

THE USE OF SMARTPHONES AND MOBILE DEVICES

UNDERSTANDING THE USE AMONG GENDER AND DIFFERENT AGES

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Resumo

Este estudo foi realizado no âmbito da realização do International Master in Marketing no ISCTE Business School. O tema escolhido está relacionado com as mudanças de hábitos diários que as pessoas têm vindo a experienciar com a evolução da tecnologia, mais especificamente com o aparecimento e evolução de smartphones e dispositivos móveis. Estes dispositivos pertencem actualmente ao dia-a-dia de várias as pessoas, no trabalho, entretenimento, comunicação e na partilha de informação de uma forma portátil e simples.

Desta forma os smartphones e os dispositivos móveis fazem parte da vida diária de pessoas de diferentes faixas etárias, diferentes regiões e com actividades profissionais diversas, são por isso uma das melhores formas para as marcas ou empresas alcançarem e comunicarem aos seus consumidores finais.

Todos os utilizadores destes dispositivos, fornecem informações acerca do seu perfil nas aplicações ou redes sociais. Desta forma a publicidade em certo tipo de aplicações ou redes sociais para dispositivos móveis e smartphones será bastante mais eficaz porque vai de encontro ao perfil traçado do público-alvo de um negócio ou de uma empresa.

O objectivo principal deste estudo foi comprovar que a utilização de smartphones e dispositivos móveis é realizada por uma quantidade significativa de pessoas e cujo número cresce de forma significativa e não tende em diminuir, apenas a aumentar assim como os aparelhos a sofrer constates evoluções, tornando este mercado numa imensa oportunidade de publicidade e aproximação dos clientes ou público-alvo de uma forma mais direccionada e personalizada.

Palavras-Chave: Internet Móvel (MI), Serviços Móveis de Dados (MDS), Smartphone, Dispositivos Móveis (MD), Utilização.

JEL: M/C

Abstract

This study was part of the International Master in Marketing at ISCTE Business School. The subject of this study is related to all the changes and daily habits that people have been experiencing with the technology evolution, especially with smartphones and mobile devices. The use of these devices has become part of everyone's lives at work, entertainment, communication and sharing information on an easy and portable way.

In this way, the smartphones and mobile devices that are now present on everyone's lives, from people with different ages, different regions and with distinct job activities, are one of the best ways to segment and reach their final customers.

All those users of these devices give out information and create their profiles on apps or social networks. By segmenting them all the publicity and advertisement of these companies, brands or businesses will become more efficient and it will reach the final consumer.

The main objective of this study was to prove that the use of smartphones and mobile devices is something that almost everyone does and it is a growing situation and it doesn't seem to end, it only seems that it will grow more and more, turning this into a big market with lots of segmented and more consumer directed opportunities for advertisement.

Key Words: Mobile Internet (MI), Mobile Device Services (MDS), Smartphone, Mobile Devices (MD), Use.

JEL: M/C

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List of abbreviations

MDS – Mobile Device Service

MI – Mobile Internet

MID – Mobile Internet Device

MD – Mobile Device

UTAUT – Unified Theory

ITU – International Telecommunication Unit

IDC – International Data Corporation

MMA – Mobile Marketing Association

TRA – Theory of Reasoned Action

TPB – Theory of Planned Behaviour

TAM – Technology Acceptance Model

MM – Motivational Model

TPB – Theory of Planned Behaviour

MPCU – Model of PC Utilization

IDT – Innovation of Diffusion Theory

SCT – Social Cognitive Model

1. Introduction

1.1 Background – Smartphones and Mobile Devices

Portable devices have been revolutionary in everyone daily life for the past few years and the growth has been huge since their arrival to the markets. Over the past few years, the market has seen a big growth of portable internet devices like Android-based Smartphones, iPhone and Blackberry. This use has not been just for work use only, but people are now using their portable devices for work, personal activities, shopping and so many other functionalities that a portable device allows a person to work with these days.

According to the ITU (International Telecommunication Union) there are 1.1 billion active mobile-broadband subscriptions in the world. This means that 16 percent of the global population has a portable internet device and uses it on daily basis. These numbers are growing really fast each year, in the past 4 years the subscriptions for a mobile internet device have grown 45 percent each year. This is a market in big growth and everyone from people to companies should be aware of this mobile device revolution that is now emerging and creating different communication channels, commercial channels, advertising, working and even a different way from how people interact with each other.

We are facing times of changes, the technology revolution is now reaching levels never imagined, it's actually changing people and the way they live their everyday life's and their everyday interaction with others and the world. So what is the biggest reason for that to happen? The smartphones and the portable internet devices, these 2 gadgets and their evolution are the main responsible for that change to be happening.

1.2 Worldwide

It's known that 79% of the population now has a mobile phone and that 44% are smartphone or mobile device users, which mean half of those mobile phone users have a smartphone. This number has been growing because nowadays not only business users

have them, but because the smartphones are multi-functional and with the growth of the “app” downloads they are reaching teenagers and housewives all over the world.

The big influence of these gadgets on people is that they keep them always connected to them in different ways for different reasons, 56% of smartphone users are on their devices all the time and 65% say that they would “feel lost” without them. We can assume from these statements that people can no longer live and do their tasks without their smartphone or portable device.

Taking these data into consideration we can assume that the smartphone and portable device industry will continue growing through generations and will have a huge importance in people lives. Companies of different kinds, products or services should be aware of this growth and invest on this market in order to take advantage from it and to get closer to their clients by reaching them into their new world of interaction which is the smartphone and portable internet device world. It’s a new world of opportunities that can make business growth and even has a market for mobile internet devices, bringing up new businesses and new services providing applications and hardware parts for the smartphones and mobile internet devices.

1.3 Research goals

In this study, I am going to focus on three different things in order to understand what makes people use, work and live with their smartphones or mobile devices every day. I’m going to identify the main reasons that lead people to use their smartphone, the perception they have about it and how often they use it. I’m trying to understand with my research is why this market has seen a steady and rapid increase over time and why has it been growing among men, women, young adults and even children all over the world. So after studying the different reasons and tasks that people do with their smartphones, I’m going to analyse those reasons and what do they use it for in order to better understand their usage and how it differs from people that are already on the job market and those who still study. Is age what influences them? Is it work? Is it the need? Is it an addiction? Or are things just changing worldwide and there is a new mobile generation that is growing rapidly because of the necessity of being always up to date, when it comes to news, communication, work and social network interaction?

We can already say that smartphones and mobile devices are the first thing people do when they wake up in the morning, a study conducted by IDC (International Data Corporation) says that 79% of the persons enquired with ages from 18 to 44 years old, have their smartphone or mobile device in their hands on the first 15 minutes of the day and that 62% do not even wait for those 15 minutes.

This facts show us that mobile devices and smartphones are already playing an important role in society's lifestyle. A new generation of children and young employees that use their smartphones on everyday tasks is increasing, and so people and companies should follow this new and mobile way of working, communicating, shopping and take advantage from it and establish themselves in this huge market that is emerging and growing in a very fast way. The use of smartphones is also different nowadays from young and older people, the use, the understanding and the importance is different between ages, gender and working field.

These are the things that this study is going to demonstrate, the importance of smartphones and mobile internet devices in the world that we are living today. It can't be ignored from people and it can't be ignored from companies, the use of mobile devices is growing and creating new opportunities and better platforms to deliver in a segmented way the products, services and information to consumers. Companies and brands will have bigger notoriety, best results and will focus their marketing strategies to a better segmented public by reaching them on their smartphones and mobile internet devices in different platforms (applications, email, social networks, websites with mobile formats and even with advertisement on internet, games and applications for smartphones and mobile devices.

Analysing all the data, will give a better perspective of how smartphones and mobile internet devices will play an important role in the future on people's lives, if it is something that will last for generations and if it will grow among this new generation of young adults and young workers. Is this the future platform for companies and services to target their consumers? If so, what is the better, faster, more efficient way for companies to use it, when and where to advertise or how to reach their targets on the smartphones and mobile internet devices? It is a market of opportunities even to create

new businesses on the mobile platforms (apps, services, advertising and hardware), the number of users and the number of smartphones and mobile internet devices are growing every year, the prices are not as high as they used to and the new generations can't live without them. Be aware of this global change on people's lives is one of the most important things that companies should be aware of, it will differentiate their way of doing business and how they reach their targets, this is what I am going to demonstrate with this thesis.

The theme chosen for this thesis is something already widely explored and talked about, it's a subject that's new and it is changing the way people interact, work and live these days. The difference in the adoption and usage of mobile data services among countries implies that there would be consumer differences in adopting mobile data services (Yang 2010).

Despite of all the research that already exists, Smartphones and Mobile Devices are becoming part of people's lives; the fast adoption of these devices is already a phenomenon. The adoption of Smartphones and Mobile Devices is growing in a fast, supported way and it created a market of mobile devices, hardware components and services accessed through those devices, this market did not exist before and now it is employing people from all different areas.

Since the beginning of the Smartphone and Mobile Devices era, people give different use to it and the adoption of these devices has been of great success. What this study will try to prove is that the adoption and use of smartphones and mobile devices is different from people with different ages, jobs, regions and gender, analysing key factors: Use, Usage Motive, Importance, Facilitating Conditions, Social Influence, Effort Expectancy, Performance Expectancy, Price Value and Habit.

This study is trying to prove that everyone uses smartphones and mobile devices these days and that the use that they give to those devices is different from one person to another.

The final goal is to give a better perspective of how this subject is something that will go on in the near future and that companies can take advantage of smartphones and

mobile devices usage, to segment the market and reach their clients or consumers through these devices in a segmented and directed advertise or service provider.

1.4 Structure – Organization of the study

This study is organized into five main chapters:

1. Introduction: Briefly explains the background and the actual situation of the topic's with some data that proves the relevance of this subject and the importance of this study in order to prove that the smartphones and mobile devices era has just began with lots of opportunities and creating a new prosperous market.
2. Literature Review: It begins with the definition of the study model UTAUT with the existing literature about this subject, and then there is the description of the subjects discussed on this study, mobile internet, mobile devices and smartphones from what it was already said by other authors and on different articles.
3. Methodology: Explanation of how the study was conducted and the type of research made to obtain a significant sample that provided the study with information to make some conclusions out of it and also the justification of the utilized techniques.
4. Analysis and Results: Statistical work of all the data obtained and the description of the results that the data obtained provided.
5. Discussion, Conclusions and Application: From the results obtained conclusions were taken into consideration and using the UTAUT model, which results are more relevant for the study to reach a final conclusion for this study.

