformation and satisfaction increases. The same works the other way around.

The other approach which was developed by Thibaut and Kelley (1959) refers that there is a standard which is called comparison level that the consumer uses to evaluate how satisfied he is with the relationship he is in.

2.5.2 Measuring Customer Satisfaction

There are numerous ways to measure the extent to which the customer is satisfied. Usually, satisfaction is measured through a simple question like "How would your rate of overall satisfaction with our product/service" with a scale ranging from extremely satisfied to extremely dissatisfied. However, this question may fail to assess the reason why the customer is fact dissatisfied or satisfied, so the traditional approach is sometimes subsituted for a multi-attributes rating scale were different aspects of the product/service are shown and measured and an importance is given to each parameter (Shin and Elliott, 2001).

2.5.3 Impacts of Customer Dissatisfaction

One must then be careful with how a product/service is delivered as even though prior positive experiences moderate the effect of negative transactions, a poorly managed complaint handling can have a severe impact on customer retention which will foster negative WoM (Tax, Brown and Chandrashekaran, 1998).

Thus it is extremely important that a company knows how to effectively deal with the client throughout all of the steps in the customer journey as when customers need to go through a complaint, there is a tendency to feel even more negative than before engaging in the service complaint process (Hart, Heskett and W. Earl Sasser, 1990). For this reason and as it is more difficult to establish relationships online rather than offline (Liang, Chen and Wang, 2008b), RM is essential to build long-lasting partnerships with your online customers (Bendapudi and Berry, 1997).

2.6 Brand Loyalty Introduction

Brand loyalty is a concept that has been vastly researched and has been identified by Smith and Aaker (1992) as a "customer's attachment to a specific brand" and it is also when there is "a favorable attitude toward and consistent purchase of a single brand over time" (Assael, 1987, p. 73). Loyalty is obtained when certain criteria is met like being biased towards a specific brand, having engaged in a behavioral reactional (like a purchase), being loyal towards the brand for a long time, being decided by a decision group, choosing the same brand while there are substitutive brands and admiring the brand (Bloemer and Kasper, 1995). In a more simplistic approach, it has been stated that when a customer expresses their affection towards the firm over others, when it acclaims its welldoings or increases their volume of

purchases, it is a signal that he/she is becoming more attached with the company (Ganesh, Arnold and Reynolds, 2000). Regarding online customer loyalty, it is a psychological connection and attitudional promulgation towards a specific online service providers, mixed with the consumer's compliance with keeping and nurturing the relationship between both parties (Liang, Chen and Wang, 2008a).

2.6.1 Types of Loyalty

Manifestations of brand loyalty are defined in different ways in literature. For Bloemer and Kasper (1995) a definition of loyalty would be based on if actions are done because there's an emotional trigger or if consumers keep loyal only because there's inertia.

In the work of Ganesh, Arnold and Reynolds (2000) there are two kinds of loyalty behavior: active and passive loyalty. The difference between these are if conscious actions are taken or not, for instance, an active behavior would be to spread positive WoM while a passive behavior would be to state that the consumer would keep on satisfying the same needs with the same provider.

More recently, two different forms of loyalty were presented: behavioral which is when loyalty implies purchases and attitudinal which is translated into a creation of a solid and positive image of the brand through WoM (Kumar, Shah and Venkatesan, 2006).

2.6.2 Measuring Customer Loyalty

With the intent of measuring the overall loyalty that certain customers have towards a specific brand, a Net Promoter Score can be used. This Key Performance Indicator takes the form of one simple question that is how much a user would recommend the service to a family member or a friend (Raassens and Haans, 2017). This indicator is fairly easy to use as it is measured on a scale from 0-10 where those who stand between 0-6 are considered as "detractors", between 7-8 are "passively satisfied" and from 9-10 consumers are considered as "promoters"(Reichheld, 2003). The main objective of a company should be to eradicate as much as possible those who are detractors as they make up 80 to 90 percent of a company's negative WoM (Reichheld, 2006) and these damages can have a devastating impact on a company's perforamance (Reichheld, 2003, 2006).

2.6.3 Outcomes of Brand Loyalty

By achieving brand loyalty, one can argue that a company has a competitive advantage when compared to the others (Zhang and Liu, 2017). However, in order to achieve this state, it is required that the impact of the moderator (in this case the chat) leads to a satisfying experience as it has been proven that satisfaction has an important role in determining loyalty (Bloemer and Lemmink, 1992).

3

Methodology

CHAPTER 3 – METHODOLOGY

The intent of developing this thesis is to make a comparison between industries of the consequences that the introduction of a chat may have when implemented versus the impact that a human representative has. Therefore, this chapter will be divided in six parts. First the research questions must be defined to have a clear understanding of what is being researched, second a presentation of the possible research approaches will be explained, thus leading to the third part that represents the actual methodology that is going to be used. On the remaining topics, a description of the research instruments used will be shown, highlighting advantages and disadvantages of the process and how it is going to be used to extrapolate conclusions.

3.1 Research Questions

Considering all past literature review that has been mentioned in the previous chapter, it led to the formulation of different research questions which will be presented in this section.

It has already been tested that chat can contribute to a better customer experience (3Cinteractive Corporation, 2017), but between the mentioned channel and a typical salesman , it is not known which will have a better impact for different levels of involvement therefore the following questions were investigated:

\ RQ1.1: Between chat and salesmen, which service representative leads to a better customer experience in low involvement product/service categories?

\ RQ1.2: Between chat and salesmen, which service representative leads to a better customer experience in high involvement product/service categories?

Besides knowing which is the best channel to address the users' needs, it is important to know which factors will contribute to the emergence of satisfaction and loyalty in a chat, thus:

\ RQ2.1: Which are the factors that contribute to the generation of satisfaction in a chat?

\ RQ2.2: Which are the factors that contribute to the generation of loyalty in a chat?

It is of high concern to also understand which are the things that people value the most in a chat and which could be better leveraged before implementing this new technology, therefore:

\\ RQ3: Which are the pros and cons of a chat?

And finally, chatbots are emerging and with it, the attitudes of the population should be studied hence:

\\ RQ4: What are the attitudes that people have towards chatbots?

3.2 Research Approach

Before proceeding to the research methodology, an understanding of the types of methods that a research can employ are necessary. According to the literature, three types of methods exist and can be used to complement each other which are: the exploratory research that is when the researcher seeks to understand different perspectives and insights that exist to solve the same problem, by identifying the variables that should be evaluated in the analysis, typically used in the initial phase of the study; after having a more accurate idea of what should be questioned, a descriptive research can be employed in order to get an accurate overview of these topics and finally there is the explanatory studies/causal research which are aimed to prove a relationship between variables (Saunders, Lewis and Thornhill, 2008).

Regarding the data gathered, it can be primary data if the author gives an unique contribution (new content), for example, if a new survey is employed or secondary data which is all existing information that can be accessed like internal records of a company, published articles, existing databases, and so on (Saunders, Lewis and Thornhill, 2008).

3.3 Research Design

As previously stated, the intent of this research is to come up with conclusions and answers to the research questions and to test if the hypothesis elaborated are supported or not. Taking into consideration the types of research approach that exist, the following methodology framework will be put into practice, having in mind the time and money restrictions that there exist:

Figure 2 - Methodology Framework

From the illustration it is possible to understand that literature review and interviews have been used with the objective of generating initial insights. The literature review

consists on the study of past work from authors who explored in detail some of the aspects that are continuously mentioned in this thesis like RM, customer satisfaction and many others. These are published data from articles that are issued in top journals and from online publishers. The second exploratory and descriptive method are in-depth interviews that have been executed to get a perception of the ideologies that different types of people (age and gender mainly) have towards the theme in debate and following that the insights were used to formulate the questions and answers that were used in the online survey.

With the ambition of understanding which are the widely adopted thoughts and trying to establish causal relations between the different variables, while having into consideration the outcome of the interviews, one online survey was developed and then implemented on the online software Qualtrics to support both descriptive and explanatory research. The main findings of this research design will be thoroughly analyzed in the following chapter after using the statistical software SPSS to generate the results.

3.4 Literature Review

The development of a review of existing literature on the subject of analysis has the intent of understanding the research developed by other authors and to which conclusions have they gotten which was fundamental to carry on with the study here presented as insights were given like what is the current state of the art of chatbots and consequences of the introduction of automated systems.

3.5 In-Depth Interviews

With the aim of exploring different viewpoints, semi-structured face to face interviews were developed as the topics and sub-topics of the conversation were previously planned, but there was room for the interviewee to answer freely. This method was chosen in detriment of others mostly due to the ability to explore more easily individual's thoughts and opinions about concepts when compared to for instance focus groups where there is a propensity for social desirability bias. Also, as the subject of this dissertation is more complex as it involves a recent topic, interviews are easier to probe more challenging questions and misunderstandings are immediately corrected. However, there are some disadvantages like the time requirement that each interview requires to be invested and the bias of the interviewer can influence how questions are made and lead to prestige-seeking answers from the interviewee.

The intention behind putting this approach into practice is to get a general idea of how people usually interact with service providers and how it affects their satisfaction/loyalty. Questions are placed in a way to infer the different motives that lead an individual to require assistance in a low and high involvement purchase decisions and to understand the likelihood of people solving that same issue through a chatbot and how it would affect the mentioned variables. The bot is imagined having the same abilities as a normal human being to isolate the effect of empathy. Also, different scenarios were generated where automation is already full on practice and thus are decisions that we must make on our daily basis like – would you rather use a self-service machine in a supermarket/gas station or be served by a human? – the objective is to understand which are the reasons that lead each person to choose they favorite channel since this reasoning might also apply when deciding if chat is an appropriate platform to interact with a brand.

Interviews were performed with 8 different people with ages ranging from 21 to 58 years old to also understand how different generations feel and think of this new technology and how do/would they interact with it. There were no specific criteria other than age and gender to choose the sample that was interviewed as there was no background, income, or any other type of segmentation used besides the mentioned. Even though there was this intention to interview people of different ages and gender, due to time constraints the differences are residual.

As mentioned, the interview was semi-structured, meaning that some questions were already planned to answer some of the main topics that can be observed below. The full interview script can be seen in **appendix 1**.

Topic 1 - High Involvement Experience and Possibility of Solving Through Chat

Topic 2 - Low Involvement Experience and Possibility of Solving Through Chat

Topic 3 – Chat and Chatbot Attitudes

Topic 4 – Scenarios of Automation

3.6 Online Survey

With the intent of generalizing the insights gathered in the previous exploratory parts of this thesis and to understand the relationships that there exist between variables, an online survey was applied. This method is one of the most used ones in descriptive and explanatory

research to get a perception of for example how people evaluate a product versus how people judge the competitors' products, to understand the characteristics of consumers, and so on. This research will also be the tool used to discover the veracity of the hypothesis and the answer to the research questions.

This method has its' downsides as people can answer surveys in an uninformed way, there can be answers that are given only to satisfy the provider of the survey (courtesy bias), prestige seeking and social desirability bias, can't clarify the questions, the sample most of the times isn't representative of the population and there is no control over who is answering. Yet, it is one of the fastest methods to get answers, it reaches hard to contact people, has lower costs, and so on.

3.6.1 Sample Size

The appropriate sample size for a margin of error of 5% in a population of 10 million is 384 answers (Saunders, Lewis and Thornhill, 2008). As Portugal is a country with almost 10 million residents (PORDATA, 2017) and as there is no specific target for this study, the amount of replies obtained through the survey should be of approximately 384 answers.

3.6.2 The Measures

There were a wide variety of scales used in the development of this survey. First, in order to assess the level of involvement that one has towards a determined product or service category, 1-7 bipolar scales were used as developed by Mittal (1995). Afterwards, in order to evaluate the level of satisfaction, a scale from 1-10 as it is used by ESCI which is a reference institution in collecting data concerning satisfaction (Coelho and Esteves, 2007) and even though it has been previously mentioned as not giving sufficient insight to the reason why such evaluation was given (Shin and Elliott, 2001), it will be remedied by asking which factors led to that evaluation. Regarding the measurement of loyalty, a 0-10 scale was used which is used to check the net promoter score (Raassens and Haans, 2017). Finally, some questions concerning the degree to which someone agrees or disagrees with each statement were quantified with the use of a Likert scale on a five-point scale where 1 stands for "Totally Disagree", 2 as "Somewhat Disagree", 3 as "Nor Agree nor Disagree", 4 as "Somewhat Agree" and 5 as "Totally Disagree" (Malhotra, 2007).

3.6.3 Survey Structure

To able to assess what is proposed in the research questions, a special flow had to be set up in the online survey. This chapter will thus lead to a clarification of how it is designed. First, the respondents are equally divided in half where some answer a block regarding high involvement products/service and the other half will answer the same questions, but for a low involvement product/service. To simplify, the first block shall be called block A and the latter block B. After this, half of those who answered block A, will answer a block related with a situation solved through chat and the other half through a salesman. The other half that answered to block B will be exposed to an equal situation. After that, the remainder of the blocks are answered by everybody. To get a clear understanding of this structure, one can look to the image presented below **(see appendix 3)**:

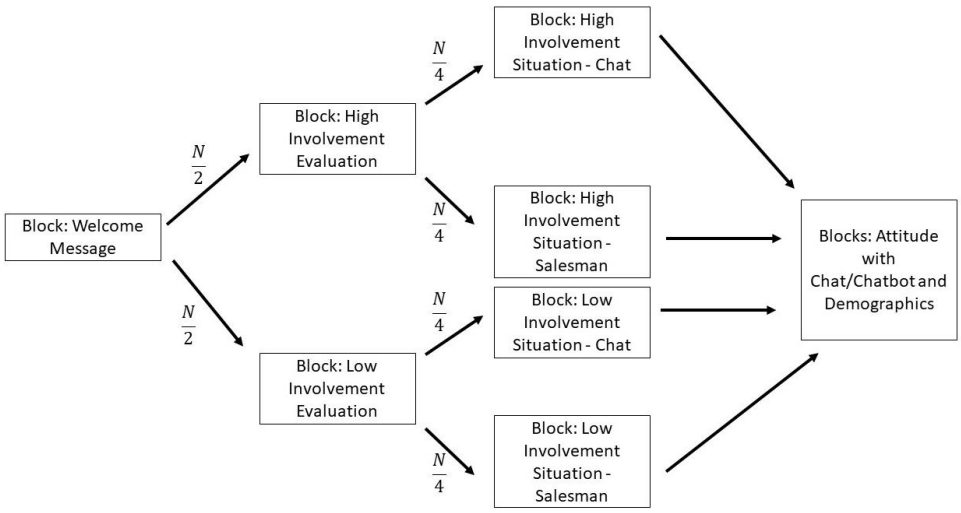


Figure 3 – Survey Structure

4

Results' Analysis

CHAPTER 4 – RESULTS' ANALYSIS

With the objective of answering the problem statement and as mentioned in chapter 3, an interview was employed as well as an online survey. This topic is structured by analyzing first the semi-structured interviews that were employed to attain a deeper understanding of how different people think about the automation of processes in different involvement scenarios and some conclusions will be presented. After this, and by having in consideration these results, an online survey is explored to be able to generalize some conclusions and give an answer to each research question.

