



Running App's Decision-Making Factors – The Impact of Branding on the Digital World

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Abstract

Title: Running App's Decision-Making Factors – The Impact of Branding on the Digital World

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Keywords: Mobile Applications, Apps, Decision-Making, Consumer Behavior, Running, Brand, Reviews, Involvement, Impact, Factors

Summary: Due to the pandemic situation we are living in, people started running more, as it was one of the few ways they could leave their houses. As people started to add this to their routines, also started monitoring each run with a mobile application. When choosing this app, people were expected to choose and to use the most known apps, related to sports brands, mostly free, as there are a lot of different apps in the market.

This dissertation aims to identify what are the factors that lead people to choose, for running, one app over the enormous amount of apps in the digital world. An online survey was run, involving 123 participants ready to help understand this problem. By giving participants different types of brands and reviews, and distinct prices, it had the purpose to understand the impact these features have on people's choices, as these are some of the main variables for apps' decision-making.

The study showed that participants chose the brand over reviews, independently of the price given. People mainly wanted sports brands, as these are more related to the topic of study – running. When a good app with a different brand was purposed, people tended not to choose it, as there was always an app with a brand that was more trusted and more related to the topic of study.

Resumo

Título: Fatores de Tomada de Decisão de uma Aplicação de Corrida – O Impacto da Marca no Mundo Digital

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Palavras-Chave: Aplicações de Telemóvel, Apps, Tomada de Decisão, Comportamento do Consumidor, Corrida, Marca, Revisões, Envolvimento, Impacto, Fatores

Resumo: Devido à situação pandémica que estamos a viver, as pessoas começaram a correr mais, como era uma das poucas maneiras que podiam sair de casa. À medida que as pessoas começaram a juntar isto às suas rotinas, começaram também a monitorizar cada corrida com uma aplicação para o telemóvel. Ao escolher esta aplicação, esperava-se que as pessoas escolhessem e usassem as aplicações mais conhecidas, relacionadas com marcas de desporto, maioritariamente gratuitas, uma vez que existem muitas aplicações diferentes no mercado.

Esta dissertação pretende identificar quais foram os fatores que levaram as pessoas a escolher, para corrida, uma aplicação dentro da enorme quantidade de aplicações no mundo digital. Foi realizado um inquérito online, envolvendo 123 participantes prontos a ajudar a compreender este problema. Ao dar aos participantes diferentes tipos de marcas e revisões, e preços distintos, houve o propósito de compreender o impacto que estas características têm nas escolhas das pessoas, uma vez que estas são algumas das principais variáveis para a tomada de decisão de aplicações.

O estudo demonstrou que os participantes escolheram a marca em vez das revisões, independentemente do preço dado. As pessoas queriam principalmente marcas desportivas, uma vez que estas estão mais relacionadas com o tema do estudo - corrida. Quando se apresentava uma boa aplicação com uma marca diferente, as pessoas tinham tendência a não a escolher, uma vez que havia sempre uma aplicação com uma marca mais confiável e mais relacionada com o tema de estudo.

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Chapter 1: Introduction

1.1. Topic Presentation

During the Covid-19 pandemic, people felt their freedom was being threatened as people were only permitted to leave their houses for a small number of reasons: health problems, emergency and family reasons, purchase of goods and services, and short-term dislocations for the purpose of physical activity, but with collective physical activity being forbidden (Portuguese Republic Government, 2020). With people feeling bored and tired of being at home, and not wanting to break the rules because of the penalties and the uncertainty of the virus repercussions, the only plausible reason to leave was to do some sports. As this physical activity couldn't be accompanied, people started to practice a simple sport, that doesn't need anything else than just the person: run.

Once people started to run more often and started to be part of their routines, they wanted to monitor their runs and to register their progress. For this, people began to download a running app: a mobile application specifically made for people to run. These apps are made for people to register their runs and their progress, to give some plans for people to improve their performances, and also to create some competition between athletes. In the market, there are many running apps, so there is decision-making for the users to decide which app better fits their needs and which app is better for their purpose. According to Statista, 2021, there were 656 million health and fitness apps downloads in the 2nd quarter of 2020, the biggest amount of downloads from this category since 2019. When having more and more customers willing to use these kinds of apps, companies were taken to create and develop more apps, giving them even more alternatives to choose from.

Each app is developed by a different company, with a distinct brand associated (sports brand, digital technology brand, and many more) and with several users that contribute to the advertisement of the app via reviews or word-of-mouth. These parameters make part of a group of factors that most contribute to people's decision-making, as all these apps have the same purpose and practically the same features. People are invited to make a quick decision, with low involvement, to decide which apps better fit their personality and their needs.

To sum up, to have a better number of downloads (and consequently a better financial result, their main objective), companies need to give consumers the best app possible, need to understand people's needs and what people are looking for in an app, but also how can they spotlight in the market. Companies need to know, at the end of the day, what leads a consumer to pick one app over the other, which factors stand out in the decision-making process. This problem leads companies to current investigate the main research question: which factors do people rely on when making these kinds of decisions?

1.2. Problem Statement

With this growth of the use of apps and with the growth of options in the market, adding to more people using them to run and to improve/maintain their health, it brings some interesting doubts to marketers about what are the main factors that lead to people choosing their app over others. The purpose of this research is to understand the impact a brand has on decision-making, and if there is any impact of the reviews or price on people's choice.

Research Question 1: How can a brand affect choice over alternative segment products? What's the weight a brand has on the app's decision-making?

Research Question 2: What kind of impact do Reviews / WOM have on people's decision-making?

Research Question 3: Does price influence people's app decision-making?

Chapter 2: Literature Review

This chapter is intended to provide some theoretical insights into the problem, delving deeper into the theory at hand. This theoretical exposure will point out the relevance of the topic under study and will present a better detail to future results.

2.1. Mobile Applications

Smartphones are dominating people's time, since 2019, as US consumers spend more time using mobile devices than watching TV (eMarketer, 2019). Since 2016, where the number of smartphone users was 3,668 million people, the number of users has been increasing, reaching 6,378 million users in 2021. It is expected that in 2026 if the increase continues like this, the number of users will be around 7,516 million users (Statista, 2021d). Globally, the smartphone market has been growing over the last few years and it is expected to continue growing. Mobile devices are no longer just for calling or texting, being used for a variety of nontraditional phone activities, from looking for a job to taking pictures. The smartphone has become essential for many users, as almost half of the owners said they "could not live without" it. (Pew Research Center, 2017; Melumad & Pham, 2021). Smartphones are "highly capable computing platforms containing a wide range of sensors and communications interfaces" (Wagner et al., 2014). It can be personalized and configured to the user's particular way of doing things (HowStuffWorks.com, 2001). Compared to a normal mobile phone, smartphones have way more functionalities due to their ability to have and run mobile apps (Rakestraw et al., 2013).

Mobile applications, or apps, are designed software programs, developed specifically to run on a device with specific functionality, and can be downloaded onto a phone via the internet (Wallace et al., 2012; Cummings et al., 2013). In 2018, 87% of the mobile usage of an average adult in the United States of America was from using mobile apps (Narang & Shankar, 2019). It has become an indispensable part of our lives, as it facilitates a lot of parts of our lives, from health monitoring to shopping other products (He et al., 2019; Ghose & Han, 2014). There were 8,93 million mobile apps on the planet in 2020, and, as software is appearing with more features and the capability of the devices to run better and more features is growing, this number is continuously increasing (Forbes, 2020). As smartphones have an ongoing improvement over time, there is a constantly rising number of mobile apps (Bishop et al., 2018), as some apps allow users to perform everyday's virtual and physical activities (Jesdabodi & Maalej, 2015).

These apps can be downloaded in many app stores. Nowadays, many mobile phone brands have their own app stores with the specific branded app: Huawei App Store, Sony Apps, and many more. Regarding having many different app stores, there are two big stores there are two that are way above the rest: Apple's App Store and Google's Play Store, for iOS devices and Android devices, respectively. These two operating systems together have a combined market share of approximately 90% (Hamed et al., 2017; (Statista, 2021c). App stores have an essential role in the growth of the smartphone's technology, as they host as well as promote most of the available apps – they store, publish the apps and their updates. Only in 2020, there were 218 billion global mobile app downloads (Statista, 2021b). By having different apps, and different app categories, it is also expected that there will be different capabilities to stimulate involvement, “due to their unique characteristics such as complexity, perceived risk, emotional appeal, and hedonic value” (He et al., 2019).

2.1.1. Running Apps

In the app stores, personal health and wellness, and healthy eating apps belong to a category 'Health & Fitness', as well as physical activities, being this category one of the most abundant in the current market (West et al., 2012; Yuan et al., 2015). By 2012, it was estimated that at least one in five smartphone users had at least one health-related app (West et al., 2012), with running apps, for many users, being that app. Runners are becoming more and more strict with their exercise, using these apps to monitor their tracks – and also watches, a lot of them being connected to these apps (Janssen et al., 2017). Most apps, among other things, track a user's jogging path and provide feedback on performance in terms of distance run and altitude variations (Bauer, 2013). The majority of these running apps' user interfaces rely on visual features to allow users to interact with them and learn more about their physical activity (Senin et al., 2019).

Along with the numerous features, there are a lot of different running apps in the market. In 2013, the top-ranked running apps were Endomondo, Runkeeper, and Runtastic, among others (Bauer, 2013). Nowadays, the number of running apps is still increasing, with the features being constantly updated and improved. Adidas Running by Runtastic, Runkeeper by Asics, Nike Run Club, Map My Run by Under Armour and Strava are the current leaders of the market. (Men's Health, 2019; Google Play, 2020).

2.2. Brands

In the middle of this sea of running apps, users need to choose which app fits better on their profile. Since mobile apps are increasingly being used by consumers, brands start adding them to their products portfolio, as they see it as a good way of communicating the brand via ‘branded apps’ (V. Jain & Viswanathan, 2016). According to Bellman et al., 2011, ‘branded apps’ are conceptually defined as “software downloadable to a mobile device which prominently displays a brand identity, often via the name of the app and the appearance of a brand logo or icon, throughout the user experience”. These apps offer a user experience that is consistent with the brand's identity (V. Jain & Viswanathan, 2016). Brand identity is described by Malmelin & Moisander, 2014 as “the distinctive characteristics and outward expression of a brand”, meaning, the brand personality and what the brand is all about. The brand identity is divided into three pillars: brand attributes – refers to a distinctive feature or benefit that the brand offers, brand promise or value, and brand visuals, manifested mainly by the brand name and brand logo (Malmelin & Moisander, 2014).

Alongside mobile websites, mobile apps are increasingly becoming more important for both consumers and marketers (Think With Google, 2015). Marketers use branded apps to build strong ties with their users (Kim et al., 2008). You can choose a running app from well-known sports brands such as Adidas, Nike, or Under Armour, or other competitive apps like Strava, Suunto or Relive. Well-known brands have huge advertisement advantages in the marketplaces because users tend to remember new product information from familiar brands (Ha, 2004). Due to that, most of the running apps that were in the market that weren't supported by a well-known sports brand ended up being purchased by these brands: the example of Runtastic that in 2015 was acquired by Adidas, given birth to the actual app, Adidas Running by Runtastic (Men's Health, 2019). As these apps are already on the market, brands see this as an opportunity to communicate with the consumers, rethinking their customer-centric strategies by effectively communicating value propositions and maintaining meaningful customer-brand relationships (Shah et al., 2020). People not only buy products just for their usage, but also for their meaning, and brands are a symbol of this meaning (Escalas & Bettman, 2005). People use brands to back up their decisions, sometimes being their priority “feature” to make decisions, and this same process seems to apply to apps' choice and running apps in particular.

2.2.1. Brand Loyalty

According to Oliver, 1999, brand loyalty is “a deeply held commitment to rebuy or repatronize a preferred product/service consistently in the future, thereby causing repetitive same-brand or same brand-set purchasing, despite situational influences and marketing efforts having the potential to cause switching behavior”. It is a conscious decision to repeatedly continue to buy from the same brand (Solomon, 2013a). With brand loyalty, consumers are willing to pay and use more a brand, because of its perception of being better than the others, thanks to some unique values in the brand. The uniqueness may be from a higher level of trust in a brand’s integrity or a more favorable impact when customers use the brand (Chaudhuri et al., 2001). Feelings or affect to the brand, and trust in the brand determine this loyalty (Chaudhuri et al., 2001; Ha, 2004). People feel attached to a brand, creating an emotional connection, as it reflects the customers’ core values, increasing their intention to buy more from that brand. Brands can reflect values that customers consider as central to their identity, turning more loyal to it and creating more trust in the brand (Underwood et al., 2001).

2.2.2. Brand Trust

Brand trust is “the willingness of the average consumer to rely on the ability of the brand to perform its stated function” (Chaudhuri et al., 2001; Moorman et al., 1992; Morgan & Hunt, 1994). With a product being acquired via the internet, an environment where consumers feel vulnerable, e-trust reduces the uncertainty, because people know that they can rely on the trusted brand. When completing the app download, consumers are considerably more likely to go for the app with the trusted brand, when competing with unknown brands (Ha, 2004). Favorable brand associations influence positively brand trust, as a credible brand minimizes risk and increases consumer confidence (Kemp & Bui, 2011).

Another way that brand trust is important is by running being associated with health. Running, as a sport, is a positive contributor towards people achieving goals associated with “healthy living, physical and mental health, and well-being” (Shipway & Holloway, 2016). Being associated with health, there is always a perceived risk associated, as “perceived risk of a disease is thought to be a motivator of change” (Rimal & Real, 2003) or just by the simple fact the own life is associated. Trust, and trust in the brand associated with the activity, also involve an element of risk generated by the person’s uncertainty about the intentions and motives

(Gilson, 2003), as people are “giving” their lives to the hands of someone other than themselves. By choosing a brand related to health, there is always trust associated with the service these brands can give to the consumer, making the trust in the brand even more important.

2.2.3. Brand Awareness & Familiarity

According to Hoyer & Brown, 1990, brand awareness is defined as “a rudimentary level of brand knowledge involving, at the least, recognition of the brand name”. When inexperienced decision-makers recognize and are familiar with a brand, it is more likely that that brand will be chosen when competing with unknown brands (Ha, 2004; Kemp & Bui, 2011). There is a clear tendency of customers to be influenced by brand name, as favorable brands lead to more positive ratings of the product (Maheswaran et al., 1992a).

2.3. WOM / Reviews & Ratings

Another common way of consumers to make decisions is just by word-of-mouth (WOM) or reading the reviews other customers have written, and the rating people give to the products. Research completed by Viswanathan & Jain, 2013, found that millennials – anyone born between 1981 and 1996 (Pew Research Center, 2019) – are influenced by their friends, in terms of how they evaluate brands and their products in many different categories. People tend to conform in their “tastes, preferences, aspirations and behaviors” (Pronin et al., 2007). Users read online reviews that friends and other customers provide as they believe that it is a credible source of information, playing an important role in consumers’ decision-making (Jain & Viswanathan, 2016; Zhang et al., 2014).

Hennig-Thurau et al., 2004, described electronic word-of-mouth (eWOM) as “any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet.” eWOM is considered to be an effective marketing tool since customers make purchasing decisions based on reviews left by prior customers (Shah et al., 2020). Positive feedback leads to the development of a positive brand and company image (Bartosik-Purgat, 2018). Awareness and reputation have also been demonstrated to be influenced by WOM communications (Amblee & Bui, 2011). eWOM is growing in popularity among customers around the world, that also like to read others’ evaluations before making any decision (Gu et al., 2012; Filieri, 2015).

2.4. Decision-Making

As there are many options to choose from, there is a process of decision-making, one of the basic cognitive processes of human behavior (Wang & Ruhe, 2007). Wilson & Keil, 1999, defined decision-making as “the process of choosing a preferred option or course of action from among a set of alternatives”. For this process to be concluded, people analyze the different options, and compare them, from features, brand, price, and many more characteristics that can make each option authentic. At the end of the process, with all the mental activity that the decision-maker needs to engage, a purpose or target is reached (Lunenborg, 2010). Every result they reach, the decision must respect and affirm a positive self-image, as people’s decisions are swayed by self-image motives (Dunning, 2007).

Consumers are asked every day to make decisions, some more conscious and others more unconscious. These processes are not merely a conscious difference between benefits and detriments, pros and cons. People frequently make decisions based on a thoughtless impulse or the influence of processes that are hidden from conscious awareness (Dunning, 2007). Some decisions are caused by spontaneous, intuitive processing, while others are caused by deliberate, purposeful processing – decision-makers use a strategy to balance between their desires to make a more accurate decision and to reduce cognitive effort (Dhar & Gorlin, 2013).

Dual-process theories have been one of the most important theoretical developments in the understanding of human behavior. These models classify cognitive processes into two main categories: intuition – “quick and heuristic-based, rapid, automatic, nonconscious” – and reason – “deliberate and rule-based, slower, deliberate, conscious and controlled” (Dhar & Gorlin, 2013; Epstein, 1994; Sloman, 1996; Stanovich & West, 2000). System I, intuition, operates thanks to the associative memory, without deliberate control, while System II, reason, operates thanks to the working memory, where there is the capacity of hypothetical thinking. Both systems can be connected, as System II monitors System I’s response (Dhar & Gorlin, 2013).

2.4.1. Brand Name

According to Gigerenzer & Gaissmaier, 2015, heuristics is “a strategy that ignores part of the information, with the goal of making decisions more accurately, quickly, and frugally (i.e., with fewer pieces of information) compared to more complex methods”. Brand name is a heuristic

cue (Maheswaran et al., 1992) that is included in System II, as most traditional choice heuristics, meaning it is important in the conscious and deliberate processing part of the decision (Dhar & Gorlin, 2013). When making a more conscious approach, recognition memory, most commonly known as familiarity, comes faster than recollection (Gigerenzer & Gaissmaier, 2015). By being familiar with the brand name in a product category, consumers will continually choose the product from that brand, even if the product is of lower quality when compared with the other options (Hawkins & Hoch, 1992; Hoyer & Brown, 1990). When people are more motivated to make accurate decisions, they dig deeper into the available information, as people believe that getting to know more about the product will make their decisions more accurate (Tordesillas et al., 1999). When motivation is high, people still put some weight on heuristic cues, like brand name, for example, while using System II (Darke et al., 1998).

Brands are not only used because of familiarity, but also because of their attributes perception, especially when comparing very recognizable brands, but with very different purposes – Nike and Coca-Cola, for example. Brand name can activate a set of attributes that consumers use as a cue to infer certain perception and quality (Maheswaran et al., 1992a), i.e., one brand can be more representative of certain attributes – for a running app, it is more likely people will choose Nike over Coca-Cola, because people associate the Nike to sports and sports' quality.