2. Literature Review

2.1 Key Concepts

2.1.1 Mobile Internet

Mobile Internet (MI) is Internet accessed through a mobile device (Shuiqing Yanga, 2012). To better understand what mobile internet is, we have to understand also that the hardware evolution helped to develop wireless internet and to expand it to the mobile devices in a faster and more efficient way.

In 2005 it was predicted a paradigm that still exists nowadays and it was called New Internet (Jain, 2005). This New Internet was thought with eight principal characteristics:

High-speed: Have to wait to get information, access content or provide something will be considered of the past.

Ubiquitous: The ability to connect virtually from anywhere.

Always-on: Everything is only a few seconds away, the instant availability of an Internet connection fundamentally changes the way of use.

On-Demand: Everything is instantly available online; there will be almost no offline.

Two-way: There will be the possibility of people to create content and also the possibility to just surf the internet to access that content. The creation of platforms for that purpose called Blogs.

Multi-Format: Other formats that allow people to access internet other than computers. PDA, tablets, smartphones and other MID with wireless data networks will provide equally viable alternatives.

Personalized: Internet will also tend to become more personalized, with the websites becoming more oriented to a certain kind of people with different interests, this will

enable companies and business to better segment their target and to reach them with a better approached.

Not-Free: Internet will not be built in a free access model, as more services and quality contents are available, people will have to pay in order to access those contents.

We can say that Jain's New Internet is effectively what Internet provides nowadays, and what was not possible to be achieved with a MID before, it is now provided with almost no differences from a desktop PC. The services and content provided is now more reachable than ever and the access to content on-demand, ubiquitous and at high speed is provided on MID as it is in a Desktop computer.

Mobile Internet provided many services that help people in their everyday life's in order to work, play, getting information, taking advantage of services that would not be possible if Mobile Internet wasn't among us.

There are many ways to provide wireless internet (MI) to all the portable devices but the most common are:

1. Hub – Is often use in home environments, the access to wireless internet requires at least one computer that act as a hub. This computer is directly connected through a cable, DSL or similar service. In order to serve as an internet hub this computer needs to be connected to a wireless router.
2. Wireless Router – A wireless router broadcasts the Internet connection and controls and sequences the sending and receiving of data packets.
3. Hot Spots – In public spaces people can connect their wireless devices to the internet via hot spot, basically it is the access point from where the wireless signal is broadcast.
4. 3G – It works by sending and receiving radio signals to and from base stations (masts). These base stations need to be located in the areas they are intended to serve, so then they link individual phones and portable devices to the rest of the mobile and landline networks.

The advantages of using mobile internet are that several computers can share a single internet connection; users can access the internet from any point within range of the signal; in some cases the range is very wide, which helps reducing infrastructure costs. The increasing functionality of internet provided all its users the opportunity to be accessed from everywhere anytime for different purposes, but what has been changing people lives is communication through internet, the social aspect of it; social networks platforms play an important role for content sharing between people.

MI has been changing rapidly and so the use of it; using it for working, or to be accessed at home in order to search for something is no longer the use of MI, accessing Internet is now a companion and it is present in everyone's lives during the day on the Mobile Internet Devices (MID).

2.1.2 Mobile Internet Devices

A Mobile Internet Device (MID) is a multimedia device providing wireless internet access. These devices are designed to fulfil different needs, with different purposes for different situations; information, entertainment, work, location-based services for personal use. They allow a 2 way communication and real time sharing of information.

MID should be seen as any portable device that provides internet access, even though some analyst say that MID's do not include smartphones and tablets, some say it does include, opinions vary. Thinking of a MID we can assume that it is any Portable Mobile Internet provider that can be accessed anytime anywhere, there are different MID's:

- Smartphones
- Tablets
- Portable Computers

“Global mobile data traffic grew 70 per cent in 2012. Global mobile data traffic reached 885 petabytes per month at the end of 2012, up from 520 petabytes per month at the end of 2011.

Last year's mobile data traffic was nearly twelve times the size of the entire global Internet in 2000. Global mobile data traffic in 2012 (885 petabytes per month) was nearly twelve times greater than the total global Internet traffic in 2000 (75 petabytes per month)” (Cisco, 2013). We can notice by this study that mobile data traffic has grown significantly in the past 12 years and that it will continue to grow rapidly in a short period of time.

This huge growth of mobile data traffic was due to the increase of people that started to use mobile devices to access the internet, the offer of different devices with different features from different brands is now bigger than ever and that lead brands and technology companies to lower their prices which made MID's more accessible to everyone.

2.1.3 Mobile Data Services

Mobile Data Services (MDS) it is all the digital data that can be accessed through MI. The definition that it is given to MDS is all the data services that can be obtained and accessed via a Mobile Device (Choi, 2004). Contrary to all preceding forecasts, costumer's usage of MDS beyond the traditional sending and receiving email, watching online videos, browsing the Internet or even playing an online game using a smartphone or any other MID, has still been very limited but growing in a sustained and fast way (ITU, 2002).

The rapid growth of internet-enable mobile phones has accelerated the development of MDS, which has facilitated the development of Mobile Commerce in the last decade. This evolution enable consumers to transact business anytime anywhere and its ubiquitous characteristics bring a better Mobile Commerce potential, that was predicted to be the driving force for the next wave of electronic commerce (Yang & D. Jolly, 2006).

2.2 Smartphones

A smartphone is a device that allows people to make phone calls as a regular cell phone would but providing other services and features that a regular cell phone can't. Smartphones are built on a mobile operating system and with a much more advanced hardware which gives the ability for people to send and receive emails or edit office documents, for example.

The smartphone was born when two portable devices, the cell phone and the personal digital assistants (PDA) were used as personal, portable organizers. A PDA was used to store contact info, to do lists and sync it to the computer. What happened was that cell phones added more PDA and computer like features and started to turn into what we call today the Smartphone.

2.2.1 Smartphone features

- **Operating System:** In general all smartphones are based on an operating system that allows it to run applications and provide different services. There are different services for different smartphones; iOS, Google Android OS, Blackberry OS and Microsoft Windows Phone
- **Apps:** Applications for the smartphones are platforms that provide different services to people, Games, Schedules, GPS, Photo effects, personal and business finance managers, and many other things that make people's lives easier.
- **Web Access:** All websites can be accessed through a smartphone because of 4G and 3G data networks, as well as the addition of Wi-Fi support to many handsets.
- **QWERTY Keyboards:** A smartphone always has a QWERTY board where the keys are laid out in the same manner as they are in a computer. This can be a hardware keyboard (physical keys) or software keyboard (on touch screen).

- Messaging: The difference with the Smartphone is that you can sync it to your personal or professional email account and also most of them include access to install different popular messaging services (AOL, AIM and Whatsapp).

2.3 – The growth of mobile devices

There are many reasons that led to the accelerated growth of the use of mobile devices throughout the years, new technology was developed and companies start to notice the importance of this growth and the success of it.

“In 1973 the first mobile phone was launched by Motorola, Motorola DynaTAC model. Their widespread use began in the '90s when they became available to the public. Production of mobile devices has had an explosive growth and completed a long way in only a few years. In the evolution of mobile phone sales in the period 1992-2012 is presented. 20 years in the production of mobile phones due to competition and widespread use has increased not found in other electrical devices or technical productions.” (Alin ZAMFIROI, 2013).

Year	NEC	Nokia	Motorala	Apple	Ericsson	Samsung	Siemens	Alcatel	LG	HTC	RIM
1992	4	3	-	-	-	-	-	-	-	-	-
1993	-	5	?	-	-	-	-	-	-	-	-
1994	-	9	12	-	-	-	-	-	-	-	-
1995	-	13	?	-	-	-	-	-	-	-	-
1996	-	18	?	-	-	-	-	-	-	-	-
1997	-	23	?	-	-	-	-	-	-	-	-
1998	-	39	34	-	26	5	-	-	-	-	-
1999	-	77	48	-	30	18	-	-	-	-	-
2000	-	127	61	-	42	21	27	-	-	-	-
2001	-	140	60	-	27	29	40	-	-	-	-
2002	9	152	73	-	24	42	35	12	14	-	-
2003	15	182	76	-	27	55	44	8	27	-	-
2004	-	208	105	-	-	86	49	-	43	-	1
2005	-	265	145	-	52	104	-	-	55	-	4
2006	-	500	210	-	74	117	24	-	62	-	-
2007	16	436	165	2.3	102	154	-	-	79	-	10
2008	-	475	108	12	95	202	-	-	104	-	25
2009	5	442	59	24	57	238	-	-	124	11	35
2010	-	463	39	42	42	282	-	33	117	25	48
2011	-	422	40	89	33	330	-	-	86	48	52
2012	-	335.6	-	135.8	-	396.5	-	-	55.9	32.6	-

Figure 1 - Annual Sales by manufactures (millions), Alin ZAMFIROI, 2013.

2.4 – Mobile Usage and Mobile Advertising

The degree where marketing researchers can reach their potential research participants is called connectivity; it's one of the most powerful attributes of mobile phones. The rapid growth in smartphone acceptance is expanding the mobile internet population around the globe; data says that it is supposed to grow more than 17% in 2013. With this continued growth in user acceptance, companies will continue to provide more uses and gratifications to users (Peters, Amato & Hollenbeck, 2007).

TAM model posits that the users' intentions of using technologies depend on their perceived usefulness and perceived ease of use with technologies (Bagozzi, Davis, & Warshaw 1992; Davis, Bagozzi & Warshaw 1989; Bruner & Kumar, 2005). When consumers perceived that a technology is easy to use they tend to adopt it because they'd rather spend more time doing other things than figuring out how it works (Bruner & Kumar, 2005).

In a study by Nysveen Pedersen, and Thorbjørnsen (2005), the TAM model along with the hedonic constructs of fun, expressiveness and enjoyment, were the ones that expressed better the attitude and intentions of a user. So this enables users to adopt handheld devices for the fun of it and also because of the ability to perform functions in those devices (Peters et al., 2007).

