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INSTITUTO UNIVERSITÁRIO DE LISBOA

Department of Marketing, Operations and General Management

Perceived Service Quality of Online Sports Supplements Retail

Vasco Mendes Figueiredo Miranda Galego

Dissertation in Services and Technology Management

Supervisor:

Prof. Teresa Grilo, Assistant Professor at ISCTE Business School, Department of Marketing, Operations and General Management

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BUSINESS SCHOOL

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Acknowledgment

First of all I want to express how happy and fulfilled I am to have finished this stage in my life. But this thesis, for me, means much more than the end of a cycle. With this thesis I was able to show myself that I am capable of anything, all I have to do is want it badly and work for it. It was probably the most difficult year of my life, but I am sure that after all this I am much stronger than I was.

I want to thank first of all to my supervisor, Professor Teresa Sofia Grilo, who always accompanied and motivated me, never doubting that I would be capable, throughout this difficult journey. A thank you as big as this world. I will never forget you.

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Resumo

Hoje em dia o mundo é cada vez mais competitivo e, por isso, as empresas têm que se adaptar o mais rápido e o mais eficientemente possível às alterações do meio que as envolve.

Nesse sentido, é importante entender qual é a opinião dos clientes em relação à qualidade do serviço que lhes é prestado e dai retirar possibilidades de melhoria para que seja possível à empresa diferenciar-se dos demais competidores.

Assim, esta dissertação tem como objetivo avaliar a qualidade percebida pelos clientes do serviço que é prestado por uma empresa de renome portuguesa que vende suplementos desportivos através duma plataforma online. Para isso foi utilizado um modelo proposto por Blut et al. (2016). Esta dissertação tem ainda objetivo entender o impacto que a Overall E-Service Quality tem na Customer E-Loyalty e que por sua vez esta tem na Customer Repurchase Intention. Adicionalmente, tem como objetivo entender se nesta industria em específico o clientes se tornam mais exigentes no que diz respeito à Overall E-Service Quality à que medida o tempo de utilização e a frequência de compra aumentam. Esta pesquisa tem ainda como objetivo entender se os níveis de lealdade diferem no género e na idade.

Para isso, foram desenvolvidos dois tipos de estudos: Estudo Qualitativo e Estudo Quantitativo.

No Estudo Qualitativo pode concluir-se, através da amostra recolhida, que fazia sentido analisar se os utilizadores se tornavam mais exigentes em relação à Overall E-Service Quality à que medida o tempo de utilização e a frequência de compra aumentam e ainda adicionar uma questão ao questionário que tinha como objetivo avaliar se no website se perdia informação de pagina para pagina enquanto se navegava.

No estudo Qualitativo foram realizados testes e análises estatísticas que permitiram tirar conclusões em relação aos objetivos desta dissertação. Os resultados sugeriram que os construtos Website Design, Customer Service, Privacy/Security e Fulfilment têm uma influencia positiva na Overall E-Service Quality, que a Overall E-Service Quality também tem uma influencia positiva na Customer E-Loyalty e ainda que a Customer E-Loyalty tem uma influencia positiva na Customer Repurchase Intention. Foi ainda possível concluir o nível de Customer E-Loyalty é igual entre homens e mulheres e também igual em todos os grupos etários. Outra das conclusões deste estudo foi que mesmo com o passar do tempo de utilização do serviço ou com o aumento da frequência de compras a perceção da Overall E-Service Quality mantém-se a mesma.

Abstract

Today's world is increasingly competitive, and so companies have to adapt as quickly and as efficiently as possible to changes in their environment.

In this sense, it is important to understand what the customers' opinion is regarding the quality of the service provided to them, and from there, to draw possibilities for improvement so that it is possible for the company to differentiate itself from other competitors.

Thus, this dissertation aims to evaluate the quality perceived by customers of the service that is provided by a renowned Portuguese company that sells sports supplements through an online platform. To this end, a model proposed by Blut et al. (2016) was used. This dissertation also aims to understand the impact that Overall E-Service Quality has on Customer E-Loyalty and that this in turn has on Customer Repurchase Intention. Additionally, it aims to understand if in this specific industry customers become more demanding with regard to Overall E-Service Quality as the time of use and frequency of purchase increase. This research also aims to understand whether loyalty levels differ across gender and age.

For this purpose, two types of studies were developed: Qualitative Study and Quantitative Study.

In the Qualitative Study it was concluded, through the sample collected, that it made sense to analyze whether users became more demanding in relation to Overall E-Service Quality to what extent the time of use and the frequency of purchase increase, and also add a question to the questionnaire that aimed to evaluate whether the website lost information from page to page while browsing.

In the Qualitative study, statistical tests and analyses were performed, allowing conclusions to be drawn in relation to the objectives of this dissertation. The results suggested that Website Design, Customer Service, Privacy/Security and Fulfilment have a positive influence on Overall E-Service Quality, that Overall E-Service Quality also has a positive influence on Customer E-Loyalty and that Customer E-Loyalty has a positive influence on Customer Repurchase Intention. It was also possible to conclude that the level of Customer E-Loyalty is the same between men and women and also the same across all age groups. Another conclusion of this study was that even with the passage of time of service use or with an increase in the frequency of purchases, the perception of Overall E-Service Quality remains the same.

Contents

CHAPTER 1

Introduction

This Master Thesis will be a dissertation regarding the theme of the Perceived Service Quality of a Portuguese Company which sells Sports Supplements Online. In this chapter will be presented Problem Contextualization, as well as the general and specific objectivesof this dissertation that are expected to be accomplished with this study. Then, the Research Questions and Methodology that will be followed will be also addressed. Next,it will be explained the scope of this study and will be presented the Global Structure of this Master Thesis.

1.1. Contextualization

Nowadays, a great part of the people use internet to buy any kind of products. E- commerce has been growing at a great speed and according to (E-Commerce Worldwide, 2021), from 2014 to 2019 ecommerce sales increased 151%, from $1 336 billion to $3 354 billion. The fact People are adopting mobile devices at a very high rate and is one ofthe reasons why people are increasingly buying online, because all these new technologies make it very easy for them to shop from wherever they are.

In Portugal, in 2018 49% of the Portuguese did one or more online purchase, and this percentage increased in 2019 to 51%. Portugal is still far from the European average of 72%, but it was expected to reach 57% by 2020, which means that the Portuguese peopleare adopting this purchase habits (Economia Digital Em Portugal, 2020). E-commerceis becoming increasingly competitive, so it is crucial for the companies to provide the best service possible to their customers in order to maintaining them satisfied, which canprobably lead to a higher customer repurchase intention and increase customer loyalty (Spiros Gounaris et al., 2010).

Over the last decades, people also have increasingly recognized the importance of health education and now the population is more aware of the importance of havinga healthy lifestyle due to the number of campaigns done regarding this theme. They already know that leading a healthy lifestyle means a way of living that decreases the riskof dying early or getting serious illnesses, by adopting some strategies and routines such as consuming healthy food in a balanced way, exercising the body regularly and resting well. Carrying out a healthy lifestyle can prevent people from getting some diseases, such as hearth diseases, diabetes and cancer, which can, obviously, reduce life expectancy. Thus, today, more than ever, people are aware of the positive impact that sports

and nutritioncan have in their quality of life but also on their life expectancy.

As we all know, the Covid-19 has appeared in our lives and the truth is that it has hada giant impact in the way that we carry them. During the first months of Covid-19 pan- demic, due the restrictions and the closure of borders, were not easy for e-commerce, since there were severe disruptions on supply chains, disabling companies to ship and deliver goods to their customers. But, during the course of the year, since lockdowns becamethe "new normal", people started to change and to adapt their habits and went moredigital. According to a report, Chile share of sales done through e-commerce increased from 5% to 16%, which can confirm a shift in consumption patterns from traditional toonline channels (United Nations Conference on Trade and Development, 2021).

Also throughout the first months of Covid-19 lockdown, the majority of the peoplewere not able to leave their homes and had to perform their jobs home. Thus, with this limitations many people ended up "taking refuge" in sports. During the lockdown about45% of the people who were physically inactive before the pandemic started to practiceany kind of physical activity (Samuel Silva, 2020), shifting their ways of living.

Corroborating the idea stated before, in the recent years, people started to recognizemore and more the importance of having healthy habits, such as doing any kind of sport or having a well-balanced diet. The following recognition of the importance of adopting these type of habits, made that, dietary supplements use increased significantly, according to (Li et al., 2020). About 42% of sports practitioners use these supplements (Hurst et al., 2020). People usually supplement their diet to suppress any kind of inefficiencyin their diet, according to (Farmácias Portuguesas, n.d.), which means that people use supplements to have all macro and micronutrients the body needs to improve or maintainits condition.

Sport Supplements can be generally divided into 3 groups: sports foods (foods/drinks containing macronutrients), medical supplements (vitamins/minerals used to treat deficiencies), and ergogenic supplements (used to benefit performance). (Alonso &Fernández- García, 2020). This type of substances are used by both athletes and general people, in the context of sport, being that the use of this type of substances is based in three aspects:

• **Scientific Evidence:** Some scientist have accepted and normalized the use of SportS in order to optimize the performance of the athletes.

• **Optimization of Nutritional Strategies:** Nowadays, more and more people are accompanied by a nutrition professional, who, individually, applies a nutritional protocol.This protocol is made in order to enhance people's training effects by accomplishing individual nutritional goals.

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• **Health Maintenance and Longevity:** There are evidences that a healthy life-style complemented with some specific supplements can delay or prevent some chronic diseases. (Alonso & Fernández-García, 2020).

The evaluation of customer perceived quality applied to any service has been widely studied over the years. It is possible to find plenty of studies evaluating the quality perceived by customers in different areas of online retail, but there is no study that evaluatesit applied to the sale of sports supplements online. Thus, combining the growing use of sports supplements today and the lack of studies on the quality perceived by customersin this specific area, was find a gap that allows the development of a research with great interest, which may come to help both companies in this industry and customers, bringing them closer together, so companies can improve the service delivered to their customersand also results, and customers can be more satisfied with service received.

1.2. General Objectives

As previously mentioned, the main propose of this dissertation is to make an evaluation of the Perceived Service Quality of a Portuguese Company which sells Sports Supplements Online and understand customers' behavior on this specific sector as well as provide some recommendations in order to the company to improve their relationship with customersand so their results as well.

1.3. Specific Objectives

As stated before the main of objective this study is to understand how the CustomersPerceive the Service Quality of a Portuguese Company which sells Sports Supplements Online, and, in order to accomplish the main objective of this research project, some specific objectives that must be accomplished arise, such as:

O1: Evaluate Customer Overall E-Service Quality of the service provided by XPTO;

O2: Evaluate the Seniority in Use (Time Using and Buying Frequency) impact on Overall E-Service Quality

O3: Evaluate the strength of the association between the Overall E-Service Quality and the Customer E-Loyalty;

O4: Evaluate the Customer Repurchase Intention;

O5: Evaluate the strength of the association between the Customer E-Loyalty and the Customer Repurchase Intention;

O6: Propose some recommendations to the company to improve their relationshipwith their customers and so improving their results.

1.4. Research Questions

The following research questions are proposed based on the objectives addressed be- fore:

Q1: What is the customers' perception about the service quality of company XPTO?

Q2: What is the degree of Customer E-Loyalty in this specific online retail area?

Q3: Is there any association between the Overall E-Service Quality and the Customer E-Loyalty?

Q4: What is the degree of Customer Repurchase Intention?

Q5: Is there an association between Customer E-Loyalty and Customer Repurchase Intention?

Q6: Which recommendations can be provided to improve the company's relationship with the customers and also its results?

1.5. Research Methodology

According to (Yin, 2009), a case study is a research method used in several fields, suchas business and sociology, and this method is a very useful tool for developing knowledgeof "holistic and meaningful characteristics of real-life events". Given that the criteria to choose this research method are met, Case Study methodology will be followed to develop this study.

At the end of this research is expected that some conclusions will be drawn, but for that is necessary, first of all, to search and understand the literature behind, take into account previous researches on related topics, understanding what methodology and tools were used to develop them and apply it on this research. To conduct this research and to answer all posed questions is necessary to collect data from Customers of this Portuguese Company which sells Sports Supplements Online, and analyze them. For this propose, SPSS software will be used.

1.6. Scope

As previously stated, the main objective of this research is to Evaluate how the Customers Perceive the Service Quality of a Portuguese Company which sells Sports Supplements Online. Considering this, the most appropriate and interesting way to collect the necessary data is, since it is about the valuation of a service that is provided online, asking the customers of this brand to answer an online questionnaire that will be made availableonline on the Google Forms platform. This research focuses only on the Evaluation of the Perceived Service Quality of this Portuguese Company, since it is the most known andsignificant brand of this industry in Portugal.

1.7. Global Structure

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This research will comprise five main chapters, in order to achieve the main goals of this research that is answer all research questions posed:

Introduction: In this first chapter was defined the theme of this dissertation, as well as a contextualization, which allows understanding the importance and relevance of this research. The general and specific objectives were also defined, as well as the research questions that must be answered in the conclusion. The methodology to be used was also defined, as well as the boundaries of this research.

Literature Review: In this second chapter the objective is to approach the theoretical knowledge adjacent to the themes that will be addressed during this research. The Literature Review chapter includes an introduction where the issues to be addressed later in the chapter are defined. It is followed by an explanation of what a Service is, and what the Online Shopping is according to some authors. Then, Overall E-Service Quality is ad- dressed, as well as the different authors perspectives to approach it, such as SERVQUAL, SERVPERF and the Hierarchical Model. Further on, the Customer E-Loyalty, as well as the Customer Repurchase Intention issues are addressed.

Methodology: In the third chapter, firstly, there will be a brief description of the specific case under study. Then, the research hypotheses that will be pointed out, which will be tested further on, as well as a presentation of the instruments and tools that will be used to collect data, in order to process this research. Further on, will be indicated the independent variables that are significant for the research. Last but not least, there will be a description of the sample analyzed, as well as the statistical techniques used to do it.