2.5. Involvement

According to Zaichkowsky, 1985, involvement is “a person’s perceived relevance of the object based on their inherent needs, values, and interests”. Involvement reflects the level of motivation to process information (Solomon, 2013b), and it differs between consumers. As well as differing across people, the same product can have different levels of involvement, caused by differences in search and evaluation, but mostly in “at-the-moment” need for the same person (Zaichkowsky, 1985). The involvement in the purchases can be divided into those that are low-involvement and high-involvement, with the perceived risk of the purchase increasing as the need of the consumer (situational involvement) increases (Fountain & Lamb, 2011).

The involvement theory, created by Zaichkowsky in 1985, suggested that the involvement of consumers in each purchase can be from having different monetary value, or just because the product belongs to a specific category. In the context of mobile apps, a user interested in a high-involvement app category could explore numerous apps in that category to compare them

before installing one, whereas a person interested in a low-involvement app category would conduct little or no browsing before downloading one (He et al., 2019). In general, people search more when the purchase is important, when there's a bigger need to learn, or just when the relevant information is easier to obtain (Solomon, 2013b).

The price of the product is one of the variables that marketers want to determine to persuade consumers' purchase intention and product evaluation (Chang & Wildt, 1994). The weight of the price cue is different across people, as the level of involvement of each consumer varies (Zaichkowsky, 1988), but, usually, low-involvement products are relatively inexpensive and with low risk associated (Jain, 2019) – heuristic processing (System II) predominates, as motivation is usually low (Chaiken & Maheswaran, 1994). In these situations, brand name has usually more weight than the price on the decision, as price is considered irrelevant, and associating the product with a favorable brand name produces more positive evaluations of the product (Maheswaran et al., 1992).

2.6. Regulatory Focus

Decision-making factors have been approached, but since the study is about a sports app it is interesting to also understand people's attitudes to these kinds of decisions. Conforming to World Health Organization, 2022, Health is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity". To improve their physical well-being, people do sports as "all types of physical activity that people do to keep healthy or for enjoyment" (Cambridge Dictionary, 2022). When people are doing decisions on sports, there are differences when people think about the need to do it and improve their health: some make decisions based on safety and others based on accomplishments. The regulatory focus theory deals with these two approaches: the promotion focus, where people orient themselves on the gains and aspirations; and the prevention focus, where people focus themselves on the non-losses and the responsibilities (Higgins, 1997).

Individuals with a promotion focus are more likely to use eagerness approach methods to achieve their goals, whereas those in prevention focus are more likely to use vigilance avoidance methods (Higgins et al., 2001). While people with promotion focus tend to seek and seize opportunities to improve the one's health, people with preventive focus attempts to avert dangers to their health (Schmalbach et al., 2017).

2.7. Hypothesis Formulation

The basis of the study is choosing a running app, an intersection of three areas: sports, digital, and health. The impact that a brand can have in this type of decision can be decisive, so it will be studied the extent to which brands associated with each of these areas have a positive impact on the perception of the product – different type brands (sports, health, digital, and food brands – this last type as control). Processing brands can be relatively automatic (i.e. heuristic) when compared to other sources of information such as reviews, another important factor. By not being a heuristic cue, may not have the same weight on the decisions – to what extent people use the different brands/industries in their judgments while ignoring other types of information relevant to their judgments. Since heuristic processes occur without effort or involvement while the processing of more complex information (reviews) depends on this high involvement, it will be tested the extent to which the relative weight of the brand depends on the involvement in the decision, so it was decided to manipulate the price to increase/reduce the involvement in the choice.

2.7.1. Willingness to Use

H1: *People are more willing to use the app if it is from a sports brand than when it is from another brand.*

H2: *People are more willing to use the app if the reviews are good.*

H3: *People are more willing to use the app if the app is free.*

H4: *People are more willing to use the app from a digital technology' brand if the reviews are good, similarly to health' brands, otherwise, if the reviews are medium, people will be more willing to use a health brand' app rather than digital technology brand' app.*

2.7.2. Trust

H1: *People have more trust in the app if it is from a sports brand than when it is from another brand, but will trust a lot on health brands' app.*

H2: *People have more trust in the app if the reviews are good.*

2.7.3. Rating

H1: *There is a difference in rating depending on the brand. Sports brands have better ratings compared to the others.*

H2: *Good reviews lead to better ratings than medium reviews.*

H3: *Price won't have any impact on the apps' ratings.*

H4: *Health brands and digital technology brands will have a bigger decrease in the ratings if the reviews are medium compared to when the reviews are good, as there is an expectation and a curiosity associated with these kinds of brands.*

H5: *There isn't any difference in rating depending on the combination of brand, reviews, and price.*

2.7.4. Influence Brand

H1: *People will be more influenced by the brand if it is a sports brand or a food brand.*

H2: *People will not be influenced by the brand if it is a digital technology brand, as they don't have much knowledge about that type of brand.*

2.7.5. Influence Reviews

H1: *People will be influenced by the reviews if it is a digital technology brand or a health brand, as there is some curiosity to know more about that kind of app.*

H2: *People will not be influenced by the reviews if it is a food brand.*

2.7.6. Regulatory Focus

H1: *People will be more of the type "preventive" for paid apps, as there is an "involvement", but more of the type "promotion" when the app is free.*

Chapter 3: Pre-Test

3.1. Methodology

Before the experiment, it was important to do a pre-test. This pre-test had the objective to guarantee the level of the brands, making sure they were perceived identically. Along with brands, also the reviews were granted to have the same level of positiveness, meaning the “good” reviews’ texts of each brand should have the same level as the “medium” review’s texts. The names of the brands were changed to “Brand X” in order to do not create any biases. The reason there is a need to have equally perceived reviews and brands is that further on the research it will be used a within-subjects design. As the design will present different brands and reviews to the same participant, it is important to make sure that the differences between conditions in the main study are due to the manipulation of the independent variables and not due to the use of different brands (within the same category) or due to different phrasing of reviews (of the same category as well).

3.1.1. Participants

To make sure that all brands and reviews within types were at the same level of positiveness, this pre-test was given to a sample of 20 participants. These participants were volunteers, in a majority of friends or close family, Portuguese, that could understand English, as the test was written in that language. Of the total of participants, 60% were male (12 participants) and 40% were female (8 participants), with the majority (90% of the participants, 40% having 23 years old) having between 22 and 31 years old.

3.1.2. Materials

As explained above, the objective of this study was to ensure that different stimuli, meaning different brands and different reviews, would be perceived identically.

3.1.3. Procedure

Participants were told that they would be participating in a study about decision-making factors on a running app choice. They were also informed that the study was anonymous and volunteer

and that the data collected wouldn't allow identifying the participant. After that, the participants were asked some demographic questions: about their age and gender. This was to control both age and gender percentages.

The study was built around brands and reviews, each in a different block. At the beginning of each block, there was a small introduction of what was going to be studied on that block. First, participants were asked to tell, brand by brand, to what extent were their products or services related to the areas "Sports", "Digital", "Health" and "Food". After that, people were asked, on a scale of 1 – Not Positive At All to 5 – Total Positive, how positive do they perceive each brand, followed by a question about how much do they trust each brand, on a scale of 1 – Not Trust at All to 7 – Total Trust.


The second block is review's related. On this block, participants were asked to read and analyze each review, and to indicate how positive do they thought each review was, on a 1–5 rating scale, from "Extremely Negative" to "Extremely Positive".

It is important to note that both brands and reviews were randomized, for participants to not have the same order of brands nor reviews as others.



Figure 1: All the brands studied, divided into the 4 areas

“Good” Reviews:




Brand X
GET

User's Reviews:
John Stones 1mo ago

Amazing app! Brand X is more than a killer run tracker. It's curated playlists for your jog, a social network where you can show off your hard work, and a killer run tracker. It tells when to speed up and rest as well as giving a little pep talk while running.

- It saves more than 100,000 runs, registering all your improvements - it shows all your track, giving you an aerial real overview of the run.
- It has more than 50 different challenges and games for you to challenge your friends.
- You can share your improvements with your friends and all Brand X's community, whenever you want, for indefinite duration.

App1




Brand X
GET

User's Reviews:
John Stones 1mo ago

Awsome! Brand X created this app for all kinds of runners, with very entertaining features. Professional or casual athletes, all can use this app. It is perfect to share the challenges I completed with my friends.

- It recorded all my runs, because it can analyse over 100,000 runs, for better feedback - every route have an aerial real overview in the end.
- The more than 50 challenges can be fun or more professional, to do alone or with your friends.
- As you get better, you can share it with your friends and with the Brand X's community, saving it for an indefinite period.

App3




Brand X
GET

User's Reviews:
John Stones 1mo ago

This app is just out of this world! Brand X brought more than just a casual run tracker app - you can share your achievements, challenge your friends to be better than you, and record all of it, in a single app.

- More than 100,000 runs can be recorded, helping being more effective on my personal tasks - it comes with an aerial overview of each route I take.
- Over 50 different challenges, for yourself or to compete with your friends.
- You can celebrate your successes with everybody, anytime, for unlimited time.

App5




Brand X
GET

User's Reviews:
John Stones 1mo ago

More than a run tracker, this app helps you being better. Brand X brings an app where you can both record your casual run and share it with your friends, in order to challenge them to also be better. Incredible!

- The app records over 100,000 runs, analysing all the data to give you better insights - each run has an aerial real overview of the route.
- Over 56 different challenges, for yourself and for you to challenge your friends.
- Your progress can be shared with your friends and with all the Brand X fans, for as long as you like.

App7




Brand X
GET

User's Reviews:
John Stones 1mo ago

Just wow! Brand X brought an app that I cannot stop using: it can record my runs and I can also share it with my friends, incentivising them to also run with me. I can use it just for a casual run, or when I'm preparing for any competition.

- It records over 100,000 runs, analysing in detail all the data for personal usage - each run has an aerial real overview of the route.
- Different challenges are offered, over 50, for yourself and to challenge your friends.
- As you are improving, you can share it with your friends and with the Brand X's community, for indefinite time.

App9




Brand X
GET

User's Reviews:
John Stones 1mo ago

Brand X made this amazing app for runners like me to record runs, to give the speed of the run, and to challenge ourselves to be better than our friends. You can use it for your casual run around the neighbourhood or to prepare yourself to a marathon. Epic!

- It can record over 100,000 runs, personalising your profile according to that data - each run has an aerial real overview of the route.
- Over 50 different challenges, where you can compete with yourself or with your friends.
- It is possible to share your achievements for indefinite period, with your friends or with the whole Brand X's community.

App11



Brand X
GET


User's Reviews:
John Stones 1mo ago

This wonderful Brand X's app came to revolutionise the life of all kinds of runners, from casual to professional. It records your runs, while giving you real-time speed. After each run you can share it with your friends and challenge them to do better. Stunning!

- Over 100,000 runs can be recorded and analysed to better analysis - after every run, there's an aerial real overview of the route.
- To compete with your friends or with yourself, there's 50 different challenges.
- Your achievements can be shared with everyone for an indefinite period of time.

App13

“Medium” Reviews:




Brand X
GET

User's Reviews:
John Stones 1mo ago

Brand X is just one more run tracker app. It records your runs, shows your speed, and gives you some challenges to challenge yourself. It is visually helpful, as the commands are big and of easy access. It is available in some languages.

- It only saves 100 runs - at the end of each run it gives an overview of the run, but sometimes doesn't recognise the route taken.
- It has 5 levels of challenges to help you improve on your running and timings.
- Your share stays in the app only for a week.

App2




Brand X
GET

User's Reviews:
John Stones 1mo ago

In the great amount of similar running apps, I discovered Brand X and started using it since the very beginning of my running journey. It shows my speed while I can be completing a task given by the app. Easy to manage, can be set in different languages.

- It can save 100 runs, resetting after that - the final overview also has some problems, not recognising fully the routes taken.
- It has only 5 different tasks, lacking on the challenges given.
- The sharing is only in the app by a week.

App4




Brand X
GET

User's Reviews:
John Stones 1mo ago

When thought on downloading any app, all gave me the opportunity to monitor speed and to complete some tasks, so I just started using this one ever since. Brand X brought an easy to manage app.

- I was just able to see my data for 100 runs, as when it gets to this point, it resets - adding to this, there are some bugs on the map of each run made.
- Lacking on challenges, with only 5 available.
- I shared my best records with my friends, but it only stays in the app for one week, deleting it after that period of time.

App6




Brand X
GET

User's Reviews:
John Stones 1mo ago

I started running one year ago. Since then, I've been using this Brand X app to record my runs, showing my speed while being challenged by the app, like many other running apps do. It is easy to manage, with helpful visuals and big commands. It has some different settings, in different languages. Overall good.

- The runs' memory is short, only saving 100 runs - also doesn't always recognise the route taken, when given the final overview.
- Helps you improve with 5 different challenges.
- The run can only be shared for 7 days.

App8




Brand X
GET

User's Reviews:
John Stones 1mo ago

Since the very beginning of my running journey, I started using this app. Brand X's app can record my runs and show my speed while I'm running, and I can share it at the end. Easy to manage, and clear visuals. The settings can be changed to different languages.

- Saves 100 runs, analysing only that data - sometimes the route taken isn't recognised, so the final overview comes wrong.
- To improve your running, the app gives you the possibility to conclude 5 different challenges.
- Your runs can be shared, but only for a one week period.

App10




Brand X
GET

User's Reviews:
John Stones 1mo ago

When I started running, my needs were to have an app that could record my runs and track my speed while I was running, and that I could share it after. Brand X had that. With an easy to manage and clear user experience, this app can be setting to different languages.

- It can save 100 runs, giving personal feedback with that data - the route taken, sometimes, isn't recognised in the final overview.
- There are 5 different challenges that you can conclude, lacking on levels.
- Each run can only be shared for a week.

App12



Brand X
GET

User's Reviews:
John Stones 1mo ago

Brand X brings another running app to the market. While it can record your runs and show the speed your running, it gives you challenges to complete. The commands are easy to use, as the visuals are clear. Available in different languages.

- A maximum of 100 runs after updating personal data - the final overview of the route sometimes comes incomplete, as the app doesn't recognise all the routes.
- A 5-level challenge is available, not being provided more levels.
- Your share only stays in the app only for 7 days.

App14

Figure 2: All 14 reviews of the apps that the participants had to read

4.2. Analysis of the Results

4.2.1. Brands

On the pre-test, there was a two-part analysis. The first part was related to the first independent variable: brands. This analysis had the objective to understand if the brands within the brand types were perceived as similar, to not create many biases in the experiment. The same questions were asked for all 8 brands, and then a comparison was made in pairs, comparing the same questions in that same pair. To do these comparisons, a paired t-test was used to understand whether the means of the variables were the same for the different brands. With this test, for the brands being considered as similar, the mean difference between the two should be statistically significantly different to zero.

4.2.1.1. Sports Brands

For sports brands, the analysis is between Nike and Adidas. As expected, these brands are seen as equal, since all the means in the areas are very similar, as well as in positiveness and trust. In the paired-samples test, we can see that the difference between the sample means is close to zero, meaning that the populations' means are similar. The mean differences between both brands are not statistically significant as every $p\text{-value} > .05$.

Paired Samples Statistics & Tests - Sports' Brands							
		Mean	N	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pair 1	Nike - Products related to Sports	7.00	20	.00	.00	1.45	.163
	Adidas - Products related to Sports	6.90	20	.31	.07		
Pair 2	Nike - Products related to Health	4.35	20	1.63	.37	.89	.385
	Adidas - Products related to Health	4.15	20	1.57	.35		
Pair 3	Nike - Products related to Digital Technology	3.40	20	2.14	.48	1.57	.134
	Adidas - Products related to Digital Technology	3.00	20	2.13	.48		
Pair 4	Nike - Products related to Food	.20	20	.70	.16	1.00	.330
	Adidas - Products related to Food	.05	20	.22	.05		
Pair 5	Nike - Positiveness	5.90	20	.97	.22	.95	.356
	Adidas - Positiveness	5.60	20	1.43	.32		
Pair 6	Nike - Trust	5.95	20	1.00	.22	1.93	.069
	Adidas - Trust	5.60	20	1.31	.29		

Table 1: Paired Samples Statistics & Tests of the sports brands

4.2.1.2. Digital Technology Brands

For digital technology brands, as these brands were less known compared to the rest, the results didn't give the area of study such high means, but the brands were also perceived as similar. Once again, all the means are similar, with the difference between the sample means being close to zero. The mean differences between both brands are also not statistically significant as every $p\text{-value} > .05$.

Paired Samples Statistics & Tests - Digital Technology' Brands							
		Mean	N	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pair 1	Strava - Products related to Sports	4.25	20	2.22	.50	.75	.464
	Suunto - Products related to Sports	3.85	20	2.39	.54		
Pair 2	Strava - Products related to Health	3.70	20	2.27	.51	.93	.364
	Suunto - Products related to Health	3.25	20	2.34	.52		
Pair 3	Strava - Products related to Digital Technology	5.45	20	2.87	.64	.46	.649
	Suunto - Products related to Digital Technology	5.35	20	2.94	.66		
Pair 4	Strava - Products related to Food	.20	20	.70	.16	.63	.541
	Suunto - Products related to Food	.10	20	.31	.07		
Pair 5	Strava - Positiveness	4.40	20	1.19	.27	1.30	.209
	Suunto - Positiveness	4.10	20	1.21	.27		
Pair 6	Strava - Trust	4.20	20	1.47	.33	.28	.785
	Suunto - Trust	4.10	20	1.52	.34		

Table 2: Paired Samples Statistics & Tests of the digital technology brands

4.2.1.3. Health Brands

For health brands, the difference between the sample means is close to zero, meaning all the means are similar. Noteworthy that for the area "Health", the area of study, the means are equal - all the participants perceived that the brands were 100% related to health. All the $p\text{-value} > .05$ as the mean differences between both brands are not statistically significant.

Paired Samples Statistics & Tests - Health' Brands							
		Mean	N	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pair 1	Hospital da Luz - Products related to Sports	.95	20	1.43	.32	.44	.666
	Hospital CUF - Products related to Sports	.90	20	1.45	.32		
Pair 2	Hospital da Luz - Products related to Health	7.00	20	.00	.00		
	Hospital CUF - Products related to Health	7.00	20	.00	.00		
Pair 3	Hospital da Luz - Products related to Digital	1.05	20	1.85	.41	.57	.577
	Hospital CUF - Products related to Digital	1.00	20	1.65	.37		
Pair 4	Hospital da Luz - Products related to Food	.15	20	.49	.11	-1.29	.214
	Hospital CUF - Products related to Food	.35	20	.93	.21		
Pair 5	Hospital da Luz - Positiveness	5.60	20	.88	.20	.00	1.00
	Hospital CUF - Positiveness	5.60	20	1.00	.22		
Pair 6	Hospital da Luz - Trust	6.30	20	.92	.21	-.81	.428
	Hospital CUF - Trust	6.40	20	.75	.17		

Table 3: Paired Samples Statistics & Tests of the health brands

4.2.1.4. Food Brands

In food brands, the results were very similar to the health brands, in the respective area. Again, in the area of study, in this case “Food”, the means were equal, as participants perceived that the brands were 100% related to Food. The difference between the sample means was also close to zero, and all $p\text{-value} > .05$, as the mean differences between both brands are not statistically significant.