2.5 UTAUT

2.5.1 UTAUT

The UTAUT Model aims to explain the intentions of a user and the usage behaviour. This theory holds the existence of four key constructs that will play a significant role as direct determinants of user acceptance and usage behaviour. Those four constructs are: Performance expectancy, Social influence, Effort expectancy and Facilitating conditions (Venkatesh et al., 2003). The UTAUT Model is a blend of eight different technology acceptance models based on their similarities. These eight similar models are known as the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), the theory of planned behaviour (TPB) (Ajzen, 1991), the technology acceptance model (TAM)

(Davis, 1989; Davis, Bagozzi, & Warshaw, 1989), the motivational model (MM) (Davis, Bagozzi, & Warshaw, 1992), the combined theory of planned behavior/technology acceptance (TAM-TPB; Taylor & Todd, 1995), the model of PC utilization (MPCU; Thompson, Higgins, & Howell, 1991), the diffusion of innovation theory (IDT; Rogers, 1995), and the social cognitive theory (SCT; Bandura, 2001; Compeau & Higgins, 1995).

Theory of Reasoned Action (TRA) it is used to predict behaviour in many contexts. This is the theory, from where all the other theories, have their roots. It's a theory that identifies consumer behavioural changes, so in the marketing field, it is used a lot to identify those changes in order to analyse them (Ajzen, 1991, Ajzen & Fishbein, 1980; Sheppard, Hartwick, & Warshaw, 1988).

Theory of Planned Behaviour (TPB) can be seen has an extended TRA, but it adds the construct perceived behavioural control which is theorized to be an additional determinant of intention and behaviour. TPB was successfully used in many studies, presented on a review from Ajzen (1991) to predict intention and behaviour in a wide variety of settings.

Technology acceptance model (TAM) was created and designed with the objective of predicting information technology usage on the job. This model suggests that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use. A lot of authors, refined the initial model, to find the latent factors underlying perceived ease of use and perceived usefulness. Then it came TAM2, it extended TAM by including subjective norm as an additional predictor of intention in the case of mandatory settings (Venkatesh and Davis, 2000). TAM is used for a wide variety of technologies and users.

The Motivational Model (MM) it's an important body of research in psychology because it has supported general motivation theory has an explanation for behaviour. This model was used by Davis (Davis et. al., 1992) within the information systems domain in order to apply motivational theory in order to better understand the behaviour. Davis et al. (1992) applied Motivational Model to understand the use and the adoption of new technology.

Combined Theory of Planned Behavior/Technology acceptance (TAM-TPB) is a model that combines the two theories, to predict an individual's intention to use technology. Mathieson (1991) defended that TAM and TPB predicted intention to use a system effectively, because they both complement each other, TAM is easier to apply and TPB guides development effort in a more effectively way.

Model of PC Utilization (MPCU) derived largely from Triandis (1997) theory of human behaviour; this model was proposed by Thompson, Higgins, and Howell (1991) based on the Triandis (1997) theories of attitude and interpersonal behaviour in the field of psychology. This is a model particularly suited to predict individual acceptance and use of a range of information technologies.

Diffusion of innovation theory (IDT) aims to explain how innovations are spread within a certain context or population (Rogers, 1983), and it has been used to study a variety of innovations in different fields. In their innovation characteristics literature, Tornatzky and Klein (1982) proved that perceived innovation characteristics could help scholars predict the trend of innovations. Rogers (1983) said that all innovations are different and require different time frames in order to be adopted by a specific population.

The social cognitive theory (SCT) is probably one of the most powerful theories of human behaviour (Bandura 1986). Wood and Bandura (1989) analysed organizational functioning from the standpoint of SCT. The authors proved that the theory explains, "psychosocial functioning in terms of triadic reciprocal causation" (p.361), where cognitive, environmental factors and behaviour, interact with each other. Compeau and Higgins (1995a) also employed SCT, in order to study performance and thus are outside the goal of the current research. The author's model studied computer use but the nature of the model and the theory behind it, allow it to the acceptance and use of information technology.

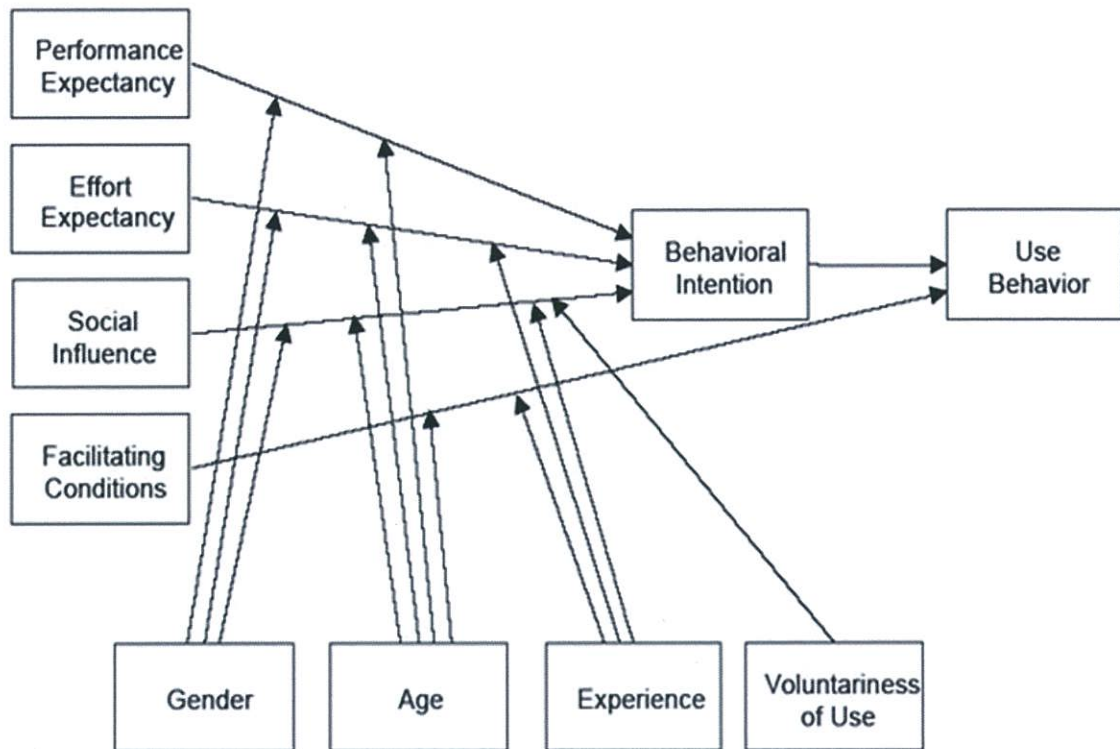


Figure 2 - UTAUT (Venkatesh et. al., 2003)

3. Methodology

3.1 Research Objectives

This study was conducted with the objective of proving that since the appearance of smartphones and mobile in the technology markets, people's lives have changed in many different ways, such as in their jobs, communicating, share information and work. Also what would be the brands that better address the price-quality relationship to consumers? This question and many more were answered and gave a better perspective of what are we looking here, how it turned out to be and how it will be in the future in terms of use.

For the purpose of this study, the first objective was to arrange a meeting and create a focus group with people from different ages to discuss the theme: Smartphones and Mobile Devices. After this been done, a sample of 306 individuals of all ages with different backgrounds, jobs and from different regions, voluntarily answered the questionnaire.

This method provided a valid sample in order to better analyse and study our objectives for this research.

3.2 Focus Group – Qualitative Research

In the qualitative stage of the research, a focus group was conducted with the objective to better understand what kind of questions should be done to people on a questionnaire about smartphones and mobile devices.

A focus group is an interview conducted in a non-structured way, in order to give people that are in it, the liberty to express their opinions and discuss with the others about the main subject. Usually there is a moderator, which in this case, the interview was conducted by me (Duarte Pacheco de Carvalho), to establish a fluent conversation and to lead the interview by introducing the subjects of the theme being discussed. The main purpose of a focus group is to gain the insight needed and listen to a group of selected people talking about issues of interest to the researcher (Malhotra, 2007).

Having this focus group as a guide for the questionnaire was something important to finish the final version of it. By the discussion on this focus held by me with 6 other people, where the ages were from 20 years old to 57 years old, it was easier to understand the use that each other give to smartphones and mobile devices, this was something of big help to better understand from other point of view what kind of questions the questionnaire would need to have and how to conduct it. I was able to improve and change the questions from the questionnaire into a more adequate format, with the opinion of all the participants.

The focus group took place in a meeting room with the 6 participants, it was held there so that people would be more focused in discussing and talking about the subject. The ages of the participants were from 20 years old to 57 years old, all from the Lisbon Region, this way it was possible to have the opinion and the ideas of younger people that were born in this new technology era and from older people that started to use, learn and live with this new method of working and sharing communication, the smartphones and the mobile devices. All age groups were present in this group of people, 15-24, 25-34, 35-44, 45-55, >55.

It lasted for 60 minutes with a 10 minute break and the participants were asked to answer some questions and discuss between them, if they would agree or not with this kind of questions, the relevance of it in a questionnaire and their opinion about smartphones and mobile devices, the use, the future of it, the advantages/disadvantages and also what brands and their liability.

This focus group was very useful in order to create and structure the proper questionnaire to present to people and to take the information and insight needed for this study with people from all ages and different backgrounds.

3.3 Questionnaire – Quantitative Research

As for the Quantitative Research, a survey questionnaire was conducted. On a Quantitative Research, the result is based on the samples that can be overtaken as

conclusive answers in order to apply something or make a definite decision. The approach to collect some data from the sample may vary from the type of research structure, the most common in quantitative research is the highly structure research, an example of a highly structure research is when the questions on the questionnaire have multiple choice, this is a more precise and accurate way of collecting data (Malhotra 2007).

In this study, the method chosen was a structured-direct survey; it was delivered to the respondents by internet. The questionnaire was constructed, mostly, from questions with fixed answers on a scale from 1 to 5, which required the respondents to select from a determined set of answers.

The questionnaire was the option that better addressed this research and could give the information needed to reach some conclusions for the study. The questionnaire guaranties the data comparison between the respondents, it is also easier to handle and understand the results, fast to obtain information and it leads in most cases to an accurate understanding of the questions.