Results: In the fourth chapter, there will be a presentation of the results obtained with this research and also a discussion related to the different statistical instruments used for this propose. Such as the Cronbach's Alpha to assess the validity of the constructs, Hypothesis Testing and also Statistical Correlation.

Conclusion: In the last chapter, finally, the conclusions that can be drawn from the study will be presented. The research questions posed on the Introduction chapter will be answered, through the evaluation of the results obtained and the literature review, present in the second chapter. Further on, there will indicated research's limitations and some recommendation for future related studies

	Specific Objectives		Research Questions	Analysis
O1:	Evaluate Customer Overall E-Service Quality of the service provided by XPTO	Q1:	What is the customers' perception about the service quality of company XPTO?	Correlation Coefficient + Hypotheses Testing (H1, H2, H3, H4)
O2:	Evaluate the Seniority in Use (Time Using and Buying Frequency) impact on Overall E-Service Quality	Q2:	Customers become more demanding in terms of Overall E-Service Quality over Time Using and as they make more purchases?	Descriptive Analysis + Hypotheses Testing (H7, H7a, H7b)
O3:	Evaluate Customer E-Loyalty	Q3:	What is the degree of Customer E-Loyalty in this specific Online Retail area?	Descriptive Analysis + Hypotheses Testing (H6, H6a, H6b)
O4:	Evaluate the strength of the association between the Overall E-Service Quality and the Customer E-Loyalty	Q4:	Is there any association between the Overall E-Service Quality and the Customer E-Loyalty?	Correlation Coefficient + Hypothesis Testing (H5)
O5:	Evaluate the strength of the association between the Customer E-Loyalty and the Customer Repurchase Intention	Q5:	Is there an association between Customer E-Loyalty and Customer Repurchase Intention?	Correlation Coefficient + Hypothesis Testing (H8)
O6:	Propose some recommendations to the company to improve their relationship with their customers and so improving their results	Q6:	Which recommendations can be provided to improve the company's relationship with the customers and also its results?	Qualitative Approach

CHAPTER 2

Literature Review

2.1. Introduction

This first chapter will address and explained all the theoretical topics that are consideredessential to provide the adjacent background knowledge that was necessary to develop this research.

The first themes to be address in this chapter will be the Service and Online Shop-ping, which are considered quite important issues to understand this research. After, some more technical concepts related with Services itself will be also address, such as the Overall E-Service Quality, Customer E-Loyalty and, last but not least, Customer Repurchase Intention. At the end of this chapter there will be a Conclusion subchapter, wherea correlation will be made between the various themes addressed above.

2.2. Service

Nowadays, great part of the world population purchase, use or provides any kind of service. It is something that we are in contact with every day of our lives, either when we havesome a health problem, or when we left some shirts at the laundry, or even when we order food, using Food Delivery Apps, for our homes.

General people often confuse "Services" with "Service", but the reality is that this words have different definitions. While "services" are characterized by being actions or activities performed by an entity on behalf of another, according to (Piccinelli & Mokrushin, 2001), having inherent value that is transferred from the provider to the recipient. On the other hand, "Service" can have different meanings, according to thearea or type of service, so it is difficult to provide a single and concrete definition of it.

According to (Johnston et al., 2012), there are many different types of services, provided by numerous types of organizations, from Business-to-Business (B2B) services, to Business-to-Consumer (B2C), to voluntary services, among other types. B2B services are services that are provided by one company to another, B2C services are provided by companies to individual, while voluntary services are services usually provided by NGO'sto improve the living conditions of those who need it most.

It is also important to understand that when a service is provided, there are alwaystwo perspectives of it, the customer's perspective and the operation's perspective. For those who

provide the service (operation's perspective), is a process which transforms its inputs (materials, staff, technology, facilities, customers) and the outputs resulting fromthat process. On the other hand, in customer's perspective a service is an experiencewhich results in outputs (benefits, emotions, intentions, 'products').

But there are many others authors who have a different perspective and definition about what is a service. As (Kotler & Lane Keller, 2007) stated, there are four characteristics of a service: **Intangibility, Inseparability, Variability and Perishability.**

- **Intangibility:** Service's nature is intangible, since you cannot see or touch it. In 1995, Harker described services as something that we cannot drop on our feet (P. Harker,1995);

- **Inseparability:** It is what differentiate a product from a service. A service is produced and consumed simultaneously;

- **Variability:** The same service can have changes and vary in terms of quality or standards according to who, where and when the service is provided;

- **Perishability:** A service cannot be stored, since the service is produced and consumed simultaneously. According to (Smith, 1776), a service will perish in the moment of its consumption and rarely will leave trace behind.

The vast majority of the services, if not all, are co-produced between the company and the customer (Johnston et al., 2012). The customer is perceived as co-producer whenthe interaction between both parties generate more value than a traditional transaction process, in which the seller and the customer just meet briefly, exchanging finished goodand service and then go their separate ways (Wikström, 1996). On the other hand, according to (Lusch & Vargo, 2006), "the customer is always co-creator of value". Lusch and Vargo, argued that in Goods-Dominant Logic (G-D logic), the customers are perceivedas co-producers since co-production implies that there is value added activities on the production process, while in the Services-Dominant logic (S-D logic) the value is created and determined by the customer at the time of the service consumption itself.

2.3. Online Shopping

The second theme to be addressed in this chapter is the Online Shopping, which can be considered as a Service that is delivered through the internet. Online shopping, also known as e-shopping, Internet shopping, online-store purchasing and virtual-store purchasing (Tankovic & Benazic, 2018), is the process of buying products by using a computer ora smartphone , using the internet (Moeti et al., 2021). This method of buying products has been more and more adopted by people in the last couple of decades, following alsothe increasing number of people with

access to internet (Karunakaran & Jacob, 2020). People in general lead increasingly busy and full lives these days (Khan et al., 2020), and this is an alternative which offers many advantages for its users, such as, convenience, time saving, flexibility, and the consumers are able to shop anytime and anywhere (Moetiet al., 2021), without even leaving their homes (Sudha & Sheena, 2017), so this is a very worthwhile alternative for many families.

E-Shopping has had a huge impact on general people's lives and many advantages have emerged and individuals started to adopt it. With it people can buy productsthat are not available on their geographical regions, give them access to higher quality products (Fernández-Ferrin et al., 2017), 24-hour shopping, decreased dependence on store outings, saving of travel costs, decreased overhead expenditure and choice of a wide variety of products (Rodrigues et al., 2016), and can also make their purchases to be private (Swinyard & Smith, 2003). But there are other factors that can influence the adoption and use of E-Shopping. According to (Chang et al., 2005), lower prices of products sold online, convenience, website accessibility, store-loyalty, customer knowledge on the internet, money-back guarantee have been shown to be factors that may have a positive influence on customers use of online shopping.

2.4. Overall E-Service Quality

Quality is defined as the effective conformity of the product to its specifications (Crosby, 1979), it means that the product must accomplish requirements it sets itself , so that it can be to have quality. During the 1980s, services gained importance and companies sought ways to differentiate themselves from competitors and the quality of the service provided became a major focus for companies (Parasuraman et al., 1985), but it is a lot more complex to define and measure the quality of services, when comparing withthe quality of goods. So, several different models to evaluate quality of services weredeveloped, such as:

- **SERVQUAL** (Parasuraman et al., 1985);
- **SERVQUAL** (Parasuraman et al., 1988);
- **SERVPERF** (Cronin & Taylor, 1992);
- **Hierarchical Model** (Blut et al., 2015)

According to SERVQUAL (Parasuraman et al., 1985), customers basically used the same criteria to evaluate service quality, so using focus groups interviews it was possibleto identify 10 "service quality determinants", which are:

Reliability (Consistency of service performance); **Responsiveness** (Service timeliness); **Competence** (Skills and Knowledge required to provide the service); **Access** (Service

Accessibility); **Courtesy** (Consideration and Respect in Contact with Customers); **Communication** (Keep customers informed and adapt language to different type of customers); **Credibility** (Service Believability); **Security** (No doubt about the service); **Understanding** (Knowing the customers' needs); **Tangibles** (Service Physical Evidence).

Three years later, the same authors refined the previously developed model, presenting 5 dimensions, composed by 22 items to evaluate the Quality of Service (SERVQUAL (Parasuraman et al., 1988)). The 5 dimensions (three original and two combined dimensions) suggested by this model are:

- **Tangible** (Physical facilities, equipment and appearance of employees);
- **Reliability** (Capacity to provide the promised service and accurately);
- **Responsiveness** (Willingness to help the customers);
- **Assurance** (Ability of employees to be kind, inspire confidence and know the customers);
- **Empathy** (Firm individualized attention to each client).

Both SERVQUAL models evaluate the perceived service quality by measuring and summing the gaps on service items between the customer perception and the customer expectation. In order to obtain the evaluation, customers are asked to respond, on a 7-point Linkert scale, according to their expectations and perceptions. The higher the gap (perception minus expectation score), the higher is the customer perceived service quality, according to (Parasuraman et al., 1985, 1988).

Other model to be addressed is SERVPERF developed and studied by (Cronin & Taylor, 1992). According to the authors, SERVPERF is a performance-based scale to measure service quality perceived by the customers of the service provider's performance and this model is more efficient when compared with SERQUAL (Parasuraman et al., 1988), presenting empirical evidences in four different industries (banks, pest control, dry cleaning and fast food industries) that SERVPERF is superior when compared withSERVQUAL. This superiority is shown by the fact that SERPERF scale has only 22 items,

also divided into the same 5 dimensions, which means that has half of the SERVQUALitems (Parasuraman et al., 1985), and because, over the years, it has been also shown thatSERVPERF provides a better explanation of larger variations in overall service qualityby measuring one single-item scale (Jain & Gupta, 2004). This model also addresses that items measure the service quality may change from one industry to another.

The last model to be addressed is the Hierarchical Model (Blut, 2016) which was developed using meta-analysis. The chosen model addresses that e-services have 16 attributes, divided into

4 different dimensions, such as Web-Site Design, Customer Service, Security and Fulfillment. This model, in addition to better understanding the characteristics of online services, also presents a better ability to predict the consumer behavior than other models , such as E-S Qual and ETailQ that cannot explain why the consumers are dissatisfied and why they switch from one online store to another (Rita et al., 2019).

The Hierarchical Model explains that 4 dimensions of this model have a positive effect on the Overall E-Service Quality, which will also have a positive effect on the Customer E-Loyalty and so this aspect mentioned before will have a positive effect on the Repurchase Intention of the Customer.

According to (Bauer et al., 2006), the online shopping process comprises four different stages: Information Phase, Agreement Phase; Fulfillment and After-Sales Phase. In this research, the authors affirm that factors such as the website design are more important for the customers in the first stages of the shopping process, such as the Information Phase, where the customer is examining and comparing market offerings. Corroborating this idea, (Holloway & Beatty, 2008) said that in the early stages of the shopping process customers are interested on the products' information and on its easy access. The easier is the access to the products' information the more the customers feel the website as the best website to continue their shopping process. According to (Blut, 2016), at this stage customers are more focused on dimensions such as: the Quality of the Information present at the website, the Website Aesthetics, the Purchase Process, the Convenience while browsing on the Website, the Selection of Products at the website, the Availability of the products, the Price Offerings, Website Personalization and System Availability. At the end, customers use these dimensions to assess their past experience and formulate an Overall E-Service Quality assessment. Hence:

H1: Perceptions of the Website Design by (Blut, 2016)) is positively correlated with Overall E-Service Quality

On the other, Fulfilment dimension is related with the capacity of the online stores to deliver to their customers what they ordered at the right price, at the right time, in the right conditions (Blut, 2016). According with (Bauer et al., 2006) this dimension is more important in the later stages of the shopping process, since it more connect with the Accomplishment of the Transaction. Regarding the (Holloway & Beatty, 2008) research,
64% of the customers reported problems with the fulfillment of their orders, being this one of the dissatisfaction factors. Therefore:

H2: Perception of the Fulfilment by (Blut, 2016)) is positively correlated with Overall E-Service Quality

According to (Bauer et al., 2006), Customer Service dimension regards the support that the customer may receive before, during or after placing their order on the website. (Blut, 2016) argues that this dimension may be evaluated based on Service Level, which evaluates the online stores' capacity to provide assistance via telephone or online to their customers, and also by evaluating the capacity of the online stores of solving problemsby returning products via online. Regarding the (Holloway & Beatty, 2008) study, it showed that a good customer support, well defined and fair returning policies have a positive influence on how the customers perceive the customer service of the Online Shop. Therefore, the following hypothesis is posed:

H3: Perception of the Customer Service by (Blut, 2016)) is positively correlated with Overall E-Service Quality

Touching the last dimension addressed by (Blut, 2016), Security/Privacy refers to the customers' feeling about their personal and credit cards data security or privacy. Customers avoid shopping online when they perceive the online store to be insecure, i.e.when they feel that their personal data or their credit card details may be misused or shared (Holloway & Beatty, 2008). (Blut, 2016) addressed that people expect, from the online stores, protection against frauds, thefts and "junk" emails right after an online purchasing. Therefore:

H4: Perception of the Security/Privacy by (Blut, 2016) is positively correlated with Overall E-Service Quality

2.5. Customer E-Loyalty

As stated before in this thesis, markets have become increasingly competitive, so it is important for the firms to develop strategies, such as loyalty programs, that allow them to improve their connection with their customers, improving Customer Loyalty. In accordance with what (Kotler & Armstrong, 2012) stated ("It is five times cheaper to maintain a customer than to capture a new one"), it is crucial to use such strategies that allow the company to increase the customer loyalty to the firm and to its services or products, in order to save costs and to develop a stable and sustainable foundation, that allows the company to grow and improve their results (Tabaku et al., 2015).