4.1 Qualitative Research – Interviews Analysis

By using the script that can be found in **appendix 1**, some main conclusions could be observed taking into consideration the results that can be analyzed in **appendix 2**. The conclusions are iterated following the topics' structure of the interview:

High Involvement

It was easy to understand that everyone has a different and very solid point of view concerning the use of chatbots. Guilherme stated that for him, an automated system would not be able to replicate the work of a human as "it wouldn't understand that the guy was acting in bad faith and was fraudulent" this is due to the lack of capability of interpreting what is communicated, of deciphering the attitudes that in that case the individual that sold the phone on 2nd hand was having, as he had sold the phone without telling *a priori* that there were some issues with that item, therefore chatbots wouldn't be able to interpret human behavior.

Bárbara mentioned that "for me talking with a salesperson is a necessary thing when I buy something (…) it enhances my confidence in the decision" this is due to the credibility that is given to the opinions that are transmitted by those individuals that have the status of being experts on the matter and due to their appearance as when "one looks to those tech guys, we immediately know that they know what they are talking about".

For Fátima, the issue lies with the inability of knowing if the person/robot on the other side of the screen really cares about the issue that is communicated, she firmly believes that the answers provided will lack emotions, it will be distant, superficial and not at all understanding of the situation, it will just "follow the norms". In her own words "a person explains herself and

apologizes, they try to understand your point of view. A machine will always be impersonal". The underlying factor in here is concerned with the posture that one has when dealing with these issues, the facial expressions, the tone of voice used and the careful choice of words.

Ksenia also made a strong comment by saying that her satisfaction levels would lower if it was a robot answering to her as "there wouldn't be human interaction, robots do just what they are expected to do, they are neutral (…) people have added value besides their knowledge, they can, for instance, make you feel happy and have fun" therefore it is valued by this person when humans have a contagious positive behavior. However, this same person stated that she would love the autonomy provided by those systems, because sometimes these same salespersons can be extremely inconvenient, as they don't let people make decisions as freely as she would like to and do not give space, they are "always bugging me until I make a choice", so even though she values positively the behavior humans have, she also values it negatively if done wrong.

Bárbara has also made another interesting comment by mentioning that when there is an interaction through chat, brands "wouldn't lie". She believes that the answers provided will be much less biased and that the absolute truth will be spoken, meaning that the responses will be facts, the process of communicating will be more rational, and she believes that that is an advantage.

Low Involvement

Mixed opinions are also stated for this level of involvement. Inês says that for her robots are "not trustworthy". "Does it really know what it is talking about?" she doesn't give the same value to the automated systems as she gives to the status and experience that a person has.

For Rita, her concern was regarding the barriers that exist to share true, honest opinions. She confessed that when she was going to buy her wax stripes she had no idea of which to buy, so she approached a staff member of the shop and the lady told her personal experience, which is something that she valued a lot and wouldn't be able to get the same insight and honesty from a chat as answers are always recorded and one must keep the professionalism.

António says that maybe an interaction through chat wouldn't make him feel as tempted to sign up to the gym as he was after talking with the people on the spot as even though they might sometimes be a little inconvenient, the truth is that it is much more difficult to say "no"

in person than it is behind a screen. “When someone is encouraging you to do something, it almost seems like you feel more inspired to do it”. This only occurs because the excitement in their speech is felt, the tone of voice changes and the posture as well.

Nevertheless, Fátima contributed with a different vision this time by stating that there is an advantage in interacting through chat as “you don’t feel as ashamed as you would feel by asking more intimate questions in person”, there is clearly a stigma towards how comfortable one feels with asking more personal questions as people fear judgement from another and as in face to face conversations, reactions can’t be disguised, sometimes people avoid awkward or embarrassing situations.

Attitudes towards Chat

Most of the interviewees stated that for them it does make a difference to be answered through chat by a human or an automated system. For Inês the issue still replies that she doesn’t firmly believe that robots do know what they are talking about, they are just sending pre-defined answers just like António mentioned that he doesn’t like lack of personalization. Also, Rita said that for her the issue is that she doesn’t feel as much empathy with it as she feels with a human, because they do not see our perspective. However, others like Ksenia believe that there is no issue at all with who or what is answering her as for as long as she doesn’t have to interact directly with a salesperson, it will be better.

One important downside that was mentioned was by Guilherme when he said that “the downside is that the face of the brand is lost, there is no affinity attained”, because for him even though it is more efficient to interact through a chat and he prefers that, he also states that the passion that people have with certain brands might be lost. A not as surprising benefit was also said: “Writing is easier”. In a world that is more and more mobile and in which the messaging apps are the most famous, it is not a wonder that individuals get more used to textual interactions instead of communicating with their own voice.

When asked if it is an ethical endeavor of companies to tell beforehand if one is communicating with a human or an automated system through chat, the majority supported that companies should warn, because people can feel “cheated” as they are expecting a person to answer them, because “with humans we like to be more personal” and if “we know beforehand that we are talking with a machine we adjust our expectations and speech” which will lead to

people being "more understanding of potential failures" that may exist. The remainder believe that it is indifferent to them, as long as they get their questions answered.

Automation Situations

Important comments were made like Leonor that says that she prefers self-service to human service as if something goes wrong, she will not blame the brand, but herself, as it might be due to something that she has done, and not because of the software itself. However, if it is a human making a mistake she will get very angry. Also, she believes self-service is better as you don't get judged like when you are shopping, and people observe what you are buying. Ksenia mentioned that she dislikes sometimes the work of these professionals as when they are in a bad mood they can be very rude, so she also prefers machines to avoid those behaviors.

Fátima, on the other hand, values a lot human service as when, for instance, she is on the supermarket and then on the counter the person helps to pack things up in the plastic bags, she feels like her experience gets better.

4.2 Quantitative Research – Online Survey Analysis

The survey has been put up online since the 20th of November 2017 until the 9th of December 2017 collecting 400 sample responses. Not all answers were considered valid as there was lack of cooperation in the answers provided throughout the blocks, so 4 respondents were excluded from the analysis leading to 396 valid responses.

In the following subtopics the sample will be characterized, and data will be prepared before going into in depth analysis of the research questions.

4.2.1 Sample Characterization

By analyzing the 396 individuals, it was possible to understand that 65.9% of those were female respondents while the remaining 34.1% were males. Those with ages between 18 to 24 years old were the largest contributors as 80.1% of the inquired people belonged to that age group, followed by the segment of 25 to 34 years which represented 8.1% of the total respondents, then those between 35 to 44 years with 5.6%, 3.5% between 45 to 54, 2.3% in the range between 55 to 65 and finally only 0.5% below 18 years old.

Concerning their occupations, not surprisingly 56.1% are full-time students, 30.3% are employed, 11.9% are working students and only 1.8% are unemployed. Regarding academic

qualifications, 47.2% already have or are taking their bachelor degree, 42.2% are under the same conditions for the master's degree, 5.8% only high school level, 2.3% have other academic abilities like professional courses, 1.5% have the 9th grade and only 1.0% have PhD's **(see appendix 4).**

4.2.2 Data Reliability

According to Field et al. (2013) there is reliability in our data when a measure accurately depicts the construct that it supposedly analyzes. However, before verifying if our data is trustworthy, reversed scales had to be inverted to be easier to understand the true values of the Cronbach Alpha test which was applied afterwards.

In the applied survey (**see appendix 3**), only the block "Attitudes with Chat" had variables that were analyzing the same construct. The results can be observed in the image below.

Reliability Statistics				
Construct	Type of Respondent	Initial Number of Items	Cronbach's Alpha	Alpha if Item Deleted
Performance Expectancy	Used	2	0,83	-
	Not Used	2	0,809	-
Effort Expectancy	Used	3	0,54	0,541
	Not Used	2	0,644	-
Social Influence	Used	1	-	-
	Not Used	1	-	-
Facilitating Conditions	Used	1	-	-
	Not Used	2	0,42	-

Table 1 - Data Reliability

Out of the 4 presented constructs, only 3 of them went under analysis as "Social Influence" was only evaluated using one variable. As it can be seen, the constructs were divided between 2 different types of respondents – those that had already used a chat before to interact with a brand and those that hadn't. Consequently, the questions were slightly adapted having into consideration the response previously given.

Basing this thesis standards on the work of Nunnally and Bernstein (1994), the acceptable level of Cronbach's Alpha should stand between 0.7 and 0.8 in order to have high reliability, as a consequence only Performance Expectancy and Effort Expectancy (for non-chat users) are high reliability constructs whereas according to DeVellis (1991) alphas below 0.6 are considered unacceptable thus the constructs Facilitating Conditions for non-chat users and Effort Expectancy for chat users are not reliable. According to the same author, alphas between 0.65 and 0.70 are considered minimally acceptable and as Effort Expectancy for non-chat users has a value of 0.644 which is very near to that range of values, it can be considered appropriate.

From this interpretation it is possible to understand that the construct "Performance Expectancy" and "Effort Expectancy" for people who hadn't yet interacted with a chat are the only ones with good internal consistency meaning that the items are evaluating closely related set of items and the remainder aren't.

4.2.3 Factor Analysis (FA)

With the intention of understanding the underlying factors that are being examined (Field, Miles and Field, 2013), three distinct factor analysis were put into practice. The first and second factor analysis was made regarding the previously mentioned constructs to inspect if they match the number of components for the two types of respondents – those who have already used a chat to interact with a brand (N=205) and those who haven't (N=191). The third analysis that was inspected was regarding the aspects and reasons why someone values a chat as a communication system. It is also important to mention that the sample size in the last-mentioned analysis also vary – only those exposed to the chat situation (N=193) are inspected.

Chat Users Scale

After knowing the conclusions achieved by doing Cronbach's Alpha test, it is appropriate to further expand our knowledge by doing a factor analysis to understand if the constructs match the number of components. By producing this analysis, it is understood that there is a correlation between the variables as Bartlett's null hypothesis that the variables are not correlated is rejected and KMO's test score of 0.726 further confirms that inference. However, and as expected from our previous analysis, there aren't four factors. In fact, and as it is expected that the factors explain at least 60% of the variance, eigenvalues should be accepted if above 0.9 which leads to the existence of a factor model where the three factors account for 71.366% of the variance contained in the 7 original variables. Factor 1 represents "Impacts on Life", Factor 2 "Easy Interactions" and Factor 3 "Difficulty to Operate" (**see appendix 5**).

This allows to understand that, in fact, the variables will be evaluating aspects like "Impacts on Life", "Easy Interactions" and "Difficulty to Operate" rather than "Performance Expectancy", "Effort Expectancy", "Social Influence" and "Facilitating Conditions".

Non-Chat Users Scale

In this scale Bartlett's null hypothesis of variables not being correlated is also rejected and KMO's test scores 0.797 which is fair evidence that the variables are correlated. The factor analysis leads to the generation of a two-factor model where the factors account for 62.635% of the variance contained in the 7 original variables. Factor 1 is "Impacts on Life" and Factor 2 can be interpreted as "Easy Interactions**" (see appendix 6)** which will be the aspects evaluated instead of the four previously mentioned ones.

Chat Situation Scale

For this scale and situation, we were able to reject Bartlett's test of Sphericity therefore rejecting the null hypothesis that variables are not correlated which is further emphasized by KMO's test that measured 0.73 which varies between 0 to 1 were the closest to 1 the more correlated the variables are. After this, the analysis extracted six components with eigenvalues higher than 0.9 which allowed to explain almost 62.005% of the total variation. By looking at the Rotated Component Matrix it is understandable that Factor 1 could be described as "Outcome Expectations", Factor 2 as "Sincerity", Factor 3 as "Relationship Developed", Factor 4 as "Textual Preference", Factor 5 as "Communication Expectations" and finally Factor 6 as "Identity Revealed" **(see appendix 7)**.

The mentioned factors are the items subsequently used to understand such things such as if "Sincerity" is a driver of satisfaction for those who use chat.

4.3 In Depth Analysis

In this section, the research questions will be analyzed in detail to reach conclusions. To do this, it was taken into consideration the results that the survey provided, and these will be supported with observations that were made during the interviews and knowledge acquired through the literature review.

\ RQ1.1: Between chat and salesmen, which service representative leads to a better customer experience in low involvement product/service categories?

As the intention of this question is to assess specifically for low involvement products/services, first it was asked for participants to think about a purchase in which they had searched between a limited number of products and where sources of information like online

reviews and friends weren't used as these are typical low involvement behaviors (Laurent and Kapferer, 1985). Following this, questions regarding satisfaction and loyalty were used to understand the impact that the independent variable chat or no chat had on the dependent variables satisfaction and loyalty. The independent variable in this case is a non-metric variable and the dependents are metric, therefore an ANOVA test was the most accurate test to be used.

Before proceeding to the analysis, ANOVA's assumptions need to be met. As mentioned, the independent variable is categorical, and the dependent is metric, so all things considered related to the nature of the variables are verified. There are also no relations between the observations as through Qualtrics' randomization tool and as mentioned in section 3.5.3, the survey was developed in such way that those who answered to the block "Low Involvement Situation – Chat" did not reply to "Low Involvement Situation – Human". About outliers, those that existed were deleted for all dependent variables. Regarding homogeneity of variances, the p value for satisfaction is 0.604, for loyalty is 0.587 and for loyalty groups is 0.948 and since all of those are higher than the used p value of 0.05, the null hypothesis of equality of variances is not rejected. The only assumption left, and which is rejected is that the dependent variables should be normally distributed since after doing Kolmogorov-Smirnov's test for the three mentioned dependent variables their p value was of 0.000, however as ANOVA's test is robust, it is possible to proceed with the analysis of the ANOVA (Field, Miles and Field, 2013).