3.3.1 Questionnaire Structure

The questionnaire was designed with the help of the focus group and having in mind the main subject; if smartphones and mobile devices are changing people's lives by being or becoming a useful tool in their daily lives.

In the beginning there are some questions that determine gender, age, job and place of residence. By doing this, it is possible to obtain a better segmentation of the sample; all the other questions were designed in order to obtain straight answers with pre determinate answers from scales of 1 to 5.

3.3.2 Sample Design

One of the most important things for this study to succeed its goal was the diversity of people that the sample from the questionnaire would need. The study aims to prove that people from all ages, with different jobs and from different regions, use smartphones

and mobile devices for different reasons with different purposes. This randomness in the sample is something to analyse if it is really something that is present in everyone's lives and that companies should be aware of it in order to communicate with their customers.

The sample is formed of 306 random persons, that answered the questionnaire with ages between 15 years old and 57 years old and almost everyone was a smartphone or a mobile device user that was the condition to answer the questionnaire until the end of it. The minimum sample would be 200 people (Malhotra 2007), so I decided to add about 100 more to make it more accurate and reliable with a bigger sample.

3.3.3 Macro – Structure of the questionnaire

This survey questionnaire is divided into 3 different parts so that it would be possible to segment and narrow the answers to reach the objective, which was to better understand the use of smartphones and mobile devices. The first part is to understand if it was male or female and if the person was a smartphone or mobile device user, if it wasn't the questionnaire would stop there.

Moving to the second part of the questionnaire there are 3 questions, there are some questions to segment the sample, asking the age, place of residence and job. With this answered it is possible to better understand what kind of persons are smartphone users, from where and how old they are, this information will be important to cross with the other answers about the use, frequency and habits.

On the third and last part of the questionnaire, is where the majority of the questions are. 24 questions, starting from questions that ask the use that a person gives to a smartphone or mobile device, asking the utility of it and then coming down to habit questions. This third part is where all the information about the utilization, the habit, opinion about brands, price-quality relationship and the intention of use in the future of smartphones and mobile devices. This part will give us all the answers needed to study this subject and analyse it in a proper way.

3.3.4 Micro – structure of the questionnaire

Analysing deeply this survey questionnaire, there are questions that connect to a certain group that are related to different subjects that are important to analyse when using smartphones or mobile devices. In order for this to happen, on the first questions of the questionnaire the purpose is to analyse the sample profile characteristics, as you continue throughout the questionnaire, the questions are divided into different groups so that by doing this, it will be possible to reach some conclusions about the different reasons why people use smartphones and mobile devices, their perception of it and the reason why they use it.

All these questions were in a scale of 1 to 5, in order to understand in a structured way what was the respondent's opinion and answer when facing some questions that needed their perception and opinion about something related to smartphones and mobile devices. To facilitate the analyse of the answers, the questions were in groups just like it is showed on the table below: Usage; Usage Motive; Facilitating Conditions; Social Influence; Effort Expectancy; Performance Expectancy; Price Value; Importance; Habit and Price-Quality relationship (Mis Quarterly 2012).

USAGE	How often do you use Calls?	EFFORT EXPECTANCY	Do you have the knowledge to use mobile devices/smartphones?
	How often do you use SMS?		Do you have meet all the requirements to use mobile devices and smartphones?
	How often do you use Email?	PERFORMANCE EXPECTANCY	Do you think that the prices for mobile devices/smartphones are reasonable?
	How often do you use Internet?	PRICE VALUE	Do you consider mobile devices/smartphones represent a good price-quality relationship?
	How often do you use Social Networks?	IMPORTANCE	How do you classify the importance of mobile devices/smartphones use on your daily life?
	How often do you use Photos/Videos?		Do you consider the use of mobile devices/smartphones essential?
	How often do you use Games?	HABIT	Do you consider yourself addicted to the use of mobile devices/smartphones?
	How often do you use Apps?		For you the use of mobile devices/smartphones is something natural?
USAGE MOTIVE	In your perspective do you use mobile devices/smartphones for entertainment?		Do you consider to use mobile devices/smartphones in the future?
	In your perspective do you use mobile devices/smartphones for communication?		Will the use of mobile devices/smartphones be always present on your daily life?
	In your perspective do you use mobile devices/smartphones for work?	SOCIAL INFLUENCE	My friends think that i should use mobile devices/smartphones?
	Do you consider that nowadays there is a habit for the use of mobile devices and smartphones?		People who are important to you, consider that the use of a mobile device or a smartphone is something important?
FACILITATING CONDITIONS	Is it easy for you to use mobile devices/smartphones?		People who you live with, are mobile device/smartphone users?
	Do you consider easy the use of tablets and smartphones?		
	Do you consider easy to ask your friends about the use of mobile devices and smartphones?		

Figure 3 - Key factors of the questionnaire

4. Analysis

4.1 Sample profile characteristics

From a sample of 304 respondents being all smartphones or mobile device users, there was an almost even percentage of Male (56, 2%) and Female (43, 8%) as it is showed in Table 1. The mean of the age of the respondents is 29 years old with a standard deviation of 11, 18 years, so it was possible to settle a sample group with a big range of ages that differ from 15 years old to 54 years old, which shows that people from a younger to and elder age are a smartphone and mobile device user.

The sample was also segmented by place of residence, as this study was held mainly in Portugal; the highest percentages of respondents are in the North (12, 7%) and the Lisbon Region (83, 3%) where the two biggest cities of the country are placed. In order to better understand the different use that the respondent's with different jobs were giving to smartphones and mobiles devices, they were all put into more categorized job groups; the biggest sample (49%) is in the Students group with almost half of the sample and in the Economist/Manager group (16, 3%) that represent the majority of people who answered the questions and that play an important role in this study

Table 1 - Sample profile characteristics

Social Demographic		Count	%	Mean	Standard Deviation
GENDER	Female	110	43,8%		
	Male	141	56,2%		
AGE	15-24	179	59%	28,69	11,18
	25-34	63	21%		
	35-44	21	7%		
	45-55	31	10%		
	>55	10	3%		
RESID	North	32	12,7%		
	Lisbon Region	209	83,3%		
	South	5	2,0%		
	Islands	4	1,6%		
	Other Countries	1	0,4%		
JOB	Lawyer	8	3,2%		
	Economist/Manager	41	16,3%		
	Engineer	18	7,2%		

Student	123	49,0%
Saúde	10	4,0%
Marketing and communication	11	4,4%
IT	11	4,4%
Unemployed	2	0,8%
Retired	0	0,0%
Secretary	4	1,6%
Tourism	6	2,4%
Housewife	1	0,4%
Others	10	4,0%
Education	4	1,6%
Architecture	2	0,8%

This table shows the answers to which services, smartphones and mobile devices provide to the user and which ones do they use the most. In order to better analyse the samples, all questions were divided into different items and groups; Use, Usage Motive, Facilitating conditions, Social Influence, Effort Expectancy, Price Value, Habit, Importance and Performance Expectancy.

Segmenting the questions into groups makes it better to understand the different reasons for how, when and for what reason do people utilize smartphones and mobile devices. The data was segmented and questions with a scale from 1 (never) to 5 (always) were held and the results showed that the use of games (mean 2,27) was the only service that it is less used when using smartphones or mobile devices, all the other services provide were above a 2,5 mean. The most common services are the calls (4, 49 mean), SMS messages (4, 44 mean), email (3, 92 mean) and internet (3, 96 mean); these services are used by people when handling a smartphone or a mobile device.

Social Networks, Photos/Videos and Apps, are also used but with less frequency compared to the services mentioned above with a highest Standard Deviation but still having a medium high usage with a mean around 3,5.

Table 2 - Usage

	Questions	Scale		Count	%	Mean	Standard Deviation
U1	How often do you use Calls?	Never	1	1	0,4%	4,49	0,78
		↓	2	5	2,0%		
			3	24	9,6%		
			4	60	24,0%		
		Always	5	160	64,0%		
U2	How often do you use SMS?	Never	1	2	0,8%	4,44	0,96
		↓	2	15	6,0%		
			3	26	10,4%		
			4	35	14,1%		
		Always	5	171	68,7%		
U3	How often do you use Email?	Never	1	8	3,3%	3,92	1,08
		↓	2	17	7,0%		
			3	53	21,8%		
			4	73	30,0%		
		Always	5	92	37,9%		
U4	How often do you use Internet?	Never	1	2	0,8%	3,96	1,04
		↓	2	22	8,9%		
			3	59	23,9%		
			4	64	25,9%		
		Always	5	100	40,5%		
U5	How often do you use Social Networks?	Never	1	28	11,5%	3,40	1,42
		↓	2	50	20,5%		
			3	44	18,0%		
			4	41	16,8%		
		Always	5	81	33,2%		
U6	How often do you use Photos/Videos?	Never	1	8	3,3%	3,19	1,10
		↓	2	67	27,3%		
			3	78	31,8%		
			4	54	22,0%		
		Always	5	38	15,5%		
U7	How often do you use Games?	Never	1	80	32,3%	2,27	1,16
		↓	2	72	29,0%		
			3	56	22,6%		
			4	29	11,7%		
		Always	5	11	4,4%		
U8	How often do you use Apps?	Never	1	11	4,4%	3,41	1,16
		↓	2	48	19,2%		
			3	75	30,0%		
			4	59	23,6%		
		Always	5	57	22,8%		

On table 3, when analysing the questions for the usage motive on table 3 of smartphone or mobile devices among all the respondents, it is possible to notice that communication is still the main usage motive that people have when using a smartphone or a mobile device (84, 4%). Motivated by the usage to work (58, 9%) is almost even, this can be considered important because it is high in a sample where most of the respondents are students, this means that the use of smartphones or mobile devices for work is growing among the new generations. The usage motive of Entertainment (59, 4%) is still big due to the fact that the sample has a big number of young people that uses the devices to play internet games, sharing information with friends, listens to music, etc... compared to what it used to be in the past, this number is not as high as it used to be, this means that this is something that it has been decreasing among the young generations.

When asked if they consider that there is nowadays a habit for the use of mobile devices on a scale from 1 (not at all) to 5 (totally), the mean (4, 24) shows that the respondents answered almost only 4 (47, 6%) and 5 (40, 7%), meaning that the use of it, is becoming an habit to everyone for different reasons.