Paired Samples Statistics & Tests - Food' Brands							
		Mean	N	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pair 1	Oreo - Products related to Sports	.05	20	.22	.05	-1.00	.330
	Chips-Ahoy - Products related to Sports	.10	20	.31	.07		
Pair 2	Oreo - Products related to Health	.15	20	.49	.11	-1.83	.083
	Chips-Ahoy - Products related to Health	.30	20	.73	.16		
Pair 3	Oreo - Products related to Digital Technology	.05	20	.22	.05	-1.00	.330
	Chips-Ahoy - Products related to Digital	.10	20	.31	.07		
Pair 4	Oreo - Products related to Food	7.00	20	.00	.00		
	Chips-Ahoy - Products related to Food	7.00	20	.00	.00		
Pair 5	Oreo - Positiveness	5.00	20	1.03	.23	.59	.562
	Chips-Ahoy - Positiveness	4.85	20	1.09	.24		
Pair 6	Oreo - Trust	4.50	20	1.24	.27	1.29	.214
	Chips-Ahoy - Trust	4.30	20	1.13	.25		

Table 4: Paired Samples Statistics & Tests of the food brands

4.2.2. Reviews

The second part of the analysis was related to the other independent variable: Reviews. The objective of this analysis was to find which reviews' texts were perceived as similar, within the two groups: "Good" and "Medium". Again, this analysis had the purpose to exclude some possible major biases in the experiment. On this specific variable, the questions were separated into two groups and were evaluated mostly with the groups separated.

Since the objective was to compare means, the test used was a Repeated-Measures ANOVA. This analysis was done in a 3-way: comparing the different degrees of apps (comparing the "Medium" ones with "Good" ones) and comparing within the degrees – the "good" ones were put together and analyzed, just like the "medium" ones.

On the first approach, by looking at the graph, there was no evidence that there was no significant difference between the means of the "Good" reviews and the "Medium" ones, later validated by the Test of Within-Subjects Effects ($F(13, 247) = 85.75, p\text{-value} = .000 < .05$). This means that both groups of reviews were well developed, and the reviews were well allocated within the groups.

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Reviews	Reviews	Sphericity Assumed	13.00	85.75	.000

Table 5: Tests of Within-Subjects Effects of the 14 reviews of the apps

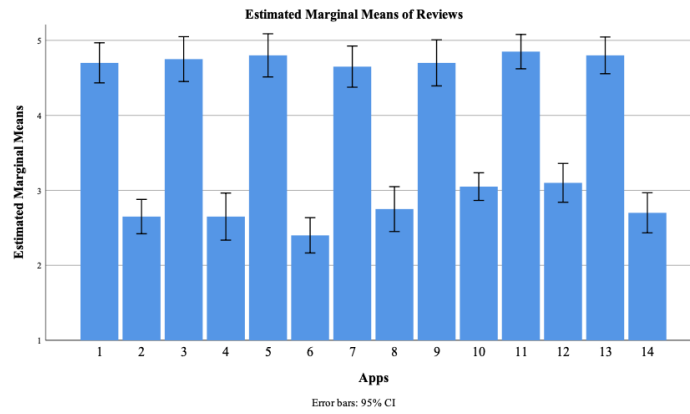


Figure 3: Estimated Marginal Means of 14 reviews of the apps

4.2.2.1. “Good” Reviews

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Good Reviews	Reviews	Sphericity Assumed	6.00	.87	.520

Table 6: Tests of Within-Subjects Effects of the 7 “good” reviews of the apps

Descriptive Statistics - Good Reviews		
	Mean	Std. Error
App1	4.70	.13
App3	4.75	.14
App5	4.80	.14
App7	4.65	.13
App9	4.70	.15
App11	4.85	.11
App13	4.80	.12

Table 7: Descriptive Statistics of the 7 “good” reviews of the apps

In the “Good” reviews, there is no p -value $< .05$ ($F(6, 114) = .87$, p -value = $.520 > .05$). Not having a main effect indicates that all the reviews are perceived similarly, so we can eliminate the texts where the means differ more from the rest. With this being said, the texts that are going to be used on the text will be: App3 ($M = 4.75$, $SE = .14$), App5 ($M = 4.80$, $SE = .14$), App11 ($M = 4.85$, $SE = .11$), and App13 ($M = 4.80$, $SE = .12$).

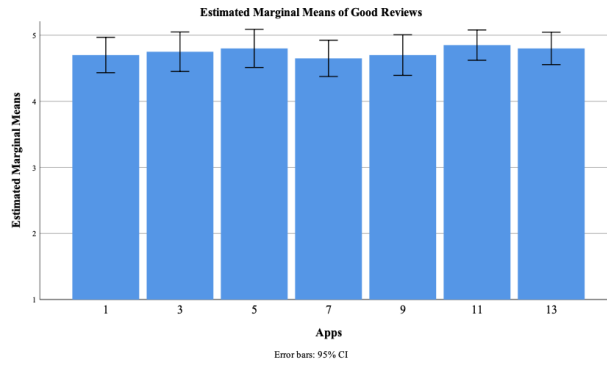


Figure 4: Estimated Marginal Means of the 7 “good” reviews of the apps

4.2.2.2. “Medium” Reviews

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Medium Reviews	Reviews	Sphericity Assumed	6.00	4.85	.000

Table 8: Tests of Within-Subjects Effects of the 7 ”medium” reviews of the apps

Descriptive Statistics - Medium Reviews		
	Mean	Std. Error
App2	2.65	.11
App4	2.65	.15
App6	2.40	.11
App8	2.75	.14
App10	3.05	.09
App12	3.10	.12
App14	2.70	.13

Table 9: Descriptive Statistics of the 7 “medium” reviews of the apps

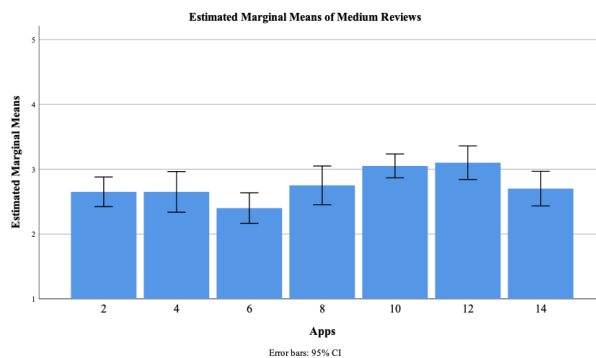


Figure 5: Estimated Marginal Means of the 7 “medium” reviews of the apps

For the “Medium” reviews, there is a small problem, as $p\text{-value} < .05$, meaning there is a main effect ($F(6, 114) = 4.85, p\text{-value} = .000 < .05$). With this, it was important to eliminate the apps

where the means differ the most, and analyze just the texts with most similar means. For this, App2 ($M = 2.65, SE = .11$), App4 ($M = 2.65, SE = .15$), App8 ($M = 2.75, SE = .14$) and App14 ($M = 2.70, SE = .13$) were the chosen ones for a new analysis.

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
<u>Medium</u>					
Reviews -	Reviews	Sphericity Assumed	3.00	.17	.914
<u>New</u>					

Table 10: Tests of Within-Subjects Effects of the 4 chosen "medium" reviews of the apps

With this new analysis, there are no $p\text{-value} > .05$ ($F(3, 57) = .17, p\text{-value} = .914 > .05$), so there is no main effects. This indicates that the chosen texts for "Medium" reviews had no significant differences, and were seen as similar.

4.2.3. Conclusions

As the pre-test was analyzed, it can be concluded that the brands within-types are perceived as similar, meaning there will be no statistically significant differences when the different brands are used. All brands had very similar means in the area of expertise, meaning, on the area they act more concretely, they are perceived as equals, as you can see on the graph.

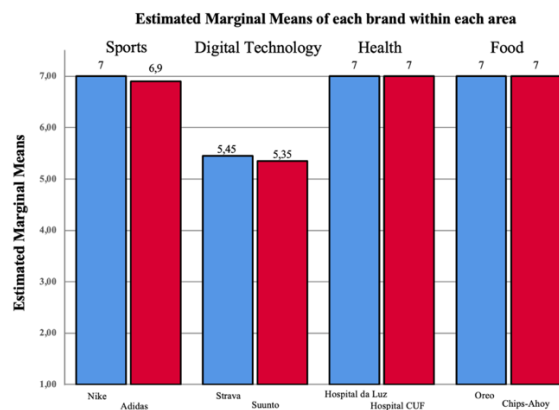


Figure 6: Estimated Marginal Means of each brand within each area

Also, "Good" reviews had means very close to 5 (the maximum in the scale) as "Medium" reviews had means very close to 3 (the value that was in the middle of the scale), as it can be assumed that both are well perceived – people perceived the "Good" as good, and "Medium" as medium. The texts for the "Good" reviews will be: App3, App5, App11, and App13, as these

are perceived as similar (the means are very close to each other). For “Medium” reviews, the texts that can be used are: App2, App4, App8, and App14. The means from these texts were very similar, so we can conclude people perceived it as very similar.

Chapter 4: Main Study

4.1. Methodology

After the pre-test had been analyzed, and the brands and reviews were seen as equally positive within types, the tools were arranged to proceed with the experimental study.

4.1.1. Participants

The survey was completed and sent to my network via WhatsApp, and other social media like Facebook, Instagram, or LinkedIn. Identically to what was made in the pre-test, the subjects, that voluntarily participated in the experiment, should understand English, as was the language that it was written. A sample of 123 participants (77 male and 46 female – meaning, 62,6 % of the participants were male, while 37,4% were female) completed the questionnaire: 30 received Version A & Free; 30 received Version A & Paid; 30 received Version B & Free; and 33 received Version B & Paid.

This group of participants had the particularity of being practically divided by being a student or being working (54 students and 59 employees or self-employed). The minority rest of the participants were looking for a job or were already retired.

4.1.2. Materials

The two variables – Brands and Reviews – were the main focus of the study. The first independent variable was brand. For this study, four different types of brands were studied, with each having a different impact on branding.

The first brand type studied was sports brands, with huge branding and very recognizable, represented by two of the biggest sports companies in the world, *Nike* and *Adidas* – both strongly located in most of sports areas, making their digital appearance even stronger. The second brand type was digital sports brands, represented by *Strava* and *Suunto*. These brands are not very well-known, with their presence being mainly or fully digital. The product/service given by these brands is purely digital. The third type of brands studied was health brands, with *Hospital da Luz* and *Hospital CUF* representing this area, since both are brands of two well-

known Portuguese private hospitals. The last, and not least, brand type is food brands. This type of brand, represented by *Oreo* and *Chips-Ahoy*, will be used as control brands, as these brands are unrelated to running apps. There are no running apps or anything similar related to these types of brands, so the apps will be fictitious – to study the impact the brand has on the app choice. All participants were assigned all 8 brands, 2 for each condition.

The second manipulated independent variable was the reviews each brand has. Top reviews and great features descriptions came as part of the favorable reviews – “Good” – this gave the app an elite perception. For unfavorable reviews, there were some average reviews, with some improvement feedback and “incomplete” features – “Medium” – clearly with worst reviews than the one described before (already proved with the pre-test). Participants had to read 8 different reviews (4 “good” reviews and 4 “medium” reviews), and the variable was manipulated within subjects.

To manipulate participants’ involvement in the judgment, “Price” was manipulated so apps could either be available for free or for 4.99€. This variable was manipulated between subjects so participants were randomly assigned to the “Free” or “Paid” app condition.

As dependent variables, the present study measured the general attitude on the combinations introduced. Participants expressed their attitude towards all the different apps, rating one by one. This variable, “Rating”, described the evaluation and the perception of the overall quality of each product. Participants were asked to rate the app from 1 – Very Poor to 7 – Excellent.

To measure “Willingness to Use”, participants were asked to rate on a scale from 1 – Not at All to 7 – Totally their willingness to use each app. Since the study was about both low-involvement decisions, i.e. risk-free purchasing, and high-involvement decisions, with a price, it was also interesting to study if people would use the app. This variable had the objective to give some good hints on the differences each combination had since there were not the same abundance of apps that exists on the market.

“Trust” must be one of the dependent variables, as it is a psychological safety. Participants were directly asked about the trust they had in each app, on a scale from 1 – Not at All to 7 – Totally.

A motivational variable was also added, where how people managed their goals could be studied: regulatory focus. This variable studied whether the participants were of the type to avoid losses and negative outcomes (preventive person) or were more concerned with their development and gains (self-promoting person). To study these people were asked how much were they concerned with their health (prevention) – “How much are you concerned with your health?” on a scale from 1 – Not at All to 7 – Totally, and how much do they strive to improve their health (promotion) – “How much do you strive to improve your health?” on a scale from 1 – Not at All to 7 – Totally.

To add to all these variables, manipulation checks were also introduced into the analysis, to test whether or not the manipulation of the independent variable is working. To check brand name manipulation, it was asked to people some things about the brands such as “How much do you trust in Brand X?” and “How familiar are you with Brand X?”, with “Brand X” being each brand people were studying in each app. Both measures were rated on a scale from 1 – Not at All to 7 – Totally. Also, people were asked to rate, on a scale from 1 – Not at All to 7 – Totally, the extent to which their decision was influenced by the brand. For the reviews manipulation, people were asked a similar thing, and rating from 1 – Not at All to 7 – Totally: “To what extent was your decision influenced by the reviews?”.

To understand people’s engagement in these decisions, a manipulation check for the involvement manipulation was made, where participants were asked to answer some questions about their involvement in the decisions and how important it is for them to choose a good sports app, and rating them on a scale from 1 – Not at All to 7 – Totally – “How much effort did you put on this decision?” and “How important is choosing a good sports’ app for you?”. A manipulation check using attention was also tested, as participants were asked about the price of the apps they were been given: “Free”, “1€”, “4,99€” and “12,99€”.

In a more general check, people were asked to describe their involvement in sports and technology on a scale from 1 – Not at All to 7 – Totally: “How important are sports for your life?” and “To what extent do you care about technology?”

4.1.3. Procedure

The experiment started with a text where they were told about the study, and that they were volunteers. They were informed that the study was about decision-making factors on a running app choice. The data collected, once again, wouldn't allow identifying the participants, as the responses were fully anonymous.

Next, there was a small introduction about what people were going to see: they would make some decisions on some running apps. The price was also mentioned, as half of the participants would be given apps for free and the other half apps for 4,99€ (price as a moderator, as mentioned above).

It then started the experiment itself, with 8 combinations of brands and reviews. An image with the brand and review was given, and each participant needed to answer seven different questions: willingness to use, trust in the app, the app rating, trust in the brand, familiarity with the brand, and to what extent was the decision influenced by the brand or by the reviews.

After that, participants were asked some general questions about sports – about the importance of choosing sports apps and the importance of sports for their lives -, about health – how much do they strive to improve and how much were they concerned about their health -, finishing with a question about the extent of care about technology and a question about the effort the participant put on the decisions.

Participants were then asked about the price of the apps they were been given, and, if the price didn't correspond with the actual price they were given, the response was automatically excluded.

In the end, before the thank you note, some demographics were asked. It was important to know the age and gender of the participants, as the occupation and the monthly income.

4.1.4. Design

The design was a 4x2x2: four different types of brands, two types of reviews, and two different prices, as mentioned above. The experiment was a mixed design, with within-participants “Brands” and “Reviews” (repeated-measures), and between-participants “Price”.

Since the pre-test had ensured the similarity of brands within types, it was possible to randomly assigned participants with different brands. Half of the participants were randomly assigned one of the brands (within the types) to match one side of reviews, as others were assigned the other, i.e. some participants had had one brand combined with the “good” review, as others had the same brand but combined with the “medium” review. The other brand within the type was combined with the other type of review. To add to this, participants were randomly assigned the price of the apps, with some having apps for free and others apps hypothetically for 4,99€.

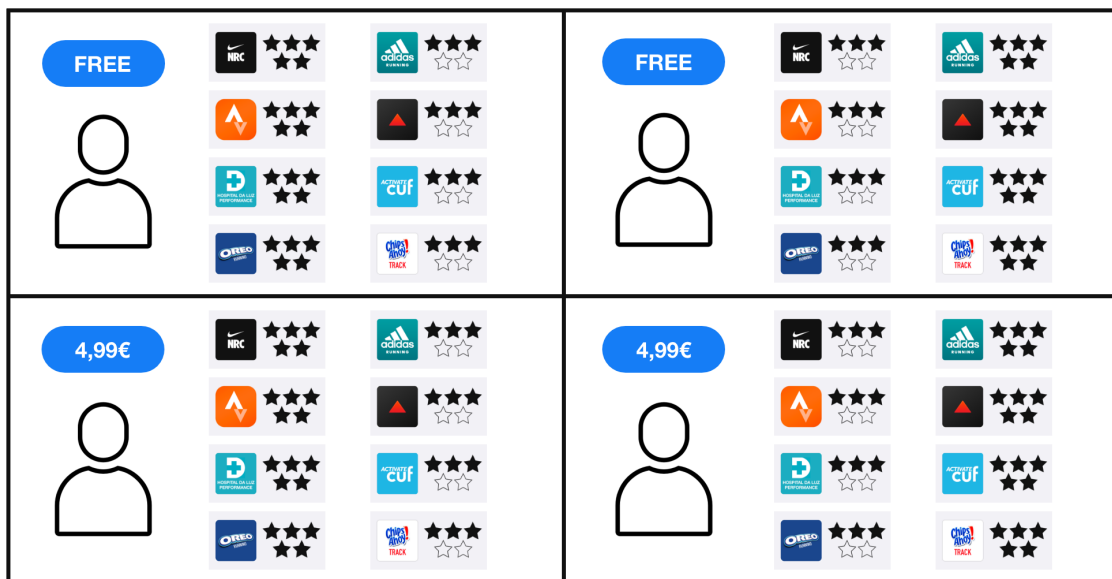


Figure 7: Experimental Design – on the left side, one brand of each area with 5 stars (“good” reviews”) and the other brand within each area with 3 stars (“medium” reviews); on the right side, it changes the brand. Both sides have free and paid apps, as it is a between-subjects variable.