According to (Jacoby & Kyner, 1973), Customer Loyalty is characterized as phycological process and emotional response, which causes the customer to make a decision to choose a brand over the others, constantly. But, there several other approaches to the Customer E-Loyalty, which is can be characterized as the customers' loyalty towards a website, demonstrating the intention to re-visit, recommend and continuously buying products or services through a specific website

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(D. Suhartanto et al., 2018). According to (Suhartanto et al., 2018), Customer Loyalty is characterized by the behavior of a person who systematically buys the same products or services. Other approach states that the Customer E-Loyalty is expressed by the intention to repurchase and recommend products or services to other people (Gursoy et al., 2014). The same authors also developed another approach that combines the two previous approaches, called Composite Loyalty, this approach argues that Customer Loyalty is assessed by customer purchasing, tendency to repurchase and to recommend it to other people.

Loyalty can be defined as a feeling that consumers develop towards a company because of their previous positive buying experiences (Caruana, 2004). For a buying experience to be positive, the Quality of Service should be such that the customer feels a desire to repeat the same process. Thus, in the study (Nagaraj & Singh, 2017) it was possible to conclude that E-Service Quality has a positive effect on Customer E-Loyalty. Therefore, the following hypothesis was postulated:

H5: Overall E-Service Quality is positively correlated with Customer E-Loyalty

Some investigators tried to find evidences of the users characteristics have influence on the customer loyalty. Although, in those studies were not found any evidence arguing that gender may have influence customers' loyalty behavior. On the other hand, (Patterson, 2007) research evidences that age is associated with customers' Loyalty behavior. According with the same research, the older age groups (35-54 and 55+ years) have a more loyal behavior than the younger (18-24 and 25-34 years). Hence:

H6: Users Characteristics can influence the Customer Loyalty perception

H6a: Gender has no influence Customer Loyalty perception

H6b: Age has influence on Customer Loyalty perception

2.6. Customer Repurchase Intention

There are several different definitions for Repurchase Intention. According to (Herjanto & Amin, 2020) it can be defined as the customer desire to upgrade or buy a new product or service from the same brand. Other researchers stated that Customer Repurchase Intention can be a loyalty manifestation (Zhang et al., 2011). The model developed in the same research explains the connection between Online Relationship Quality and the Online Repurchase Intention, by including Vendor Characteristics (Perceived Website Usability, Perceived Expertise in Order Fulfilment and Perceived Reputation) and Behavior (Distrust in Vendor Behavior). The first three characteristics presented influenced Online Relationship Quality positively, so also the Online Repurchase Intention. On the other hand, the Vendor Behavior characteristic (Distrust in Vendor Behavior), obviously demonstrated to negatively influence the Online Relationship Quality and

Online Repurchase Intention (Zhang et al., 2011).

The Repurchase Intention can be defined as the will of the Customer to continue buying products or services from the same company (Razak et al., 2014). According with several studies, Customer Retention, which also means the Customers' Loyalty rep resents a competitive advantage for any company, since the recurrent purchases lead to an increasing profit for the vendors. (Shafiee & Bazargan, 2018) study stated that the E-Loyalty has influence on the Repurchase Intention, and that it will lead to long-term profits. Therefore, the following hypothesis is postulated.

H7: Customer E-Loyalty is positively correlated with Repurchase Intention

2.7. Conclusion

The table presented below has the main objective of summarizing all the contents presented above, in order to show the existing theoretical gap and thus explain the importance that this research has, in that it responds to the existing gap by merging different models and also assesses the role that Seniority in Use can have on the Overall Quality of E-Service.

Table 1. Literature Review Summary

Study	Overall E-Service Quality	Positive Effect of Overall E-Service Quality on E-Loyalty	Influence of Customer's Characteristicson E-Loyalty	Positive Effectof E-Loyalty on Repurchase Intention
Parasuraman et al., (1985)	√			
Parasuraman et al. (1988)	√			
Cronin & Taylor (1992)	√			
Blut et al. (2016)	√			
Nagaraj & Singh, (2017)		√		
Shafiee & Bazargan, (2018)		√		√
Patterson et al., (2007)			√	
Embedded Study	√	√	√	√

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Thus, following the proposed hypotheses the model to be studied will be this one:
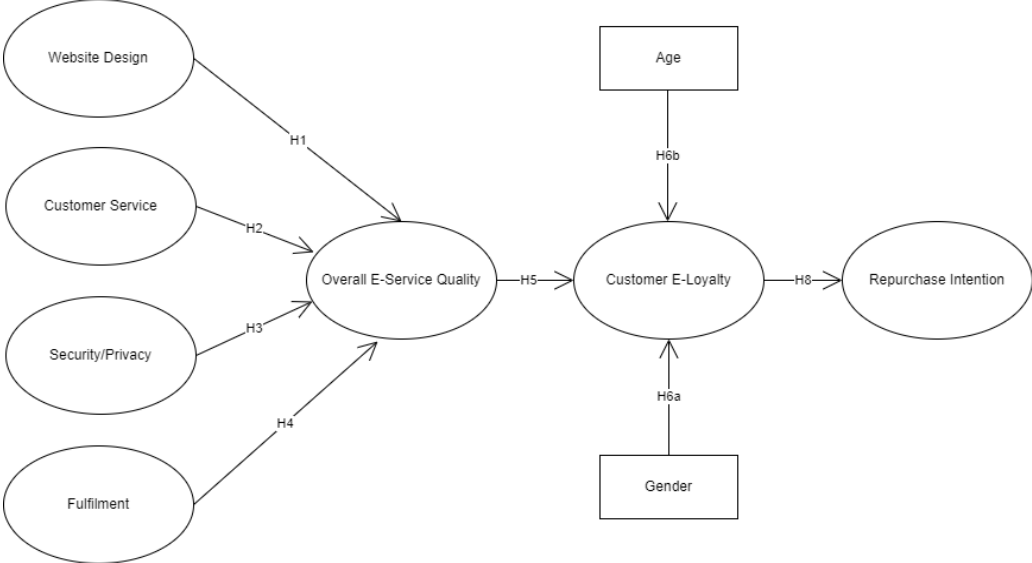
Figure 1. Conceptual Model

CHAPTER 3

Methodology

3.1. Introduction

According with (Yin, 2009), a research should begin with a literature review and carefuland meticulous definition of research questions or objectives of the research. The author also argues that the way the research is carried out and methodology is followed is equally important.

This methodology chapter aims to present the set of procedures and methods that willbe used to carry our this research, answering the posed research questions and meetingthe proposed objectives.

Firstly, the application of the Case Study method will be explained for this specific case. Afterwards, the investigation hypothesis and their support will be introduced as well as the Conceptual Model. Next, the context in which the data was collected, the process and tools used to analyze the data will be presented and explained.

3.2. Case Study

This is a research that presents a unique interest and contribution, since there is nokind of study that evaluates the Customer Perceived Service Quality applied to the sale of Sports Supplements Online retail. Therefore, this research leads us to an embedded analysis of a singular study, since to give an answer to the research question, quantitativeand qualitative elements are needed and therefore it is crucial to define from now on themethodology to proceed with this research.

Regarding (Yin, 2009), a Case Study is a method that allow the researchers to acquireand retain the most important characteristics of real-life events being that it is mainly used when there is a desire to better understand social phenomena.

According to the same author, there are three important conditions that must be metto determine that the Case Study method is the most appropriate model to proceed with an investigation:

- Type of research questions;
- Extent of control over actual behavioral events;
- The degree of focus on contemporary as opposed to historical events.

This is a case meets the three conditions previously mentioned and therefore the case study the

most suitable model to pursue this research. Firstly, in the case of this research is possible to notice that the posed research questions are main "how" and/or "why" questions, as (Yin, 2009) argues. Secondly, the investigator does not have any control or the possibility to manipulate the actual behavior events, since the researcher's role is limited to observing events and interviewing people, by using an online questionnaire. Last but not least, this is a research is regarding a set of contemporary events, meeting the last mentioned condition. So, according with (Yin, 2009), this research may be proceeded by using the Case Study method.

The Customer Perceived Service Quality study and its implications on various factors has been widely explored, since it allows the companies to understand what customers value most, and thus adapt, improving their results. But this kind of study has never been applied to this specific industry (Sports Supplements Online Retail), thus, this research becomes an exploratory in this specific area and, according to (Yin, 2009), it is supported by the use of the Case Study. On the other hand, this research is also an explanatory research, since it will use quantitative findings to answer the posed research question. In following sub-chapters, an explanation regarding the design of this research and how it will be conducted will be given.

3.3. Methodology Overview

In this subchapter will be described and explained how this research was designed, the instruments needed for collecting data, and the results obtained.

In this research a Mixed Methodology was used, following an exploratory design, in which a qualitative study precedes a quantitative study. The qualitative study involves gathering information from semi-structured interviews, and the quantitative study involves designing and applying a questionnaire, with the design of this questionnaire being informed either by literature and by interview outputs.

3.3.1. Qualitative Study

The qualitative study is based on semi-structured interviews and its main objective is to understand if the tools used in previous studies and addressed in the literature review are sufficient or if they need some kind of improvement since this is a study about a very specific industry, about which there is no type of study.

- **Data Collection Instruments**

For the qualitative study, 8 interviews were conducted with users and "frequent" buyers on the website of this Portuguese Sports Supplement Brand. The script of the semi-structured interviews

included 5 questions in order to understand if the time of use of the service and frequency of buy made them more demanding users regarding the OverallE-Service Quality.

The questions asked were the following:

Table 2. Semi-structured Interviews Script

Questions
How long have you been using this website ?
How frequently you have been shopping in this website ?
Do you feel that your demand on Overall E-Service Quality related issues has been increasing over time you have been using this service?
Do you feel that your demand on Overall E-Service Quality related issues has been increasing from purchase to purchase ?
Do you think that browsing in the website without losing information from one page/menu to another is important for the Overall E-Service Quality ?

- **Sample**

The selection criteria used to choose the participants were:
- Being 18 years old or older;
- Having visited and purchased Sports Supplements via Online more than 5 timeson this Portuguese Brand of Sports Supplements website.

These interviews were done in order to obtain more insights regarding this specific sector which was not widely explored in the previous researches.

- **Data Collection**

The interviews were carried out during the month of January and were done online, since this is a study regarding a Retail Sector whose activity is done online. The data collection was done anonymously so that the interviewees could feel as comfortable as possible in answering the questions they were asked.

3.3.2. Quantitative Study

After the qualitative study was completed, the quantitative study was begun. Basically, in this stage a questionnaire was designed, developed, and applied using the tools described in the literature review, but adjusted based on the conclusions that were drawnin the qualitative study.

- **Investigation Hypotheses**

Across the Literature Review Chapter, several hypotheses were developed in order to be tested on the specific scenario of this research, but based on the Qualitative Study, which will be described later in the Chapter IV (Analysis of Results), some additional items were identified that make sense to be analyzed in this specific sector, thus adapting the conceptual model previously presented. Two hypotheses were therefore added to the model, those that are in grey, one that aims to study whether as consumers become more demanding with increasing purchase frequency and, further, whether consumers become more demanding as they use the service over time.

Thus the new and final conceptual model is the following:
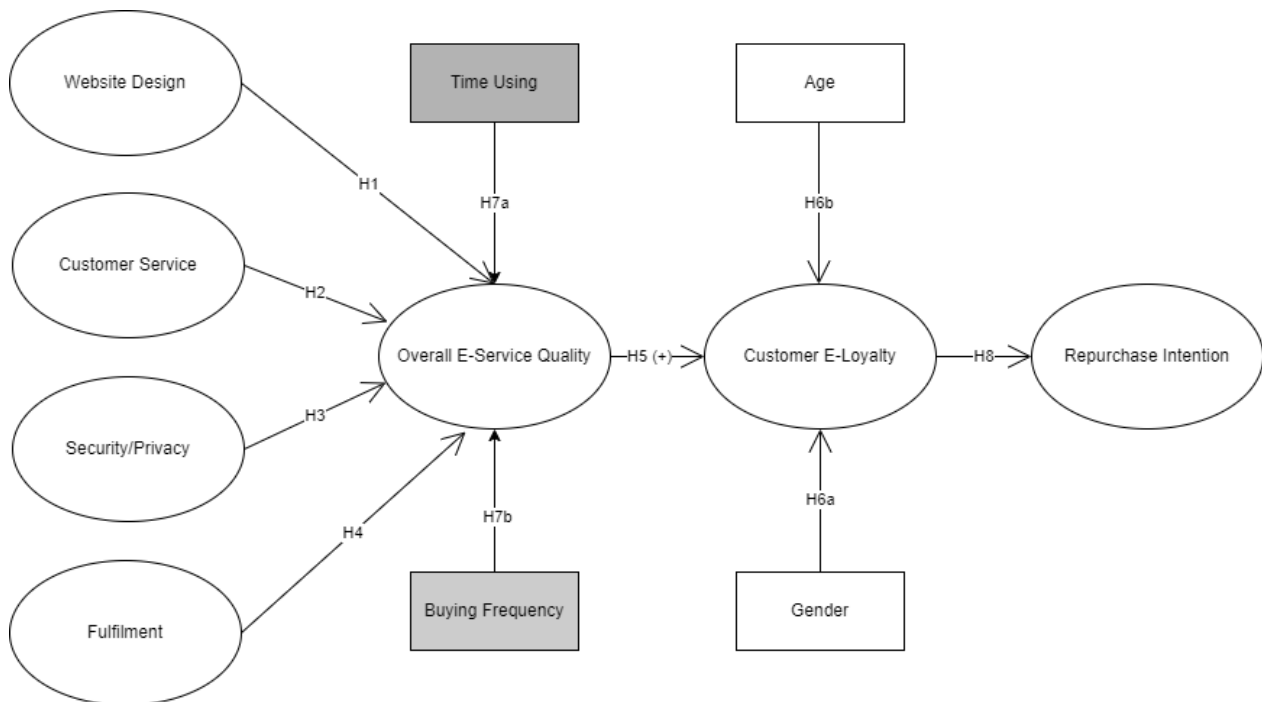
Figure 2. Final Conceptual Model

The posed hypotheses are presented in the following table. Hypotheses H7a and H7b are the new ones added based on the conclusions obtained on the qualitative study, while all the other are already detailed in the Chapter 2.