For satisfaction, we can't reject ANOVA's null hypothesis of equality of means ($p=0.491>0,05$) therefore we can't assess that there are significant statistical differences between the satisfaction of a user when using a chat or a salesman whereas for loyalty and loyalty groups, the null hypothesis is rejected ($p=0,008$ and $p=0.039$ respectively which is lower than the used p level of 0,05) therefore the means are in fact different between the two independent groups. In fact, loyalty has a mean of about 7.68 when there is no use of chat and 6.96 when chat is used, which can also be a mean of 2,06 when a salesman is used and 1.84 when chat is used (referring to the NPS group categories) therefore we can understand that when a chat is used, loyalty changes negatively **(see appendix 8)**.

Resuming, this means that when a chat is used it is not possible to infer that it will change either positively or negatively the satisfaction, however loyalty is not as high as when a traditional agent is used in low involvement situations.

\ RQ1.2: Between chat and salesmen, which service representative leads to a better customer experience in high involvement product/service categories?

Following the same logic as the previous research question, first it was asked for respondents to think about a purchase in which they had compared between different alternatives and where they had taken into consideration sources of information since those are high involvement behaviors (Laurent and Kapferer, 1985).

Likewise, before proceeding to the analysis, ANOVA's assumptions were scrutinized. The nature of the variables remains untouched as the only thing that changed was the respondents and these observations are also independent (respondents from block "High Involvement Situation – Chat" and "High Involvement Situation – Human"). The outliers were also deleted from the analysis. For this level of involvement, the assumption of homogeneity of variances is met as for satisfaction the p level is 0.16, for loyalty 0.156 and loyalty NPS groups 0.240 which are both values higher than the used p value of 0.05. Similar to what happened in the previous research question, the dependent variables are not normally distributed as Kolmogorov-Smirnov's null hypothesis was rejected, but ANOVA is robust enough to proceed with the analysis (Field, Miles and Field, 2013).

Following that, the ANOVA test itself is analyzed and for all dependent variables the null hypothesis of equality of means can't be rejected as for satisfaction the p value is 0.22, for loyalty 0.934 and for loyalty NPS groups 0.787 which are all values higher than the used p value of 0.05 **(see appendix 9)**.

With this, it is impossible to conclude if there is a better option to enhance the customer experience in high involvement categories.

\ RQ2.1: Which are the factors that contribute to the generation of satisfaction in a chat?

To understand which are the relevant variables that contribute to the satisfaction in a chat, the factors generated for "Chat Situation Scale" were used. As both the dependent variable (Satisfaction) and the independents (Factors) are metric, a multiple linear regression was implemented.

However, before proceeding with the analysis, several assumptions and correlation must be investigated. Regarding correlation, there is no value above 0.8 manifesting multicollinearity

and pearson's correlation is 0.000 therefore there is a statistically significant linear relationship between the variables. The nonexistence of multicollinearity is further emphasized by having tolerance levels above 0.4, VIF lower than 2.5 and condition index below 15. The assumptions of error term being normally distributed and mean of error term being 0 can be checked through the histogram and normal p-p plots that are presented adequately and variance is constant as through scatterplot it is possible to notice that there is no pattern and values are around 0. Concerning error terms being independent, Durbin Watson accused a level of 1,987 which is near the acceptable level of 2 therefore all assumptions are met.

With this, a model with 6 factors were originated where it explains 45.4% of the variance on the dependent variable. By analyzing ANOVA, as the significance level is 0.000 this means that the null hypothesis that all coefficients on the independent variable are 0 is rejected thus the model has explanatory power which means that at least one independent variable is having a significant effect on the dependent variable. In this case, by analyzing the coefficients, it is understood that the variable is "Outcome Expectations" as it is the only one with a p value lower than 0,05, in this case it is of 0,000. **(see appendix 10).** Therefore, Satisfaction can be calculated in the following way:

Satisfaction with Chat = 6,927 + 1,338 * Outcome Expectations

\ RQ2.2: Which are the factors that contribute to the generation of loyalty in a chat?

In this question, the analysis is similar, the only thing that changes is the dependent variable which is now Loyalty. Regarding correlation between the variables, the independent variables are the same as in RQ2.1 therefore there is no multicollinearity and the values of VIF are below 2.5, tolerance above 0.4 and condition index below 15 which are deemed as acceptable. The error term follows a normal distribution and its' mean is 0 as seen through the **appendix 11** and the variance is constant**.** In this case, Durbin-Watson is of 2.104 which is near the admissible level of 2 therefore it is ok to proceed with the analysis**.**

For a model with 6 factors, it can explain 29.2% of the variance on the dependent variable loyalty. Regarding ANOVA, its' null hypothesis is rejected as the p value is 0.000 therefore there is at least one independent variable with significant effect on the dependent. Through the observation of the Coefficients, it is understood that there are 2 significant

variables which are “Outcome Expectations” and “Sincerity” with respective p-values of 0,000 and 0,005. Loyalty then can be calculated as:

Loyalty with Chat = 7,098 + 1,013 * Outcome Expectations + (-0,360) * Sincerity

\\ RQ3: Which are the pros and cons of a chat?

To unveil the aspects that people value the most and the least, frequencies were calculated. Regarding positive aspects, it was understood that people overall value the convenience of the software (53%) specifically being able to perform tasks while doing something else at the same time (62.9%) and not having to commute (71.9%) and the communication style (21.2%) as there is no necessity to interact with people directly (36.9%) and if there is an issue, the users will not be as mad as if it was a person (41.7%).

On the other hand, the most problematic issues are the impersonality of communication (58.8%) mainly not being able to understand if the “person” on the other side is paying attention to the problem being exposed (53.2%) and the superficial answers provided (43.8%), and technical difficulties (24.7%) can be deceiving as some believe that chat has underperforming capabilities (45.9%) and that it can’t carry out complex tasks (52%) **(see appendix 12).**

\\ RQ4: What are the attitudes that people have towards chatbots?

Automation is becoming a reality for messaging platforms and it is expected that in the near future people will be much more exposed to automated software systems (Bazilian, 2017), so it is important to know how society feels at the present moment regarding chatbots and how to better prepare them for this likely future situation.

By running frequencies on different questions that were asked to the entire sample, it was possible to get an understanding of current expectations. When asked if people would feel comfortable interacting with a brand through chat if it was an automated software providing the outcome, 47.7% disagreed with it to some extent while only 39,4% agreed with it to some extent. It was also possible to understand that people expect companies to warn beforehand if they are interacting with a robot or a human as 69.9% disagreed that it is not a company’s ethical duty to warn.

Even though 84.4% expect the existence of more chatbots in the future, there are mixed opinions regarding their future use as when asked if they believe that they will be using chatbots

in a daily basis in the future, 30.1% disagree to some extent, 27.8% agree to some extent and the remaining 42.2% are not sure. The same applies to what people expect of the impact of these agents as 43.7% neither agreed neither disagreed with the affirmation “my satisfaction and probability of recommending a brand would increase after interacting with a chatbot”, however 40.7% disagree with this to some extent, so most people aren’t really expecting a positive result by using these new systems **(see appendix 13).**

5

Conclusions

CHAPTER 5 – CONCLUSIONS

5.1 Conclusions

For this sample and research employed, in high involvement products/services, there were no statistical significant differences between the use of a chat or of traditional agents to improve the customer experience which means that it wasn't possible to infer which one leads to a better outcome. However for low involvement and for this sample, loyalty is higher when the latter option is used which can be explained by the increasing trend of valuing more and more the humanness of the service (Accenture, 2017).

The only variable that contributes significantly in a positive way for both satisfaction and loyalty when chat is used is related with outcome expectations. This means that if the answer provided when interacting through chat is what the user is expecting it to be while not commuting to the store, if the conversation flows rationally and if the content is personalized it will generate additional satisfaction/loyalty. However, one must notice that the importance given to the outcome is higher to increase satisfaction than to increase loyalty, meaning that to achieve a satisfactory experience, it is given much more emphasis to the result than when thinking about recommending the service. For loyalty, the factor related with the non-existence of sincerity in the actions performed by the employee also affects negatively meaning that if honest and personal opinions are not shared and if the issue being taken into consideration isn't dealt with in a serious way, loyalty will decrease.

For this sample, the value added that comes from using a chat instead of any other means of communication is the convenience that the software allows of not having to commute to a shop to satisfy their needs and the ability of performing a task while simultaneously doing something else and the communication style of the software as people argue that they wouldn't be as mad with a mistake made by this program as they would be if it was an individual doing just like Leonor mentioned and as Scherer and Wangenheim (2016) proved in their research. Another strong point is that through chat, people do not need to interact with people directly as there is an ongoing tendency of people preferring to type rather than to interact with people (Albro, 2012) just like Ksenia mentioned in the interview that if she doesn't engage in a conversation with someone, her experience will be better.

However, there are some very strong negative issues that people have pointed out, specifically how impersonal conversations can be when developed through chat as people are not sure if the user on the other side is paying attention to the issue and the superficial answers provided which is exactly what Fátima stated "I will not know if the men on the other side is paying me the attention I deserve, he will probably be also answering other people and will give me a nonsense or standard answer". These are some of the reasons why individuals sometimes value more humans than artificial agents (Asada, 2015) as empathy is a pre-requisite to have a satisfying experience (Zeithaml, Berry and Parasuraman, 1996). Notwithstanding, live chat can be a great platform to reduce the anonymity and the barriers between the customer and the company (Albro, 2012) or the use of pictures of service agents can develop perceptions of social presence and influence positively the attitudes that people have towards these agents, just like emoticons can induce empathetic behavior (McLean and Osei-Frimpong, 2017) which is a downside that had been pointed out by Ksenia when she described that humans have added values besides the outcome, they make people feel something and through chat, emotions can also be shared.

It has also been stated that there are other problems that bother a great percentage of the sample which is the existence of technical issues as it is a belief that through chat no complex tasks can be developed as its' potential is underperforming compared to what people expect of it. This has already been stated (Etlinger, 2017; Klie, 2017) yet, if a brand does not overpromise and explains previously which tasks it can perform, it will provide a valuable experience (3Cinteractive Corporation, 2017).

Concerning the individual's attitudes towards chatbots, overall almost half of the sample believes that they wouldn't be comfortable interacting with a brand if it was an automated system replying which might mean that people overall are not as educated towards the use of these technologies as Albro (2012) states. This is emphasized when it was concluded that companies have an ethical duty to warn people beforehand if they are going to interact with a robot or a human as if people know with what/whom they are going to interact "I will adapt my speech and my expectations" and thus "I will not feel cheated". And that even though in the future, more chatbots are expected to exist, there aren't any conclusions to if people expect to be using them and that it is not expected to having a positive impact in the experience as expectations are built on previous experiences which might haven't been very positive (McLean and Osei-Frimpong, 2017).

5.2 Recommendations

As it has been understood, RM can be a great investment if done right (Yang and Peterson, 2004) and its core actions reside on getting to know better who is the customer that its being dealt with (Grönroos, 1990). As a first step, one must realize if their brand has more low involvement customer profiles or high involvement ones. If the first is the case, it will not be a good investment to totally substitute typical salesman for a chat, as loyalty will be higher if the traditional approach is used. If the customers have high involvement towards the products sold which, based on the survey employed, usually happens in product categories like smartphones and computers, the results were inconclusive as the sample has very distinct opinions towards the use of chat and salesman.

There are different reasons as to why this might happen as based on Bárbara's words, interacting with a salesman "enhances my confidence" which can be translated as a necessity to interact with a human being that is recognized as an expert or also because there is only a limited number of brands present in Portugal like *El Corte Inglês* or *Novo Banco* that have the option of communicating through chat, which goes against the affirmation of Albro (2012) that in order to use chat, people do not need to be educated. Therefore, before implementing a new technology like chat, customers need to be educated.

Following the same line of thought, it has been mentioned that some of the negative aspects of chat is the inability to perform more complex tasks and the underperforming capabilities that it offers. However, if expectations are previously set up and if brands clarify exactly what the chat allows to perform, it will lead to a better experience overall (3Cinteractive Corporation, 2017). Specifically, the sample used stated that using chat can be useful to have access to information and to solve their technical issues which confirms affirmations done by 3Cinteractive Corporation (2017) and Albro (2012) that the use of this engine is meant for general inquiries, but then again, in order to have a seamless omnichannel strategy, it is necessary to understand which are the channels that the different segments of customers prefer to use (inContact, 2015).

Other negative aspects whose impact can be nullified is the impersonality factor associated with the chat that can be inverted if a live chat option is used (Albro, 2012) or pictures of service agents (McLean and Osei-Frimpong, 2017) as both have substantial effects on the perception of social presence to mitigate the pointed out issue of not knowing if the agent is paying

attention to the problem being stated and to reduce the concern with superficial answers, emoticons can be used to enhance the lack of empathetic behavior (McLean and Osei-Frimpong, 2017).

Returning to the education strategy, it would be best to emphasize the unique added value that the software brings which is the possibility of interacting through chat while doing something else, of not having to physically commute to the store to get to know something and that there is no necessity of interacting with a person directly. Coupling this and knowing that overall the variable that matters the most is the Outcome Expectations and that this is the only variable that contributes to satisfaction it means that a brand should make sure that the result that a consumer has in the digital customer journey needs to be as good as the outcome that one would get through any other channel. After delivering this satisfying experience and knowing that satisfaction is an antecedent of loyalty (Wirtz and Lovelock, 2016), to achieve loyal customers one needs to also introduce sincerity factors in this platform (transmitting honest opinions, taking the issues seriously and sharing personal opinions). Sincerity can also be achieved through recommendations that the chat can give basing the opinion on other consumers' testimonials on websites like TripAdvisor/Zomato/Booking as an example.