4.2. Analysis of the Results

For the experiment itself, as was explained above, we analyzed the three dependent variables. For all the variables and manipulation checks, since there was a group of participants and more than three metric variables, a Repeated-Measures ANOVA, with Price (2) as a between-subjects factor, was done: Brands (4) x Reviews (2). The objective of this analysis was to find if there was any difference in the means.

Within-Subjects Factors		
Measure	Brand	Reviews
Willingness to Use	Sports	Good
		Medium
	Digital Technology	Good
		Medium
	Health	Good
		Medium
	Food	Good
		Medium

Table 11: Within-Subjects Factors – Willingness to Use

Within-Subjects Factors		
Measure	Brand	Reviews
Trust	Sports	Good
		Medium
	Digital Technology	Good
		Medium
	Health	Good
		Medium
	Food	Good
		Medium

Table 12: Within-Subjects Factors – Trust

Within-Subjects Factors		
Measure	Brand	Reviews
Rating	Sports	Good
		Medium
	Digital Technology	Good
		Medium
	Health	Good
		Medium
	Food	Good
		Medium

Table 13: Within-Subjects Factors – Rating

The tables above show which factors were being compared. Each measure was divided into the different brand types, and these different brand types were split into the two different reviews type. In between-subjects, some participants had to choose between free apps and others between paid apps.

4.2.1. Manipulation Checks & Control Variables

4.2.1.1. Familiarity & Trust

		Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean	t	Sig. (2-tailed)
Pair 1	Trust - Nike	6.01	123	1.09	.10	2.92	.004
	Trust - Adidas	5.76	123	1.12	.10		
Pair 2	Familiarity - Nike	6.17	123	1.23	.11	-1.98	.065
	Familiarity - Adidas	6.35	123	1.06	.10		
Pair 3	Trust - Strava	3.66	123	1.89	.17	1.94	.055
	Trust - Suunto	3.35	123	1.69	.15		
Pair 4	Familiarity - Strava	3.03	123	2.17	.20	3.25	.002
	Familiarity - Suunto	2.48	123	1.80	.16		
Pair 5	Trust - Hospital da Luz	5.66	123	1.52	.14	1.09	.276
	Trust - Hospital CUF	5.55	123	1.63	.15		
Pair 6	Familiarity - Hospital da Luz	5.76	123	1.57	.14	-1.08	.282
	Familiarity - Hospital CUF	5.90	123	1.61	.15		
Pair 7	Trust - Oreo	4.04	123	1.73	.16	1.92	.058
	Trust - Chips-Ahoy	3.82	123	1.67	.15		
Pair 8	Familiarity - Oreo	5.63	123	1.81	.16	4.00	.000
	Familiarity - Chips-Ahoy	5.06	123	2.10	.19		

Table 14: Paired Samples Statistics – Trust & Familiarity

For “Familiarity” and “Trust”, a paired-sample t-test was done. As expected, all the trust and familiarity between brand types were similar, and the brand type most unknown was Digital Technology brands, with people not being very familiar with Strava or Suunto, hence not trusting a lot on these brands. There was a significant difference in people’s trust in Sports brands, in people’s familiarity with Digital Technology brands, and familiarity with Food brands.

4.2.1.2. Importance & Effort / Regulatory Focus

Overall, for both importance and effort, the means were very similar, but, unexpectedly, people that received free apps’ options had means a little greater than when the apps were paid. This means there was more effort and more importance on the decisions when the apps were free rather than when the apps were paid. This difference was mainly significant for “How important is choosing a good sports’ app for you?” ($p\text{-value} = .030 < .05$) and “To what extent do you care about technology?” ($p\text{-value} = .001 < .05$). By being significantly different, it can mean

that, for these variables, when there was a paid app, people said that choosing a good sports app wasn't so important and that people didn't care much about technology.

Descriptive Statistics			
Measure	Price	Mean	Std. Error
How important is choosing a good sports' app for you?	Free	5.33	.24
	Paid	4.60	.23
How important are sports for your life?	Free	5.72	.20
	Paid	5.49	.20
How much are you concerned with your health?	Free	5.83	.17
	Paid	5.57	.17
How much do you strive to improve your health?	Free	5.22	.18
	Paid	5.10	.18
To what extent do you care about technology?	Free	5.63	.15
	Paid	4.83	.18
How much effort did you put on these decisions?	Free	4.80	.19
	Paid	4.68	.18

Table 15: Descriptive Statistics – Importance & Effort / Regulatory Focus

ANOVA				
Measure		df	F	Sig.
How important is choosing a good sports' app for you?	Between Groups	1.00	4.81	.030
	Within Groups	121.00		
	Total	122.00		
How important are sports for your life?	Between Groups	1.00	.64	.424
	Within Groups	121.00		
	Total	122.00		
How much are you concerned with your health?	Between Groups	1.00	1.18	.279
	Within Groups	121.00		
	Total	122.00		
How much do you strive to improve your health?	Between Groups	1.00	.23	.632
	Within Groups	121.00		
	Total	122.00		
To what extent do you care about technology?	Between Groups	1.00	11.50	.001
	Within Groups	121.00		
	Total	122.00		
How much effort did you put on these decisions?	Between Groups	1.00	.21	.648
	Within Groups	121.00		
	Total	122.00		

Table 16: ANOVA – Importance & Effort / Regulatory Focus

When comparing the motivational variable, regulatory focus, the means from “promotion” (“How much do you strive to improve your health?” – Free: $M = 5.22$, $SE = .18$; Paid: $M = 5.10$, $SE = .18$ / $p\text{-value} = .632 > .05$) were smaller than the means from “prevention” (“How much are you concerned with your health?” – Free: $M = 5.83$, $SE = .17$; Paid: $M = 5.57$, $SE = .17$ / $p\text{-value} = .279 > .05$). With these results, there is some evidence that the participants are more from the type to avoid losses and negative outcomes, regardless of the apps being paid or free – “preventive” paid mean, the lower mean of the “preventive” measure, is greater than the “promotion” free mean, the higher mean of the “promotion” measure, although there are not significant differences between the free and paid groups.

4.2.2. Willingness To Use

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Willingness to Use	Brand	Sphericity Assumed	3.00	78.76	.000
	Brand * Price	Sphericity Assumed	3.00	.64	.591
	Reviews	Sphericity Assumed	1.00	36.61	.000
	Reviews * Price	Sphericity Assumed	1.00	1.72	.193
	Brand * Reviews	Sphericity Assumed	3.00	3.41	.018
	Brand * Reviews * Price	Sphericity Assumed	3.00	1.33	.266

Table 17: Tests of Within-Subjects – Willingness to Use

4.2.2.1. Price

Tests of Between-Subjects Effects				
Measure	Source	df	F	Sig.
Willingness to Use	Intercept	1.00	1144.25	.000
	Price	1.00	9.05	.003
	Error	121.00		

Table 18: Tests of Between-Subjects – Price / Willingness to Use

Descriptive Statistics - Price			
Measure	Type	Mean	Std. Error
Willingness to Use	Free	4.06	.16
	Paid	3.40	.15

Table 19: Descriptive Statistics – Price / Willingness to Use

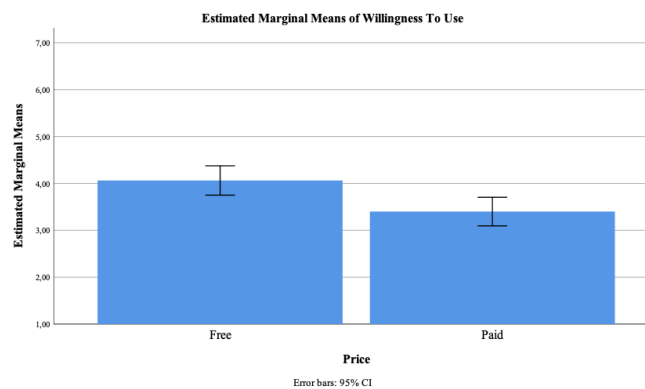


Figure 8: Estimated Marginal Means of Willingness to Use – Price

There is a main effect of “Price” ($F(1, 121) = 9.05, p\text{-value} = .003$), suggesting that “Free” apps ($M = 4.06, SE = .16$) leads to higher willingness to use than “Paid” apps ($M = 3.40, SE = .15$). This effect is expected and may suggest that people are not willing to pay to use this kind

of app, because they have already assumed that they don't want to pay for it, as there are many free good options in the market.

4.2.2.2. Reviews

There is a main effect of the type of "Reviews" ($F(1, 121) = 36.61, p\text{-value} = .000 < .05$), suggesting that "Good" reviews ($M = 4.03, SE = .13$) lead to higher willingness to use than "Medium" reviews ($M = 3.43, SE = .11$).

Descriptive Statistics - Reviews			
Measure	Type	Mean	Std. Error
Willingness to Use	Good	4.03	.13
	Medium	3.43	.11

Table 20: Descriptive Statistics – Reviews / Willingness to Use

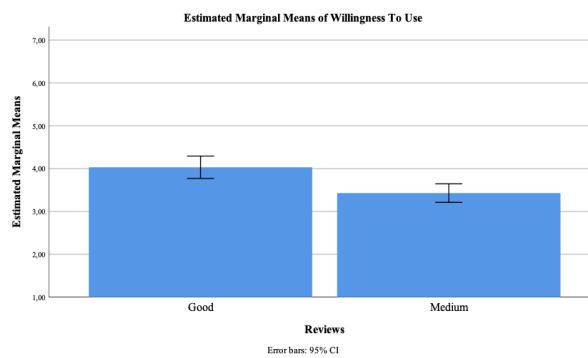


Figure 9: Estimated Marginal Means of Willingness to Use – Reviews

4.2.2.3. Brand

There is also a main effect of "Brand" ($F(3, 363) = 78.76, p\text{-value} = .000 < .05$), specifically Sports brands ($M = 4.75, SE = .14$) are more likely to be used than the rest of the brands: Digital Technology brands ($M = 3.62, SE = .14$), Health brands ($M = 3.82, SE = .14$) and Food brands ($M = 2.74, SE = .12$).

Descriptive Statistics - Brand			
Measure	Type	Mean	Std. Error
Willingness to Use	Sports	4.75	.14
	Digital Technology	3.62	.14
	Health	3.82	.14
	Food	2.74	.12

Table 21: Descriptive Statistics – Brand / Willingness to Use

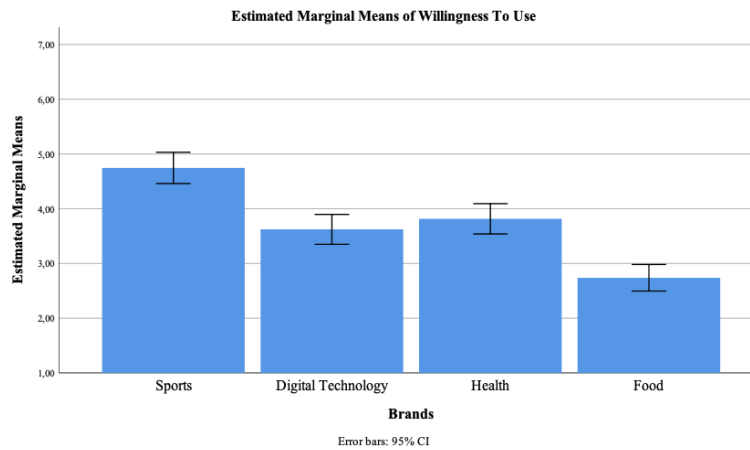


Figure 10: Estimated Marginal Means of Willingness to Use – Brand

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Willingness to Use	Sports & Digital Technology	Brands	Sphericity Assumed	1.00	83.70	.000
	Sports & Health	Brands	Sphericity Assumed	1.00	53.97	.000
	Sports & Food	Brands	Sphericity Assumed	1.00	174.06	.000
	Digital Technology & Health	Brands	Sphericity Assumed	1.00	2.11	.149
	Digital Technology & Food	Brands	Sphericity Assumed	1.00	52.24	.000
	Health & Food	Brands	Sphericity Assumed	1.00	72.70	.000

Table 22: Tests of Within-Subjects Effects – Comparison Brand / Willingness to Use

When comparing all brands between them, it was interesting to notice that there was a main effect in the majority of the comparisons, except between Digital Technology brands and Health brands ($F(1, 122) = 2.11, p\text{-value} = .149 > .05$). Sports brands are more willing to use than Digital Technology brands ($F(1, 122) = 83.70, p\text{-value} = .000 < .05$), Health brands ($F(1, 122) = 53.97, p\text{-value} = .000 < .05$) and Food brands ($F(1, 122) = 174.06, p\text{-value} = .000 < .05$), as expected. Also, Food brands are less willing to use than Digital Technology brands ($F(1, 122) = 52.24, p\text{-value} = .000 < .05$) and Health brands ($F(1, 122) = 72.70, p\text{-value} = .000 < .05$).

4.2.2.4. Reviews x Price

The interaction variable “Reviews * Price” ($F(1, 121) = 1.72, p\text{-value} = .193 > .05$) was non-significant.

Descriptive Statistics				
Measure	Reviews	Price	Mean	Std. Error
Willingness to Use	Good	Free	4.43	.19
		Paid	3.64	.18
	Medium	Free	3.70	.16
		Paid	3.16	.15

Table 23: Descriptive Statistics – Reviews x Price / Willingness to Use

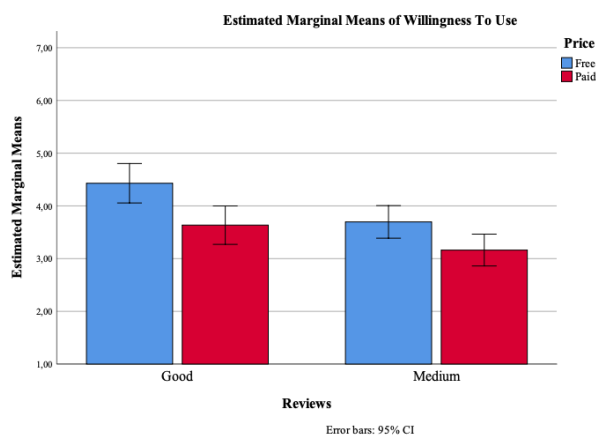


Figure 11: Estimated Marginal Means of Willingness to Use – Reviews x Price

4.2.2.5. Brand x Price

The interaction variable “Brand * Price” ($F(3, 363) = .64, p\text{-value} = .591 > .05$) also was non-significant.

Descriptive Statistics				
Measure	Brand	Price	Mean	Std. Error
Willingness to Use	Sports	Free	5.16	.21
		Paid	4.33	.20
	Digital Technology	Free	4.00	.20
		Paid	3.25	.19
	Health	Free	4.08	.20
		Paid	3.55	.20
	Food	Free	3.01	.18
		Paid	2.47	.17

Table 24: Descriptive Statistics – Brand x Price / Willingness to Use

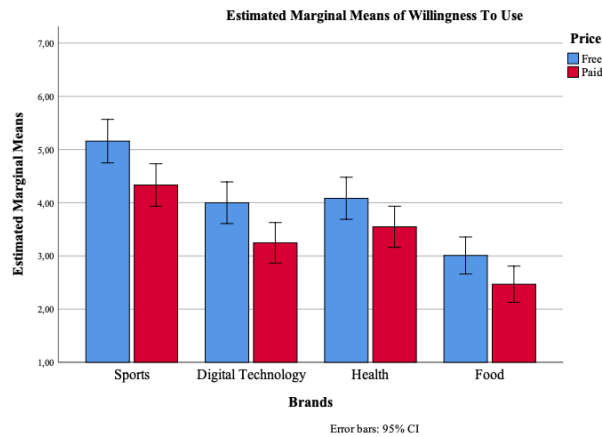


Figure 12: Estimated Marginal Means of Willingness to Use – Brand x Price

4.2.2.6. Brand x Reviews

The interaction between the variables, “Brand * Reviews”, was significant: $F(3, 363) = 3.41$, $p\text{-value} = .02 < .05$. This result means that the effect of the review (that is positive reviews leading to higher willingness to use than negative reviews) depends on the type of brand: “Sports / Good”: $M = 5.00$, $SE = .17$; “Sports / Medium”: $M = 4.50$, $SE = .16$; “Digital Technology / Good”: $M = 4.04$, $SE = .16$; “Digital Technology / Medium”: $M = 3.21$, $SE = .15$; “Health / Good”: $M = 4.18$, $SE = .17$; “Health / Medium”: $M = 3.45$, $SE = .14$; “Food / Good”: $M = 2.92$, $SE = .15$; “Food / Medium”: $M = 2.56$, $SE = .13$.

The interaction suggests that the effect of the type of review is stronger for the Digital Technology and Health brands than for the Sports brands or Food brands. When compared to the control Food brands, Digital Technology brands ($F(1, 122) = 8.51$, $p\text{-value} = .004 < .05$) and Health brands ($F(1, 122) = 6.27$, $p\text{-value} = .014 < .05$) are significantly more sensitive to the reviews, while Sports brands do not differ from Food brands in their sensitiveness to review information ($F(1, 122) = .81$, $p\text{-value} = .370 > .05$). This interaction also shows that there is no main effect of this type when comparing Digital Technology brands and Health brands ($F(1, 122) = .36$, $p\text{-value} = .548 > .05$). When compared to Sports brands, Digital Technology brands and Health brands are also more sensitive to review information although marginally for Digital Technology brands ($F(1, 122) = 3.19$, $p\text{-value} = .076 > .05$) and non-significantly for Health brands ($F(1, 122) = 1.59$, $p\text{-value} = .188 > .05$).

This can suggest that people are more sensitive to the reviews for Digital Technology brands and Health brands compared to Food brands (this may suggest that people are more willing to try and use apps which they are more curious to understand the relationship aim of the brand/aim of the app when the reviews are good, i.e. people want to understand the relationship between those areas and running apps, while for food' brands they automatically assume there is no associations, even if the reviews are good).