Table 3. Hypotheses Table

H1:	Perceptions of the Website Design as defined by Blut et al. (2016) positively influences Overall E-Service Quality
H2:	Perception of the Customer Service as defined by Blut et al. (2016) positively influences Overall E-Service Quality
H3:	Perception of the Security/Privacy as defined by Blut et al. (2016) positively influences Overall E-Service Quality

H4:	Perception of the Fulfilment as defined by Blut et al. (2016) positively influences Overall E-Service Quality
H5:	Overall E-Service Quality positively influences the Customer E-Loyalty
H6:	Users Characteristics can influence the Customer Loyalty
H6a:	Gender has no influence on Customer E-Loyalty
H6b:	Age has influence on Customer E-Loyalty
H7:	Seniority in Use negatively influences Overall E-Service Quality
H7a:	Time Using the Service negatively influences Overall E-Service Quality
H7b:	Buying Frequency negatively influences Overall E-Service Quality
H8:	Customer E-Loyalty has a positive effect on the Repurchase Intention

- **Data Collection Instruments**

This chapter will approach the methodology chosen to develop this research, in order to better understand how the data will be collected and treated, so that in the end it is possible to provide an answer to the research questions and reach a valid conclusion about the topic under study.

As it was presented in the last chapter (Literature Review) the Hierarchical Model (Blut et al., 2016) was the model chosen to evaluate the Overall E-Service Quality and also to assess the effect that each of the four dimension has on it. As stated before this model comprises 16 attributes divided into 4 dimensions:

Table 4. Hierarchical Model Dimensions

Website Design	Information Quality	Customer Service	Service Level	Security/ Privacy	Security	Fulfilment	Timeliness of Delivery
	Website Aesthetics		Return/Handling Policies		Privacy		Order Accuracy
	Purchase Process						Delivery Condition
	Website Convenience						
	Product Selection						
	Merchandise Availability						
	Price Offerings						
	Website Personalization						
	System Availability						

This research has also other objectives, besides assessing the Overall E-Service Quality on this specific case, such as evaluating the impact that Overall E-Service Quality has on Customer E-Loyalty, to understand if the Customer Characteristics have any effect on the Customer E-Loyalty, as well as to evaluate the effect of Customer E-Loyalty on Customer Repurchase Intention.

So, in order to proceed with this research all of these constructs must be assessed. Thus, the respondents of the questionnaire will be asked to answer 54 questions regarding the constructs mentioned before, on a on a 7-point Linkert scale (**where 1 is "Totally Disagree" and 7 is "Totally Agree"**). Further, the survey respondents will be askedto answer 4 more questions regarding Personal Data (Gender, Age, Time Using, Buying Frequency).

It is expected that the collection of data will take place between the last week of March and the second week of May in order to have enough time to collect a valid sample forthe research. The target population to answer to this surveys are all males and femalesover 18 years old, who have purchased Sports Supplements via online on this Portuguese Brand website, in the last 6 months. The collection of data will be conducted by making the survey available online, sharing it on the social media such as LinkedIn, Facebook, Instagram and WhatsApp.

After the data collection, it will be analyzed in order to find correlations between the attributes and variables that allows to confirm the hypothesis posed before in thisdocument. It is also important to confirm the heterogeneity of the sample, to avoid errors and mistaken conclusions.

Following the data analysis some conclusions will show up and it will be possible to have a greater knowledge about how the customers perceive the quality of this Portuguese Brand which sells Sports Supplements and provide some recommendations that may improve the company's results.

The table below presents and summarizes all the questions asked to the respondents,as well as the sources of each construct used on this research.

Table 5. Constructs Measuring Questions

Constructs		Items	Source
Website Design	Information Quality	The information on the website is pretty much what I need to carry out my tasks	Blut et al. (2016) ; Holloway & Beatty (2008)
		The website adequately meets my information needs	
		The information on the website is effective	
	Website Aesthetics	The website is visually pleasing	Blut et al. (2016) ; Holloway & Beatty (2008)
		The website displays a visually pleasing design	
		The website is visually appealing	

	Purchase Process	The website has no difficulties with making a payment online	Blut et al. (2016) ; Holloway & Beatty (2008)
		The purchasing process was not difficult	
		It is easier to use the website to complete my business with the company than it is to use a telephone or fax or mail a representative **(R)**	
	Website Convenience	The displays pages within the website are easy to read	Blut et al. (2016) ; Holloway & Beatty (2008)
		The text on the website is easy to read	
		The website labels are easy to understand	
		Browsing in the website is easy (e.g., users can easily browse from one page/menu to the other without losing information)	Qualitative Study
	Product Selection	All my business with the company can be completed via the website	Blut et al. (2016) ; Holloway & Beatty (2008)
		This website has a good selection	
		The website has a wide variety of products that interest me	
	Merchandise Availability	The website has the items the company claims to have in stock	Blut et al. (2016) ; Holloway & Beatty (2008)
		All the products on the website are available	
		Items listed at website were out of stock *	
	Price Offerings	The website offers discount or free shipping	Blut et al. (2016) ; Holloway & Beatty (2008)
		The website has low prices	
		The website has lower prices than the offline stores	
	Website Personalization	The website allows me to interact with it to receive tailored information	Blut et al. (2016) ; Holloway & Beatty (2008)
		The website has interactive features, which help me accomplish my task	
		I can interact with the website in order to get information tailored to my specific needs	
	System Availability	When I use the website, there is very little waiting time between my actions and the website's response	Blut et al. (2016) ; Holloway & Beatty (2008)
		The website loads quickly	
		The website takes a long time to load *	
Customer Service	Service Level	The online shop provides a telephone number to reach the company.	Blut et al. (2016) ; Holloway & Beatty (2008)
		The online shop has customer service representatives available online	
		The online shop offers the ability to speak to a live person if there is a problem	

24	Return Handling/ Policies	The online shop provides me with convenient options for returning items	Blut et al. (2016) ; Holloway & Beatty (2008)
		The online shop handles product returns well	
		The online shop offers a meaningful guarantee	
Security/Privacy	Security	I feel safe in my transactions with the online shop	Blut et al. (2016) ; Holloway & Beatty (2008)
		The online shop has adequate security features	
		This site protects information about my credit card	
	Privacy	I trust the online shop to keep my personal information safe.	Blut et al. (2016) ; Holloway & Beatty (2008)
		I trust the website administrators will not misuse my personal information	
		It protects information about my web-shopping behavior	
Fulfilment	Timeliness of Delivery	The product is delivered by the time promised by the company	Blut et al. (2016) ; Holloway & Beatty (2008)
		This online shop website makes items available for delivery within a suitable time frame	
		It quickly delivers what I order	
	Order Accuracy	You get what you ordered from this website	Blut et al. (2016) ; Holloway & Beatty (2008)
		The website sends out the items ordered **(R)**	
		The website is truthful about its offerings	
	Delivery Condition	The product was damaged during delivery	Blut et al. (2016) ; Holloway & Beatty (2008)
		The ordered products arrived in a good condition	
		The products arrived with a major damage	
Overall E-Service Quality		Overall. my purchase experience with this online shop is excellent	Blut et al. (2016)
		The overall quality of the service provided by this online shop is excellent	
		My overall feelings toward this online shop are very satisfied	
Customer E-Loyalty		Encourage friends and others to do business with this website	Parasuraman et al. (2005)
		Do more business with this website in the coming months	
		Say positive things about this website to other people	
Repurchase Intention		I will do more purchases through this online shop in the future	Zeithaml et al. (1996)
		I will increase purchases through this online shop	
		I will intensify purchases through this online shop	
Users Characteristics	Gender	Female	Patterson (2007)
		Male	

Seniority in Use	Age	Other	
		18-30	
		31-50	
		51-65	
		65+	
	Time Using	<6 months	Qualitative Study
		6-12 months	
		1-2 years	
		2+ years	
	Buying Frequency	1-3 times per year	
		4-6 times per year	
		7-9 times per year	
		10-12 times per year	
		12+ times per year	

(R) – Eliminated Questions due to Redundancy or lack of sense; * - Questions Eliminated by Blut et al. (2016) due to low Validity

3.3.3. Definition of Independent Variables

On this research it was also found important to collect some additional information aboutthe questionnaire respondents, thus representing the following independent variables:

Gender, that has as possible responses Masculine or Feminine, so defining a binomial variable.

Age, four age groups were defined: 18 to 30 years old; 31 to 50 years old; 51-65 years old and 65 or more years old. Since the research is regarding the adult population theage groups start at a minimum age of 18 years of age.

Time Using the Service, to understand how long the customer has been using the service four time intervals were defined: less than 6 months; 6 to 12 months; 1 to 2 years and 2 or more years.

Buying Frequency, to understand how often the customer makes purchases on the website were defined 5 time intervals: 1 to 3 times per year; 4-6 times per year; 7-9 times per year; 10-12 times per year and more than 12 times per year.

• Population and Sample

This research will be based on consumers of a Portuguese brand that sells Sport Supplements Online, since this is the most consumed brand in Portugal and, therefore, the one that makes the most sense to be studied in order to have an idea of the Constructs defined by (Blut, 2016) that consumers value the most and its implications on E-Loyalty, the effect of E-Loyalty on Repurchase

Intention, understand the if people that use (Time Using) and purchase more frequently (Buying Frequency) on this website are more demanding regarding the Overall E-Service Quality, and also if both genders and the different age groups have the same level of E-Loyalty.

The criteria for selecting the questionnaire respondents have been defined in advance. Therefore, anyone over 18 years of age who have visited and made at least one purchase on the website of this Portuguese brand that sells Sports Supplements Online is eligible to answer to this questionnaire.

• Pre-Test and Data Collection

Before starting to share and send the questionnaire to the potential respondents, it is necessary to develop a pre-test phase in order to detect any flaws or redundancies in the questions and also to receive some recommendations and thus improve the questionnaire as much as possible. During the pre-test phase, in order to ensure that the questionnaire was well developed, the questionnaire was sent to 8 people, one man and one woman from each age group defined to be studied, thus ensuring gender and age group representativeness even in the pre-test phase.

In this phase, the questionnaire was sent to the volunteers via online, since this research focuses on a service that is provided online and, therefore, it makes perfect sense for it to be so. Then, people were asked to provide some ideas and recommendations in order to improve the questionnaire. The data collection for the pre-test phase took place between February 15th and March 15th, 2022. The recommendations made by the respondents were:

- Uniformity of expressions in the questions;
- Reformulation of questions due to their redundancy (similar to other questions)

In the pre-test phase it was also possible to understand that people who had been shopping online for sports supplements for longer were more demanding and, therefore, a construct (Seniority in Use) was created with an associated hypothesis which intends to study its effect on the Overall E-Service Quality.

• Data Analysis Tools

After the data collection, it will be analyzed using SPSS software. In order to meet the research objectives, several statistical methods will be used to treat and analyze the data collected.

Hypotheses' Testing

Hypotheses' Testing is a procedure that has as its main objective to test assumptions regarding a certain population, using a collected sample (Laureano, 2013). Thus, all the hypotheses

developed earlier in this paper will be tested, so that they can be confirmedor not.

According to Morôco (2018), hypotheses' tests can be classified in two ways: as **parametric** or **non-parametric**. To ensure that the tests to be used can be **parametric**, two assumptions have to be respected:

- **Normality** - this means that the variable distribution must follow a normal distribution. To evaluate this factor, two methods can be used. On the one hand, it is possible to evaluate the normality of the distribution using **Kolmogorov-Smirnov test** if the sample is composed of 30 or more elements ($n \geq 30$), on the other hand if the sample is composed of less than 30 elements ($n < 30$) , **Shapiro-Wilk test** must be used. Still on normality tests, according to (Laureano, 2013), in case the number of elements of a sample is less than 30, to ensure the normal distribution of the variable is necessary to reject the null hypothesis (H0) – to reject it, in a test with a significance level of 0.05, is necessary a Sig. > 0.05.

- **Homoscedasticity** - this means that variables have a homogeneous variance. In this case, to test the homogeneity, **Levine test** is the more reliable one, so it must be used.

If the two previous assumptions are fulfilled, it is proved that the sample is parametric. Thus, there are 2 types of tests that can be followed. These tests are:

- **One-way ANOVA**, if a comparison between more than two populations is to be made;

- **T-Student Test**, if a comparison between two populations is to be made.

If it is proved that the sample does not follow a normal distribution or does not have a homogeneous variance, it is understood that sample is non-parametric. In order to proceed to the hypothesis tests, in this case, there are also two types of tests to be followed:

- **Wilcoxon-Mann-Whitney Test**, to compare two populations;

- **Kruskal-Wallis Test**, to compare two or more populations.

In both cases, for **parametric** and **non-parametric** tests, when the Null hypothesis (H0) is reject, it means that there is, at least, one population with different characteristics when compared with the others. Thus, it is necessary to identify which population is different from the others, using post-hoc tests of multiple mean comparison, such as:

- **Tukey Test**, if the sample is composed of 30 or more elements ($n \geq 30$);

- **Bonferroni Test** , if the sample is composed of less than 30 elements ($n < 30$).

Correlation Coefficient

The correlation coefficient will be an important tool, since it is necessary to test some of the hypothesis posed in this research. This method aims to evaluate the relationship robustness between two different variables. The most used tool between the specialist is the **Pearson's correlation coefficient**, when both variables are quantitative, and has as its main objective to measure how strong is the linear relationship between two quantitative variables (Laureano, 2013).