Table 3 - Usage Motive

Usage Motive	Questions	Scale		Count	%	Mean	Standard Deviation
UM1	In your perspective do you use mobile devices/smartphones for entertainment?	Yes		148	59,4%		
		No		101	40,6%		
UM2	In your perspective do you use mobile devices/smartphones for communication?	Yes		211	84,4%		
		No		39	15,6%		
UM3	In your perspective do you use mobile devices/smartphones for work?	Yes		146	58,9%		
		No		102	41,1%		
UM4	Do you consider that nowadays there is a habit for the use of mobile devices and smartphones?	Not at all	1	2	0,8%	4,24	0,79
		↓	2	8	3,2%		
			3	19	7,7%		
			4	118	47,6%		
			Totally	5	101	40,7%	

To better analyse and understand the usage motive questions, this table below (table 4) shows all the answers given but divided by age groups; 15-24, 25-34, 35-44, 45-54 e >55. When trying to differentiate the motive, the age factor is very important to understand the use that different people from different ages utilize on different smartphones and mobile devices.

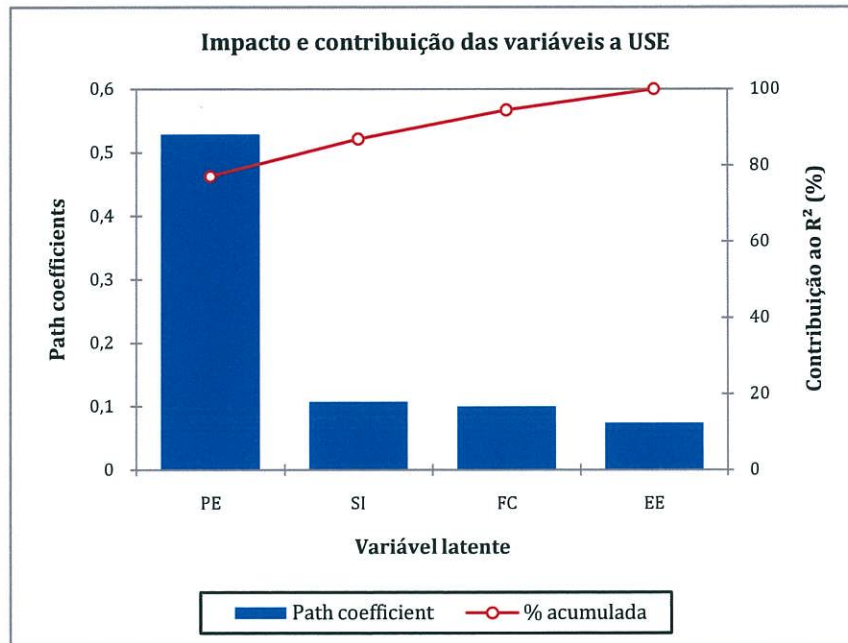
As it is showed on table 4, the use for entertainment is big among the 15-24 age groups (61%) but it decreases as the age groups increase, for example the 25-34 (52%) where the use is almost even and on the 35-44 (29%) where the big difference starts. It is showed on the table that the use of smartphones and mobile devices for entertainment is for sure something for younger generations and not for older age groups.

The use of smartphones and mobile devices for communication is something that in all age groups is very utilized, 15-24 (74%), 25-34 (75%), 35-44 (67%), 45-55 (58%) and >55 (60%). From these answers it is possible to see that people nowadays use mobile devices to communicate to work, friends, family and others, messages, phone calls, video calls and many others. The addition of other features to cellphones other than making calls or text messages was one of the reasons why people started to use smartphones and mobile devices, but communication still represents the main reason why people use this devices.

From the respondent's perspective, the use of smartphones and mobile devices for work is important and essential. From the answers it is possible to understand that almost half of the younger age group 15-24 (40%), gives use for work, but as most of the sample does not work yet, the analyses of the older age groups is more accurate for this question because they're all working people and this can give us a better perspective of the use of smartphones and mobile devices for work. The percentage of people who use it for work grows as the age groups grow older; 25-34 (59%), 35-44 (67%), 45-55 (81%) and it decreases 11% for people older than 55 years old due to the fact that they do not have enough knowledge as people from younger generations.

The last question about people's opinion if there is a habit in the use of smartphones and mobile devices was very even and equal to almost all age groups, from a scale from 1

(not at all) to 5 (totally), the lowest mean was in the 35-44 (3,61) age group and the highest mean in the 15-24 (4,33) age group. It is possible to conclude that younger people are getting more access to smartphones and mobile devices and it is becoming an habit for work, communicate and entertainment in their lives, from the older generations it is possible to understand that people are also adopting the use of this new technology in their daily lives for the same reasons as the younger generations.



Graphic 1 - The impact and contribution of variables in USE

By analysing graphic 1 the impact of different variables towards the Use of smartphones and mobile devices, it was possible to see which one do users from the sample refer as being the one with strongest path coefficients. The path coefficient standardized version of linear regression weights which can be used in examining the possible cause linkage between statistical variables in the structural equation modelling, by analysing this, performance expectancy (PE) is by far the one that relates better to what and how people use smartphones and mobile devices as compared to facilitating conditions (FC), effort expectancy (EE) and social influence (SI). The respondents use these devices more than other thing, according to the performance expectancy that they have about them and the way they perform.

Table 4 - Usage Motive per Age

Usage Motive	Questions	AGE									
		15-24		25-34		35-44		45-55		>55	
		Count	%	Count	%	Count	%	Count	%	Count	%
UM1	In your perspective do you use mobile devices/smartphones for entertainment?	110	61%	33	52%	6	29%	6	19%	2	20%
	No	69	39%	30	48%	15	71%	25	81%	8	80%
UM2	In your perspective do you use mobile devices/smartphones for communication?	132	74%	47	75%	14	67%	18	58%	6	60%
	No	47	26%	16	25%	7	33%	13	42%	4	40%
UM3	In your perspective do you use mobile devices/smartphones for work?	71	40%	37	59%	14	67%	25	81%	7	70%
	No	108	60%	26	41%	7	33%	6	19%	3	30%

		15-24		25-34		35-44		45-55		>55	
		Mean	Standard deviation	mean	Standard deviation	mean	Standard deviation	Mean	Standard deviation	mean	Standard deviation
		4,33	0,78	4,29	0,64	3,61	1,06	3,80	0,98	4,00	0,94
UM4	Do you consider that nowadays there is a habit for the use of mobile devices and smartphones?										

On table 5 for the use of smartphones and mobile devices, when asked, the respondents about the facilitating conditions on the use of smartphones or mobile devices, their answers were pretty much the same except a small percentage of the sample. On the table below from questions FC1 and FC2 from a scale of 1 being “not easy” to 5 being “very easy”, the mean on both answers was 4,42% with standard deviations below 1; FC1 (0,75), FC2 (0,71). This means that a big percentage of the respondents consider easy to use smartphones and mobile devices. On the last question (FC3) from a scale of 1 to 5 being 1 “not easy” and 5 “very easy”, asking if it was easy to ask friends about the use of smartphones and mobile devices, the mean was 4,30. Almost everyone from the sample considers that asking others about smartphones and mobile devices if they had any problem or doubt, something easy to do.

Table 5 - Facilitating Conditions

Facilitating conditions	Questions	Scale		Count	%	Mean	Standard Deviation
FC1	Is it easy for you to use mobile devices/smartphones?	Not Easy	1	0	0,0%	4,42	0,75
		↓	2	6	2,5%		
			3	21	8,6%		
			4	82	33,6%		
		Very Easy	5	135	55,3%		
FC2	Do you consider easy the use of tablets and smartphones?	Not Easy	1	0	0,0%	4,42	0,71
		↓	2	5	2,0%		
			3	18	7,2%		
			4	94	37,8%		
		Very Easy	5	132	53,0%		
FC3	Do you consider easy to ask your friends about the use of mobile devices and smartphones?	Not Easy	1	0	0,0%	4,30	0,74
		↓	2	5	2,0%		
			3	26	10,5%		
			4	107	43,1%		
		Very Easy	5	110	44,4%		

On table 6, analysing Social Influence questions from a scale of 1 to 5, being 1 “None” and 5 “All” allowed to better understand if others play an important role on the use of smartphones and mobile devices. On the first question if my friends think that I should use smartphones or mobile devices, almost half answered 4 (46, 2%) resulting in a 3, 82 mean. On the second question about Social Influence of people who are important to you consider that the use of smartphones and mobile devices is something important; it is possible to see that more than half of the sample answered 4 (52, 6%) having a 3,85 mean. The answers showed that most of them live their daily lives with smartphone and mobile device users, the mean on the third question of the table (SI3) is 4 with a standard deviation of 0,66.

Table 6 - Social Influence

Social Influence	Questions	Scale		Count	%	Mean	Standard Deviation
SI1	My friends think that i should use mobile devices/smartphones?	None	1	2	0,8%	3,82	0,85
		↓	2	12	4,8%		
			3	68	27,3%		
			4	115	46,2%		
		All	5	52	20,9%		
SI2	People who are important to you, consider that the use of a mobile device or a smartphone is something important?	None	1	3	1,2%	3,85	0,81
		↓	2	9	3,6%		
			3	57	23,1%		
			4	130	52,6%		
		All	5	48	19,4%		
SI3	People who you live with, are mobile device/smartphone users?	None	1	0	0,0%	4,00	0,66
		↓	2	6	2,4%		
			3	36	14,6%		
			4	158	64,0%		
		All	5	47	19,0%		

In order to better understand the use of smartphones and mobile devices from the respondents, they were asked about effort expectancy. On question EE1 (table 6) it was asked if they the respondents had the knowledge to use smartphones and mobile devices. The majority of the sample answered 4 (41, 9%) and 5 (45, 5%) from a scale of 1 to 5 being 1 “No” and 5 “All”. On the second question on the table below it is asked if the respondents meet all the requirements to use mobile devices and smartphones and the mean reached was 4,33. It is possible to see that people do not need big efforts to use smartphones and mobile devices because there is already some knowledge and requirements needed about the devices.