If a brand is considering implementing a chatbot which is an automated software system, it must warn beforehand if a user is interacting with a robot or a human as people will adapt their expectations accordingly, but additional clarifications should be considered as the sample indicated that they wouldn't feel comfortable interacting with a robot. However, if the previous recommendations are taken into consideration, it might lead to different beliefs and extinguish the existing thoughts that a robot wouldn't improve their experience and that in the future they will not be using these more frequently as it has been stated that big investments are being made in this area (Taillon and Mueller, 2014; Gartner, 2016; IDC, 2017).

5.3 Limitations and Future Research

There were some limitations that have been found throughout the development of this thesis. First of all, even though the sample under analysis has an appropriate size to be studied as there are over 384 answers (Saunders, Lewis and Thornhill, 2008), some blocks were only replied by one fourth of the total sample size and others by one half, therefore it might be insufficient and might have been better if there were more individuals answering to these questions to get more precise conclusions. Additionally, the sample chosen is nor random nor

representative of the population which leads to biased results which are not representative of what the overall population thinks.

One second issue that has arisen was the difficulty to find articles from top journals as there is very little literature on topics like automation or chatbots, as they are recent subjects and there is a lack of research done about these issues.

Some questions might also present social desirability bias for instance when asked if one would feel comfortable interacting with a brand through chat even if it was an automated system, people might have answered that they were comfortable with it when in fact they are not that comfortable.

Also, if there were more interviews in which it was possible to reach more in-depth conclusions regarding the reasons why someone would prefer a salesman over a chat would allow the creation of a better and more accurate survey, however it requires an interviewer that is experienced in probing underlying constructs.

For future research, it would be of great importance to question even further the attitudes that people have towards chatbots, for instance, if people would trust a chatbot to receive their personal and more sensitive information which might be of high concern for industries like banking or insurance or why exactly some people require the confirmation of a human before buying something, to understand if the variables that drive satisfaction change according to the type of situation (depending if the interaction is due to requiring information, seeking technical assistance, comparing products, etc.) which wasn't done initially due to the extensiveness that the survey would become, which would lead to an inferior sample size and finally to empirically test each of those variables.

APPENDIX

Appendix 1 – Qualitative Script

1. Welcome

"Good morning! Thank you for your time to participate in this interview. The intention is to uncover the impact that automation in perfect simulation scenarios has and to compare it with typical service representatives. Please consider that there are no wrong or right answers, your opinions and preferences is what is trying to be assessed."

2. Questions

2.1 Demographics

- What is your gender?
- What is your age?

(Adequate the questions to each person)

2.2 High Involvement Experience and Possibility of Solving Through Chat

- What was the last product you bought in which you:
    - Have searched among a wide array of alternatives and compared them
    - Have taken into consideration different types of sources of information like online forums and friends
    - Have interacted with a service representative
- On a scale from 1-10 how was your prior satisfaction with that brand before the purchasing process?
- On a scale from 0-10 how was the likelihood of you recommending the product/service to a friend or family before the purchasing process?
- In which situation have you required to interact with the brand?
- Through which channel have you interacted with the service representative?
- Which struggles have you found while communicating through that channel?
- Do you believe that there was a better channel to solve your issue?
- After having your situation sorted with the service representative, what was your level of satisfaction on a scale from 0-10?
- On a scale from 1-10 what is the likelihood of you recommending that service a friend or family?
- Do you think that the issue could have been solved through a chat with a representative?
- Would your opinion change if you knew beforehand that what is answering you is a robot?
    - If no: Even in a perfect simulation where the robot has the same capabilities to solve the issue as a human?
- Do you believe that your satisfaction and loyalty would be affected positively or negatively if the situation was solved through a chatbot? If so, please evaluate on a scale from 0-10 and 1-10 respectively.

2.3 Low Involvement Experience and Possibility of Solving Through Chat

- What was the last product you bought in which you:
  - Have searched a limited number of brands if any
  - Did not require any type of source of information
  - Have interacted with a service representative
- On a scale from 1-10 how was your prior satisfaction with that brand before the purchasing process?
- On a scale from 0-10 how was the likelihood of you recommending the product/service to a friend or family before the purchasing process?
- In which situation have you required to interact with the brand?
- Through which channel have you interacted with the service representative?
- Which struggles have you found while communicating through that channel?
- Do you believe that there was a better way to solve your issue?
- After having your situation sorted with the service representative, what was your level of satisfaction on a scale from 0-10?
- On a scale from 1-10 what is the likelihood of you recommending that service a friend or family?
- Do you think that the issue could have been solved through a chat with a representative?
- Would your opinion change if you knew beforehand that what is answering your answer is a robot?
  - If no: Even in a perfect simulation where the robot has the same capabilities to solve the issue as a human?
- Do you believe that your satisfaction and loyalty would be affected positively or negatively if the situation was solved through a chatbot? If so, please evaluate on a scale from 0-10 and 1-10 respectively.

3. Chat and chatbot attitudes

- Have you ever interacted with a company through chat?
  - If yes: Did you understand that it was a bot or a human?
    - If yes: Did it make a difference?
    - If no: Would it make a difference?
- Would you feel comfortable interacting through chat?
- What are the benefits of communicating through chat?
- What are the downsides of communicating through chat?
- Which tasks could a chatbot perform that people do in customer service deparments?
- Is it your opinion that companies should warn beforehand if it is a human or a chatbot solving the problem? Is it their ethical duty?

4. Scenarios of Automation

- Present two of the following scenarios:
  - Imagine that you are on the highway driving your car and there is a system of toll with the possibility of paying the fee through to an automated system, with a human or if you have the stamp you can go

on the fast lane. In a perfect simulation in which there is no traffic and paying with a human or with a machine has the same exact speed of process, which of the three would you choose?

- Why is that?
- What are the characteristics that bother you the most in each type?
- What are the characteristics that please you the most in each type?

- Imagine that you have to transfer money to another account. You remember that you have this urgent task exactly when you are passing by your bank and you see that there is nobody in line, so you would be able to be attended immediately. Having in mind that you could do the same exact task through an ATM, on the counter or through home banking, which one would you choose if there were no differences in speed of process?
  - Why would you prefer that one in detriment of the others?
  - What are the characteristics that bother you the most in each type?
  - What are the characteristics that please you the most in each type?
- Imagine that you are in the supermarket and there are no people in line. Which method would you use to pay your shopping – Self-service or human service?
  - What are the characteristics that bother you the most in each type?
  - What are the characteristics that please you the most in each type?
- Imagine that you are in the gas station and that there are no people in line. Which method would you use to fuel up your car – Self-service or human service?
  - What are the characteristics that bother you the most in each type?
  - What are the characteristics that please you the most in each type?

5. Closing and thanks.

Appendix 2 – Qualitative Results

	Inês	Ksenia	Guilherme	Seixas	Bárbara	Leonor	António	Maria de Fátima
Gender	Female	Female	Male	Female	Female	Female	Male	Female
Age	29	21	23	22	23	24	56	58
High Involvement Product	Smartphone - Samsung	Asus - Laptop	2nd Hand Phone - iPhone through FNAC	Computer - ASUS	Smartphone - Wiko	Bank - Montepio	Laptop - Microsoft	Coat
Satisfaction before purchasing	7	N/A	7 - Usually buys there high priced products, credibility	8 - It is a trusted brand	N/A	8 - Never had an issue, there's trust	7	10
Loyalty before purchasing	7	N/A	6 - Good brand, but overpriced	9 - Based on friends' experience	N/A	7 - Good bank, likes the app	8	9 - Good quality
Situation where needed to interact	**Suggestion**	**Information - Specs | Cross-sale**	**Complaint**	**Informing and selecting best PC**	**Compare phones | Test**	Balcony - Do withraws, information about the account, interest rates; Phone - MB Way App questions, remember password	Information	Complaint
Channel	Face to face, on the stoer	Face to face on the shop	Email	Balcony and on the shop	Face to face, on the shop	Balcony and Call Center	Face to face, on the shop	On the shop
Struggles faced	Taking too long until being served	No technical knowledge	They were a bit slow replying	None	**Lack of technical knowledge**	Phone - Has to be kept waiting, insert information that is inside an app on the phone, **sometimes the call goes off**, when you make a **mistake in the IVR you need to do it all over again**	Did not know the answer	None - Lady heard the situation and clarified it
Better channel?	Online comparison	A **machine with FAQs** while on the shop [Something that **allows autonomy**, **don't like pushy people**]	**No, all evidence is there as a proof**	None	**Yes - Online comparison**	Chat could be more efficient	Ask online	No
Satisfaction after interaction	6 - Having to go after them, long time waiting	9 because they were boring trying to cross-sale	8 - They handled well the situation	8 - Useful, but as she expected	6 - Did what was expected, **only talking already enhanced confidence in the decision**	Keeps at 8, but the man was nice	7	5 - The coat was still not fixed
Loyalty after interaction	5 - They were slow and not very attentive	10 - Got very satisfied with the other man, **did what he had to do, then left her alone** [She likes]	7 - Same	8	4 - **It is essential**, but did not like much	Keeps at 7	8	4 - The brand is still good though
Issue able to be solved through chat?	Yes	Yes	Yes	**Complement**	Yes	Yes	Yes	Yes - But, you don't have someone looking you in the eyes, **you don't know if the person truly cares, if is taking the situation seriously, if there is empathy**
What if it is a robot?	Yes	Yes, but due to her lack of technological knowledge, **maybe bot couldn't understand**	No, issue was solved because the **employee understood** that the **guy selling the phone was fraudulent and was acting in bad faith**	Might be a complement	Yes	**Yes, messages are usually nice like "Do you need anything else?"**	Yes	**Wouldn't be comfortable, lacks human factors, it is superficial, no emotions, cold**
Even if robot is able to do same as human?	-	N/A	Yes	Yes	N/A	N/A	-	Would still feel the same way
Sat. & loyalty would be affected if chat?	Satisfaction - 7 as reply would be instantaneous | Loyalty - 7	Satisfaction: **5 as there wouldn't be the human interaction** (man was funny) so it would be neutral | Loyalty: 5, she got what she wanted, but that's it	It would be the same	Yes - Satisfaction would change to 9 as well as loyalty	Satisfaction - 8 **it would spare time, the brand wouldn't lie** | Loyalty - 8	It would probably keep the same way, but it is nice to have the option to use chat if I am in a crowd	Satisfaction and loyalty would remain the same, but maybe I wouldn't have bought product	Yes, would accept better the answer in person, **"the person explains herself and apologizes", "a machine will always be a machine, it is impersonal"**
Low Involvement Product	Zara - Boots	Comboios de Portugal - Monthly Pass	Giftcard - Multiopticas	Wax Stripes	Pijama - Primark	Gym - Fitness Hut	Gym - Pump	Face lotion - Eisenberg
Satisfaction before purchasing	8	4 - Dissatisfied as she doesn't know when trains are late	8 - Gosta atendimento	N/A	7	N/A	5	9
Loyalty before purchasing	8	5 - Service accomplishes what it is suposed to do	9 - Atendimento, prestáveis, atenciosos	N/A	9 - Price is the reason why I firmly recommend	N/A	6	9
Situation where needed to interact	**Doubts** (same product, different colour), trading products	Information and Sales	**Suggestion of a gift and sale**	Information - **Know if product was good for its' price**	Get to know if different colors, numbers are available, prices	Wanted to sign up | Wanted to leave	Information about sign up	**Recommendation** - Wanted to be sure if it is the most adequate (skinwise and agewise) as it is expensive, wanted to be sure
Channel	Face to face, on the shop	Balcony | On the train	Face to face, balcony	On the shop	Face to face, on the shop	Sign up: Email and phone | Leave: Website	Face to face, promotional stand	On the shop, lady asked her if she needed help
Struggles faced	N/A	Balcony - System failures | ATM - None! | Machine - **Complexity of the system**	None	None	Some employees not knowing about what is asked	Email: There was a delay leading to a double sign up	Having to deslocate to that place	No
Better channel?	N/A	ATM - More practic, ease to reach one	None	**None**	Online website	No	Email	No - But if it is **for more intimate products, it would be better, people don't feel judged**
Satisfaction after interaction	8	6 - Usually **they are nice [They smile back, say "Have a nice day"]**	Same	8 - Very **happy due to the transparency with the opinion**	4 - No knowledge about question	8 - They were efficient, fixed everything	7 - The lady there was very helpfun and funny	8 - Recommended her the best product, gave **more confidence in the purchase decision**
Loyalty after interaction	8	5	Same	8 - Liked a lot the service	6 - Still cheap	8 - For being efficient	7	9
Issue able to be solved through chat?	**Yes**	Yes	Sim	Not in this case, **can't be transparent in chat, can't share personal opinion**	Yes	Yes	Yes	Yes, but it is easier in person, as they look at you and know what is best, in chat would have to describe myself adequately
What if it is a robot?	Maybe - Might not be happy with the answer. Does the **bot really know what is he talking about**? Might **not** be 100% **trustworthy**	Yes	Sim	Sitll no	Yes	Yes	Yes - I only wanted to make sure I had a discount	Same
Even if robot is able to do same as human?	Human is more **credible and trustworthy**	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Sat. & loyalty would be affected if chat?	**Would stay the same**	Satisfaction: 5 as **robot would tell if trains are late** | Loyalty: 5	**No - Doesn't trust robots**	N/A	Satisfaction - 9 **wouldn't need to lose my time** | Loyalty - Wouldn't change	No	Yes - Satisfaction and loyalty maybe wouldn't have increased, nor maybe I had sign up as fast as I did after talking with that spokesperson	No