It is mandatory to define the reliability of the results by choosing the confidence level. According to Morôco (2018), to ensure the reliability of the correlation it is necessary to define a confidence level of at least 95%. Thus, the coefficient is reliable when $\rho \geq 0.05$ and $\rho \leq -0.05$. The correlation coefficient has a scale from -1 to 1 ($-1 \leq \rho \leq 1$), when the value is closer to -1, it means that the variables are negatively correlated – variables have opposite behaviors. On the other hand, if the correlation coefficient value is close to 1, it means that the variables are positively correlated – variables have the same behavior. In order to provide a better assessment of the relationship between variables, a scale was chose. According to Liu & Li (2022), the Pearson Correlation Coefficient scale that should be used is shown in Table 6.

3.4. Conclusions

Table 7 summarizes the research development process, so that all objectives were met and all research questions were answered.

Table 6. Pearson Correlation Coefficient Scale

Pearson Correlation Coefficient Absolute Value	Correlation Strength
0.00 - 0.20	Very Weak
0.20 - 0.40	Weak
0.40 - 0.60	Moderated
0.60 - 0.80	Strong
0.80 - 1.00	Very Strong

Table 7. Specific Objectives, Research Questions and Analysis Techniques Summary

	Specific Objectives		Research Questions	Analysis
O1:	Evaluate Customer Overall E-Service Quality of the service provided by	**Q1:**	What is the customers' perception about the service quality of company XPTO?	Correlation Coefficient

	XPTO			
O2:	Evaluate the Seniority in Use (Time Using and Buying Frequency) impact on Overall E-Service Quality	Q2:	Customers become more demanding in terms of Overall E-Service Quality over Time Using and as they make more purchases?	Descriptive Analysis + Hypotheses Testing (H7, H7a, H7b)
O3:	Evaluate Customer E-Loyalty	Q3:	Is there any difference in the customer E-Loyalty levels of men and women? And are the different age groups equally loyal to the brand?	Descriptive Analysis + Hypotheses Testing (H6, H6a, H6b)
O4:	Evaluate the strength of the association between the Overall E-Service Quality and the Customer E-Loyalty	Q4:	Is there a positive association between the Overall E-Service Quality and the Customer E-Loyalty?	Correlation Coefficient
O5:	Evaluate the strength of the association between the Customer E-Loyalty and the Customer Repurchase Intention	Q5:	Is there a positive association between Customer E-Loyalty and Customer Repurchase Intention?	Correlation Coefficient
O6:	Propose some recommendations to the company to improve their relationship with their customers and so improving their results	Q6:	Which recommendations can be provided to improve the company's relationship with the customers and also its results?	Qualitative Approach

CHAPTER 4

Analysis of Results

This chapter has as its main objective to present the obtained results from the data analysis. The chapter of Analysis of Results will start by briefly describing the specific case that was under study. Next, a descriptive analysis of the sample collected will be carried out, as well as an analysis of the reliability of the constructs that were studied. Tests will also be developed to answer the posed hypotheses. Finally, the results will be discussed in order to better understand the customer behavior on this specific retail sector and also to draw some conclusions that allow the improvement of the service provided, bringing better results to the Sport Supplements Online Retailers.

It is expected to statistically confirm every posed hypothesis and, obviously, understand better the customer behavior on this particular retail sector. At the end of this research is also expected to provide good inputs to improve even more the Customer Perceived Quality on this specific sector, and, consequently, bring better results for Sports Supplements retailers.

4.1. Online Sports Supplements Retail

The Online Retail of Sports Supplements is a retail sector that has been emerging since people are prioritizing more and more a healthy lifestyle. This specific retail sector comprises a wide variety of products that can help athletes, but also people in general, to attain their maximum potential via training, recover more quickly between sessions and/or competitions, maintain a healthy weight, decrease their risk of injury. One of the main factors influencing the industry is how people are choosing to use sports nutrition products because of its benefits. According with several researches this specific sector is valued in 40 billion dollars and is expected to reach the valuation of 82.3 billion dollars in 2030, which means that this retail sector is expected to grow at 8.5% rate annually. This Portuguese Brand that Sells Sports Supplements Online is located in several markets around the world - such as Portugal, United States of America and Spain - so the company can certainly benefit from this growth, but in order to take advantage of this growth, it is necessary that it adapts as much as possible to the demands of the customers and users of this type of service.

4.2. Qualitative Study

4.2.1. Sample Characterization

For the qualitative study a sample of 8 people was interviewed, 4 females (50%) and 4 males

(50%). Regarding to the age groups of the participants, it was distributed as follows: 2 (25%) - 18 to 30 years old; 2 (25%) - 31 to 50 years old; 2 (25%) - 50 to 65 years old; 2 (25%) - more than 65 years old.

Table 8. Qualitative Study Sample Characterization

		AF	RF (%)
Gender	Female	4	50
	Male	4	50
	Total	**8**	**100**
Age	18-30	2	25
	31-50	2	25
	51-65	2	25
	65+	2	25
	Total	**8**	**100**

Note: AF – Absolute Frequency; RF (%) – Relative Frequency

4.2.2. Results

The results obtained in the semi-structured interviews were the following:

Table 9. Results Qualitative Study

Questions	Male (18-30)	Female (18-30)	Male (31-50)	Female (31-50)	Male (51-65)	Female (51-65)	Male (+65)	Female (+65)
How long have you been using this website?	2 years	1 year	4 years	2 years	1 year	2 years	2 years	2 years
How frequently have you been shopping at this website?	3x/year	7x/year	4x/year	3x/year	3x/year	2x/year	6x/year	3x/year
Do you feel that your demand on Overall E-Service Quality related issues has been	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

increasing over the time you have been using this service?								
Do you feel that your demand on Overall E-Service Quality related issues has been increasing from purchase to purchase ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Do you think that browsing in the website without losing information from page/menu to another is important for the Overall E-Service Quality ?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Interviews Notes:

Male (18-30) – "Yes, I guess that I don't have the same "vision" of quality of this specific service since the first time I used it. Regarding losing information from a page to another, is one of the things that annoys me the most that makes me want to stop using a website."

Female (18-30) – "I think I have always been a very demanding person in terms of the quality

that a service or a product has to have in order for me to use it, but yes, I think I have always increased this demand. In relation to losing information from one page to another, I think this is a point that demonstrates a lot of the quality of the website."

Male (31-50) – "I have been using this type of service for a few years now and I think that my requirements have increased a lot since the first time I used it, because until then I had no knowledge of this type of product and had never come into contact with such a service. In relation to the subject of losing information while navigating the website, yes, it is something that frustrates me a little and has an impact on the way I perceive the quality of the website itself. "

Female (31-50) – "Yes, at first when I started using this service, I didn't understand anything about it. Anything would be good. But now, after 2 years, I understand that I no longer see things the same way. I would say that I am more demanding now, yes. Regarding the loss of information, yes of course, I think it's something elementary in a website nowadays. If you lose information it is because the site is not well developed."

Male (51 – 65) – "I haven't used this type of service for a long time, but I think I'm more picky since the first time. I think it's something common to all people in any kind of service. You always expect the service provided to improve every time you use it. Regarding the loss of information from page to page, yes clearly it has an impact on the way I see the quality of the website."

Female (51-65) – "The truth is that I am not very "experienced" with this type of service either, but I would say that nowadays I have a "more trained eye" and am more demanding. It is a key point if the website is to have good quality, that no information is lost from one page to another."

Male (+65) – "I've never been very picky about the service I get, as long as it meets the minimum requirements it's fine by me. But obviously as I started to use this service I also started to expect more from it. In relation to the loss of information while browsing to make my purchases, as I said I am not itchy, but it is also something that has an impact on the way I understand the quality of a website."

Female (+65) – ""Yes, I am more demanding compared to the first day I used this type of service. For me it is essential that if I have added something to the cart, that information is not lost when I go back down the page."

The Qualitative Study results proved to be positive, since all interviewees answered positively to questions related to the increase of their demands over time and also as they shop on this website, and also the fact that they consider important not to lose information from one page/menu to another while browsing on the website. Thus, the study findings allowed to propose two more hypotheses and also to add one more question to the Website Convenience

construct.

4.3. Quantitative Study

4.3.1. Sample Characterization

As mentioned earlier in this thesis, some of the characteristics of the respondents were considered important to characterize the sample collected. Thus, the following variables were used: **Gender**, **Age**, **Time Using** the Service and **Buying Frequency**.

Regarding the **Gender** it was possible to verify that the sample was quite balanced, with 50.94% of the individuals being female and 49.06% male (see Annex - Figure 3).

According to the **Age**, a much less balanced distribution was obtained, with 81.13% of the answers obtained coming from users belonging to the age group 18-30 years old, 18.87% belonging to users that are aged above 30 (see Annex - Figure 4).

About the **Time Using** the Service, it was possible to verify that 17.92% had been using the service for less than 6 months, 16.04% for 6 to 12 months, 31.13% for between 1 year and 2 years and finally 34.91% for 2 years or more. (see Annex- Figure 5)

Regarding the independent variable **Buying Frequency**, it was noted that none of the respondents shopped on this website more than 12 times a year, thus this Buying Frequency interval was merged into the previous one (10-12 times per year). As it is possible to observe, 50.94% of the users shop 1 to 3 times a year on this website, 24.53% make purchases 4 to 6 times a year, 13.21% buy 7 to 9 times per year and 11.32% shop 10 or more times per year (see Annex - Figure 6). All this information is summarized in Table. 10.

Table 10. Sample Characterization Conclusion

Independent Variable		AF	RF (%)
Gender	Female	54	50.94
	Male	52	49.06
	Total	**106**	**100**
Age	18-30	86	81.13
	30 +	20	18.87
	Total	**106**	**100**
Time Using	Less than 6 months	19	17.92
	6 to 12 months	17	16.04
	1 to 2 years	33	31.13
	More than 2 years	37	34.91
	Total	**106**	**100**
Buying Frequency	1 to 3 times per year	54	50.94
	4 to 6 times per year	26	24.53
	7 to 9 times per year	14	13.21

	10 or more times per year	12	11.32
	Total	**106**	**100**

Note: AF – Absolute Frequency; RF (%) – Relative Frequency

4.3.2. Reliability of Constructs

Measuring the reliability of the constructs under study is an important step, since it verifies the constructs' validity by measuring the consistency of the items within the construct. Thus, the most used and appropriated tool to analyze and measure the constructs reliability is the Cronbach's Alpha Churchill (1979). Every single variable within the construct must be evaluated in order to assess in which extent it can estimate a construct Marôco (2018).

This statistical instrument value varies between 0 and 1, the greater the Cronbach's Alpha value the greater the validity of the construct and so the consistency among items within the construct. According to Nunnally (1978), to ensure that a construct is reliable and valid its Cronbach's Alpha value must be greater or equal to 0.70.

After analyzing Table. 27, it was possible to verify that most constructs presented Cronbach's Alpha values above 0.70 and, therefore, their validity was verified. Some of the constructs presented values slightly below 0.7 (**Product Selection, Merchandise Availability, Price Offerings and Order Accuracy**), even so they will be kept and taken into account in the data analysis that will follow.

Regarding Cronbach's Alpha if the Item Deleted, it expresses the improvement or decline of the construct validity if the question in question is eliminated.

Also, as it is possible to verify in the table above, in questions **WA2** and **TD2**, if the questions were eliminated there would be an improvement in the constructs validity, but since it is already above 0.70 and the improvement is not very significant, the question will be kept. In question **PO1**, if it were eliminated the validity would only suffer a very small improvement, so it will also be kept. In questions **DC2** and **RI1**, if they were eliminated the validity of their constructs would suffer a very significant improvement, so this questions will be eliminated and will not be part of the next steps of this research.

4.3.3. Questionnaire Descriptive Analysis

In this subchapter, in order to analyze whole questionnaire, all the 52 questions included in the questionnaire are analyzed.

Website Design

Regarding the Website Design construct, the respondents were asked to answer to 24 questions according to a 7-point Linkert like Scale. The construct Website Design has an overall classification

of 5.89. Analyzing the construct more in detail, the Information Quality has an average value of 6.05, Website Aesthetics average value is 6.07, the average value of Purchase Process is 6.21, the Website Convenience has an average value of 6.07, the Product Selection average value is 6.24, the average value of Merchandise Availability is 5.94, the Price Offerings has an average value of 5.29, the Website Personalization average value is 5.23 and the average value of System Availability is 5.97 (see Table. 11).

The data shown on Table. 10 allows to take several conclusions. It shows that consumers have the feeling that the prices charged by this Portuguese Brand that sells Sports Supplements Online are above those charged by other brands. This statement is corroborated by the average ratings of questions PO2, that has an average value of 4.93, and PO3 that has an average value of 5.05, both values are significantly lower than that observed in the average value of the construct. Regarding the Website Personalization, it also has an average value significantly lower than Website Design, which means that the consumers may perceive that they can have little interaction with the website itself. On the other hand, the respondents perceive that this Portuguese Brand that sells Sports Supplements Online provide them a proper product selection and that the purchase process is quite simple, since their average values are significantly higher that the Website Design average value. It is also possible to conclude that Website Design is the construct that presents the highest level of agreement among respondents, since it presents de lowest Standard Deviation, 0.63.