Table 7 - Effort Expectancy

Efort Expectancy	Questions	Scale		Count	%	Mean	Standard Deviation
EE1	Do you have the knowledge to use mobile devices/smartphones?	No	1	0	0,0%	4,31	0,73
		↓	2	4	1,6%		
			3	27	11,0%		
			4	103	41,9%		
		All	5	112	45,5%		
EE2	Do you have meet all the requirements to use mobile devices and smartphones?	None	1	0	0,0%	4,33	0,76
		↓	2	4	1,6%		
			3	33	13,3%		
			4	90	36,1%		
		All	5	122	49,0%		

On this question it is possible to see that the respondents do all agree that smartphones and mobile devices do not have a reasonable price, from a scale of 1 to 5, being 1 “Not Reasonable” and 5 “Very Reasonable”, almost half answered 3 (49%) and the mean was 2,88.

Table 8 - Performance Expectancy

Performance Expectancy	Questions	Scale		Count	%	Mean	Standard Deviation
PE4	Do you think that the prices for mobile devices/smartphones are reasonable?		0	4	1,6%	2,88	0,92
		Not Reasonable	1	12	4,8%		
		↓	2	56	22,3%		
			3	123	49,0%		
			4	50	19,9%		
		Very Reasonable	5	6	2,4%		

About price value perspective, most of the people from the data sample, answered that the price of smartphones and mobile devices is not reasonable when compared to the value of the object itself. The respondents think that quality it is what makes it so expensive so when asked about the price-quality relationship, the answers from a scale of 1 to 5, being 1 “Not at All” and 5 “Totally” were pretty much concentrated on 3 (47,4%) and 4 (37,7%) and with a mean of 3,33.

Table 9 - Price Value

Price Value	Questions	Scale		Count	%	Mean	Standard Deviation
PV1	Do you consider mobile devices/smartphones represent a good price-quality relationship?	Not at all	1	2	0,8%	3,33	0,74
		↓	2	26	10,5%		
			3	117	47,4%		
			4	93	37,7%		
		Totally	5	9	3,6%		

The importance given to the use of smartphones and mobile devices on their daily lives, is analysed on a scale of 1 to 5, being 1 “Not Important” and 5 “Very Important”, the most common answers were 4 (43, 8%) and 5 (30,9%), this led to a mean of 4. On the other question from a scale of 1 to 5, being 1 “Not at all” and 5 “Totally”, when talking about if the use was something essential, the answers were almost half of them 4 (43,8%) with a mean of 3,82.

Table 10 - Importance

Importance	Questions	Scale		Count	%	Mean	Standard Deviation
I1	How do you classify the importance of mobile devices/smartphones use on your daily life?	Not Important	1	0	0,0%	4,00	0,85
		↓	2	13	5,2%		
			3	50	20,1%		
			4	109	43,8%		
		Very Important	5	77	30,9%		
I2	Do you consider the use of mobile devices/smartphones essential?	Not at all	1	6	2,4%	3,82	1,00
		↓	2	22	8,8%		
			3	47	18,9%		
			4	109	43,8%		
		Totally	5	65	26,1%		

On this last table 11, regarding the habit of use on smartphones and mobile devices was analysed to better understand if it exists in the use of smartphones and mobile devices, if it is an addiction or if it is something natural in their daily lives and what the perspectives are in the future.

On the first question to understand if the respondents consider themselves addicted to smartphones or mobile devices, from a scale of 1 to 5, being 1 “Not at all” and 5 “Totally”, the majority of the answers was 3 (28, 8%) and 4 (30,4%) and the mean was 3,24. It was possible to understand that they do not consider themselves as addicts in

this matter. On the second question it was analysed from a from a scale of 1 to 5, being 1 “Not at all” and 5 “Totally”, the mean was 4,01 with a 0,87 standard deviation making it a good sample, which means that the respondents consider the use of smartphones and mobile devices something natural these days.

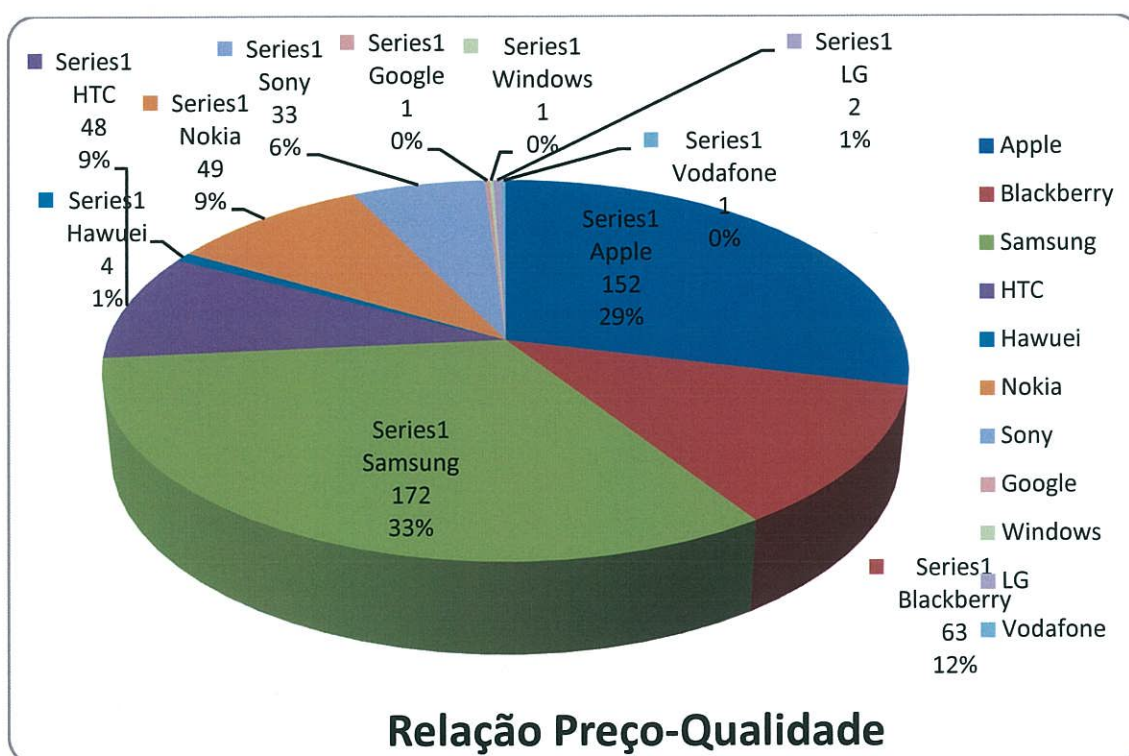
The respondents were asked on question number 3 of the table (H3) if they consider using smartphones and mobile devices in the future, from a scale of 1 to 5, being 1 “Never” and 5 “Always”, more than half of the sample answered 5 “Always” (58,5%) and the mean was 4,50. The answers to this question, demonstrate that the majority of the respondents claim to continue to use smartphones throughout their lives.

Almost the same conclusion can be taken from the fourth and last question on this table that asks if the use of smartphones and mobile devices will be always present on their daily lives, and from a scale of 1 to 5, being 1 “Never” and 5 “Always”, it is possible to see that the majority answered 4 (44%) and 5 (40, 7%) with a mean of 4, 21. People consider that smartphones and mobile devices will be always present, being a part of their lives.

Table 11 - Habit

Habit	Questions	Scale		Count	%	Mean	Standard Deviation
H1	Do you consider yourself addicted to the use of mobile devices/smartphones?	Not at all	1	18	7,2%	3,24	1,14
		↓	2	49	19,6%		
			3	72	28,8%		
			4	76	30,4%		
		Totally	5	35	14,0%		
H2	For you the use of mobile devices/smartphones is something natural?	Not at all	1	2	0,8%	4,01	0,87
		↓	2	13	5,3%		
			3	40	16,3%		
			4	116	47,2%		
		Totally	5	75	30,5%		
H3	Do you consider to	Never	1	0	0,0%	4,50	0,68

	use mobile devices/smartphones in the future?	↓	2	4	1,6%		
			3	14	5,6%		
			4	85	34,3%		
		Always	5	145	58,5%		
H4	Will the use of mobile devices/smartphones be always present on your daily life?	Never	1	0	0,0%		
		↓	2	10	4,0%		
			3	28	11,3%		
			4	109	44,0%		
		Always	5	101	40,7%	4,21	0,80



Graphic 2 - Price-Quality relationship

Graphic 2 shows in slices, the size correspondent to the percentage of the most answered brands regarding the price-quality relationship. Table 12 has the most voted brands by the respondents with the number of times it was voted and the representative percentage of it.

From the answers given by the respondents on this study, it is possible to better understand what the best price-quality relationship among the respondents between brands is. The brand elected as the best price-quality relationship was Samsung (33%)

followed by Apple (29%), Blackberry (12%), HTC (9%) and Nokia (9%). All the other brands had really small samples with a non-significant percentage.

Table 12 – Price – Quality relationship

Brands	Count	%
Apple	152	29%
Blackberry	63	12%
Samsung	172	33%
HTC	48	9%
Hawuei	4	1%
Nokia	49	9%
Sony	33	6%
Google	1	0%
Windows	1	0%
LG	2	0%
Vodafone	1	0%

Analysing the usage by gender on the table below, it is possible to understand that there are major differences in three services that smartphones and mobile devices provide. The mean that was reached in both genders for each question about the different usage given to smartphones and mobile devices is very similar for Male and Female, with the exception of three items. This difference between the two, could be noticed by the mean and then with the ANOVA test by the sig (sig<0, 05 means that there are bigger differences between the groups analysed).

In this table, the usage of SMS by Female is 4, 77 and by Male is 4, 15, this means that women use their smartphones and mobile devices to send SMS's more than men (sig 0,000). The use of Social Networks is another service provided by these devices where the mean is higher on the Female sample (3,63) than in the Male sample (3,23) and the sig proves the difference between them (sig 0,025).