Ever interacted w/ brand through chat?	No	No	Yes - Facebook	Yes - "Licor 35 Pastel de Nata"	No	Yes - Microsoft	No	No
Was it a bot or human?	N/A	N/A	Yes, it was a human	Yes - It was a person	N/A	I believe it was a human, but not sure	N/A	N/A
Confortable talking w/ brand in chat?	Yes	Yes	N/A	Depends on the eficiency	Yes	Yes	Yes	Yes
Would it make a difference if it was a bot or human?	Yes - **Might not be trustworthy**	No, **as long as she doesn't have to interact with someone it is better**	No	Yes - With humans we feel empathy, **they adjust to our speech and they get closer to your intentions**	No	No	Yes, **but he doesn't like as it already has pre-defined answers**	No
Benefits of chat	Fastness, **Convenience**	**Convenience, anonymity**	**They are not influenced by emotions, more rational**	Being fast, no necessity of deslocating, being clear	Fast and concise answers	Fast, efficient, writing is easier if in a crowd	Cheap and practic, efficient	Practic, efficient, accessible
Downsides of chat	Might **not be trustworthy**	Might **not be able to understand questions**	**Losing the face of the brand, no affinity is captured**	Sometimes they don't answer as they should	**Not understanding questions**	**Not understanding the human part**	**Impersonal,** would rather have face to face conversations	Lack of frontality
Which tasks could a chatbot replace a human?	**Complains, information**	**Doubts, suggest products based on consumers' profile**	**To give information and to complain**	**Ask for information, get suggestions** with images and videos more detailed with the industry, **testimonials** to prove what it says	**Giving recommendations**	**Easier tasks and then forward to a human if it gets difficult**	Provide information, solving issues	Informations, recommendations, inform about future events
Should companies tell befehorehand if it is a robot?	Yes	**Yes - People can feel cheated**	No	**Yes - Makes the consumer more understanding of potential failures**	**Yes - The way people are going to interact is different and how you accept answers**	No	Yes - **If it was a robot answering it's likely that I would terminate the conversation**	Depends - If it is a more sensible subject like an hospital, needs to be a person | If is like to buy a perfume, it is more ok, but still we will adapt our speech. If it is a human we are more personal
Highway situation	Supermarket Situation: Self-Service or Human Service?					Gas station Situation Would choose Self Service or Done by Human?	Gas station Situation Would choose Self Service or Done by Human?	Supermarket Situation: Self-Service or Human Service?
Prefered method	Human Service	Fast Lane	Fast Lane	Fast Lane	Fast Lane	Self-Service	Human	Human
Why	Positive Aspect Human Service: Prefers contact with a human, feel more confidence	No stops	No stops	No need to stop	No interactions, saves time	Positive Aspects Self-Service: **Independence** in the process, **if there is something wrong she will not get mad**, because **it is probably her fault, anonymous,** if I buy something **nobody will see or judge**	Moral consciousness, help man to keep the job	**Likes "Good morning" "Good afternoon", when they help to pack our shopping**
Bother in Fast Lane	Positivo Aspect Self Service: It is faster for a small number of items	Implementing the tool on the car	Nothing	None	Nothing	Positive Aspects Human Service: **Personal nature like "Good morning/afternoon"**	Negative Aspects of Human Service: None	Negative Self-Service: Not personal
Bother in Automatic Machine	Negative Aspect Self Service: It it doesn't print the invoice	Stopping	Stoping	None	Nothing	Negative Aspects Self-Service: Contributing towards irradication of jobs	Negative aspects of Self-Service: Having to get my hands dirty	Negative Human Service: If they are not professional and nice
Bother in Human	Negative Aspects of Human Service: **People sometimes are rude and unprofessional, sometimes feel judged based on what is bought**	Stopping	Stoping and getting change	None	Not practic	Negative Aspect Human Service: **If there is a problem I will blame them**	Positive aspects of Self-Service: None	Positive Self-Service: Practic
Please in Fast Lane		Not stopping	No stops	No need to stop	No need to interact, waste time			
Please in Automatic Machine		Indifferent	Nothing	Indifferent	More practice			
Please in Human		Nothing - not even empathy (When they say "Have a nice trip" they don't mean it	Nothing	The person helps to make the payment	Nothing			
Bank Situation								
Prefered method	ATM	ATM	ATM	Balcony	Home Banking	Home Banking	Home Banking	Balcony
Why	Positive Aspect ATM: Doesn't like to show money, **more discret**	Simple, Safe	Very simple	People work for you	Habit, fast	Positive Aspect Home Banking: App is very practic, doesn't waste time	Positive Aspects Home Banking: Don't have a cost associated, fast	Positive Human Service: Likes to interact with the worked, more convenient
Bother in ATM	Negative Aspect Human Service: T**hey are not discret**	Might be an inconvenient if it doesn't have paper and I want the invoice	Nothing	None	Not having invoices, want proof of transfering money	Negative Home Banking: **More specific things** like "Crédito Habitação" **are hard to be dealt with** through that channel	Negativo aspects of Balcony: Costs money to do money transfers	Negative Human Service: **If they are not considerate** or if they are talking instead of working
Bother in Balcony	Negative Aspect Home Banking: Don't know	There's more steps in the process	**Likes to avoid people, usually they are not nice**	None	People who talk a lot, too calm doing the process	Positive Aspect Balcony Service: **Things are better treated, there are additional clarifications**	Positivo Aspects of Balcony: Better to complain	Positive ATM: Open 24/7
Bother in Home Banking	Negative Aspect ATM: More limited tasks, **less credible and reliable**	Hackers, associated risk, too many information asked	They might forget that they have to do their tasks	All the codes	Too fast then logs out	Negative Aspect Balcony Service: Not being open 24/7	Negative aspects of Home Banking: None	Negative ATM: If broken
Prefer in ATM	Positive Aspect Home Banking: Confidentiality	Safest method	Get the invoice	Easier than home banking	More simple	Positive Aspect ATM Service: Open 24/7	Positive Aspects of ATM: Don't use	Positive Home Banking: Practic
Prefer in Balcon	Positive Aspect Human Service: Seriousness, professionalism	**Empathy**	Nothing	People work for you	Nothing	Negative Aspect ATM Service: Machines sometimes are not working	Negative Aspects of ATM: Don't use	Negative Home Banking: Don't know, don't use
Prefer in Home Banking		**Convinience**	Convenience	Convenience	Habit, fast, **independence**			

Appendix 3 - Survey Structure

Block: Welcome Message

Dear participant,

I would to thank you in advance for having the interest in filling in this survey for my Master Thesis at Católica Lisbon School of Business and Economics.

There are no right or wrong answers in this survey since I truly want to access if the implementation of a determined system is worthwhile or not. Also, have in mind that the answers are totally anonymous.

As a reward for your time, I will give-away a 20€ Gift Card for you to use on FNAC. For that, I will need your e-mail (asked at the end of the survey). If you don't provide your e-mail, you won't be eligible.

Thank you once again for your time and collaboration,

Diogo de Bernardes Henriques e Almeida Diogo

Block: High Involvement Evaluation [Half of the respondents have answered this block]

1. Please think and write down a product or service category in which you in your last purchasing decision:

- Have searched among a wide array of alternatives and compared them;

- Have taken into consideration different types of sources of information like family, friends, online forums and reviews.

Please remember the product/service you wrote here as the following questions will be made regarding your choice.

2. In selecting from the many types and brands of the product/service category chosen that are available in the market, would you say that:

3. How important would it be to you to make a right choice of this product/service?

4. In making your selection of this product/service, how concerned would you be about the outcome of your choice?

Block: Low Involvement Evaluation [Half of the respondents have answered this block]

1. Please think and write down a product or service category in which you in your last purchasing decision:

- Have searched a limited number of brands if any;

- Haven't taken into consideration different types of sources of information like family, friends, online forums and reviews.

Please remember the product/service you wrote here as the following questions will be made regarding your choice.

2. In selecting from the many types and brands of the product/service category chosen that are available in the market, would you say that:

3. How important would it be to you to make a right choice of this product/service?

4. In making your selection of this product/service, how concerned would you be about the outcome of your choice?

Block: High Involvement Scenario - Chat [Half of those that have answered the block "High Involvement Evaluation" have answered this block]

Please consider the following scenario:

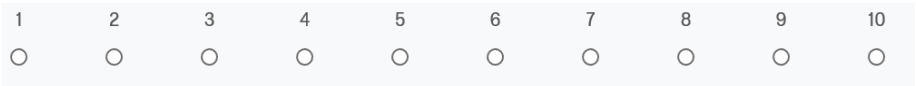
- Imagine that you haven't bought that product yet;

- As you want to be sure of your selection, you require assistance as you have doubts regarding which is the most appropriate alternative having in mind your preferences and restrictions;

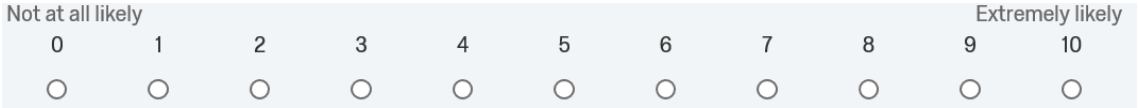
- Facing this issue, you decide to interact with a brand representative through chat.

You can see below an example of how does a conversation typically unfolds through chat

1. On a scale from 1-10, how satisfied do you believe that you would be with the outcome that this channel would provide?



2. On a scale from 0-10, how likely do you believe that you would be to recommend that brand to family and friends if your doubts were solved through chat?



3. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind the evaluation you gave previously?

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
I believe that the answer provided through chat will be exactly what I expect it to be	○	○	○	○	○
I value my identity not being disclosed when talking through chat	○	○	○	○	○
Having to commute to the shop is a bothersome activity	○	○	○	○	○
I trust the recommendations based on reviews that the chat gives	○	○	○	○	○
I don't fear judgement when communicating through chat	○	○	○	○	○
I prefer to communicate through text rather than to speak	○	○	○	○	○
The comments transmitted through chat are rational	○	○	○	○	○
I find it difficult to express myself through text	○	○	○	○	○
I do not enjoy the lack of personalization in the answers provided	○	○	○	○	○
All communication through chat is emotionless	○	○	○	○	○
I expect no empathy shown when interacting through chat	○	○	○	○	○
When communicating through chat I do not develop my affinity with the brand	○	○	○	○	○
It is my belief that honest opinions can't be shared through chat	○	○	○	○	○
Through this approach my issues aren't taken seriously	○	○	○	○	○
I find it easy to express more personal issues through this method	○	○	○	○	○
Personal opinions can't be shared through chat	○	○	○	○	○

4. Which (if any) of the following channels would you rather use to satisfy the same need?

a) Ask on the shop

b) Call customer service

c) Email them

d) Social media (for example Facebook)

e) Other (Open entry)

f) None

[If "none" is not selected on question 4.] 5. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind why you chose the previous alternative to chat:

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
Personal opinions are more easily transmitted through this mean	○	○	○	○	○
Through this channel I have a better understanding if my issue is being taken seriously	○	○	○	○	○
I trust more the information and recommendations given through this option	○	○	○	○	○
I would establish a deeper connection with the brand through this medium	○	○	○	○	○
I believe it is easier to explain my issue through this channel	○	○	○	○	○
Empathy would be better demonstrated through this channel	○	○	○	○	○
The answers obtained are much more honest than through chat	○	○	○	○	○
It is my belief I would get a more personalized service through this channel	○	○	○	○	○

Block: High Involvement Scenario - Human [Half of those that have answered the block "High Involvement Evaluation" have answered this block]

Please consider the following scenario:

- Imagine that you haven't bought that product yet;

- As you want to be sure of your selection, you require assistance as you have doubts regarding which is the most appropriate alternative having in mind your preferences and restrictions;

- Facing this issue, you decide to interact with a brand representative on the shop.

1. On a scale from 1-10, how satisfied do you believe that you would be with the outcome that this channel would provide?

1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

2. On a scale from 0-10, how likely do you believe that you would be to recommend that brand to family and friends if your doubts were solved through this method?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

3. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind the evaluation you gave previously?

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
I believe that the answer provided by these agents will be exactly what I expect it to be	○	○	○	○	○
Having to commute to the shop is a bothersome activity	○	○	○	○	○
I trust the recommendations based on personal experience that the salespersons give	○	○	○	○	○
I don't fear judgement when interacting with someone personally	○	○	○	○	○
The interactions with brand representatives on the shop are not rational	○	○	○	○	○
I prefer to communicate face to face rather than through chat	○	○	○	○	○
I find it easy to express my issues through this medium	○	○	○	○	○
I believe I will be getting a personalized service if I interact with a salesman	○	○	○	○	○
I expect salespersons on the shop to speak up their mind	○	○	○	○	○
Empathy is usually shown when I interact with brand representatives on the shop	○	○	○	○	○
When interacting with someone personally I expected to develop my affinity with the brand	○	○	○	○	○
It is my belief that honest opinions are usually shared through this medium	○	○	○	○	○
I believe my issues are taken seriously when I interact through this approach	○	○	○	○	○
I find it difficult to express more personal issues through this approach	○	○	○	○	○
Personal opinions can be shared through this method	○	○	○	○	○
I believe that the behavior of the brand representative influences my experience	○	○	○	○	○

4. Which (if any) of the following channels would you rather use to satisfy the same need?

a) Call customer service

b) Chat

c) Email them

d) Social Media (for example Facebook)

e) Other (Open entry)

f) None

[If "chat" is selected on question 4.] 5. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind why you chose chat as an alternative to the brand representative on the shop:

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
Personal opinions are more easily transmitted through this mean	○	○	○	○	○
Through this channel I have a better understanding if my issue is being taken seriously	○	○	○	○	○
I trust more the information and recommendations given through this option	○	○	○	○	○
I would establish a deeper connection with the brand through this medium	○	○	○	○	○
I believe it is easier to explain my issue through this channel	○	○	○	○	○
Empathy would be better demonstrated through this channel	○	○	○	○	○
The answers obtained are much more honest than through chat	○	○	○	○	○
It is my belief I would get a more personalized service through this channel	○	○	○	○	○

Block: Low Involvement Scenario - Chat [Half of those that have answered the block "Low Involvement Evaluation" have answered this block]

Please consider the following scenario:

- Imagine that you haven't bought that product yet;

- As you have a doubt regarding the product you want to choose, you require assistance;

- Facing this issue, you decide to interact with a brand representative through chat.

You can see as an example below of how does a conversation typically unfolds through chat.

1. On a scale from 1-10, how satisfied do you believe that you would be with the outcome that this channel would provide?

1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

2. On a scale from 0-10, how likely do you believe that you would be to recommend that brand to family and friends if your doubts were solved through chat?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

3. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind the evaluation you gave previously?