Table 11. Website Design Results

		Average	Std. Dev	Min	Max
Website Design		**5.89**	**0.63**		
Information Quality		**6.05**	**0.83**		
IQ1	The information on the website is pretty much what I need to carry out my tasks	6.05	0.96	3	7
IQ2	The website adequately meets my information needs	6.00	0.94	3	7
IQ3	The information on the website is effective	6.11	0.94	3	7
Website Aesthetics		**6.07**	**0.87**		
WA1	The website is visually pleasing	6.19	0.97	2	7
WA2	The website displays a visually pleasing design	6.05	1.00	3	7
WA3	The website is visually appealing	5.97	1.06	3	7
Purchase Process		**6.21**	**0.94**		
PP1	The website has no difficulties with making a payment online	6.13	1.14	2	7
PP2	The purchasing process was not difficult	6.28	0.94	3	7
Website Convenience		**6.07**	**0.82**		

WC1	The displays pages within the website are easy to read	6.24	0.89	3	7
WC2	The text on the website is easy to read	6.07	1.00	3	7
WC3	The website labels are easy to understand	6.03	0.96	3	7
WC4Q	Browsing in the website is easy (e.g., users can easily browse from one page/menu to the other without losing information)	5.96	1.13	2	7
Product Selection		**6.24**	**0.72**		
PS1	All my business with the company can be completed via the website	6.27	1.05	1	7
PS2	This website has a good selection	6.17	0.93	3	7
PS3	The website has a wide variety of products that interest me	6.28	0.79	4	7
Merchandise Availability		**5.94**	**0.89**		
MA1	The website has the items the company claims to have in stock	6.31	0.92	3	7
MA2	All the products on the website are available	5.57	1.29	2	7
Price Offerings		**5.29**	**1.15**		
PO1	The website offers discount or free shipping	5.88	1.25	2	7
PO2	The website has low prices	4.93	1.65	1	7
PO3	The website has lower prices than the offline stores	5.05	1.60	1	7
Website Personalization		**5.23**	**1.14**		
WP1	The website allows me to interact with it to receive tailored information	5.37	1.24	2	7
WP2	The website has interactive features, which help me accomplish my task	5.15	1.48	1	7
WP3	I can interact with the website in order to get information tailored to my specific needs	5.16	1.30	1	7
System Availability		**5.97**	**0.94**		
SA1	When I use the website, there is very little waiting time between my actions and the website's response	5.89	1.07	1	7
SA2	The website loads quickly	6.05	0.97	1	7

Customer Service

Regarding the Customer Service construct, the respondents were asked to answer to 6 questions, also according to a 7-point Linkert like Scale. The Customer Service has an overall classification of 5.37, which means that it is one of the lowest values among constructs. Analyzing the construct more in detail, within it we can find two constructs, Service Level with an average value of 5.30 and Return Handling/Policies with an average value of 5.44 (see Table. 12).

The data shown on Table. 12 allows to take some conclusions. It shows that customers may feel that there is no opportunity to communicate with a live person in case there is a problem and this statement is corroborated by the fact that the average value of SL3 is 4.85, which is a low value when compared with other items.

Table 12. Customer Service Results

		Average	Std. Dev	Min	Max
Customer Service		**5.37**	**0.96**		
Service Level		**5.30**	**1.15**		
SL1	The online shop provides a telephone number to reach the company.	5.46	1.46	1	7
SL2	The online shop has customer service representatives available online	5.58	1.32	2	7
SL3	The online shop offers the ability to speak to a live person if there is a problem	4.85	1.41	1	7
Return Handling/Policies		**5.44**	**1.04**		
RP1	The online shop provides me with convenient options for returning items	5.57	1.18	3	7
RP2	The online shop handles product returns well	5.28	1.26	2	7
RP3	The online shop offers a meaningful guarantee	5.47	1.21	3	7

Security/Privacy

Regarding the Security/Privacy construct, it is composed of 6 items, that were answered according to a 7-point Linkert like Scale. The Security/Privacy construct has an average value of 6.00, which means that it is one of the highest values among all constructs. Analyzing the construct more in detail, it is possible to observe that there are two constructs within the Security/Privacy construct, Security with a 6.18 average value and Privacy which has an average value of 5.81 (see Table. 13).

With the data shown on Table. 13 it is possible to draw some conclusions. It shows that the consumers fell quite comfortable while doing their purchases on the website of this Portuguese Brand that sells Sports Supplements Online, since the overall classification of this construct is 6.00. It is also possible to conclude that customers feel quite safe while purchasing and paying at this website, since the average value of Security construct is 6.18. On the other hand, although Privacy construct has a high average value, 5.81, there is a question that stands out from the rest, the question P3. This question stands out from the rest since it has a quite lower average value, 5.58, which can indicate that the customers may feel that their shopping behavior may be shared with other parties.

Table 13. Security/Privacy Results

		Average	Std. Dev	Min	Max
	Security/Privacy	**6.00**	**0.90**		
	Security	**6.18**	**0.84**		
S1	I feel safe in my transactions with the online shop	6.35	0.83	3	7
S2	The online shop has adequate security features	6.21	1.00	3	7
S3	This site protects information about my credit card	5.98	1.20	3	7
	Privacy	**5.81**	**1.14**		
P1	I trust the online shop to keep my personal information safe.	5.93	1.18	3	7
P2	I trust the website administrators will not misuse my personal information	5.92	1.16	3	7
P3	It protects information about my web-shopping behavior	5.58	1.44	1	7

Fulfilment

Regarding the Fulfilment construct, it was composed of 7 questions, that were also answered according to a 7-point Linkert like Scale. The overall classification of Fulfilment construct is 5.73. Analyzing the constructs more in detail, the average value of Timeliness of Delivery is 6.07, Order Accuracy has an average value of 6.14 and the average value of Delivery Condition is 4.80 (see Table. 14).

Some conclusions can be drawn from the data presented in the Table. 14. It shows that customers perceive that the products are delivered very fast and within the time promised by the company, this statement is corroborated by the average values of TD1 and TD2. Regarding the Order Accuracy, in this topic the customers also seem to perceive that their orders are delivered very accurately, and it is confirmed by the average value of Order Accuracy construct. On the other hand, the customers perceive that their orders are not delivered in good conditions and sometimes their orders arrived damaged, this is reaffirmed by the average value of both question, DC1 and DC3. Also regarding this topic, the Delivery Condition construct, it seems to present very different customers' opinions since the Standard Deviation is 2.26.

Table 14. Fulfilment Results

		Average	Std. Dev	Min	Max
	Fulfilment	**5.73**	**0.97**		
	Timeliness of Delivery	**6.07**	**0.99**		
TD1	The product is delivered by the time promised by the company	6.19	1.043	3	7
TD2	This online shop website makes items available for delivery within a suitable time frame	5.90	1.211	3	7

		Average	Std. Dev	Min	Max
TD3	It quickly delivers what I order	6.13	1.130	2	7
Order Accuracy		**6.14**	**1.01**		
OA1	You get what you ordered from this website	6.32	0.97	3	7
OA2	The website is truthful about its offerings	5.96	1.32	1	7
Delivery Condition		**4.80**	**2.26**		
DC1	The product was damaged during delivery	4.67	2.36	1	7
DC3	The products arrived with a major damage	4.92	2.37	1	7

Overall E-Service Quality

Regarding the Overall E-Service Quality construct, it was composed of 3 questions evaluated according to a 7-point Linkert like Scale and the overall classification of this construct is 6.17 (see Table. 15). Analyzing in more detail this construct it is possible to identify that the questions' average values seem to be quite consistent with each other.

A conclusion can be drawn from the data observed in the Table. 15. In general, the customers perceive their purchasing experience as quite good and satisfying. This can be confirmed by the average values of the 3 questions, OSQ1, OSQ2 and OSQ3, that compose the Overall E-Service Quality construct. It is also possible to conclude that this is one of the constructs that generates the most agreement among customers and so almost everyone perceive this service as quite good and satisfy their needs, since it presents a Standard Deviation value of 0.90.

Table 15. Overall E-Service Quality Results

		Average	Std. Dev	Min	Max
Overall E-Service Quality		**6.17**	**0.90**		
OSQ1	Overall. my purchase experience with this online shop is excellent	6.14	1.05	1	7
OSQ2	The overall quality of the service provided by this online shop is excellent	6.13	0.96	3	7
OSQ3	My overall feelings toward this online shop are very satisfied	6.25	0.88	3	7

Customer E-Loyalty

Regarding the Customer E-Loyalty construct, it was composed of 3 questions evaluated according to a 7-point Linkert like Scale and the overall classification of this construct is 6.10 (see Table. 16).

Analyzing in more detail this construct in the Table. 16 it is possible to conclude that customers are quite loyal to this Portuguese Brand that sells Sport Supplements Online. The previous statement is corroborated both by the average value of the construct itself and by the average value of each of the questions.

Table 16. Customer E-Loyalty Construct Analysis

		Average	Std. Dev	Min	Max
Customer E-Loyalty		**6.10**	**0.96**		
CL1	Encourage friends and others to do business with this website	6.08	1.02	1	7
CL2	Do more business with this website in the coming months	6.05	1.13	1	7
CL3	Say positive things about this website to other people	6.17	1.01	2	7

Repurchase Intention

Regarding the Customer E-Loyalty construct, it was also composed of 2 questions evaluated according to a 7-point Linkert like Scale and the overall classification of this construct is 5.14 (see Table. 17).

Analyzing in more detail this construct in the Table. 17 it is possible to conclude that this construct has a lower average value comparing to the Overall E-Service Quality and Customer E-Loyalty, which means that although the customers are quite satisfied with service and are loyal to the brand, they do not have a so strong Repurchase Intention. This statement is corroborated by the average value of the Repurchase Intention construct. This is a construct that generates some disagreement, presenting a Standard Deviation value of 1.38, which may indicate that there are disparate opinions, some people have no intention of make purchases on this website again, while other people will do it and also intensify their purchases.

Table 17. Repurchase Intention Results

		Average	Std. Dev	Min	Max
Repurchase Intention		**5.14**	**1.38**		
RI2	I will increase purchases through this online shop	5.09	1.46	1	7
RI3	I will intensify purchases through this online shop	5.18	1.42	1	7

4.3.4. Hypotheses' Testing

As mentioned in the previous chapter, in order to proceed with the Hypotheses Testing to answer the Research Questions, it is, firstly, necessary to ensure the normality and the homoscedasticity of the sample.

Hypothesis H6a: Gender has no influence on Customer E-Loyalty perception

Here, the purpose is to test the hypothesis H6a, if there is a statistically significant difference between the means of females and males respondents answers, regarding the Customer E-Loyalty. The normality was tested and it was possible to conclude that neither the females nor the males groups followed a normal distribution (see Annex - Table. 31). Thus, were conducted

the non-parametric tests. In order to test the Null Hypothesis (H0) the Mann-Whitney test was used.

As it is possible to verify on Table. 18 results, the value of Mann-Whitney Sig. is 0.056, which is a value greater than 0.05. Thus, the differences are not statistically significant, meaning that the gender does not influence the Customer E-Loyalty (U=1109.50; p=0.056).

Table 18. Mann-Whitney Test for independent variable "Gender" for the Customer E-Loyalty construct

Test Statistics [a]

	CL
Mann-Whitney U	1109.50
Wilcoxon W	2487.50
Z	-1.910
Asymp. Sig. (2-tailed)	0.056

a. Grouping Variable: GENDER

The results suggest that the independent variable "Gender" does not influence the Customer E-Loyalty perception and, thus, H6a cannot be rejected.

Hypothesis H6b: Age has influence on Customer E-Loyalty perception

In this subchapter, the intention is to verify if there is a statistically significant difference between age groups for the Customer E-Loyalty. First, the normality was tested for both groups and it was possible to conclude that none of them followed a normal distribution (see Annex - Table. 30). Thus, the non-parametric tests were conducted by following Mann-Whitney test (Laureano, 2013). Nevertheless, as shown in Table. 19, these differences are not statistically significant (U=685.00; p=0.147).

Table 19. Mann-Whitney Test for independent variable "Age" for the Customer E-Loyalty construct

Test Statistics [a]

	CL
Mann-Whitney U	685.00
Wilcoxon W	4426.00
Z	-1.450
Asymp. Sig. (2-tailed)	0.147

a. Grouping Variable: AGE

The results purpose the Age does not influence the Customer E-Loyalty, thus H6b is rejected.

Hypothesis H7a: Time Using has no influence on Overall E-Service Quality perception

Regarding the Time Using independent variable, here the objective is to verify whether, effectively, customers become more demanding on Overall E-Service Quality over the time they use the Online Sport Supplements retail service. The normality of the groups was tested and it was possible to conclude that only one of the four groups analyzed followed a normal distribution (see Annex – Table 32), thus the non-parametric tests were conducted. This time, since there were 4 independent samples, the test used was the Kruskal Wallis (Laureano, 2013).

As it is possible to verify on Table. 20, Kruskal Wallis Sig. value is greater than 0.05, thus it is assumed that are no statistically differences between each of the groups of Time Using independent variable (H(3)=7.102; *p*=0.069).

Table 20. Kruskal Wallis Test for independent variable "Time Using" for the Overall E-Service Quality construct

Test Statistics [a,b]

	OESQ
Kruskal-Wallis H	7.102
df	3
Asymp. Sig.	0.069

a. Kruskal Wallis Test

b. Grouping Variable: TU1

Thus, the Time Using does not influence the Overall E-Service Quality and the H7a is rejected.

Hypothesis H7b: Buying Frequency has no influence on Overall E-Service Quality perception

On Buying Frequency subchapter, the goal is to verify if customers become more demanding on Overall E-Service Quality from purchase to purchase. After the normality test was conducted, it was possible to conclude that, once again, none of the groups followed a normal distribution, and therefore the non-parametric tests would have to be followed. Since, also in this case, there were 4 groups to be tested, the test to be followed is the Kruskal Wallis test.

Observing and analyzing the Table 21, is possible to verify that the Kruskal Wallis Sig. value is 0.561, which is much greater than 0.05, meaning that the Null Hypothesis should be retained. Thus, it was possible to conclude that the distribution of Overall E-Service Quality is statistically the same for all groups of Buying Frequency. (H(3)=2.054; *p*=0.561).

Table 21. Kruskal Wallis Test for independent variable "Buying Frequency" for the Overall E-Service Quality construct

	OESQ
Kruskal-Wallis H	2.054
df	3
Asymp. Sig.	0.561

a. Kruskal Wallis Test

b. Grouping Variable: TU1

Thus, the Buying Frequency does not influence the Overall E-Service Quality and the H7b is rejected.