Table 13 - Use by gender

Descriptives				
Questions		N	Mean	Std. Deviation
How often do you use Calls?	Female	114	4,46	0,755
	Male	151	4,42	0,934
	Total	265	4,44	0,86
How often do you use SMS?	Female	113	4,77	0,518
	Male	151	4,15	1,163
	Total	264	4,41	0,99
How often do you use Email?	Female	112	3,83	1,162
	Male	146	3,92	1,111
	Total	258	3,88	1,132
How often do you use Internet?	Female	112	3,97	1,018
	Male	149	3,93	1,116
	Total	261	3,95	1,073
How often do you use Social Networks?	Female	111	3,63	1,334
	Male	148	3,23	1,48
	Total	259	3,4	1,431
How often do you use Photos/Videos?	Female	112	3,53	1,123
	Male	148	2,91	1,084
	Total	260	3,17	1,141
How often do you use Games?	Female	113	2,25	1,207
	Male	150	2,31	1,171
	Total	263	2,29	1,185
How often do you use Apps?	Female	114	3,4	1,158
	Male	151	3,38	1,199
	Total	265	3,39	1,179

Table 14 - Use by gender

ANOVA						
Questions		Sum of Squares	df	Mean Square	F	Sig.
How often do you use Calls?	Between Groups	0,11	1	0,11	0,148	0,701

	Within Groups	195,234	263	0,742		
	Total	195,343	264			
How often do you use SMS?	Between Groups	25,184	1	25,184	28,341	0
	Within Groups	232,812	262	0,889		
	Total	257,996	263			
How often do you use Email?	Between Groups	0,485	1	0,485	0,377	0,54
	Within Groups	328,79	256	1,284		
	Total	329,275	257			
How often do you use Internet?	Between Groups	0,141	1	0,141	0,123	0,727
	Within Groups	299,108	259	1,155		
	Total	299,249	260			
How often do you use Social Networks?	Between Groups	10,194	1	10,194	5,057	0,025
	Within Groups	518,045	257	2,016		
	Total	528,239	258			
How often do you use Photos/Videos?	Between Groups	24,616	1	24,616	20,317	0
	Within Groups	312,595	258	1,212		
	Total	337,212	259			
How often do you use Games?	Between Groups	0,277	1	0,277	0,197	0,658
	Within Groups	367,335	261	1,407		
	Total	367,612	262			
How often do you use Apps?	Between Groups	0,024	1	0,024	0,018	0,895
	Within Groups	367,16	263	1,396		
	Total	367,185	264			

This next table is divided by age groups: 1 – 15 to 24; 2 – 25 to 34; 3 – 35 to 44; 4 – 45 to 55 and 5 -> 55. This analyse has the objective to determine the usage among people of different ages and the differences that exist between the different services provided by smartphones and mobile devices.

The mean in the use for calls is very even between all age groups between 4,35 and 4,79 because that's one of the main purposes in smartphones and mobile devices, the SMS usage is more frequent among the younger age groups 1 (4,73) and 2 (4,38). For Emails there is an increase in the mean among the working age groups 2 (4, 04), 3 (3, 95) and 4 (4, 12). This is something that shows the utility that this devices have at work. When using it for Internet and Social Networks the means among younger age groups are high but decreasing when looking at the older age groups.

When looking at table 16 (Anova) it is possible to see that the usage given by the different age groups, does not represent a big difference between them (sig is always below 0, 05 which means that there are not big differences between the groups analysed.). From this analyse we can say that smartphones and mobile devices are being used frequently between all age groups.

Table 15 – Use by age groups

Descriptives				
Questions		N	Mean	Std. Deviation
How often do you use Calls?	1	152	4,35	0,901
	2	58	4,6	0,771
	3	19	4,79	0,419
	4	27	4,59	0,694
	5	8	4,13	0,835
	Total	264	4,45	0,835
How often do you use SMS?	1	151	4,73	0,673
	2	58	4,38	0,988
	3	19	3,63	1,212
	4	27	3,7	1,203
	5	8	3,13	1,458
	Total	263	4,42	0,988
How often do you use Email?	1	148	3,78	1,158
	2	57	4,04	1,068
	3	19	3,95	1,177
	4	26	4,12	1,143
	5	7	3,71	0,951
	Total	257	3,88	1,133
How often do	1	149	4,16	1,014

you use Internet?	2	57	3,88	1,036
	3	19	3,58	1,017
	4	27	3,52	1,189
	5	8	2,88	0,991
	Total	260	3,95	1,073
How often do you use Social Networks?	1	151	3,85	1,264
	2	56	3,55	1,249
	3	19	2,11	1,197
	4	25	1,84	1,068
	5	7	1,71	0,951
	Total	258	3,4	1,433
How often do you use Photos/Videos?	1	149	3,4	1,174
	2	57	3,09	1,057
	3	19	2,79	0,855
	4	27	2,67	1,038
	5	7	2	0,577
	Total	259	3,17	1,143
How often do you use Games?	1	152	2,53	1,218
	2	57	2,11	1,064
	3	19	2,21	1,182
	4	27	1,56	0,801
	5	7	1,57	1,134
	Total	262	2,29	1,184
How often do you use Apps?	1	152	3,57	1,172
	2	58	3,45	1,079
	3	19	3,05	1,224
	4	27	2,93	1,174
	5	8	2,38	0,744
	Total	264	3,4	1,172

Table 16 – Use by age groups

ANOVA						
Questions		Sum of Squares	df	Mean Square	F	Sig.
How often do you use Calls?	Between Groups	6,504	4	1,626	2,38	0,052
	Within Groups	176,95	259	0,683		
	Total	183,455	263			
How often do you use SMS?	Between Groups	53,544	4	13,386	17,059	0
	Within Groups	202,448	258	0,785		

	Total	255,992	262			
How often do you use Email?	Between Groups	4,457	4	1,114	0,867	0,485
	Within Groups	324,041	252	1,286		
	Total	328,498	256			
How often do you use Internet?	Between Groups	23,828	4	5,957	5,533	0
	Within Groups	274,522	255	1,077		
	Total	298,35	259			
How often do you use Social Networks?	Between Groups	144,163	4	36,041	23,751	0
	Within Groups	383,914	253	1,517		
	Total	528,078	257			
How often do you use Photos/Videos?	Between Groups	27,623	4	6,906	5,666	0
	Within Groups	309,558	254	1,219		
	Total	337,181	258			
How often do you use Games?	Between Groups	29,211	4	7,303	5,573	0
	Within Groups	336,743	257	1,31		
	Total	365,954	261			
How often do you use Apps?	Between Groups	21,078	4	5,27	4,01	0,004
	Within Groups	340,361	259	1,314		
	Total	361,439	263			

5. Discussion, Conclusions and Application

5.1 Discussion

Since smartphones and mobile devices appeared, there has been a change in peoples live in the way they interact with each other, work, also the exchange of information and in entertainment. This new devices brought changes that are now in everyone's daily life and will continue to improve throughout the years coming, this evolution on digital hardware implemented on phones was the turn for a new era, new business appeared and are giving jobs to thousands of persons that work in the mobile digital business.

This new Mobile Industry created new sources to segment customers for services and products in a way that was not possible to do so before, now it is possible for businesses and brands to reach their final consumers due to the social networks and the registrations that applications need to be used by their consumers. The registration on these services gives out information of their age, their contacts and in some cases of their habits, interests and preferences.

To reach these consumers, marketing professionals faced new challenges and had to explore new different ways to advertise and gather consumer information for businesses and brands with professionalism and efficiency. This need brought up new associations and new companies to face these challenges of the Mobile Industry; the Mobile Marketing Association was created for better understanding of the Mobile Industry and how to take advantages of this new industry.

“MMA recently developed a new resource designed to help members and the entire mobile marketing ecosystem. The online Mobile Marketing Industry Directory is a buyer’s guide that allows you to easily locate mobile marketing products and services from one convenient location. It also provides a place for the entire industry to list company information, products and service offerings, and more.” (Mobile Marketing Association, 2013)

These tools that MMA (Mobile Marketing Association) provides to all marketers and companies that want to enter the Industry and take advantage of all the resources it can provide to the mobile industry are very useful. Also in order to reach the consumers and customers, there is something that needs to be known by marketers and that is the use that people of different ages and different genders give to smartphones and mobile devices so that they can target them in a more segmented way and also to have a better perception of what are the more adequate types of applications and services to people of different ages and gender.

To better understand the usage given by people of different ages and genders, a focus group took place in order to gather some information to create a questionnaire that could give a significant sample to understand the differences in the usage of smartphones and mobile devices between genders and age groups

5.2 Conclusions

This thesis had the purpose of better understanding the the adoption and use of smartphones and mobile devices, from people with different ages, jobs, regions and gender by analysing key factors such as; Use, Usage Motive, Importance, Facilitating Conditions, Social Influence, Effort Expectancy, Performance Expectancy, Price Value and Habit.

In order to analyse and discover the different use and key factors that groups were giving to smartphones and mobile devices a study was conducted with a questionnaire and the objective of proving that smartphones and mobiles devices are already into people's lives and how it has been affecting them in different ways, such as in their jobs, communicating, sharing information and work, also it was possible to divide them into age groups and gender.

From the answers given it was possible to understand better the usage and all the factors that lead people to use these devices:

Use – From all the utilities that smartphones and mobile devices have, games is something that people don't use as much as all the other services. Calls, SMS, email and internet are the most used services that people use in their daily life when handling a smartphone or a mobile device. The traditional services that already existed in cell phones are still the most used ones (calls and SMS) but email and internet started to be used by users, more often to work and search for information.

When divided by gender, the difference in use by female and male users is on the Social Networks, female users use their smartphones and mobile devices more often to access Social Networks. It's possible to see more differences between age groups; SMS is something that it's more used among younger people while emails it is possible to recognise an increase on the ages where people are on their active working life, between the 24 years old and 55. Also the use of social networks and internet decreases within older people while in the younger age groups it is possible to see that the use of these services is higher.

Usage motive – From the answers analysed it was possible to understand better the motive that leads people to use smartphones and mobile devices. Communication is still the main reason for why people use these devices also work was pointed as a strongest motive for people to use the devices. But since a big part of the sample were students, it can be seen as the growing working tool among the upcoming generations and entertainment such as listen to music, games, social networks, watch movies, etc... also played a big part of the motive why people use smartphones and mobile devices. When asked if there is already an habit in the use of smartphones and mobile devices, almost all the respondents answered that yes, there is totally an habit of using these devices.

Importance – The importance given to the use of smartphones and mobile devices was considered as a matter of big importance, users see it as something important and essential in their daily lives.