Descriptive Statistics				
Measure	Sports	Reviews	Mean	Std. Error
Willingness to Use	Sports	Good	5.00	.17
		Medium	4.50	.16
	Digital Technology	Good	4.04	.16
		Medium	3.21	.15
	Health	Good	4.18	.17
		Medium	3.45	.14
	Food	Good	2.92	.15
		Medium	2.56	.13

Table 25: Descriptive Statistics – Brand x Reviews / Willingness to Use

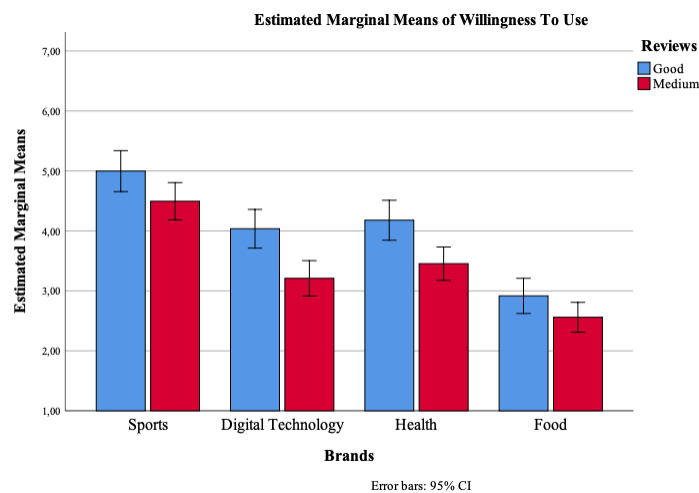


Figure 13: Estimated Marginal Means of Willingness to Use – Brand x Reviews

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Willingness to Use	Sports & Digital Technology	Brands * Reviews	Sphericity Assumed	1.00	3.19	.076
	Sports & Health	Brands * Reviews	Sphericity Assumed	1.00	1.59	.188
	Sports & Food	Brands * Reviews	Sphericity Assumed	1.00	.81	.370
	Digital Technology & Health	Brands * Reviews	Sphericity Assumed	1.00	.36	.548
	Digital Technology & Food	Brands * Reviews	Sphericity Assumed	1.00	8.51	.004
	Health & Food	Brands * Reviews	Sphericity Assumed	1.00	6.27	.014

Table 26: Tests of Within-Subjects Effects – Comparison Brand x Reviews / Willingness to Use

4.2.2.7. Brand x Reviews x Price

The interaction of 3rd order, including all the variables, was non-significant ($F(3, 363) = 1.33$, $p\text{-value} = .266 > .05$).

Descriptive Statistics						
Measure	Brand	Reviews	Price	Mean	Std. Error	
Willingness to Use	Sports	Good	Free	5.53	.25	
			Paid	4.46	.24	
		Medium	Free	4.78	.22	
			Paid	4.21	.22	
		Digital Technology	Good	Free	4.53	.23
				Paid	3.54	.23
	Medium		Free	3.47	.21	
			Paid	2.95	.21	
	Health		Good	Free	4.47	.24
				Paid	3.89	.23
		Medium	Free	3.70	.20	
			Paid	3.21	.20	
Food		Good	Free	3.18	.21	
			Paid	2.65	.21	
	Medium	Free	2.83	.18		
		Paid	2.29	.18		

Table 27: Descriptive Statistics – Brand x Reviews x Price / Willingness to Use

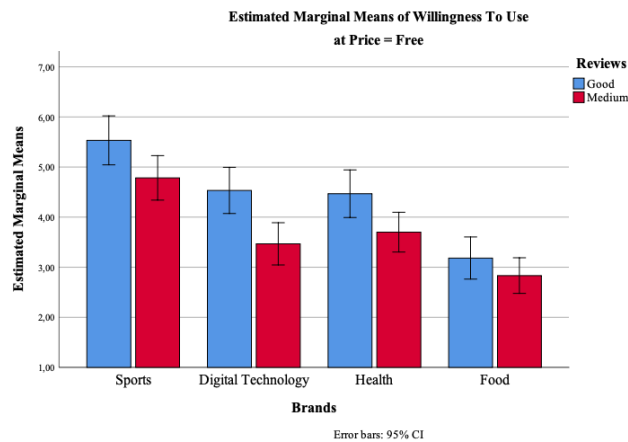


Figure 14: Estimated Marginal Means of Willingness to Use – Brand x Reviews x Price = Free

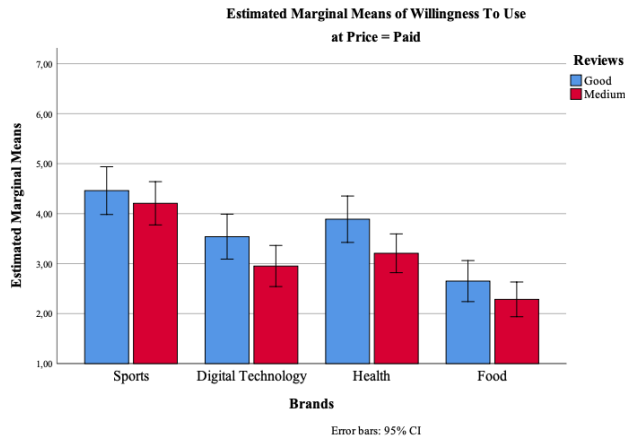


Figure 15: Estimated Marginal Means of Willingness to Use – Brand x Reviews x Price = Paid

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Willingness to Use	Sports & Digital Technology	Brands * Reviews * Price	Sphericity Assumed	1.00	.00	.964
	Sports & Health	Brands * Reviews * Price	Sphericity Assumed	1.00	1.44	.233
	Sports & Food	Brands * Reviews * Price	Sphericity Assumed	1.00	2.80	.097
	Digital Technology & Health	Brands * Reviews * Price	Sphericity Assumed	1.00	1.50	.224
	Digital Technology & Food	Brands * Reviews * Price	Sphericity Assumed	1.00	2.45	.120
	Health & Food	Brands * Reviews * Price	Sphericity Assumed	1.00	.11	.736

Table 28: Tests of Within-Subjects Effects – Comparison Brand x Reviews x Price / Willingness to Use

4.2.3. Trust

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Trust	Brand	Sphericity Assumed	3.00	104.38	.000
	Brand * Price	Sphericity Assumed	3.00	.26	.853
	Reviews	Sphericity Assumed	1.00	31.95	.000
	Reviews * Price	Sphericity Assumed	1.00	1.29	.258
	Brand * Reviews	Sphericity Assumed	3.00	.52	.671
	Brand * Reviews * Price	Sphericity Assumed	3.00	1.09	.355

Table 29: Tests of Within-Subjects – Trust

4.2.3.1. Price

Tests of Between-Subjects Effects				
Measure	Source	df	F	Sig.
Trust	Intercept	1.00	1664.96	.000
	Price	1.00	1.57	.213
	Error	121.00		

Table 30: Tests of Between-Subjects – Price / Trust

Descriptive Statistics - Price			
<i>Measure</i>	<i>Type</i>	<i>Mean</i>	<i>Std. Error</i>
<u>Trust</u>	Free	4.32	.15
	Paid	4.06	.14

Table 31: Descriptive Statistics – Price / Trust

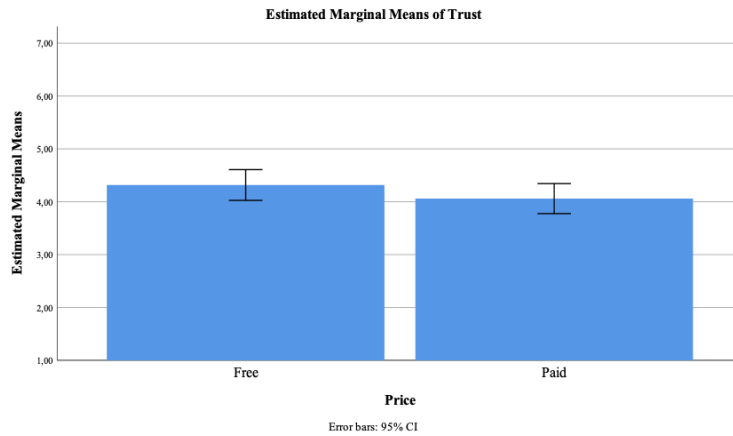


Figure 16: Estimated Marginal Means of Trust – Price

There is no main effect of “Price” ($F(1, 121) = 1.57, p\text{-value} = .213$), meaning participants show the same trust for “Free” ($M = 4.32, SE = .15$) and “Paid” apps ($M = 4.06, SE = .14$).

4.2.3.2. Reviews

There is a main effect of the type “Reviews” ($F(1, 121) = 31.95, p\text{-value} = .000 < .05$), suggesting that “Good Reviews” ($M = 4.44, SE = .12$) lead to higher trust than “Medium Reviews” ($M = 3.94, SE = .11$), as expected.

Descriptive Statistics - Reviews			
<i>Measure</i>	<i>Type</i>	<i>Mean</i>	<i>Std. Error</i>
<u>Trust</u>	Good	4.44	.12
	Medium	3.94	.11

Table 32: Descriptive Statistics – Reviews / Trust

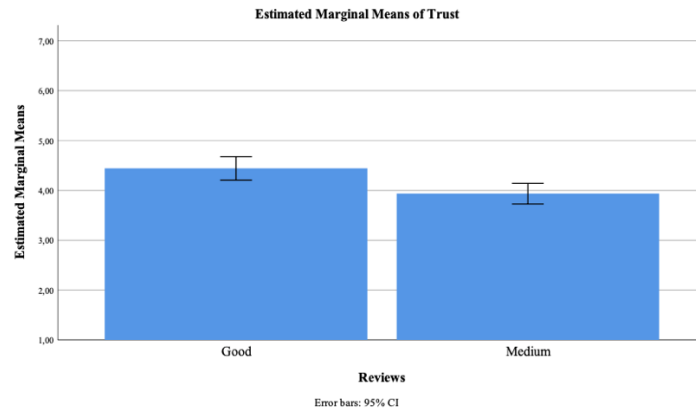


Figure 17: Estimated Marginal Means of Trust – Reviews

4.2.3.3. Brand

There is also a main effect of “Brand” ($F(3, 363) = 104.38, p\text{-value} = .000 < .05$), indicating that, ignoring the rest of the variables, at least one brand leads to a higher trust than the others. Sports brands apps ($M = 5.36, SE = .13$) are more trusted than Digital Technology brands apps ($M = 3.67, SE = .14$), Health brands apps ($M = 4.64, SE = .14$) and Food brands apps ($M = 3.08, SE = .13$).

Descriptive Statistics - Brand			
Measure	Type	Mean	Std. Error
Trust	Sports	5.36	.13
	Digital Technology	3.67	.14
	Health	4.64	.14
	Food	3.08	.13

Table 33: Descriptive Statistics – Brand / Trust

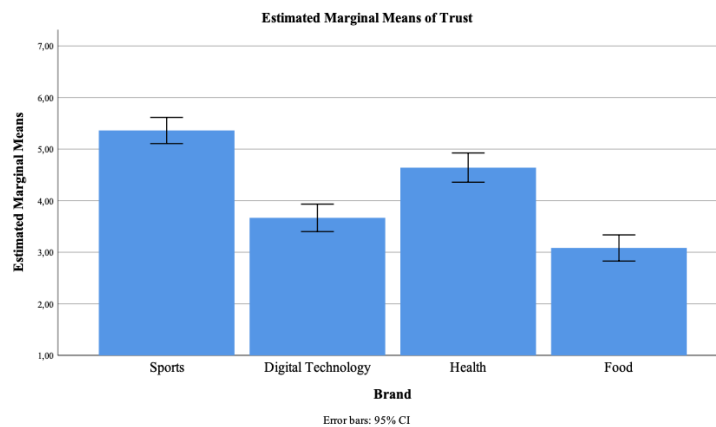


Figure 18: Estimated Marginal Means of Trust – Brand

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Trust	Sports & Digital Technology	Brands	Sphericity Assumed	1.00	155.77	.000
	Sports & Health	Brands	Sphericity Assumed	1.00	34.67	.000
	Sports & Food	Brands	Sphericity Assumed	1.00	239.20	.000
	Digital Technology & Health	Brands	Sphericity Assumed	1.00	40.53	.000
	Digital Technology & Food	Brands	Sphericity Assumed	1.00	18.46	.000
	Health & Food	Brands	Sphericity Assumed	1.00	120.21	.000

Table 34: Tests of Within-Subjects Effects – Comparison Brand / Trust

All brands were compared between them, and it was clear, and expected, that there was a main effect in all the comparisons, suggesting: Sports brands' apps are more trusted than Digital Technology brands' apps ($F(1, 122) = 155.77, p\text{-value} = .000 < .05$), Health brands apps ($F(1, 122) = 34.67, p\text{-value} = .000 < .05$) and Food brands' apps ($F(1, 122) = 239.20, p\text{-value} = .000 < .05$); Food brands' apps are less trusted than Digital Technology brands' apps ($F(1, 122) = 18.46, p\text{-value} = .000 < .05$) and Health brands' apps ($F(1, 122) = 120.21, p\text{-value} = .000 < .05$); and, Health brands' apps are more trusted than Digital Technology brands' apps ($F(1, 122) = 40.53, p\text{-value} = .000 < .05$).

4.2.3.4. Reviews x Price

The interaction variable "Reviews * Price" ($F(1, 121) = 1.29, p\text{-value} = .258 > .05$) was non-significant.

Descriptive Statistics				
Measure	Reviews	Price	Mean	Std. Error
Trust	Good	Free	4.62	.17
		Paid	4.26	.15
	Medium	Free	4.01	.15
		Paid	3.86	.15

Table 35: Descriptive Statistics – Reviews x Price / Trust

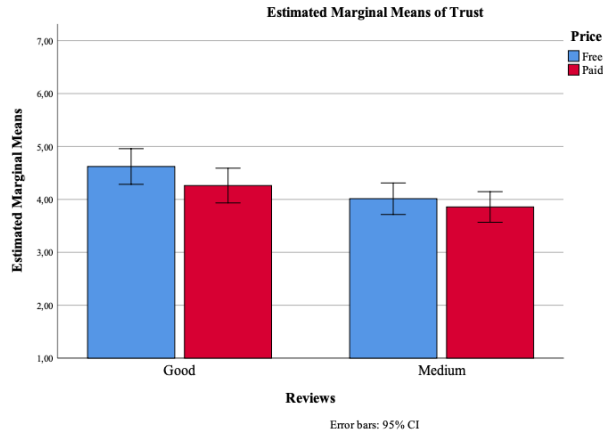


Figure 19: Estimated Marginal Means of Trust – Reviews x Price

4.2.3.5. Brand x Price

The interaction variable “Brand * Price” ($F(3, 363) = .26, p\text{-value} = .853 > .05$) also was non-significant.

Descriptive Statistics				
Measure	Brand	Price	Mean	Std. Error
Trust	Sports	Free	5.49	.18
		Paid	5.23	.18
	Digital Technology	Free	3.86	.19
		Paid	3.48	.19
	Health	Free	4.77	.21
		Paid	4.52	.20
	Food	Free	3.15	.18
		Paid	3.02	.18

Table 36: Descriptive Statistics – Brand x Price / Trust

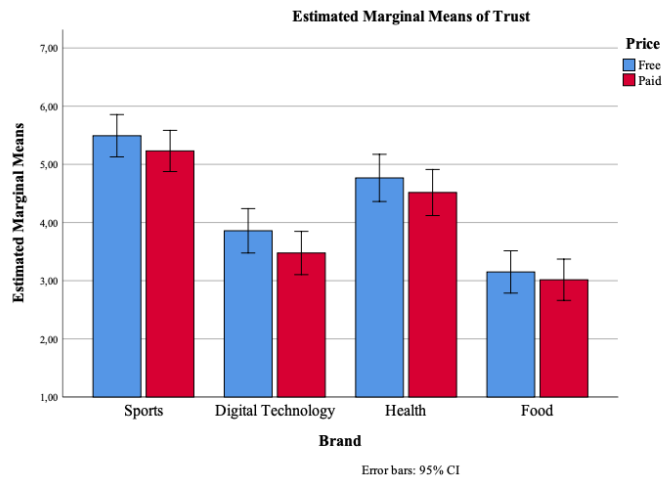


Figure 20: Estimated Marginal Means of Trust – Brand x Price

4.2.3.6. Brand x Reviews

Just as the other two interactions, the interaction between the variables, “Brand * Reviews”, was non-significant: $F(3, 363) = .52, p\text{-value} = .671 < .05$.

Descriptive Statistics				
Measure	Sports	Reviews	Mean	Std. Error
Trust	Sports	Good	5.63	.14
		Medium	5.09	.15
	Digital Technology	Good	3.92	.16
		Medium	3.42	.15
	Health	Good	4.94	.16
		Medium	4.35	.15
	Food	Good	3.28	.15
		Medium	2.89	.14

Table 37: Descriptive Statistics – Brand x Reviews / Trust

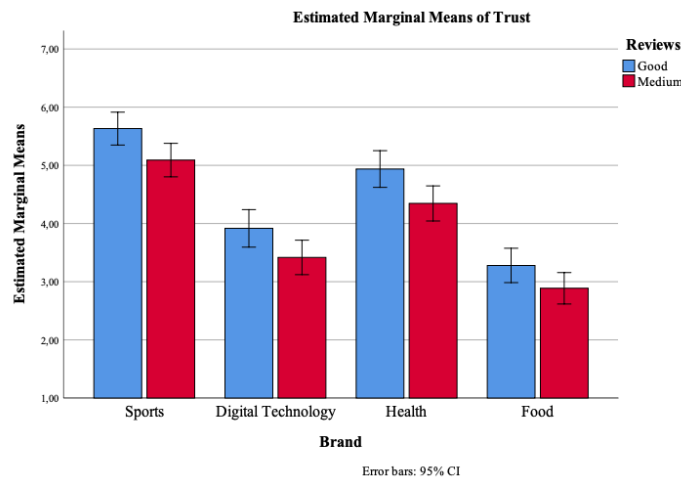


Figure 21: Estimated Marginal Means of Trust – Brand x Reviews

4.2.3.7. Brand x Reviews x Price

The interaction of 3rd order, that included all three variables, as expected from the interactions of lower orders, was non-significant – “Brand * Reviews * Price”: $F(3, 363) = 1.09, p\text{-value} = .355 > .05$.