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
I believe that the answer provided through chat will be exactly what I expect it to be	○	○	○	○	○
I value my identity not being disclosed when talking through chat	○	○	○	○	○
Having to commute to the shop is a bothersome activity	○	○	○	○	○
I trust the recommendations based on reviews that the chat gives	○	○	○	○	○
I don't fear judgement when communicating through chat	○	○	○	○	○
I prefer to communicate through text rather than to speak	○	○	○	○	○
The comments transmitted through chat are rational	○	○	○	○	○
I find it difficult to express myself through text	○	○	○	○	○
I do not enjoy the lack of personalization in the answers provided	○	○	○	○	○
All communication through chat is emotionless	○	○	○	○	○
I expect no empathy shown when interacting through chat	○	○	○	○	○
When communicating through chat I do not develop my affinity with the brand	○	○	○	○	○
It is my belief that honest opinions can't be shared through chat	○	○	○	○	○
Through this approach my issues aren't taken seriously	○	○	○	○	○
I find it easy to express more personal issues through this method	○	○	○	○	○
Personal opinions can't be shared through chat	○	○	○	○	○

4. Which (if any) of the following channels would you rather use to satisfy the same need?

a) Ask on the shop

b) Call customer service

c) Email them

d) Social Media (for example Facebook)

e) Other (Open entry)

f) None

[If "none" is not selected on question 4.] 5. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind why you chose the previous alternative to chat:

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
Personal opinions are more easily transmitted through this mean	○	○	○	○	○
Through this channel I have a better understanding if my issue is being taken seriously	○	○	○	○	○
I trust more the information and recommendations given through this option	○	○	○	○	○
I would establish a deeper connection with the brand through this medium	○	○	○	○	○
I believe it is easier to explain my issue through this channel	○	○	○	○	○
Empathy would be better demonstrated through this channel	○	○	○	○	○
The answers obtained are much more honest than through chat	○	○	○	○	○
It is my belief I would get a more personalized service through this channel	○	○	○	○	○

Block: Low Involvement Scenario - Human [Half of those that have answered the block "Low Involvement Evaluation" have answered this block]

Please consider the following scenario:

- Imagine that you haven't bought that product yet;

- As you have a doubt regarding the product you want to choose, you require assistance;

- Facing this issue, you decide to interact with a brand representative on the shop.

1. On a scale from 1-10, how satisfied do you believe that you would be with the outcome that this channel would provide?

1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○

2. On a scale from 0-10, how likely do you believe that you would be to recommend that brand to family and friends if your doubts were solved through this method?

Not at all likely										Extremely likely
0	1	2	3	4	5	6	7	8	9	10
○	○	○	○	○	○	○	○	○	○	○

3. For each statement below, please check the degree to which you agree/disagree with each sentence having in mind the evaluation you gave previously?

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
I believe that the answer provided by these agents will be exactly what I expect it to be	○	○	○	○	○
Having to commute to the shop is a bothersome activity	○	○	○	○	○
I trust the recommendations based on personal experience that the salespersons give	○	○	○	○	○
I don't fear judgement when interacting with someone personally	○	○	○	○	○
The interactions with brand representatives on the shop are not rational	○	○	○	○	○
I prefer to communicate face to face rather than through chat	○	○	○	○	○
I find it easy to express my issues through this medium	○	○	○	○	○
I believe I will be getting a personalized service if I interact with a salesman	○	○	○	○	○
I expect salespersons on the shop to speak up their mind	○	○	○	○	○
Empathy is usually shown when I interact with brand representatives on the shop	○	○	○	○	○
When interacting with someone personally I expected to develop my affinity with the brand	○	○	○	○	○
It is my belief that honest opinions are usually shared through this medium	○	○	○	○	○
I believe my issues are taken seriously when I interact through this approach	○	○	○	○	○
I find it difficult to express more personal issues through this approach	○	○	○	○	○
Personal opinions can be shared through this method	○	○	○	○	○
I believe that the behavior of the brand representative influences my experience	○	○	○	○	○

4. Which (if any) of the following channels would you rather use to satisfy the same need?

a) Call customer service

b) Chat

c) Email them

d) Social Media (for example Facebook)

e) Other (Open entry)

f) None

[If "chat" is selected on question 4.] 5. Which of the following attributes would contribute to that choice?

	Totally Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Totally Agree
I believe that the answer provided through chat will be exactly what I expect it to be	○	○	○	○	○
I value my identity not being disclosed when talking through chat	○	○	○	○	○
Having to commute to the shop is a bothersome activity	○	○	○	○	○
I trust more the recommendations based on reviews that the chat gives	○	○	○	○	○
I don't fear judgement when communicating through chat	○	○	○	○	○
I prefer to communicate through text rather than to speak	○	○	○	○	○
The comments transmitted through chat are more rational	○	○	○	○	○
I find it easier to express personal issues through this method	○	○	○	○	○

Block: Attitudes with Chat [Everybody replies]

1. Have you ever interacted with a brand through chat?

    a) Yes
    b) No

[If "Yes" is answered on Question 1.] 1.1a Were you able to tell if it was a person or an automatic software answering you?

a) Yes, it was a human
b) Yes, it was an automatic system
c) No

[If "Yes" is answered on Question 1.] 1.2 Why have you interacted with it?

a) To obtain information
b) To get technical support
c) To make a complaint
d) Other [Open entry]

[If "Yes" is answered on Question 1.] 1.3 With which frequency do you use chat to interact with brands?

a) On a daily basis
b) On a weekly basis
c) Monthly
d) Rarely

[If "Yes" is answered on Question 1.] 1.4 For each statement below, please check the degree to which you genuinely agree/disagree with each sentence.

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
I feel comfortable interacting with a brand through chat	○	○	○	○	○
It has made my life easier	○	○	○	○	○
Using a chat enables me to acomplish tasks more easily	○	○	○	○	○
I find it easy to use and to understand	○	○	○	○	○
It took me some time to learn how to use it	○	○	○	○	○
My interactions with the chat are clear and understandable	○	○	○	○	○
I feel innovative using it	○	○	○	○	○
Instructions concerning the system were available to me before interacting	○	○	○	○	○
I believe that chat can be a great platform to get information	○	○	○	○	○
I believe that chat can be a great platform to get technical support	○	○	○	○	○
I believe that chat can be a great platform to make a complaint	○	○	○	○	○

[If "No" is answered on Question 1.] 1.1b For each statement below, please check the degree to which you genuinely agree/disagree with each sentence.

	Strongly Disagree	Somewhat Disagree	Nor Agree nor Disagree	Somewhat Agree	Strongly Agree
I would feel comfortable interacting with a brand through chat	○	○	○	○	○
It will make my life easier	○	○	○	○	○
Using a chat would enable me to acomplish tasks more easily	○	○	○	○	○
I would find it easy to use and understand	○	○	○	○	○
My interactions with the chat would be clear and understandable	○	○	○	○	○
I would feel innovative using it	○	○	○	○	○
I would have control over using the system	○	○	○	○	○
Instructions concerning the system would be available to me before interacting	○	○	○	○	○
I believe that chat can be a great platform to get information	○	○	○	○	○
I believe that chat can be a great platform to get technical support	○	○	○	○	○
I believe that chat can be a great platform to make a complaint	○	○	○	○	○

2. What type of problems bother you the most in a chatbot? [Multiple answer]
    a. Dislike answers provided
    b. Impersonality in communication
    c. Technical difficulties
    d. Other [Open entry]
    e. None

3. Which aspects of the chatbot do you value more compared to any other channel?
    a. Communication Style
    b. Convenience of the software
    c. Outcome provided
    d. Other [Open entry]
    e. Nothing

[If "a." is selected on question 2.] Which specific problems do you find with the answers that you believe that you will obtain/have obtained?

a) Answer is not as good as it would be through other channel

b) Lack of personalization in the answers
c) Not believing that they will know how to answer me in the most appropriate way
d) Other [Open entry]

[If "b." is selected on question 2.] Which technical difficulties do you believe that you would find/have found?

a) Not capable of carrying out more complex tasks
b) Systems are difficult to use
c) Underperforming capabilities
d) Other [Open entry]

[If "c." is selected on question 2.] Which impersonality issues do you believe that bother or would bother you the most?

a) Affinity is not developed with the brand
b) Communicating through text is very impersonal
c) Lack of empathy shown in the dialogue
d) No face is shown
e) Not knowing if the person on the other side is paying attention to your problem
f) Superficial answers
g) Other [Open entry]

[If "a." is selected on question 3.] Specifically, what entices you in the outcome provided?

a) Answers are more personalized as they have into consideration my personal data
b) Being more certain that my doubts will be clarified
c) Immediate responses
d) Knowing that answers are trustworthy as they all stay there as a record
e) Not being influenced by emotions, all answers will be rational and not impolite
f) Professionalism in the answer provided
g) Other [Open entry]

[If "b." is selected on question 3.] Specifically, what entices you in the convenience of the software?

a) Anonymity in the conversation
b) Being able to communicate through text
c) Being able to perform a task through chat while doing something else at the same time (like having dinner)
d) Not having to commute
e) Other [Open entry]

If "c." is selected on question 3.] Specifically, what entices you in the communication style of the software?

a) If there is a problem I will not be as mad as if it was a person doing it

b) Not having to communicate with people directly

c) They are as empathetic as a human is in communication

d) Other [Open entry]

Block: Attitudes with Chatbots [Everybody replies]

In the next few questions, your attitudes regarding chatbots will be examined.

A chatbot is: *A type of robot or automated system that has a conversational interface where the user is able to interact with it via voice, text, images or a combination of these*. (Etlinger, 2017)

1. For each statement below please check the degree to which you genuinely agree/disagree with each sentence.

	Strongly Disagree	Somewhat Disagree	Nor agree nor disagree	Somewhat Agree	Strongly Agree
I would feel comfortable interacting with a brand through chat even though I knew that it was an automated software replying to me	○	○	○	○	○
I don't think that it is a brand's ethical duty to warn beforehand if I am interacting with an automated system or with a human through chat	○	○	○	○	○
My satisfaction and probability of recommending a brand would increase after interacting with a chatbot	○	○	○	○	○
I believe that in the future there will be many more chatbots	○	○	○	○	○
In the future I will be using chatbots on a daily basis	○	○	○	○	○

Block: Demographics [Everybody replies]

We are almost reaching the end of this survey! Now I only want to know a few things about you!

1. What is your gender?
    a. Male
    b. Female
2. How old are you?
    a. Under 18
    b. 18-24
    c. 25-34
    d. 35-44x\
    e. 45-54
    f. 55-65
    g. More than 65
3. Occupation
    a. Unemployed
    b. Student
    c. Working Student
    d. Employed
4. Highest academic qualification obtained or currently obtaining:
    a. 9th Grade
    b. High School
    c. Bachelor Degree
    d. Master Degree
    e. PhD/MBA
    f. Other [Open Entry]
5. Please enter your email if you wish to participate in the give-away of the 20€ voucher to use on FNAC:

Appendix 4 – Sample Characterization

How old are you?			
	Frequency	Percent	Cumulative Percent
Under 18	2	0,5	0,5
18-24	317	80,1	80,6
25-34	32	8,1	88,6
35-44	22	5,6	94,2
45-54	14	3,5	97,7
55-65	9	2,3	100
Total	396	100	
What is your gender?			
	Frequency	Percent	Cumulative Percent
Male	135	34,1	34,1
Female	261	65,9	100
Total	396	100	
Occupation			
	Frequency	Percent	Cumulative Percent
Employed	120	30,3	30,3
Student	222	56,1	86,4
Unemployed	7	1,8	88,1
Working Student	47	11,9	100
Total	396	100,1	
Academic Qualifications			
	Frequency	Percent	Cumulative Percent
9th Grade	6	1,5	1,5
High School	23	5,8	7,3
Bachelor Degree	187	47,2	54,5
Master Degree	167	42,2	96,7
PhD	4	1	97,7
Other	9	2,3	100
Total	396	100	

Table 2 – Sample Demographics

Appendix 5 – Factor Analysis – Chat Users Scale

KMO and Bartlett's Test	
Tests	Values
KMO Measure	0,726
Bartlett's Test	Sig = 0,000

Table 3 – KMO and Bartlett's Test of Sphericity on Chat Users

Total Variance Explained						
	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,737	39,102	39,102	2,737	39,102	39,102
2	1,363	19,47	58,572	1,363	19,47	58,572
3	0,896	12,794	71,366	0,896	12,794	71,366
4	0,688	9,828	81,194			
5	0,564	8,051	89,245			
6	0,469	6,7	95,945			
7	0,284	4,055	100			

Table 4 – Total Variance Explained on Chat Users

Rotated Component Matrix			
	Component		
Variables	Impacts On Life	Easy Interactions	Difficulty to Operate
It has made my life easier	0,886	0,145	-0,062
Using a chat enables me to accomplish tasks more easily	0,864	0,194	-0,049
I find it easy to use and to understand	0,585	0,068	-0,582
It took some time to learn how to use it	0,002	0,06	0,921
My interactions with the chat are clear and understandable	0,326	0,639	-0,308
I feel innovative using it	0,335	0,651	0,151
Instructions concerning the system were available to me before interacting	-0,053	0,828	0,056

Table 5 – Rotated Component Matrix on Chat Users

Appendix 6 – Factor Analysis – Non-Chat Users Scale

KMO and Bartlett's Test	
Tests	**Values**
KMO Measure	**0,797**
Bartlett's Test	**Sig = 0,000**

Table 6 – KMO and Bartlett's Test of Sphericity on Non- Chat Users

Total Variance Explained						
	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,457	49,39	49,39	3,457	31,606	31,606
2	0,927	13,245	62,635	0,927	31,029	62,635
3	0,835	11,93	74,565			
4	0,678	9,691	84,256			
5	0,45	6,424	90,68			
6	0,352	5,03	95,71			
7	0,3	4,29	100			

Table 7 – Total Variance Explained on Non-Chat Users

Rotated Component Matrix		
	Component	
Variables	Impacts On Life	Easy Interactions
It will make my life easier	0,834	0,152
Using a chat would enable me to accomplish tasks more easily	0,877	0,186
I would find it easy to use and to understand	0,556	0,499
My interactions with the chat would be clear and understandable	0,428	0,625
I would feel innovative using it	0,189	0,775
I would have control over using the system	0,115	0,84
Instructions concerning the system would be available to me before interacting	0,453	0,411

Table 8 – Rotated Component Matrix on Non-Chat Users

Appendix 7 – Factor Analysis – Chat Respondents

KMO and Bartlett's Test	
Tests	Values
KMO Measure	0,73
Bartlett's Test	Sig = 0,000