Facilitating conditions – The users were asked about external factors, about their knowledge in smartphones and mobile devices and how they could be used in order to create conditions that could facilitate the use of these devices. All users answered that they had not problems at all with gathering information from others or even to discover themselves, ways to facilitate the use of their devices.

Social Influence – This factor was actually important to better understand the impact that social influence has in the use of smartphones and mobile devices among society. The results concluded that people understand that the use of these devices is something important to interact within our society nowadays. The important role that others play in the use and how people interact nowadays is through smartphones and mobile devices, so it is possible to say that everyone uses one or intends to use a smartphone and a mobile device because it became the main communicating tool to interact, work and entertain with others and themselves.

Effort expectancy – The effort expectancy in the use of smartphones and mobile devices among the respondents, was something that they all consider easy to deal with, the knowledge, the way products and devices work and also other conditions are created for most of the persons, the only requirement that was of some concern was the price of the

devices, which is something that not everyone can spend money on but with today's technology it is almost affordable to everyone to have a smartphone or a mobile device.

Performance expectancy – The performance expectancy that people have of the smartphones and mobile devices brands and companies is that the prices practiced to the general public are not reasonable enough. The respondent's opinion is that these devices are being sold with prices that are yet a little high for what they think they are worth.

Value – The value of these devices is something that people think it is too high compared to the value of the object itself but they also recognize that the advanced technology that is implemented in these devices is what it makes them expensive. Regarding the price-quality relationship, the respondents are more reasonable and voted the best brands in this factor. Samsung was considered the brand with best price-quality relationship, followed by Apple, Blackberry, HTC and Nokia

Habit – There was a better understanding of the habits regarding the use of smartphones and mobile devices. The respondents do not consider themselves addicted to these devices but on the second hand viewing it as an addiction is something probably too strong to admit. Most of them intend to continue using smartphones and mobile devices throughout their lives and think that it is something that will be part of their lives throughout the years coming, also the use and handling of these devices is something that became natural to most of them.

This data recovered from the study that was taken to start this study analysed all this factors in order to better understand at what point and how spread was this culture of smartphones and mobile devices.

5.3 Applications

This information can be seen as a resource to better understand the different uses and how people from different ages use their smartphones and mobile devices. Its information that gives a better perspective of the growth this market has and how it is becoming something of great importance in society these days. It is also an opportunity

for companies to invest or for those who want to create new businesses in the Mobile Industry.

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Annex1 – Focus Group guide

Focus Group Guide

Participants: 6

Time: 60 minutes

Age: 20 to 57 years old

Place of residence: Lisbon

Objectives

The main objective of this focus group is to better understand the use given to certain smartphones and mobile devices when it comes to mobile services of data and their opinion about the use of these devices.

Concepts:

1 – Smartphone – Cell phone with advanced functionalities that can be extended by applications and service providers in their operational system. It is a mobile device with internet access.

2 – Mobile Device Services – Digital Services of data provided through smartphones and mobile devices (Internet, news, services, communication, sharing files, photos/videos, etc...).

Part 1 – Introduction questions

- 1 – We hear many times that gadgets are the future of our everyday life. What opinion do you have about this?
- 2 – Who in this room uses and owns a smartphone or mobile device?
- 3 – Do you consider that smartphones and mobile devices are easy to use?
- 4 – In your opinion which brands would you say that stand out in this sector?
- 5 – Do you think that smartphones and mobile devices became a habit on your daily lives?

Part 2 – The use given to smartphones and mobile devices

- 6 – For what means do you use smartphones and mobile devices?

_Work
_Entertainment
_Communication
_Mobile Commerce
_Information

- 7 – Name some of the apps or programs that you use the most and what is the purpose of it?

Part 3 - Future expectations

- 8 – Do you consider the use of smartphones and mobile devices something indispensable?

9 – What are the main reasons for the use that you give to your smartphone or mobile device?

Part 4 – Conclusion

Does anyone have anything else they would like to add or any idea that you would like to share?

Thank you all for participating in this focus group.

Annex 2 – Focus Group Conclusions

Date: Saturday, February 23, 2013

Local: Lisbon

Duration: 67 minutes

Moderator: Student, 23 years old.

Participants:

1 – Lawyer, 57 years old.

2 – CEO, 54 years old.

3 – Student, 23 years old.

4 – Student, 21 years old.

5 – Student, 23 years old.

6 – Student, 20 years old.

The Focus Group started with all the conditions ready with the objective of better understanding the use of Smartphones and Mobile Data Services. To start this Focus Group, I've put together a group of 6 people in order to better understand what were the main differences between those who already work and the ones that still study, the age was also another factor that I wanted to analyse and see how it influences the way people see Smartphones and Mobile Devices.

The younger participants all had the opinion that in fact, the smartphones and the mobile devices will be represented in our daily lives throughout the future, in their opinion the market is growing really fast among persons of all ages and job positions, and they think the reason for this to happen is that these gadgets allow people to walk around doing the tasks they have for work, family and shopping. The older participants think that all this is true and that in fact it is very useful, but their opinion is that it takes more quality time with their families than it helps doing their tasks in order to spend more time with the family.

All the participants were Smartphone users and think that they are user friendly, some more than others, the older participants think that it they are not as user friendly as they should be, they share the opinion that smartphones have too many options. From what it was asked, all the participants consider that smartphones are considered a habit and that nowadays it is hard to live without all the functionalities of a smartphone but they do not consider themselves addicted to it.

In this Focus Group when asked about what were the brands they view as the ones that offer better services, software and hardware, the younger participants all agreed that Samsung and Apple were the brands that dominate the market, in their opinion, Samsung has more options, better image and the software is the most advanced one, on the other side, Apple is more user friendly and wins when it comes to social status and design. The older participants agree with those opinions but they think that the one that best suits their needs is the Blackberry; they say that it is more work friendly.

From what I could conclude from this Focus Group was that the younger participants have a better understanding of the smartphone and mobile device service market and can easily understand the software of the devices as expected, they use their smartphones and mobile devices to work, communicate, information, entertainment but not to shop online. The older participants on the other hand do not handle these devices with the same agility as the younger participants do, but mainly they give the same use as the younger ones but without the entertainment on it, they do not play games or use their mobile devices to entertain themselves.

Annex 3 – Questionnaire

Dispositivos Móveis e Smartphones

Não existem outros leitores

Sexo *

☐ Masculino

☐ Feminino

Utilizador de Dispositivos Móveis/smartphones 3G ou 4G? *Se a resposta for Não, pare aqui o questionário.

☐ Sim

☐ Não

Idade *

Os dispositivos móveis/smartphones são úteis no seu dia-a-dia?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Profissão/Actividade *

Considera que os dispositivos móveis/smartphones o ajudam a realizar as suas tarefas?

1 2 3 4 5

Nunca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sempre
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Área de Residência *

Os dispositivos móveis/smartphones aumentam a sua produtividade no trabalho?

1 2 3 4 5

Nada	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Muito
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É fácil para si, aprender a utilizar dispositivos móveis/smartphones?

1 2 3 4 5

Nada	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Muito
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Considera fácil a utilização de tablets e telemóveis (smartphones)?

1 2 3 4 5

Nada	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Muito
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Os meus amigos acham que eu devo utilizar dispositivos móveis/smartphones?

1 2 3 4 5

Nenhum	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Todos
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Pessoas cuja opinião considera relevante, pensam que a utilização de dispositivos móveis/smartphones é importante?

1 2 3 4 5

Nenhum	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Todos
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As pessoas com quem convive regularmente são utilizadores de dispositivos móveis/smartphones?

1 2 3 4 5

Nenhuma	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Todas
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Possui o conhecimento necessário para a utilização de dispositivos móveis/smartphones?

1 2 3 4 5

Nenhum	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Considera ter todas as condições para a utilização de dispositivos móveis/smartphones?

1 2 3 4 5

Nenhuma	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Todas
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Considera fácil pedir ajuda a amigos quando tem dúvidas no funcionamento ou utilização de um dispositivo móvel/smartphone?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Na sua perspectiva quais considera serem as principais razões pela qual utiliza dispositivos móveis/smartphones?

- ☐ Entretenimento
- ☐ Comunicação
- ☐ Trabalho

Considera os preços de dispositivos móveis/smartphones razoáveis?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Considera que os dispositivos móveis/smartphones representam uma boa relação preço-qualidade?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Quais considera serem as marcas com melhor relação preço-qualidade para dispositivos móveis/smartphones?

- ☐ Samsung

☐ Apple

☐ Sony

☐ HTC

☐ Nokia

☐ Blackberry

☐ Outro:

Como classifica a importância da utilização de dispositivos móveis/smartphones no seu dia-a-dia?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Considera que no uso de dispositivos móveis/smartphones actualmente existe um hábito?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Considera-se viciado na utilização de dispositivos móveis/smartphones?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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Para si, o uso de dispositivos móveis/smartphones é algo natural?

1 2 3 4 5

Nada	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Muito
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No futuro pretende continuar a utilizar dispositivos móveis/smartphones?

1 2 3 4 5

Nunca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sempre
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A utilização de dispositivos móveis/smartphones estará sempre presente no seu dia-a-dia?

1 2 3 4 5

Nunca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Sempre
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Atualmente considera indispensável a utilização de dispositivos móveis/smartphones?

1 2 3 4 5

Dispensável	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indispensável
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Com que frequência utiliza os seguintes serviços?

Chamadas

1 2 3 4 5

Nunca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Várias vezes ao dia
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SMS

1 2 3 4 5

Nunca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Várias vezes ao dia
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Email

1 2 3 4 5

Nunca	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Várias vezes ao dia
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Internet

1 2 3 4 5

Nunca ☒ ☒ ☒ ☒ ☒ Várias vezes ao dia

Redes Sociais

1 2 3 4 5

Nunca ☒ ☒ ☒ ☒ ☒ Várias vezes ao dia

Fotografia/Vídeos

1 2 3 4 5

Nunca ☒ ☒ ☒ ☒ ☒ Várias vezes ao dia

Jogos

1 2 3 4 5

Nunca ☒ ☒ ☒ ☒ ☒ Várias vezes ao dia

Aplicações

1 2 3 4 5

Nunca ☒ ☒ ☒ ☒ ☒ Várias vezes ao dia