Descriptive Statistics					
Measure	Brand	Reviews	Price	Mean	Std. Error
Trust	Sports	Good	Free	5.88	.20
			Paid	5.38	.20
	Medium	Free	5.10	.21	
		Paid	5.08	.20	
Digital Technology	Good	Free	4.17	.23	
		Paid	3.67	.23	
	Medium	Free	3.55	.21	
		Paid	3.29	.21	
Health	Good	Free	5.03	.23	
		Paid	4.84	.22	
	Medium	Free	4.50	.22	
		Paid	4.19	.21	
Food	Good	Free	3.40	.21	
		Paid	3.16	.21	
	Medium	Free	2.90	.20	
		Paid	2.87	.19	

Table 38: Descriptive Statistics – Brand x Reviews x Price / Trust

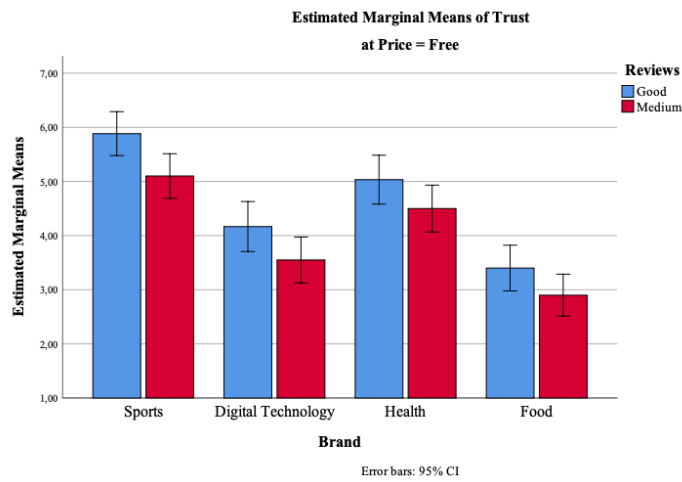


Figure 22: Estimated Marginal Means of Trust – Brand x Reviews x Price = Free

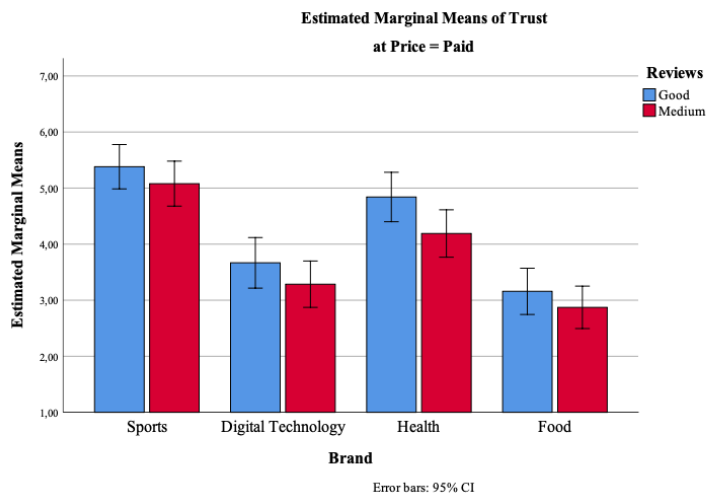


Figure 23: Estimated Marginal Means of Trust – Brand x Reviews x Price = Paid

4.2.4. Rating

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Rating	Brand	Sphericity Assumed	3.00	88.38	.000
	Brand * Price	Sphericity Assumed	3.00	.55	.649
	Reviews	Sphericity Assumed	1.00	45.81	.000
	Reviews * Price	Sphericity Assumed	1.00	1.30	.257
	Brand * Reviews	Sphericity Assumed	3.00	2.28	.079
	Brand * Reviews * Price	Sphericity Assumed	3.00	1.96	.120

Table 39: Tests of Within-Subjects – Rating

4.2.4.1. Price

Tests of Between-Subjects Effects				
Measure	Source	df	F	Sig.
Rating	Intercept	1.00	1515.61	.000
	Price	1.00	4.06	.046
	Error	121.00		

Table 40: Tests of Between-Subjects – Price / Rating

Descriptive Statistics - Price			
Measure	Type	Mean	Std. Error
Rating	Free	4.25	.15
	Paid	3.86	.15

Table 41: Descriptive Statistics – Price / Rating

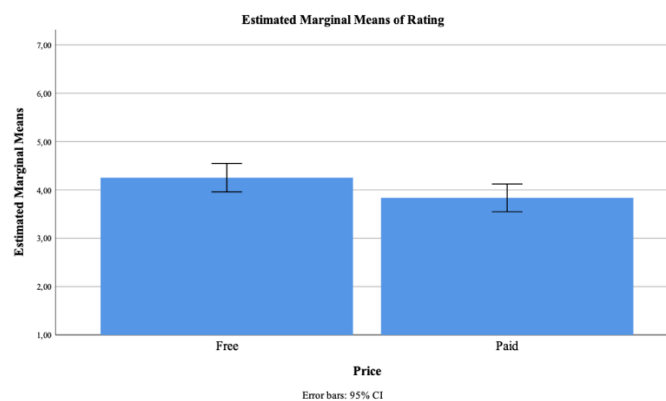


Figure 24: Estimated Marginal Means of Rating – Price

There is a main effect of “Price” ($F(1, 121) = 4.06, p\text{-value} = .046 < .05$), that indicates that “Free” apps ($M = 4.25, SE = .15$) leads to higher rates than “Paid” apps ($M = 3.86, SE = .15$). This effect suggests that people can be more judgmental and rougher/harsh while rating apps

when there's a payment involved since they are not expecting to pay for this type of app as there are free apps like this on the market.

4.2.4.2. Reviews

There is a main effect of the type “Reviews” ($F(1, 121) = 45.81, p\text{-value} = .000 < .05$), as expected. This can suggest that “Good Reviews” ($M = 4.38, SE = .13$) lead to higher rates than “Medium Reviews” ($M = 3.71, SE = .10$).

Descriptive Statistics - Reviews			
Measure	Type	Mean	Std. Error
Rating	Good	4.38	.13
	Medium	3.71	.10

Table 42: Descriptive Statistics – Reviews / Rating

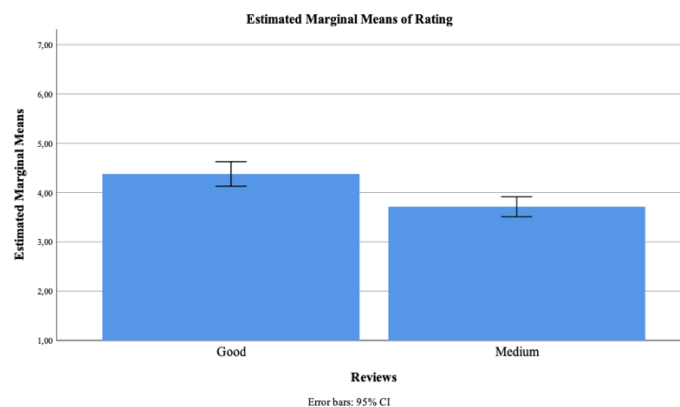


Figure 25: Estimated Marginal Means of Rating – Reviews

4.2.4.3. Brand

For the variable “Brand”, the tendency remains, as there is also a main effect ($F(3, 363) = 88.38, p\text{-value} = .000 < .05$). Basically, this suggests that at least one type of brands leads to a higher rate than the other types, disregarding the rest of the variables. Sports brands running apps ($M = 5.01, SE = .13$) are more trusted when compared to the rest of the brands: Digital Technology brands ($M = 3.89, SE = .13$), Health brands ($M = 4.17, SE = .13$) and Food brands ($M = 3.11, SE = .12$).

Descriptive Statistics - Brand			
Measure	Type	Mean	Std. Error
Rating	Sports	5.01	.13
	Digital Technology	3.89	.13
	Health	4.17	.13
	Food	3.11	.12

Table 43: Descriptive Statistics – Brand / Rating

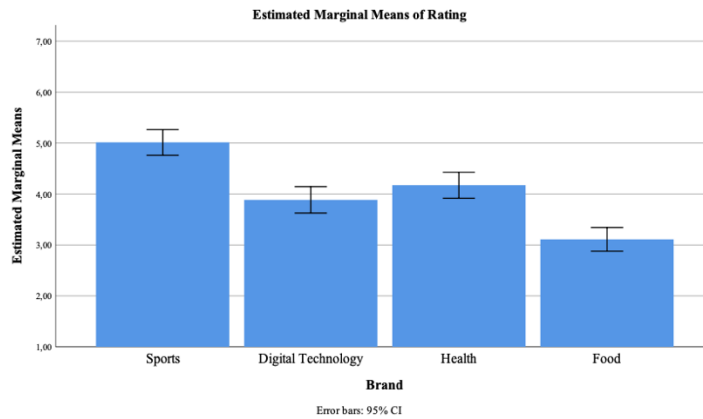


Figure 26: Estimated Marginal Means of Rating – Brand

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Rating	Sports & Digital Technology	Brands	Sphericity Assumed	1.00	103.36	.000
	Sports & Health	Brands	Sphericity Assumed	1.00	54.58	.000
	Sports & Food	Brands	Sphericity Assumed	1.00	204.69	.000
	Digital Technology & Health	Brands	Sphericity Assumed	1.00	5.20	.024
	Digital Technology & Food	Brands	Sphericity Assumed	1.00	47.84	.000
	Digital Technology & Food	Brands	Sphericity Assumed	1.00	47.84	.000
	Health & Food	Brands	Sphericity Assumed	1.00	92.66	.000

Table 44: Tests of Within-Subjects Effects – Comparison Brand / Rating

To better understand this main effect, an analysis comparing all brands between them was made. As expected, there was a main effect in all the comparisons, leading to: Sports brands' apps are better rated than Digital Technology brands' apps ($F(1, 122) = 103.36, p\text{-value} = .000 < .05$), Health brands' apps ($F(1, 122) = 54.58, p\text{-value} = .000 < .05$) and Food brands' apps ($F(1, 122) = 204.69, p\text{-value} = .000 < .05$); Food brands' running apps are lower rated than Digital Technology brands' apps ($F(1, 122) = 47.84, p\text{-value} = .000 < .05$) and Health brands' apps ($F(1, 122) = 92.66, p\text{-value} = .000 < .05$); and, when comparing running apps provided by Health brands and Digital Technology brands, the firsts are better rated than the other ($F(1, 122) = 5.20, p\text{-value} = .024 < .05$).

4.2.4.4. Reviews x Price

The interaction variable “Reviews * Price” ($F(1, 121) = 1.30, p\text{-value} = .257 > .05$) was non-significant.

Descriptive Statistics				
Measure	Reviews	Price	Mean	Std. Error
Rating	Good	Free	4.64	.18
		Paid	4.11	.18
	Medium	Free	3.87	.15
		Paid	3.56	.14

Table 45: Descriptive Statistics – Reviews x Price / Rating

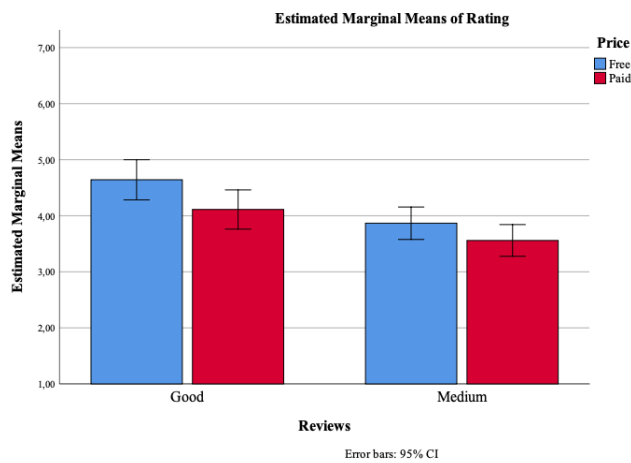


Figure 27: Estimated Marginal Means of Rating – Reviews x Price

4.2.4.5. Brand x Price

The interaction variable “Brand * Price” ($F(3, 363) = .55, p\text{-value} = .649 > .05$) also was non-significant.

Descriptive Statistics				
Measure	Brand	Price	Mean	Std. Error
Rating	Sports	Free	5.23	.18
		Paid	4.79	.18
	Digital Technology	Free	4.16	.19
		Paid	3.61	.18
	Health	Free	4.39	.19
		Paid	3.95	.18
	Food	Free	3.23	.17
		Paid	2.98	.17

Table 46: Descriptive Statistics – Brand x Price / Rating

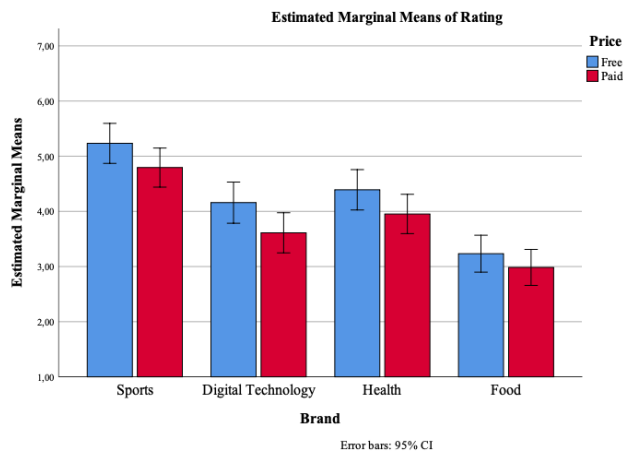


Figure 28: Estimated Marginal Means of Rating – Brand x Price

4.2.4.6. Brand x Reviews

The interaction between the variables, “Brand * Reviews”, was non-significant: $F(3, 363) = 2.28, p\text{-value} = .077 < .05$. Since the $p\text{-value}$ is very close to the statistical significance value, there might be some interesting results from this interaction.

Descriptive Statistics				
Measure	Sports	Reviews	Mean	Std. Error
Rating	Sports	Good	5.30	.15
		Medium	4.73	.14
	Digital Technology	Good	4.29	.16
		Medium	3.49	.14
	Health	Good	4.57	.15
		Medium	3.78	.13
	Food	Good	3.35	.14
		Medium	2.87	.13

Table 47: Descriptive Statistics – Brand x Reviews / Rating

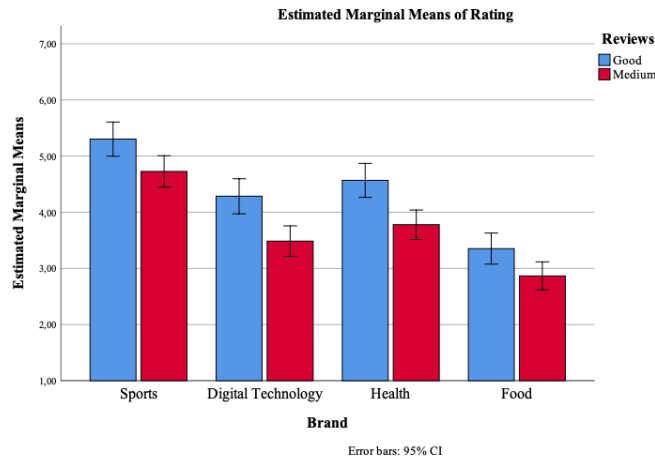


Figure 29: Estimated Marginal Means of Rating – Brand x Reviews

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Rating	Sports & Digital Technology	Brands * Reviews	Sphericity Assumed	1.00	2.24	.137
	Sports & Health	Brands * Reviews	Sphericity Assumed	1.00	2.07	.153
	Sports & Food	Brands * Reviews	Sphericity Assumed	1.00	.28	.597
	Digital Technology & Health	Brands * Reviews	Sphericity Assumed	1.00	.00	.954
	Digital Technology & Food	Brands * Reviews	Sphericity Assumed	1.00	4.50	.036
	Health & Food	Brands * Reviews	Sphericity Assumed	1.00	4.85	.029

Table 48: Tests of Within-Subjects Effects – Comparison Brand x Reviews / Rating

From this analysis, we can conclude that the interaction “Brands * Reviews” have effects on “Rate”, with reviews having a stronger effect on Digital Technology and Health brands than they have for Sports or Food brands. When compared with Food brands, Digital Technology brands ($F(1, 121) = 4.50, p\text{-value} = .036 < .05$) and Health brands ($F(1, 121) = 4.85, p\text{-value} = .029 < .05$) are significantly more susceptible to the reviews, while Sports brands do not differ from Food brands in their sensitiveness to review information ($F(1, 122) = .28, p\text{-value} = .597 > .05$).

4.2.4.7. Brand x Reviews x Price

The interaction of 3rd order, including all the variables, also was non-significant – “Brand * Reviews * Price”: $F(3, 363) = 1.96, p\text{-value} = .120 > .05$.

Descriptive Statistics					
Measure	Brand	Reviews	Price	Mean	Std. Error
Rating	Sports	Good	Free	5.67	.22
			Paid	4.94	.21
		Medium	Free	4.80	.20
			Paid	4.65	.20
	Digital Technology	Good	Free	4.63	.23
			Paid	3.94	.22
		Medium	Free	3.68	.20
			Paid	3.29	.19
	Health	Good	Free	4.82	.22
			Paid	4.32	.21
		Medium	Free	3.97	.19
			Paid	3.59	.19
Food	Good	Free	3.45	.20	
		Paid	3.25	.20	
	Medium	Free	3.02	.18	
		Paid	2.71	.18	

Table 49: Descriptive Statistics – Brand x Reviews x Price / Rating

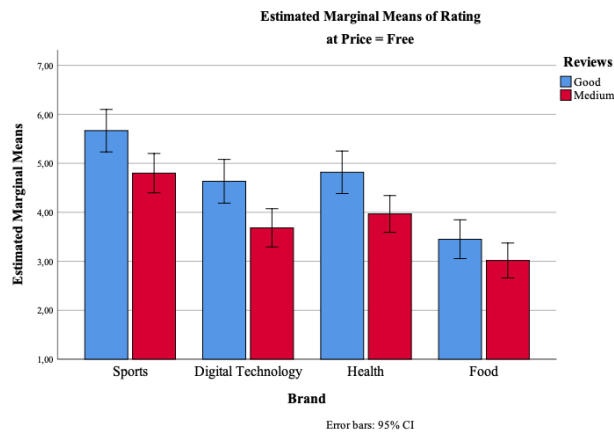


Figure 30: Estimated Marginal Means of Rating – Brand x Reviews x Price = Free

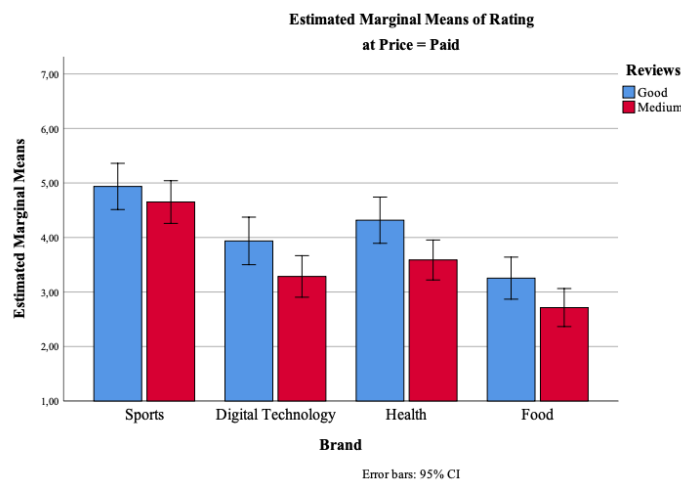


Figure 31: Estimated Marginal Means of Rating – Brand x Reviews x Price = Paid

4.2.5. Influence Brand

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
Influence Brand	Brand	Sphericity Assumed	3.00	62.44	.000
	Brand * Price	Sphericity Assumed	3.00	1.35	.258
	Reviews	Sphericity Assumed	1.00	1.42	.236
	Reviews * Price	Sphericity Assumed	1.00	1.84	.178
	Brand * Reviews	Sphericity Assumed	3.00	.53	.663
	Brand * Reviews * Price	Sphericity Assumed	3.00	1.16	.325

Table 50: Tests of Within-Subjects – Influence Brand

Tests of Between-Subjects Effects					
Measure	Source	df	F	Sig.	
Influence Brand	Intercept	1.00	1374.98	.000	
	Price	1.00	.75	.390	
	Error	121.00			

Table 51: Tests of Between-Subjects – Influence Brand

The objective of this variable was to understand if people were influenced by the brands. The variable “Brand” had a main effect, meaning there were some brands where people influenced more their decisions based on the brand: $F(3, 363) = 62.44$, $p\text{-value} = .000 < .05$.