Table 9 – KMO and Bartlett's Test of Sphericity on Chat Respondents

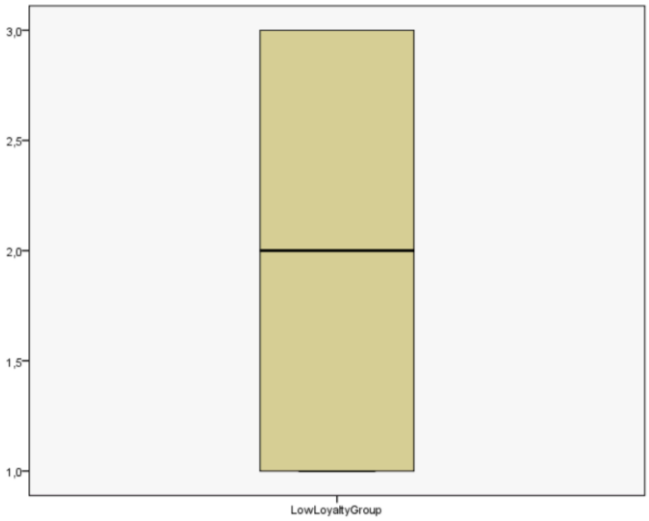
Total Variance Explained						
	Initial Eigenvalues			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,384	21,152	21,152	2,499	15,617	15,617
2	1,971	12,318	33,47	1,912	11,951	27,568
3	1,283	8,017	41,488	1,744	10,899	38,467
4	1,2	7,498	48,986	1,437	8,981	47,448
5	1,068	6,673	55,659	1,214	7,587	55,035
6	1,015	6,345	62,004	1,115	6,97	62,005
7	0,855	5,344	67,348			
8	0,832	5,198	72,546			
9	0,718	4,486	77,032			
10	0,694	4,337	81,369			
11	0,615	3,846	85,215			
12	0,57	3,564	88,779			
13	0,528	3,3	92,079			
14	0,473	2,956	95,035			
15	0,43	2,687	97,722			
16	0,364	2,278	100			

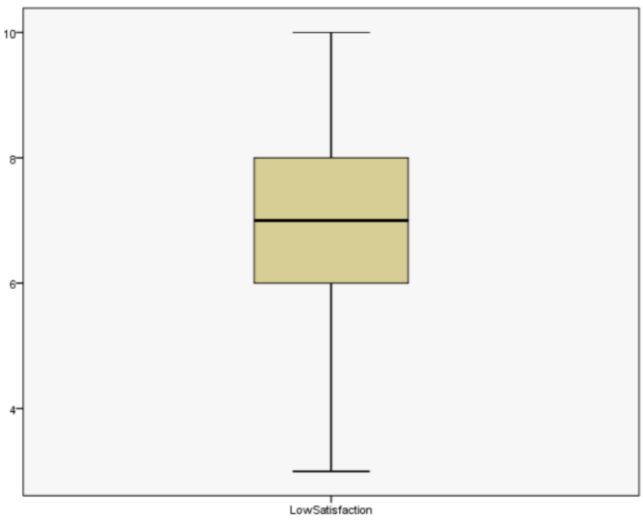
Table 10 – Total Variance Explained on Chat Respondents

Rotated Component Matrix						
	Component					
Variables	Outcome Expectations	Sincerity	Relationship Developed	Textual Preference	Communication Expectations	Identity Revealed
I believe that the answer provided through chat will be exactly what I expect it to be	0,067	-0,034	0,146	0,02	-0,095	0,877
I value my identity not being disclosed when talking through chat	0,477	-0,042	-0,044	-0,121	-0,038	0,239
Having to dislocate to the shop is a bothersome activity	0,716	-0,113	0,007	-0,059	0,038	0,03
I trust the recommendations based on reviews that the chat gives	0,395	0,294	0,125	-0,119	0,565	-0,177
I don't fear judgement when communicating through chat	0,306	0,231	-0,329	-0,613	0,09	0,319
I prefer to communicate through text rather than to speak	0,682	-0,028	-0,139	-0,146	0,231	-0,035
The comments transmitted through chat are rational	-0,001	0,244	-0,01	0,825	-0,009	0,108
I find it difficult to express myself through text	-0,429	0,069	-0,207	0,201	0,442	0,296
I do not enjoy the lack of personalization in the answers provided	-0,095	0,403	0,634	0,202	-0,003	0,065
All communication through chat is emotionless	0,069	0,031	0,858	-0,102	-0,096	0,052
I expect no empathy shown when interacting through chat	-0,381	0,217	0,565	0,272	0,087	0,069
When communicating through chat I do not develop my affinity with the brand	-0,03	0,701	0,082	0,216	-0,096	-0,126
It is my belief that honest opinions can't be shared through chat	-0,233	0,547	0,234	0,27	0,122	0,139
Through this approach my issues aren't taken seriously	0,057	-0,273	-0,061	-0,024	0,759	-0,07
I find it easy to express more personal issues through this method	-0,068	0,782	0,094	-0,153	-0,089	0,019
Personal opinions can't be shared through chat	0,795	-0,059	-0,055	0,133	-0,009	-0,044

Table 11 – Rotated Component Matrix on Non-Chat Users

Appendix 8 – ANOVA – Research Question 1.1





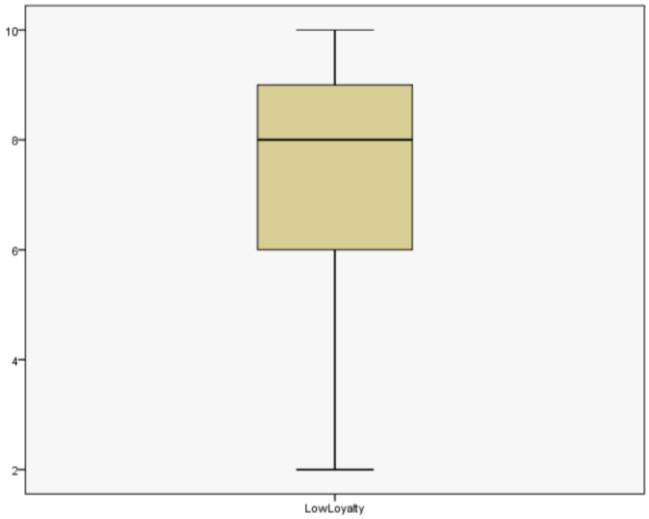


Figure 4 – Boxplots for Low Involvement

Tests of Normality: Kolmogorov-Smirnov			
Dependent Variable	**Statistic**	**df**	**Sig.**
Satisfaction for Low Involvement	0,177	181	0
Loyalty Group for Low Involvement	0,235	181	0
Loyalty for Low Involvement	0,163	181	0

Table 12 – Tests of Normality: Kolmogorov-Smirnov for Low Involvement

Levene's Test of Equality of Error Variances			
Dependent Variable	**df1**	**df2**	**Sig.**
Satisfaction for Low Involvement	1	180	0,338
Loyalty Group for Low Involvement	1	187	0,587
Loyalty for Low Involvement	1	188	0,948

Table 13 – Levene's Test of Equality of Error Variance for Low Involvement

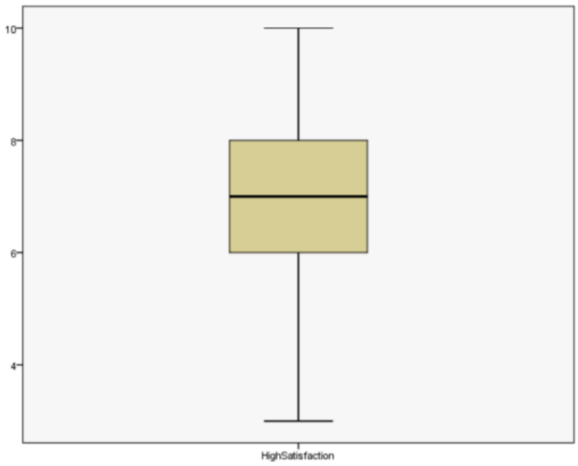
Descriptive Statistics				
Dependent Variable		**N**	**Mean**	**Std. Deviation**
Satisfaction for Low Involvement	Salesman	94	7,01	1,643
	Chat	88	7,15	1,765
Loyalty Group for Low Involvement	Salesman	96	2,06	0,751
	Chat	94	1,84	0,723
Loyalty for Low Involvement	Salesman	95	7,68	1,752
	Chat	94	6,96	1,972

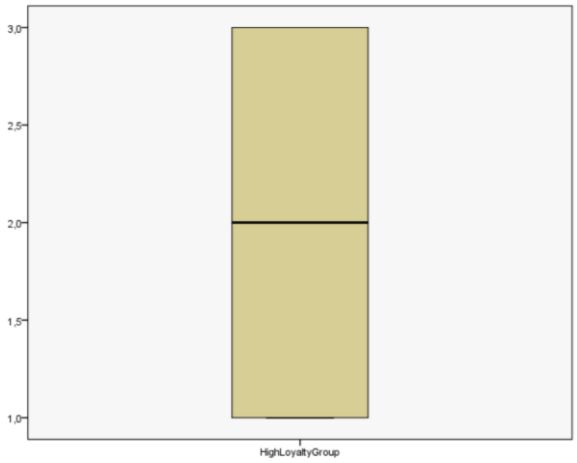
Table 14 – Descriptive Statistics for Low Involvement

ANOVA					
Source	Groups	Sum of Squares	df	Mean Square	Sig.
Satisfaction for Low Involvement	Between Groups	0,854	1	0,854	0,588
	Within Groups	522,069	180	2,9	
Loyalty Group for Low Involvement	Between Groups	2,342	1	2,342	0,008
	Within Groups	102,231	187	0,544	
Loyalty for Low Involvement	Between Groups	24,956	1	24,956	0,039
	Within Groups	650,356	188	3,478	

Table 15 – ANOVA for Low Involvement

Appendix 9 – ANOVA – Research Question 1.2





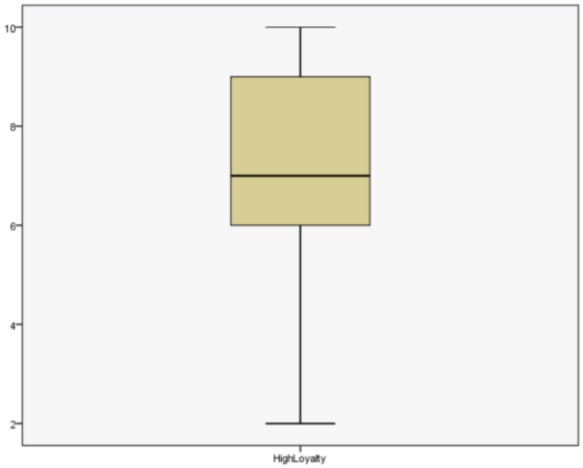


Figure 5 – Boxplots for High Involvement

Tests of Normality: Kolmogorov-Smirnov			
Dependent Variable	**Statistic**	**df**	**Sig.**
Satisfaction for High Involvement	0,163	203	0
Loyalty Group for High Involvement	0,207	203	0
Loyalty for High Involvement	0,148	203	0

Table 16 – Tests of Normality: Kolmogorov-Smirnov for High Involvement

Levene's Test of Equality of Error Variances			
Dependent Variable	**df1**	**df2**	**Sig.**
Satisfaction for High Involvement	1	201	0,16
Loyalty Group for High Involvement	1	204	0,24
Loyalty for High Involvement	1	202	0,156

Table 17 – Levene's Test of Equality of Error Variance for High Involvement

Descriptive Statistics				
Dependent Variable		**N**	**Mean**	**Std. Deviation**
Satisfaction for High Involvement	Salesman	106	6,86	1,647
	Chat	97	7,15	1,781
Loyalty Group for High Involvement	Salesman	107	1,99	0,7585
	Chat	99	2,02	0,8079
Loyalty for High Involvement	Salesman	106	7,27	1,7917
	Chat	98	7,3	2,0368

Table 18 – Descriptive Statistics for High Involvement

ANOVA					
Source	Groups	Sum of Squares	df	Mean Square	Sig.
Satisfaction for High Involvement	Between Groups	4,442	1	4,442	0,22
	Within Groups	589,558	201	2,933	
Loyalty Group for High Involvement	Between Groups	0,045	1	0,045	0,787
	Within Groups	124,95	204	0,613	
Loyalty for High Involvement	Between Groups	0,025	1	0,025	0,934
	Within Groups	739,484	202	3,661	

Table 19 – ANOVA for High Involvement

Appendix 10 – Regression – Research Question 2.1

Correlations							
Variable	Test	Outcome Expectations	Sincerity	Relationship Developed	Textual Preference	Communication Expectations	Identity Revealed
Outcome Expectations	Pearson Correlation	1	0	0	0	0	0
	Sig		1	1	1	1	1
Sincerity	Pearson Correlation	0	1	0	0	0	0
	Sig	1		1	1	1	1
Relationship Developed	Pearson Correlation	0	0	1	0	0	0
	Sig	1	1		1	1	1
Textual Preference	Pearson Correlation	0	0	0	1	0	0
	Sig	1	1	1		1	1
Communication Expectations	Pearson Correlation	0	0	0	0	1	0
	Sig	1	1	1	1		1
Identity Revealed	Pearson Correlation	0	0	0	0	0	1
	Sig	1	1	1	1	1	

Table 20 – Correlation between Variables

Model Summary		
Model	R Square	Durbin-Watson
Chat Satisfaction	0,454	1,987

Table 21 – Model Summary for Chat Satisfaction

ANOVA				
Model		Sum of Squares	df	Sig
Chat Satisfaction	Regression	363,506	6	0
	Residual	437,479	186	
	Total	800,984	192	

Table 22 – ANOVA for Chat Satisfaction

Coefficients					
Model	Variable	Unstandardized B	Sig	Tolerance	VIF
Chat Satisfaction	Constant	6,927	0		
	Outcome Expectations	1,338	0	1	1
	Sincerity	-0,215	0,054	1	1
	Relationship Developed	-0,11	0,321	1	1
	Textual Preference	-0,096	0,386	1	1
	Communication Expectations	-0,182	0,101	1	1
	Identity Revealed	-0,041	0,714	1	1