4.3.5. Correlation Coefficients

Correlation between Website Design and Overall E-Service Quality perception

Regarding the research hypothesis H1, its goal is to assess if the Website Design Dimension is positively correlated with Overall E-Service Quality perception by the customers of this Portuguese Brand that Sells Sports Supplements Online. Observing the Pearson Correlation values on Table 22, it is possible to understand that both variables, Website Design and Overall E-Service Quality, are positively correlated and this correlation is statically significant (Pearson Correlation Coefficient = 0.624, with *p*<0.001), having a Strong relationship between both variables.

Table 22. Pearson Correlation Matrix between Website Design and Overall E-Service Quality

		WD	OESQ
WD	**Pearson Correlation**	1.000	.624[**]
	Sig. (2-tailed)		<0.001
OESQ	**Pearson Correlation**	.624[**]	1.000
	Sig. (2-tailed)	<0.001	

**. Correlation is significant at the 0.01 level (2-tailed).

Thus, the research hypothesis H1 cannot be rejected.

Correlation between Customer Service and Overall E-Service Quality perception

Regarding the research hypothesis H2, its goal is to assess if the Customer Service Dimension defined by Blut et al. (2016) is positively correlated with Overall E-Service Quality perception by the customers of this Portuguese Brand that Sells Sports Supplements Online. Observing the Pearson Correlation

values on Table 23, it is possible to notice that both variables, Customer Service and Overall E-Service Quality, are positively correlated (Pearson Correlation Coefficient = 0.317, $p<0.001$), having a Weak relationship between both variables.

Table 23. Pearson Correlation Matrix between Customer Service and Overall E-Service Quality

		CS	OESQ
CS	**Pearson Correlation**	1.000	.317**
	Sig. (2-tailed)		<0.001
OESQ	**Pearson Correlation**	.317**	1.000
	Sig. (2-tailed)	<0.001	

**. Correlation is significant at the 0.01 level (2-tailed).

Thus, the research question H2 cannot be rejected.

Correlation between Security & Privacy and Overall E-Service Quality perception

Regarding the research hypothesis H3, its goal is to assess if the Security/Privacy Dimension defined by Blut et al. (2016) is positively correlated with Overall E-Service Quality perception by the customers of this Portuguese Brand that Sells Sports Supplements Online. Looking at the Pearson Correlation values on Table 24, it is possible to notice that both variables, Customer Service and Overall E-Service Quality, are positively correlated (Pearson Correlation Coefficient = 0.552, with a $p<0.001$), having a moderated relationship.

Table 24. Pearson Correlation Matrix between Security/Privacy and Overall E-Service Quality

		SnP	OESQ
SnP	**Pearson Correlation**	1.000	.552**
	Sig. (2-tailed)		<0.001
OESQ	**Pearson Correlation**	.552**	1.000
	Sig. (2-tailed)	<0.001	

**. Correlation is significant at the 0.01 level (2-tailed).

Thus, the hypothesis H3 cannot be rejected.

Correlation between Fulfilment and Overall E-Service Quality perception

The research hypothesis H4 has as its main goal to realize if the Fulfilment Dimension defined by Blut et al. (2016) is positively correlated with Overall E-Service Quality perception by the customers of this Portuguese Brand that Sells Sports Supplements Online. As it is possible to see on Table 25, both variables have a strong positive correlation between each other (Pearson Correlation Coefficient = 0.653, *p*<0.001).

Table 25. Pearson Correlation Matrix between Fulfilment and Overall E-Service Quality

		F	OESQ
F	**Pearson Correlation**	1.000	.653**
	Sig. (2-tailed)		<0.001
OESQ	**Pearson Correlation**	.653**	1.000
	Sig. (2-tailed)	<0.001	

**. Correlation is significant at the 0.01 level (2-tailed).

Thus, the hypothesis H4 cannot be rejected.

Correlation between Overall E-Service Quality and Customer E-Loyalty perception

In order to draw a conclusion regarding the hypothesis H5, which has its main objective to realize if the Overall E-Service Quality Dimension defined by Blut et al. (2016) is positively correlated with Customer E-Loyalty of the customers of this Portuguese Brand that Sells Sports Supplements Online. The Pearson Correlation Coefficient showed that both variables are strong positively correlated, as shown in Table. 26 (Pearson Correlation Coefficient = 0.794, *p*<0.001).

Table 26. Pearson Correlation Matrix between Overall E-Service Quality and Customer E-Loyalty

		OESQ	CL
OESQ	**Pearson Correlation**	1.000	.794**
	Sig. (2-tailed)		<0.001
CL	**Pearson Correlation**	.794**	1.000
	Sig. (2-tailed)	<0.001	

Thus, research hypothesis H5 cannot be rejected.

Correlation between Customer E-Loyalty and Repurchase Intention perception

To be able to reach a conclusion regarding the research hypothesis H8, a Pearson Correlation Coefficient test was conducted in order to understand if both variables, Customer E-Loyalty and Repurchase Intention, are positively correlated. According to Table. 27, Customer E-Loyalty and Repurchase Intention, have a weak positive correlation (Pearson Correlation Coefficient = 0.369, p<0.001).

Table 27. Pearson Correlation Matrix between Customer E-Loyalty and Repurchase Intention

		CL	RI
CL	Pearson Correlation	1.000	.369**
	Sig. (2-tailed)		<0.001
RI	Pearson Correlation	.369**	1.000
	Sig. (2-tailed)	<0.001	

**. Correlation is significant at the 0.01 level (2-

tailed).

Thus, research hypothesis H8 cannot be rejected.

4.4 Conclusion

In this chapter, two types of studies were developed, a Qualitative Study and a Quantitative Study, thus adopting a mixed methodology to carry out this research.

With regard to the Qualitative study, after analyzing the 8 valid responses it was possible to conclude that the interviewees felt that over the years using the service and with the increase in the frequency of purchase they became more and more demanding with regard to the perception of Overall E-Service Quality. They also agreed that browsing in the website without losing information from page/menu to another is important for the Overall E-Service Quality, thus this questions was added to the questionary, and was inserted in the Website Convenience construct.

Regarding the Quantitative study, 106 responses were statistically analyzed. Firstly evaluating the all the questions and constructs reliability by using the Cronbach's Alpha if Item Deleted and the Cronbach's Alpha, respectively, and two of the questions (**DC2** and **RI1**) were eliminated from the research since their construct reliability would improve significantly. Then, a Global Analysis of the Questionnaire responses was made, where the Average Value, Standard Deviation, Maximum and Minimum of each question and construct was analyzed in order to draw some conclusions specifically regarding this Portuguese Brand that Sells Sports Supplements Online, such as:

- Consumers have the feeling that the prices charged by this Portuguese Brand that sells Sports Supplements Online are above those charged by other brands;

- Consumers perceive that they have little interaction with the website itself, so they cannot receive personalized information;

- The Brand has a quite good selection and also a wide variety of products ;

- Purchase Process is very easy;

- Customers feel quite safe while purchasing in this website. On the other hand, they feel less protected in relation to the privacy of their personal information;

- Customers feel that the company should better handle the return and that in case of problems the contact with the company is not very easy

- Customers perceive that their order are delivered by the time, but in some cases damaged;

- In general the users fell that the service delivered is quite good and they feel very attached to the company, but they have a not so strong intention to increase the number and the intensity of purchases.

Still on this chapter, a Hypothesis Testing was conducted. First, were conducted test to assess the hypothesis posed before regarding the independent variables. It was possible to conclude that all the hypothesis posed based on Blut et al. (2016) cannot be rejected. Thus, according to this this study there a positive relation between Website Design, Customer Service, Security/Privacy and Fulfilment constructs individually, and Overall E-Service Quality (see Table 22, 23, 24 and 25), since the Pearson Correlation Coefficients are positive. In this research was also possible to find that the Overall E-Service Quality has a positive effect on Customer E-Loyalty as Nagaraj & Singh (2017) defended (see Table 26).

This research also had the objective of assessing if User Characteristics, such as Gender and Age, have influence on the Customer E-Loyalty. According to the results of this study it is possible to reject both hypotheses, neither Gender nor Age has any type of influence on Customer E-Loyalty, which means that statistically all Age groups have the same level of Customer E-Loyalty and also that

there is no statistical difference between men and women Customer E-Loyalty levels.

Regarding the Time Using and Buying Frequency independent variables, it was also possible to conclude that users do not become more demanding in relation to Overall E-Service Quality with the time they use the service and also with the increase in buying frequency, and that therefore there is no statistical difference between the Overall E-Service Quality levels between the various Time Using and Buying Frequency groups (see Table 20 and 21). Thus, both posed hypotheses were rejected.

Last but not least, with this research it was possible to draw the conclusion that the Customer E-Loyalty has a positive effect on the Customer Repurchase Intention, since Pearson Correlation Coefficient is positive (see Table 27).

The decisions described above are resumed in the following table:

Table 28. Conclusions Summary

Hypothesis	Research Conclusions
H1	Non-rejection
H2	Non-rejection
H3	Non-rejection
H4	Non-rejection
H5	Non-rejection
H6	Partial Rejection
H6a	Non-rejection
H6b	Rejection
H7	Rejection
H7a	Rejection
H7b	Rejection
H8	Non-rejection

CHAPTER 5

Conclusions

5.1. Answer to Research Questions

Q1: *What is the customers' perception about the service quality of the service provided by this Portuguese Brand that Sells Sport Supplements Online?*

After an analysis of the data collected during this survey it was possible to understand that in general the users of this type of service consider themselves to be quite satisfied (with the Overall E-Service Quality construct having an average score of 6.17/7).

According to Blut et al. (2016), the Overall E-Service Quality construct was positively influenced by 4 other constructs (Website Design, Customer Service, Security/Privacy and Fulfilment), throughout this research it was possible to confirm that all these previously mentioned constructs had a positive influence on the Overall E-Service Quality construct.

Specifically, in assessing the correlations between constructs, there were two of them, Fulfilment and Website Design, that showed quite interesting levels of correlation (see Tables 22 and 25).

It is therefore possible to conclude that in general customers are quite satisfied with the service provided by this Portuguese brand that sells sports supplements online and that although all the constructs mentioned above positively influence customer perception of Overall E-Service Quality, those that are most correlated are Fulfilment and Website Design and that therefore are those that weigh when evaluating Overall E-Service Quality in this specific case.

Then H1, H2, H3 and H4 cannot be rejected and Q1 is answered.

Q2: *Customers become more demanding in terms of Overall E-Service Quality over Time Using and as they make more purchases?*

As presented earlier in this document, the perception of the Overall E-Service Quality does not change with the time of use of the service nor with the increase in the frequency of purchase, since the values of the Kruskal-Wallis tests were shown to have significance values greater than 0.05 (see Table. 20 and 21). Thus, it is possible to conclude that people remain demanding the same levels of E-Service Quality as they increase their frequency of buying or over the time they use the service.

Thus, H7, H7a and H7b are reject and the Q2 is answered.

Q3: *Is there any difference in the Customer E-Loyalty levels of men and women? And are the different age groups equally loyal to the brand?*

According to what the results of the analysis showed, it is possible to say that both men and women have the same level of Customer E-Loyalty, since the results of the Mann-Whitney test showed significance values higher than 0.05 (see Table. 18). Regarding the Age, it is also possible to say that the level of Customer E-Loyalty is the same for every age group (see Table. 19).

This points towards to the rejection of H6, H6a and H6b and the Q3 is answered.

Q4: *Is there a positive association between the Overall E-Service Quality and the Customer E-Loyalty?*

As mentioned before in this research, there is a strong positive association between the Overall E-Service Quality and the Customer E-Loyalty (Correlation Coefficient (OESQ:CL) = 0,794) (see Table. 26). Which means that if one variable increases, the other will also increase in almost the same proportion, translating almost perfectly.

Thus, the H5 cannot be rejected and Q4 is answered.

Q5: *Is there a positive association between Customer E-Loyalty and Customer Repurchase Intention?*

As is possible to observed earlier in this thesis, there is a weak positive association between the Customer E-Loyalty and the Repurchase Intention (Correlation Coefficient (CL:RI) = 0,369) (see Table. 27). With these two variables it is the same, in the sense that if one increases the other also increases, but in a much smaller proportion.

So, H8 cannot be reject and Q5 is also answered.

Q6: *Which recommendations can be provided to improve the company's relationship with the customers and also its results?*

Looking at the collected data it is possible to draw several opportunities for improvement. This Portuguese brand that sells sports supplements online is a brand that is characterized by having high quality products, so although the customers think that the prices are high, they can hardly be reduced - so this ends up not being an opportunity for improvement.

Secondly, users of this service do not seem to be very satisfied with issues related to communication between brand and customers. Thus, it is proposed that the brand bets on strengthening and improving its communication channels and problem solving, otherwise the customer may feel little "supported" by the brand and prefer another that solves the problems in case

they actually happen.

Other of the points where the company can improve is the way it ships products to customers and how it handles returns. In the case of shipping products to customers, they pointed out that sometimes the products arrive in bad conditions and they end up not being able to use them, returning them. It is therefore proposed that the company develop ways to ensure that products are delivered in suitable conditions, such as introducing penalties for delivery companies that deliver products in poor condition. Another of the recommendations would be to make a new study and selection of the transporters, making sure that they have excellent indicators in terms of the conditions in which the products are delivered and also the speed and punctuality of the delivery. Another way to improve this point would be for the company itself to manage the deliveries, but this would cause the company to incur a large risk due to the large investment it would have to make. Even so, this option would initially solve the problem and in the long term could bring great economic benefits to the company.

5.2. Limitations

One of the limitations, and the one that may jump out the most in this research, is the fact that the conclusions drawn from this study are based on a sample that can be considered small, since the sample only consists of a universe of 106 respondents.