The rest of the variables were non-significant. The variable “Reviews” and the interaction variable “Brand * Reviews” had no main effects: $F(1, 121) = 1.42$, $p\text{-value} = .236 > .05$; $F(3, 363) = .53$, $p\text{-value} = .663 > .05$; respectively. When adding “Price” ($F(1, 121) = .75$, $p\text{-value} = .390$), there were also no impacts on the variable “Influence Brand” – “Brand * Price”: $F(3, 363) = 1.35$, $p\text{-value} = .258 > .05$; “Reviews * Price”: $F(1; 121) = 1.84$, $p\text{-value} = .178 > .05$; “Brand * Reviews * Price”: $F(3, 363) = 1.16$, $p\text{-value} = .325 > .05$.

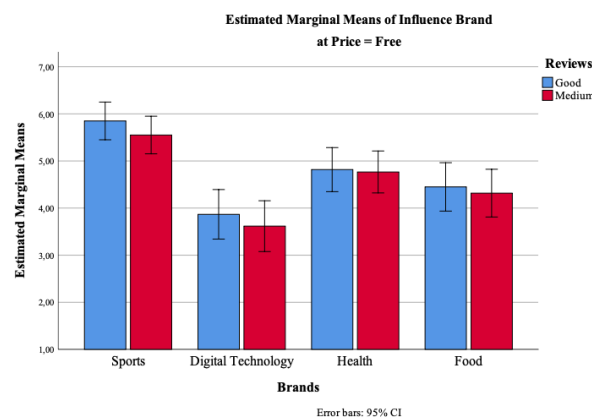


Figure 32: Estimated Marginal Means of Influence Brand – Brand x Reviews x Price = Free

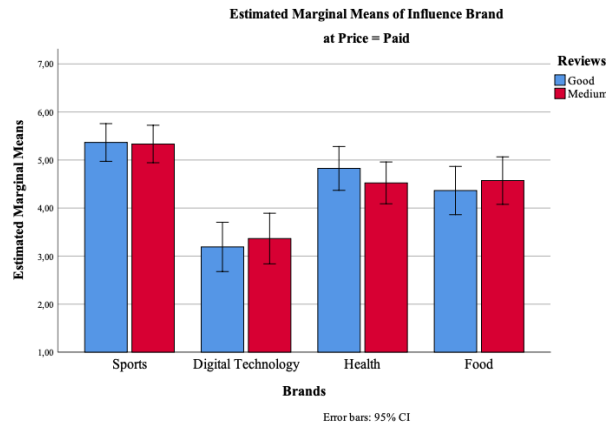


Figure 33: Estimated Marginal Means of Influence Brand – Brand x Reviews x Price = Paid

4.2.5.1. Brand

With this being a running app, participants believe they were more influenced where there was a Sports brand ($M = 5.53$, $SE = .13$) when compared to the rest of the brands: Digital Technology brands ($M = 3.51$, $SE = .17$), Health brands ($M = 4.73$, $SE = .15$), and Food brands ($M = 4.43$, $SE = .16$).

Descriptive Statistics - Brand			
Measure	Type	Mean	Std. Error
Influence Brand	Sports	5.53	.13
	Digital Technology	3.51	.17
	Health	4.73	.15
	Food	4.43	.16

Table 52: Descriptive Statistics – Brand / Influence Brand

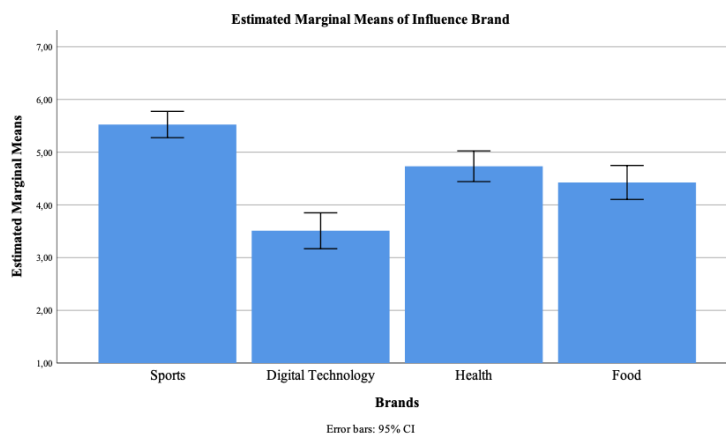


Figure 34: Estimated Marginal Means of Influence Brand – Brand

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
	Sports & Digital Technology	Brands	Sphericity Assumed	1.00	147.19	.000
	Sports & Health	Brands	Sphericity Assumed	1.00	41.11	.000
<u>Influence</u>	Sports & Food	Brands	Sphericity Assumed	1.00	55.61	.000
<u>Brand</u>	Digital Technology & Health	Brands	Sphericity Assumed	1.00	57.31	.000
	Digital Technology & Food	Brands	Sphericity Assumed	1.00	33.32	.000
	Health & Food	Brands	Sphericity Assumed	1.00	5.31	.023

Table 53: Tests of Within-Subjects Effects – Comparison Brand / Influence Brand

All brands were compared between them, and, as expected, there was a main effect in all the comparisons, as there are different brands and people already expect from a brand, when there is knowledge about the brand (if related or not to the topic of study). With this being said, and by looking at the descriptive statistics, it is clear that, as people don't know much about Digital Technology brands, they don't influence much of their decision on the brand.

People are more influenced by the brand when it is a Sports brand compared to Digital Technology brands ($F(1, 122) = 147.19$, $p\text{-value} = .000 < .05$), Health brands ($F(1, 122) = 41.11$, $p\text{-value} = .000 < .05$) and Food brands ($F(1, 122) = 55.61$, $p\text{-value} = .000 < .05$); people are more influenced by the brand when it is a Health brand compared to Digital Technology brands ($F(1, 122) = 57.31$, $p\text{-value} = .000 < .05$) and Food brands ($F(1, 122) = 5.31$, $p\text{-value} = .023 < .05$); when comparing the influence that the brand had in people's decision in Digital Technology brands and Food brands, people were more influenced by the brand when it is a Food brand compared to Digital Technology brands ($F(1, 122) = 33.32$, $p\text{-value} = .000 < .05$).

4.2.6. Influence Reviews

Tests of Within-Subjects Effects					
Measure	Source		df	F	Sig.
	Brand	Sphericity Assumed	3.00	5.64	.001
	Brand * Price	Sphericity Assumed	3.00	.46	.710
<u>Influence</u>	Reviews	Sphericity Assumed	1.00	2.92	.090
<u>Reviews</u>	Reviews * Price	Sphericity Assumed	1.00	2.92	.090
	Brand * Reviews	Sphericity Assumed	3.00	.15	.928
	Brand * Reviews * Price	Sphericity Assumed	3.00	.25	.861

Table 54: Tests of Within-Subjects – Influence Reviews

Tests of Between-Subjects Effects				
Measure	Source	df	F	Sig.
<u>Influence</u>	Intercept	1.00	969.06	.000
	Price	1.00	.37	.544
<u>Reviews</u>	Error	121.00		

Table 55: Tests of Between-Subjects – Influence Reviews

For this variable, the objective was to understand if people were influenced by the reviews. Once again, “Brand” had a main effect, as it was expected that brands had different impacts on the influence that the reviews had on the decision ($F(3, 363) = 5.64, p\text{-value} = .001 < .05$). The remaining variable “Reviews” ($F(1, 121) = 2.92, p\text{-value} = .090 > .05$), and the interaction variable “Brand * Reviews” ($F(3, 363) = .15, p\text{-value} = .928 > .05$), had no main effects. By adding “Price” ($F(1, 121) = .37, p\text{-value} = .544$), there were also any impacts on “Influence Reviews” – “Brand * Price”: $F(3, 363) = .46, p\text{-value} = .710 > .05$; “Reviews * Price”: $F(1, 121) = 2.92, p\text{-value} = .090 > .05$; “Brand * Reviews * Price”: $F(3, 363) = .25, p\text{-value} = .861 > .05$.

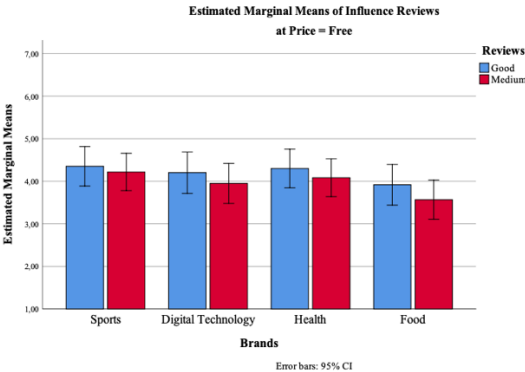


Figure 35: Estimated Marginal Means of Influence Reviews – Brand x Reviews x Price = Free

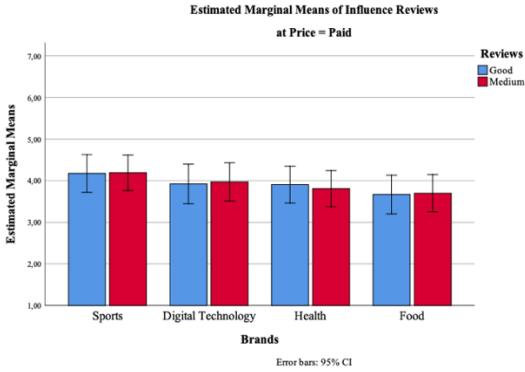


Figure 36: Estimated Marginal Means of Influence Reviews – Brand x Reviews x Price = Paid

4.2.6.1. Brand

When compared all brands between them, it was interesting to note that only when compared to Food brands there was significant differences: Sports brands ($F(1, 122) = 17.96, p\text{-value} = .000 < .05$), Digital Technology brands ($F(1, 122) = 4.56, p\text{-value} = .035 < .05$) and Health brands ($F(1, 122) = 7.22, p\text{-value} = .008 < .05$). This means that people were more influenced by the reviews when the brand was not a Food brand ($M = 3.71, SE = .15$), as they automatically excluded these kinds of brands, for not being associated with running in any kind of way or even just by indicating a negative association that is “if it’s made by a food brand for sure it’s bad”, like a brand heuristic used to make negative inferences. As people likely have a negative association between food brands and running apps, they will not need the reviews to judge the quality of the app.

The rest of the brands had no main effects when compared between them, as their values were very similar – Sports & Digital Technology brands: $F(1, 122) = 2.65, p\text{-value} = .106 > .05$; Sports & Health brands: $F(1, 122) = 3.25, p\text{-value} = .074 > .05$; Digital Technology & Health brands: $F(1, 122) = .01, p\text{-value} = .926 > .05$. The means of all brands for this variable was average, and can mean that people were not very influenced by the reviews to make their decisions, overall – Sports brands ($M = 4.23, SE = .15$), Digital Technology brands ($M = 4.01, SE = .16$), and Health brands ($M = 4.02, SE = .14$).

Descriptive Statistics - Brand			
Measure	Type	Mean	Std. Error
Influence Reviews	Sports	4.23	.15
	Digital Technology	4.01	.16
	Health	4.02	.14
	Food	3.71	.15

Table 56: Descriptive Statistics – Brand / Influence Reviews

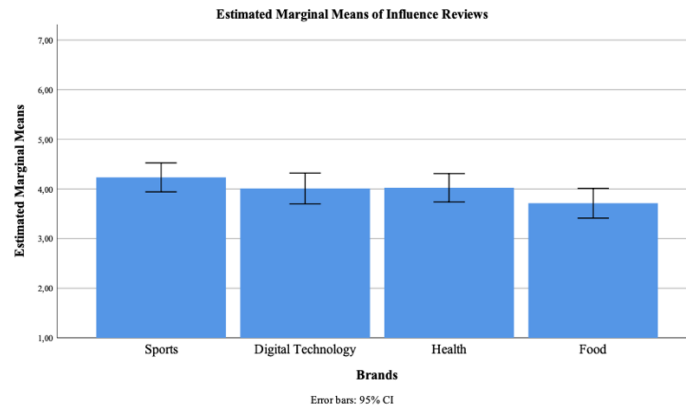


Figure 37: Estimated Marginal Means of Influence Reviews – Brand

Tests of Within-Subjects Effects						
Measure	Brands	Source		df	F	Sig.
Influence	Sports & Digital Technology	Brands	Sphericity Assumed	1.00	2.65	.106
	Sports & Health	Brands	Sphericity Assumed	1.00	3.25	.074
Reviews	Sports & Food	Brands	Sphericity Assumed	1.00	17.96	.000
	Digital Technology & Health	Brands	Sphericity Assumed	1.00	.01	.926
	Digital Technology & Food	Brands	Sphericity Assumed	1.00	4.56	.035
	Health & Food	Brands	Sphericity Assumed	1.00	7.22	.008

Table 57: Tests of Within-Subjects Effects – Comparison Brand / Influence Reviews

Chapter 5: Main Findings & Future Research

The aim of this chapter is to present the main results of this dissertation, the academic conclusions, and also the managerial implications, meaning how can these results be useful. Further, some limitations will be exposed, along with proposals for future research.

5.1. Main Findings & Managerial Implications

The purpose of this dissertation is to understand which are the factors that consumers take into account while making decisions to choose a running app. From the study, it can be concluded that people, above all, tend to look for the brand and compare the brands at issue. For running apps, people are more willing to choose sports brands over any other type of brand, as they associate it more with the topic of the app. People tend to choose the app which has the brand more related to the topic in which they are making a decision – if they are looking for a running app, they will prefer a sports brand; if they are looking for a recipe app, they will prefer a food brand; and so on. People prefer brands over reviews, as, for running apps, they prefer choosing a sports brand, regarding if the reviews are good or not. It is also interesting to notice that brand can also lead to a negative feeling, as people automatically exclude the options in which the aim of the brand is not in accordance with the aim of the app – people won't choose a running app developed by a food' brand, as it is not their core purpose as a company, regardless the reviews or price of the app. Food brands are likely to guide judgments and decisions without further consideration of cognitively demanding information, like reviews of the product. People use brands as heuristics when brands become closely associated with certain activities and services (like a sports brand that promotes high performance) and are used to infer high quality (and whether to use or not) in those areas of activity, but also use brands as heuristic cues to infer lower quality when are associated with unrelated industries.

Reviews are also a decision-making factor, as people can rely their decisions on others' opinions. This happens particularly when people don't know the brand at issue or when they are curious about the correlation between the brand and the aim of the app. When the association between the brand and the product is unclear, consumers tend to engage in effortful thinking to consider additional information. People are more sensitive to reviews in this type of situation – people can choose a health brand' running app or a digital technology brand' running app if the reviews are good, but won't be choosing it if the reviews are not good. While sports brands and

food brands may work as decision heuristics for the choice of running apps, health brands and digital technology brands do not seem to be used in the same way and lead consumers to engage in more effortful processing to consider reviews about the quality of the app.

Price is not a usual decision-making factor for this kind of app, as people already take for granted that these apps will be free as the majority of running apps in the market. In fact, people are more willing to use free apps rather than paid ones, and these same free apps can lead to better ratings than paid ones. Having a payment involved will make people more judgmental, as people take for granted that they won't need to pay anything for running apps, as there are many good free options in the market.

According to the regulatory focus theory, people are more of the type to avoid losses and negative outcomes. People manage their goals preventing themselves from any losses, focus themselves on the non-losses and the responsibilities. As people are of the preventing type, they not only want to avert the danger to their health, but also don't want to have any loss (not even money), an evidence of this being one more reason why people prefer free to paid running apps.

This research provides valuable insights for companies and brands to understand how do consumers behave. If a company has a disruptive idea about running apps, either it is a well-known sports brand and can automatically present the product to the market, or it should join forces with a well-known sports brand and make a collab to use the brand. As there are already good free apps in the market, these new apps should also be free, and make money with ads or subscriptions to upgrade the functionalities – what the players in the market should already be improving to profit from it. Another thing these companies should take into consideration is to guarantee the good functioning of the running app in order to get the best reviews possible, as these need to be controlled. Having an “average” running app will lead people to change to another player.

5.2. Limitations & Future Research

Naturally, every research has its limitations, and this is no different. This study was based on an online survey. By not being presential, there may have been some misconceptions, and participants may have not answered every question with total honesty. For example, the variable

“Rating” was initially conceptualized as “Rate”, and could mean for some participants “Overall Quality”, but for other could mean “Price/Ratio Quality”, and that could change the results.

To aggravate, the survey was lengthy, time-consuming, and very repetitive, which could lead people to be impatient and not be sincere while answering all the questions. A pre-test and an attention question were included in the survey to guarantee the truth of the answers, but one can never be sure that participants are completely into the survey.

Additionally, the sample of the study was short and biased, since the majority of the participants were family, friends, or acquaintances of the author of this study. In order to ensure more credible results, the sample should be bigger and more diverse. This diversity could be on the ages of the participants, their nationalities, their regularity of running, among many other things.

Furthermore, the subject of this dissertation was also one very important limitation to take into account. This study was based on running apps exclusively, only giving insights for this type of app and not for the generality. To add to this, only four types of brands were taken into account, in a universe of millions of types of brands. Many different factors could also be studied, as there can be more factors in which people rely on their decision-making, maybe even more than reviews or price – factors that were theoretically found to be taken into account in people’s decision-making for this type of subject.

To complement this study, in order to strengthen these results and conclusions, a research with different types of brands could be interesting. By presenting different stimuli, it could enforce that sports brands have on this type of app. A future research should also be performed to understand whether the results can be applied to different aims of the apps – for example, perform the same study for a recipe app, to understand the impact brands can have on that type of app, or even in which factors do people rely on to make their decisions.