Table 23 – Coefficients for Chat Satisfaction

Collinearity Diagnostics								
Model	Dimension	Condition Index	Outcome Expectations	Sincerity	Relationship Developed	Textual Preference	Communication Expectations	Identity Revealed
Chat Satisfaction	1	1	0	0	0	0	0	0,57
	2	1	0	0,06	0,92	0,01	0,02	0
	3	1	0	0,7	0,08	0,06	0,16	0
	4	1	0	0	0	0,77	0,23	0
	5	1	0	0,23	0	0,17	0,57	0,01
	6	1	1	0	0	0	0	0
	7	1	0	0,01	0	0,01	0,02	0,42

Table 24 – Collinearity Diagnostic for Chat Satisfaction

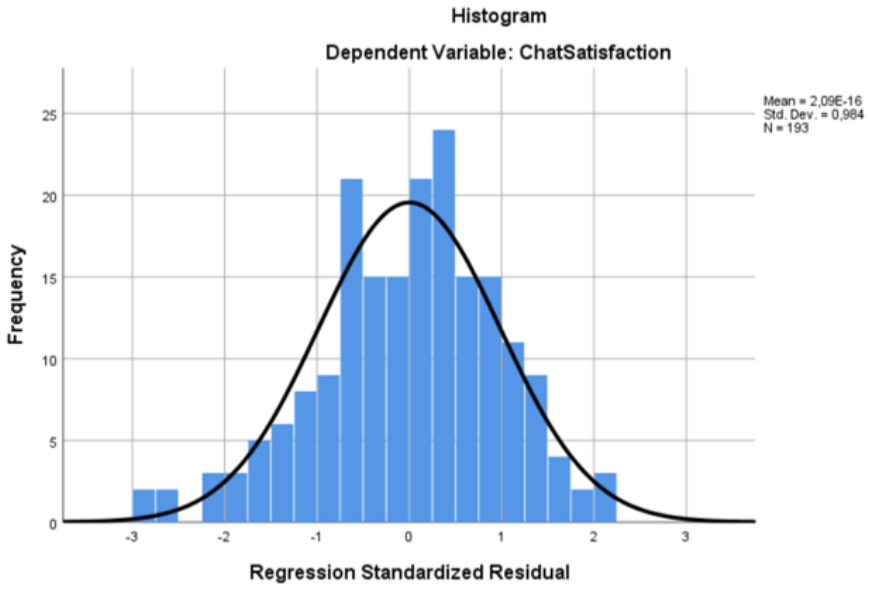


Figure 6 – Histogram for Chat Satisfaction

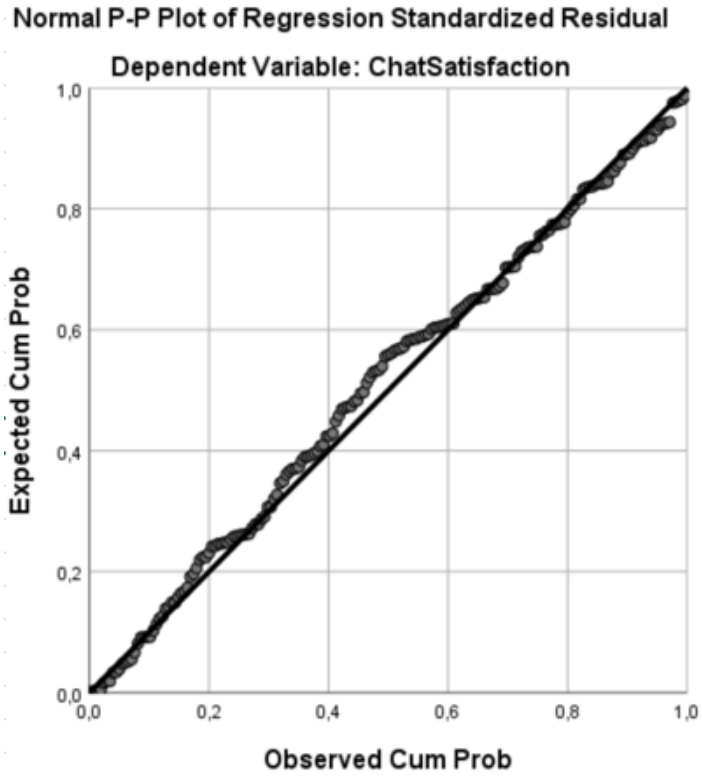


Figure 7 – Normal P-P Plot for Chat Satisfaction

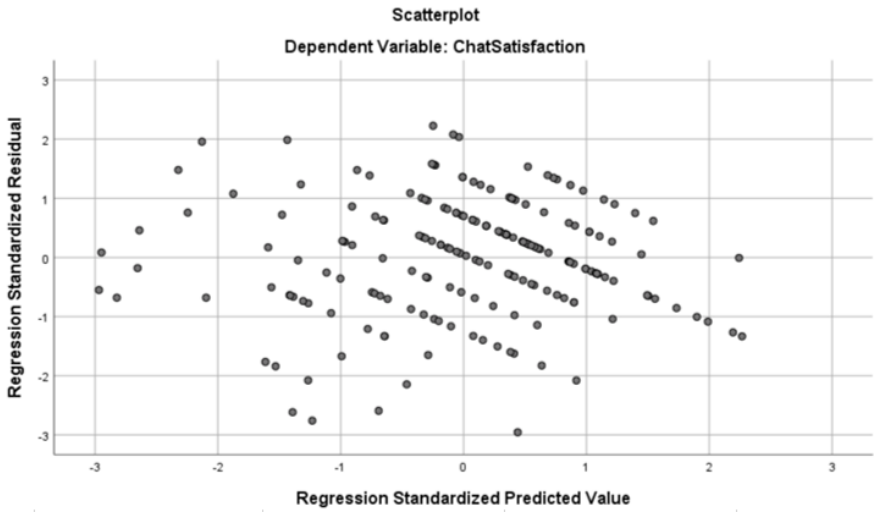


Figure 8 – Scatterplot for Chat Satisfaction

Appendix 11 – Regression – Research Question 2.2

Model Summary		
Model	**R Square**	**Durbin-Watson**
Chat Loyalty	0,292	2,104

Table 25 – Model Summary for Chat Loyalty

ANOVA				
Model		**Sum of Squares**	**df**	**Sig**
Chat Loyalty	Regression	253,403	6	0
	Residual	571,726	186	
	Total	807,13	192	

Table 26 – ANOVA for Chat Loyalty

Coefficients					
Model	**Variable**	**Unstandardized B**	**Sig**	**Tolerance**	**VIF**
Chat Loyalty	Constant	7,098	0		
	Outcome Expectations	1,013	0	1	1
	Sincerity	-0,36	0,005	1	1
	Relationship Developed	-0,129	0,308	1	1
	Textual Preference	-0,14	0,268	1	1
	Communication Expectations	-0,183	0,15	1	1
	Identity Revealed	-0,015	0,907	1	1

Table 27 – Coefficients for Chat Loyalty

Collinearity Diagnostics								
Model	**Dimension**	**Condition Index**	**Outcome Expectations**	**Sincerity**	**Relationship Developed**	**Textual Preference**	**Communication Expectations**	**Identity Revealed**
Chat Loyalty	1	1	0	0	0	0	0	0,57
	2	1	0	0,06	0,92	0,01	0,02	0
	3	1	0	0,7	0,08	0,06	0,16	0
	4	1	0	0	0	0,77	0,23	0
	5	1	0	0,23	0	0,17	0,57	0,01
	6	1	1	0	0	0	0	0
	7	1	0	0,01	0	0,01	0,02	0,42

Table 28 – Coefficients for Chat Loyalty

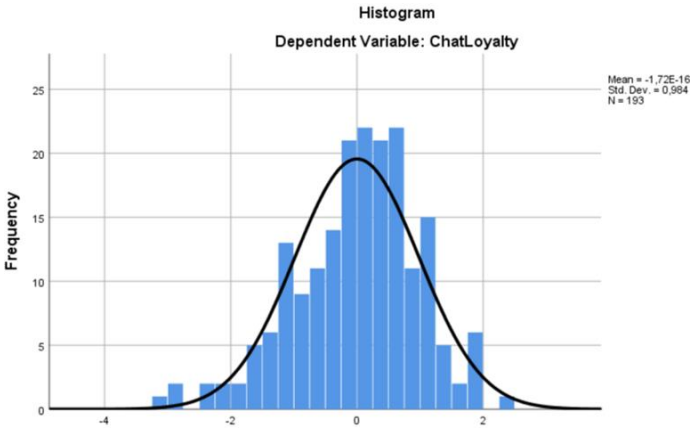


Figure 9 – Histogram for Chat Loyalty

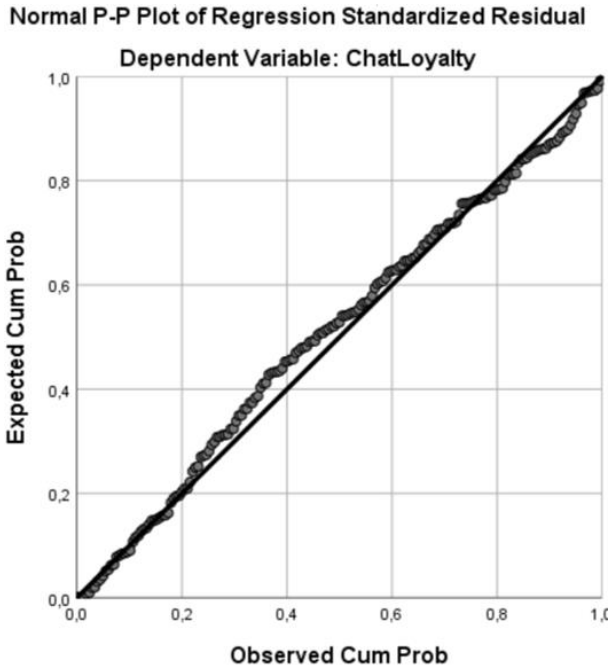


Figure 10 – Normal P-P Plot for Chat Loyalty

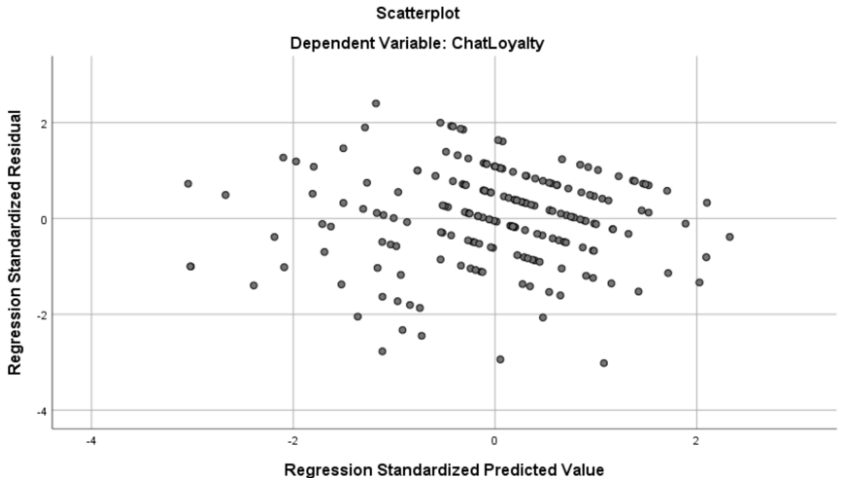


Figure 11 – Scatterplot for Chat Loyalty

Appendix 12 – Frequencies – Research Question 3

Frequencies			
Aspect	**Variable**	**Frequency**	**Percent**
Positive Aspects	**Convenience of the Software**	210	53%
	- Being able to perform a task through chat while doing something else at the same time	132	62,90%
	- Not having to dislocate	151	71,90%
	Communication Style	84	21,20%
	- If there is a problem I will not be as mad if it was done in person	35	41,70%
	- Not having to communicate with people directly	31	36,90%
Negative Aspects	**Technical Difficulties**	98	24,70%
	- Not capable of carrying out complex tasks	51	52%
	- Underperforming capabilities	45	45,90%
	Impersonality in Communication	233	58,80%
	- Not knowing if the person on the other side is paying attention to the problem	124	53,20%
	- Superficial answers	102	43,80%

Table 29 – Frequencies for Pros and Cons of a Chat

Appendix 13 – Frequencies – Research Question 4

Frequencies				
Variable	Range	Frequency	Percent	Cumulative Percent
I would be comfortable interacting with a brand through chat even though I knew that it was na automated software replying to me	Strongly Disagree	82	20,7%	20,7%
	Somewhat Disagree	107	27,00%	47,70%
	Nor Agree nor Disagree	51	12,90%	60,60%
	Somewhat Agree	118	29,80%	90,40%
	Strongly Agree	38	9,60%	100,00%
I don't think that it is a brand's ethical duty to warn beforehand if I am interacting with na automated system or with a human through chat	Strongly Disagree	164	41,40%	41,40%
	Somewhat Disagree	113	28,50%	69,90%
	Nor Agree nor Disagree	46	12%	81,50%
	Somewhat Agree	45	11,40%	92,90%
	Strongly Agree	28	7,10%	100,00%
I would be comfortable interacting with a brand through chat even though I knew that it was na automated software replying to me	Strongly Disagree	71	17,90%	17,9%
	Somewhat Disagree	90	22,70%	40,70%
	Nor Agree nor Disagree	173	43,70%	84,40%
	Somewhat Agree	54	13,60%	98,00%
	Strongly Agree	8	2,00%	100,00%
I would be comfortable interacting with a brand through chat even though I knew that it was na automated software replying to me	Strongly Disagree	4	1,00%	1,0%
	Somewhat Disagree	12	3,00%	4,00%
	Nor Agree nor Disagree	46	11,60%	15,60%
	Somewhat Agree	167	42,20%	57,80%
	Strongly Agree	167	42,20%	100,00%
I would be comfortable interacting with a brand through chat even though I knew that it was na automated software replying to me	Strongly Disagree	39	9,80%	9,8%
	Somewhat Disagree	80	20,20%	30,00%
	Nor Agree nor Disagree	167	42,20%	72,20%
	Somewhat Agree	74	18,70%	90,90%
	Strongly Agree	36	9,10%	100,00%

Table 30 – Frequencies for Attitudes with Chatbots

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