Another limitation is the fact that although the data was collected randomly through an online questionnaire, it is not representative of the general population and therefore the conclusions drawn in this study may not be able to generalize. Another limitation that arises from this study is the fact that it only applies to one brand of the many that are found in the online retail market of sports supplements.

Regarding the robustness of the tests used, sometimes the sample obtained did not allow the use of parametric tests, so what the literature indicated was followed, and therefore in those cases non-parametric tests were used, which are less robust and present less reliable conclusions.

5.3. Suggestions for Future Researches

According to the conclusions presented above, one of the suggestions made is to try to apply this same study to a wider and broader population so that more robust conclusions can be drawn in relation to issues such as different age groups, place of residence, among other topics.

It would also be interesting to apply this study to other brands that are in this market, and thus have a more general vision about the online retail market of sports supplements. Still, this study presents conclusions that can be taken into account for this company to improve the service provided to its customers.

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Annex

Table 29. Cronbach's Alpha and Cronbach's Alpha if Item Deleted Table

		Cronbach's Alpha if Item Deleted	Cronbach's Alpha
Website Design			**0.910**
Information Quality			**0.857**
IQ1	The information on the website is pretty much what I need to carry out my tasks	0.819	
IQ2	The website adequately meets my information needs	0.747	
IQ3	The information on the website is effective	0.830	
Website Aesthetics			**0.826**
WA1	The website is visually pleasing	0.711	
WA2	The website displays a visually pleasing design	0.832	
WA3	The website is visually appealing	0.728	
Purchase Process			**0.771**
PP1	The website has no difficulties with making a payment online		
PP2	The purchasing process was not difficult		
Website Convenience			**0.834**
WC1	The displays pages within the website are easy to read	0.789	
WC2	The text on the website is easy to read	0.789	
WC3	The website labels are easy to understand	0.777	
WC4Q	Browsing in the website is easy (e.g., users can easily browse from one page/menu to the other without losing information)	0.809	
Product Selection			**0.664**
PS1	All my business with the company can be completed via the website	0.629	
PS2	This website has a good selection	0.484	
PS3	The website has a wide variety of products that interest me	0.590	
Merchandise Availability			**0.414**
MA1	The website has the items the company claims to have in stock		
MA2	All the products on the website are available		
Price Offerings			**0.634**
PO1	The website offers discount or free shipping	0.642	
PO2	The website has low prices	0.414	

PO3	The website has lower prices than the offline stores	0.502	
Website Personalization			**0.804**
WP1	The website allows me to interact with it to receive tailored information	0.786	
WP2	The website has interactive features, which help me accomplish my task	0.669	
WP3	I can interact with the website in order to get information tailored to my specific needs	0.726	
System Availability			**0.816**
SA1	When I use the website, there is very little waiting time between my actions and the website's response		
SA2	The website loads quickly		
Customer Service			**0.827**
Service Level			**0.756**
SL1	The online shop provides a telephone number to reach the company.	0.605	
SL2	The online shop has customer service representatives available online	0.686	
SL3	The online shop offers the ability to speak to a live person if there is a problem	0.722	
Return Handling/ Policies			**0.821**
RP1	The online shop provides me with convenient options for returning items	0.796	
RP2	The online shop handles product returns well	0.652	
RP3	The online shop offers a meaningful guarantee	0.796	
Security/Privacy			**0.871**
Security			**0.752**
S1	I feel safe in my transactions with the online shop	0.707	
S2	The online shop has adequate security features	0.588	
S3	This site protects information about my credit card	0.705	
Privacy			**0.885**
P1	I trust the online shop to keep my personal information safe.	0.864	
P2	I trust the website administrators will not misuse my personal information	0.818	
P3	It protects information about my web-shopping behavior	0.827	
Fulfilment			**0.756**
Timeliness of Delivery			**0.841**
TD1	The product is delivered by the time promised by the company	0.728	
TD2	This online shop website makes items available for delivery within a suitable time frame	0.869	
TD3	It quickly delivers what I order	0.742	

	Order Accuracy			**0.679**
OA1	You get what you ordered from this website			
OA2	The website is truthful about its offerings			
	Delivery Condition			**0.723**
DC1	The product was damaged during delivery	0.270		
DC2	The ordered products arrived in a good condition	0.903		
DC3	The products arrived with a major damage	0.279		
	Overall E-Service Quality			**0.921**
OSQ1	Overall. my purchase experience with this online shop is excellent	0.878		
OSQ2	The overall quality of the service provided by this online shop is excellent	0.881		
OSQ3	My overall feelings toward this online shop are very satisfied	0.898		
	Customer E-Loyalty			**0.894**
CL1	Encourage friends and others to do business with this website	0.809		
CL2	Do more business with this website in the coming months	0.856		
CL3	Say positive things about this website to other people	0.881		
	Repurchase Intention			**0.801**
RI1	I will do more purchases through this online shop in the future	0.923		
RI2	I will increase purchases through this online shop	0.567		
RI3	I will intensify purchases through this online shop	0.546		

GENDER

Female
Male

49.06%   50.94%
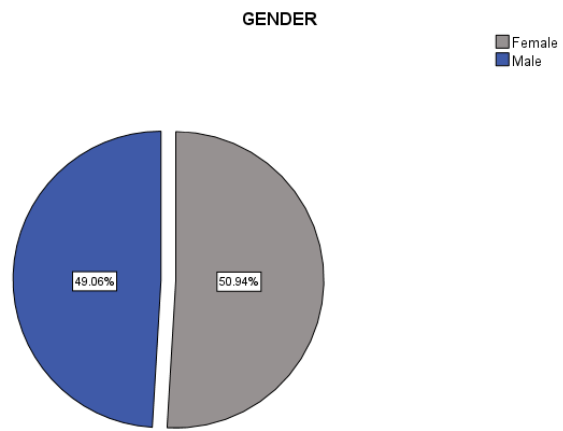
Figure 3. Sample Characterization - Gender
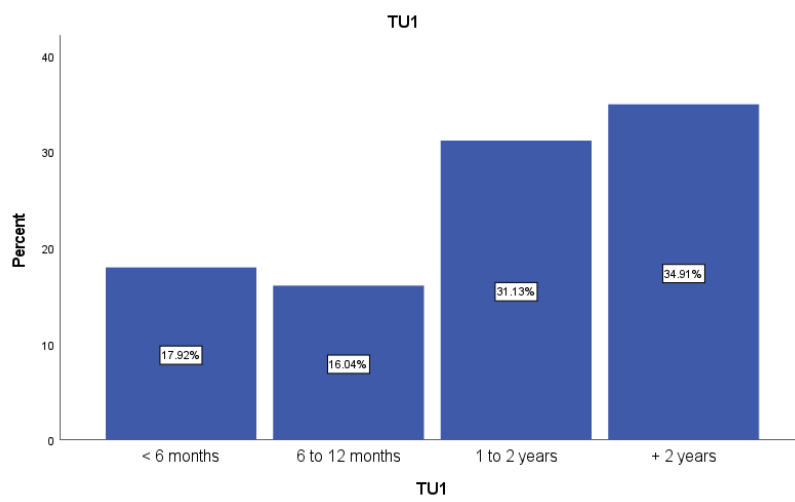
AGE

Percent

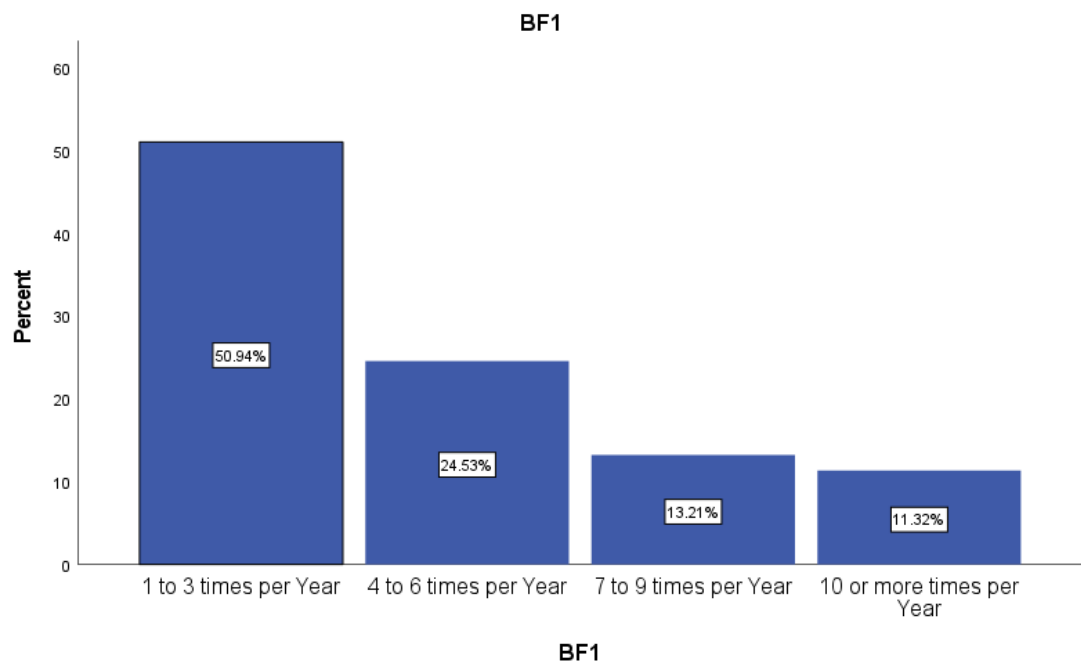81.13%

18.87%
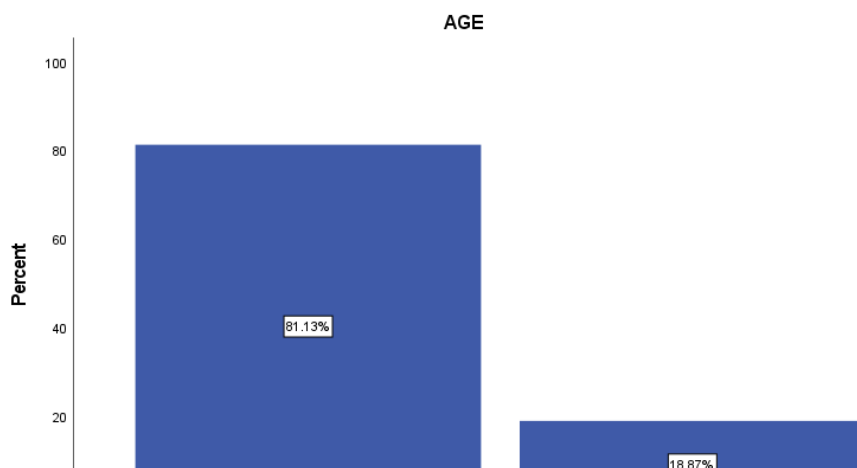
Figure 5. Sample Characterization - Time Using

Figure 6. Sample Characterization - Buying Frequency

Table 30. Pearson Correlation Coefficients Matrix

Correlations

		WD	CS	SnP	F	OESQ	CL	RI
WD	**Pearson Correlation**	1.000	.674**	.636**	.408**	.624**	.598**	.400**
	Sig. (2-tailed)		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
	N	106	106	106	106	106	106	106
CS	**Pearson Correlation**	.674**	1	.526**	0.075	.317**	.321**	.387**
	Sig. (2-tailed)	<0.001		0.000	0.443	<0.001	<0.001	<0.001
	N	106	106	106	106	106	106	106
SnP	**Pearson Correlation**	.636**	.526**	1	.396**	.552**	.495**	.373**
	Sig. (2-tailed)	<0.001	<0.001		<0.001	<0.001	<0.001	<0.001
	N	106	106	106	106	106	106	106
F	**Pearson Correlation**	.408**	0.075	.396**	1	.653**	.645**	-0.020
	Sig. (2-tailed)	<0.001	0.443	<0.001		<0.001	<0.001	0.839
	N	106	106	106	106	106	106	106
OESQ	**Pearson Correlation**	.624**	.317**	.552**	.653**	1	.794**	.325**
	Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001		<0.001	<0.001
	N	106	106	106	106	106	106	106
CL	**Pearson Correlation**	.598**	.321**	.495**	.645**	.794**	1	.369**
	Sig. (2-tailed)	<0.001	<0.001	<0.001	<0.001	<0.001		<0.001
	N	106	106	106	106	106	106	106
RI	**Pearson Correlation**	.400**	.387**	.373**	-0.020	.325**	.369**	1
	Sig. (2-tailed)	<0.001	<0.001	<0.001	0.839	<0.001	<0.001	
	N	106	106	106	106	106	106	106

**. Correlation is significant at the 0.01 level (2-tailed).

Table 31. Normality Tests - "Age"

Tests of Normality

	AGE	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
CL	18-30	.176	86	<.001	.891	86	<.001
	30 +	.273	20	<.001	.649	20	<.001

a. Lilliefors Significance Correction

Table 32. Normality Tests - "Gender"

Tests of Normality

	GENDER	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
CL	Female	.271	54	<.001	.800	54	<.001
	Male	.152	52	.004	.841	52	<.001

a. Lilliefors Significance Correction

Table 33. Normality Tests - "Time Using"

Tests of Normality

	TU1	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
OESQ	< 6 months	.170	19	.151	.897	19	.044
	6 to 12 months	.166	17	.200*	.956	17	.563
	1 to 2 years	.202	33	.001	.822	33	<.001
	+ 2 years	.271	37	<.001	.726	37	<.001

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 34. Normality Tests - "Buying Frequency"

Tests of Normality

	BF1	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
OESQ	1 to 3 times per Year	.216	54	<.001	.852	54	<.001
	4 to 6 times per Year	.274	26	<.001	.783	26	<.001
	7 to 9 times per Year	.198	14	.142	.874	14	.048
	10 or more times per Year	.271	12	.015	.652	12	<.001

a. Lilliefors Significance Correction