Appendices

Appendix I: Online Survey – Pre-Test

Standard: Introduction (1 Question)
Standard: Demographics (2 Questions)

Standard: Intro Brands (1 Question)

Block Randomizer: 8

Standard: Nike (4 Questions)
Standard: Adidas (4 Questions)
Standard: Strava (4 Questions)
Standard: Suunto (4 Questions)
Standard: Hospital da Luz (4 Questions)
Standard: Hospital CUF (4 Questions)
Standard: Oreo (4 Questions)
Standard: Chips-Ahoy (4 Questions)

Standard: Intro Reviews (1 Question)

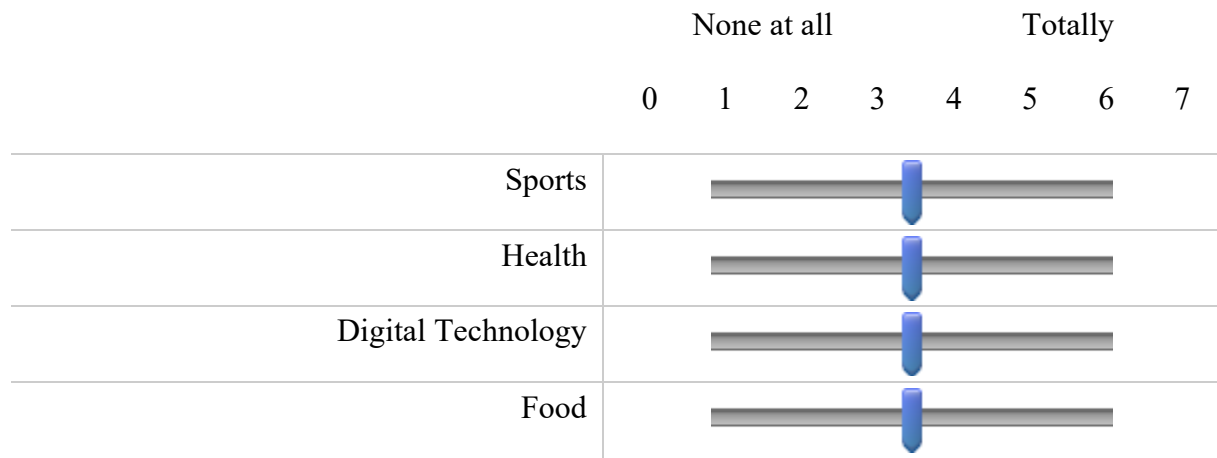
Block Randomizer: 14

Standard: Good I (1 Question)
Standard: Medium I (1 Question)
Standard: Good II (1 Question)
Standard: Medium II (1 Question)
Standard: Good III (1 Question)
Standard: Medium III (1 Question)
Standard: Good IV (1 Question)
Standard: Medium IV (1 Question)
Standard: Good V (1 Question)
Standard: Medium V (1 Question)
Standard: Good VI (1 Question)
Standard: Medium VI (1 Question)
Standard: Good VII (1 Question)
Standard: Medium VII (1 Question)

Start of Block: Nike



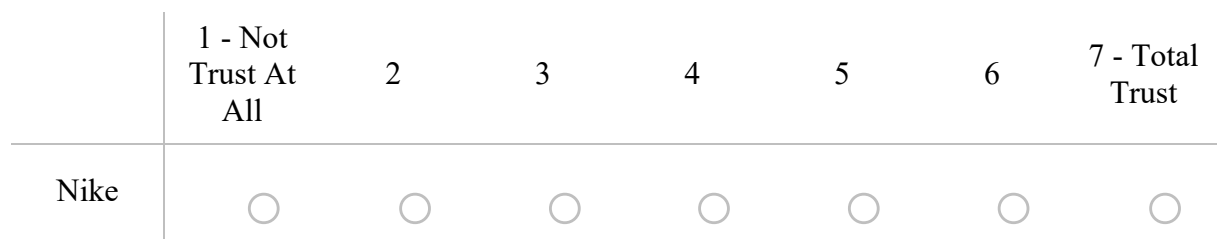
Q3 To what extent is this brand related to products and services associated to:



Q4 How positive do you perceive this brand?

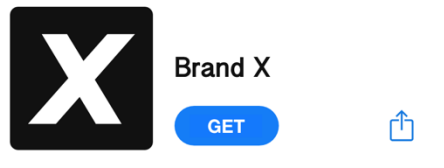


Q5 How much trust do you have on this brand?



End of Block: Nike

Start of Block: Good I



User's Reviews:

John Stones 1mo ago

Amazing app! Brand X is more than a killer run tracker. It's curated playlists for your jog, a social network where you can show off your hard work, and a killer run tracker. It tells when to speed up and rest as well as giving a little pep talk while running.

- It saves more than 100.000 runs, registering all your improvements - it shows all your track, giving you an aerial real overview of the run.
- It has more than 50 different challenges and games for you to challenge your friends.
- You can share your improvements with your friends and all Brand X's community, whenever you want, for indefinite duration.

Q27 How positive or negative do you think this review is?

	1 - Extremely Negative	2	3	4	5 - Extremely Positive
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Good I

Appendix II: Online Survey – Version A & Free

Block: Introduction (1 Question)
Standard: Intro Apps Free (1 Question)

Block Randomizer: 8

Standard: Nike (8 Questions)
Standard: Strava (8 Questions)
Standard: Hospital da Luz (8 Questions)
Standard: Oreo (8 Questions)
Standard: Adidas (8 Questions)
Standard: Suunto (8 Questions)
Standard: Hospital CUF (8 Questions)
Standard: Chips-Ahoy (8 Questions)

Standard: General (6 Questions)
Standard: Price (1 Question)
Standard: Demographics (4 Questions)

Start of Block: Introduction

Intro Thank you for participating in this online survey today. It is conducted by a Master's student of Católica Business School and is for the purpose of a thesis dissertation, which aims to identify the decision-making factors on a running app choice. Your participation in this study is completely anonymous and voluntary. The data will not be collected in such a way that will be allowed to identify the participant. This survey should take a maximum of 15 minutes. Please read all the questions carefully, and answer them with total honesty.

End of Block: Introduction

Start of Block: Intro Apps Free

Intro Apps Free You will now see some running apps, and make some decisions. Please read all the questions carefully. All the apps are **FREE**.

End of Block: Intro Apps Free

Start of Block: Nike



Nike Running Club

FREE



User's Reviews:

John Stones

1mo ago



This app is just out of this world! Nike brought more than just a casual run tracker app - you can share your achievements, challenge your friends to be better than you, and record all of it, in a single app.

- More than 100.000 runs can be recorded, helping being more effective on my personal tasks - it comes with an aerial overview of each route I take.
- Over 50 different challenges, for yourself or to compete with your friends.
- You can celebrate your successes with everybody, anytime, for unlimited time.

Q1 How much are you willing to use this app?

Not at all

Totally

1 2 3 4 5 6 7



Q2 How much do you trust this app?

Not at all

Totally

1 2 3 4 5 6 7



Q3 How do you rate this app?

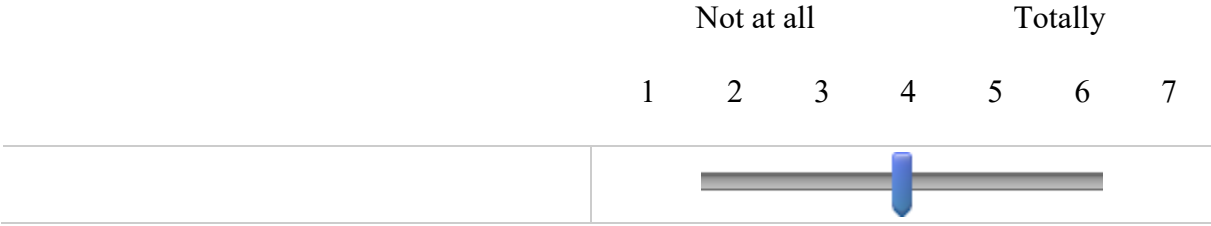
Very poor

Excellent

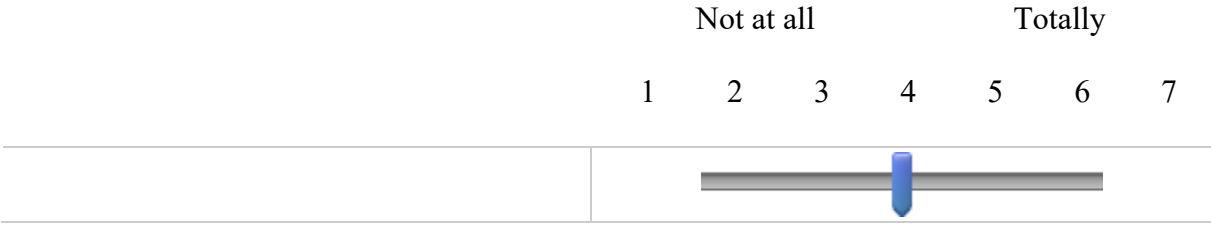
1 2 3 4 5 6 7



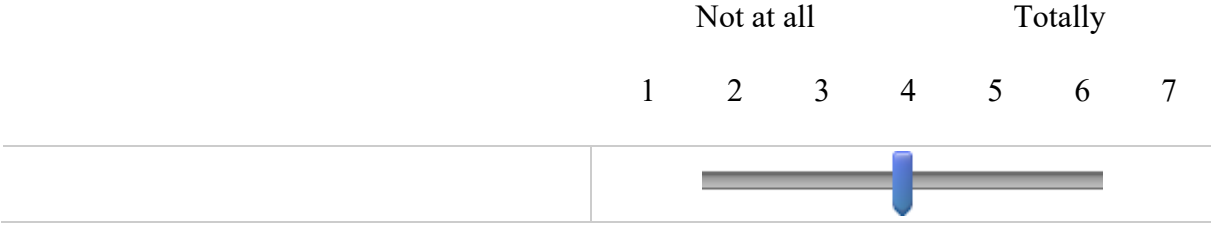
Q4 How much do you trust on Nike?



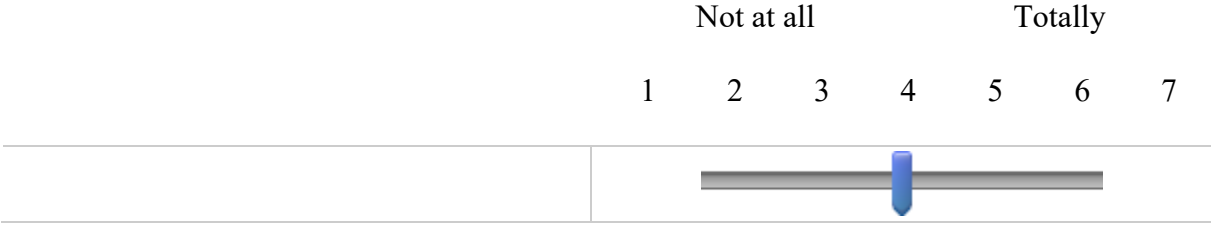
Q5 How familiar are you with Nike?



Q6 To what extent was your decision influenced by the reviews?



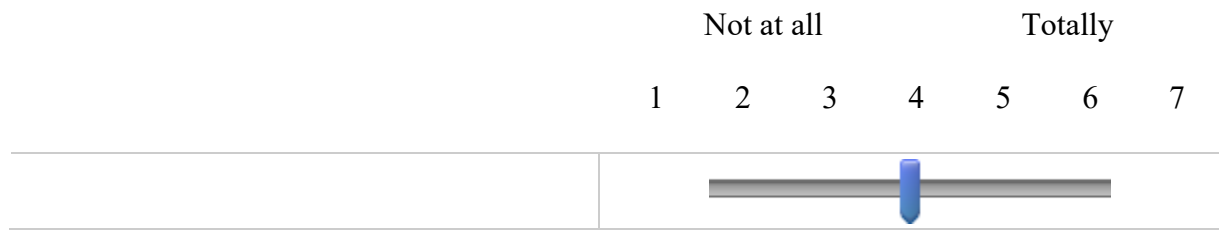
Q7 To what extent was your decision influenced by the brand?



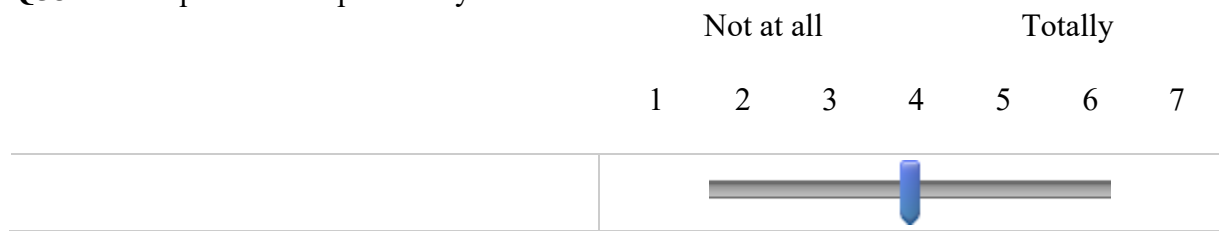
End of Block: Nike

Start of Block: General

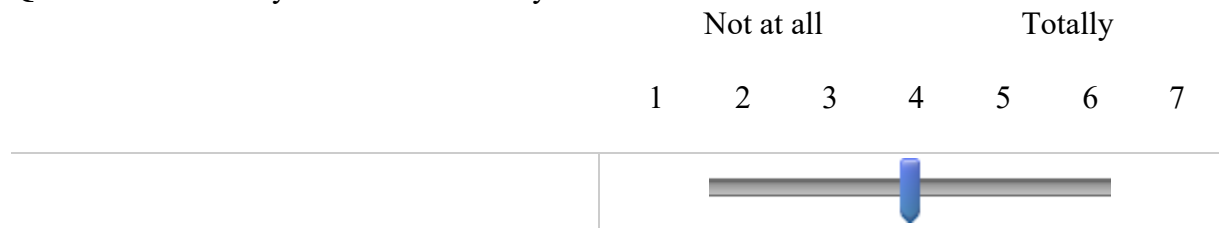
Q57 How important is choosing a good sports' app for you?



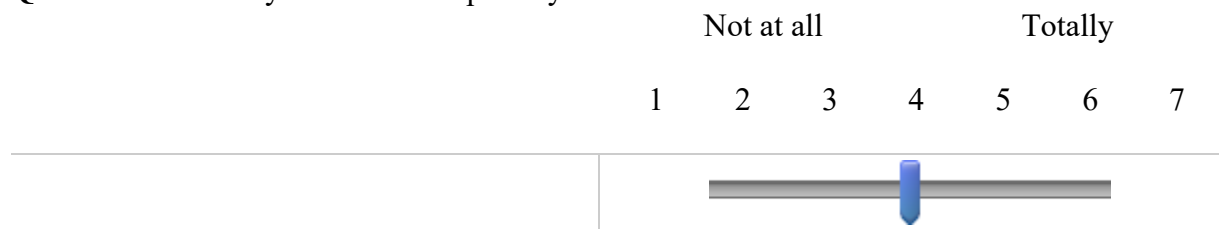
Q58 How important are sports for your life?



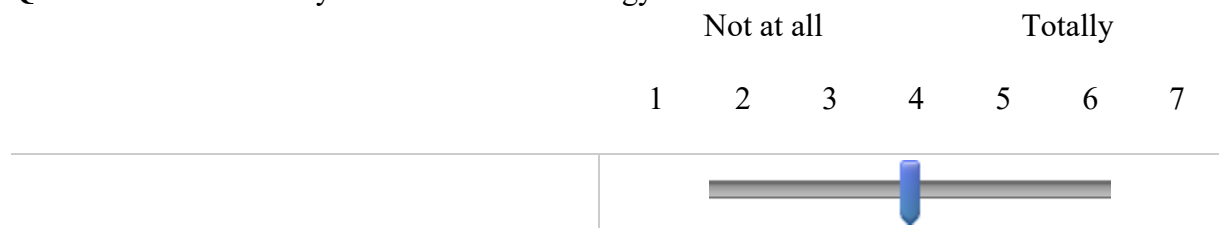
Q59 How much are you concerned with your health?



Q60 How much do you strive to improve your health?



Q61 To what extent do you care about technology?



Q62 How much effort did you put on these decisions?

Not at all

Totally

1 2 3 4 5 6 7



End of Block: General

Start of Block: Price

Q63 What was the price of the apps?

- Free (1)
- 1€ (2)
- 4,99€ (3)
- 12,99€ (4)

End of Block: Price

Start of Block: Demographics

Q64 How old are you?

0 10 20 30 40 50 60 70 80 90 100



Q65 What's your gender?

- Male
- Female
- Other

Q66 Mark the choice that closest fits your occupation:

- Currently looking for a job
 - Retired
 - Employed
 - Self-employed
 - Student
 - Other _____
-

Q67 What is your monthly income?

- Less than €500
- €501 - €1,000
- €1,001 - €1,500
- €1,501 - €2,000
- €2,001 - €2,500
- €2,501 - €3,000
- €3,001 - €5,000
- More than €5,000

End of Block: Demographics

End of Survey

Thank you for your time spent taking this survey. Your response has been recorded.

Appendix III: Online Survey – Version B & Paid

Block: Introduction (1 Question)
Standard: Intro Apps Paid (1 Question)

Block Randomizer: 8

Standard: Nike (8 Questions)
Standard: Strava (8 Questions)
Standard: Hospital da Luz (8 Questions)
Standard: Oreo (8 Questions)
Standard: Adidas (8 Questions)
Standard: Suunto (8 Questions)
Standard: Hospital CUF (8 Questions)
Standard: Chips-Ahoy (8 Questions)

Standard: General (6 Questions)
Standard: Price (1 Question)
Standard: Demographics (4 Questions)

Start of Block: Introduction

Intro Thank you for participating in this online survey today. It is conducted by a Master's student of Católica Business School and is for the purpose of a thesis dissertation, which aims to identify the decision-making factors on a running app choice. Your participation in this study is completely anonymous and voluntary. The data will not be collected in such a way that will be allowed to identify the participant. This survey should take a maximum of 15 minutes. Please read all the questions carefully, and answer them with total honesty.

End of Block: Introduction

Start of Block: Intro Apps Paid

Intro Apps Paid You will now see some running apps, and make some decisions. Please read all the questions carefully. All the apps are **PAID**.

End of Block: Intro Apps Paid

Start of Block: Nike



Nike Running Club

4,99€



User's Reviews:

John Stones

1mo ago



Nike Running Club is just one more run tracker app. It records your runs, shows your speed, and gives you some challenges to challenge yourself. It is visually helpful, as the commands are big and of easy access. It is available in some languages. I like the app.

- It only saves 100 runs - at the end of each run it gives an overview of the run, but sometimes doesn't recognise the route taken.
- It has 5 levels of challenges to help you improve on your running and timings.
- Your share stays in the app only for a week.

Q1 How much are you willing to use this app?

Not at all

Totally

1 2 3 4 5 6 7



Q2 How much do you trust this app?

Not at all

Totally

1 2 3 4 5 6 7



Q3 How do you rate this app?

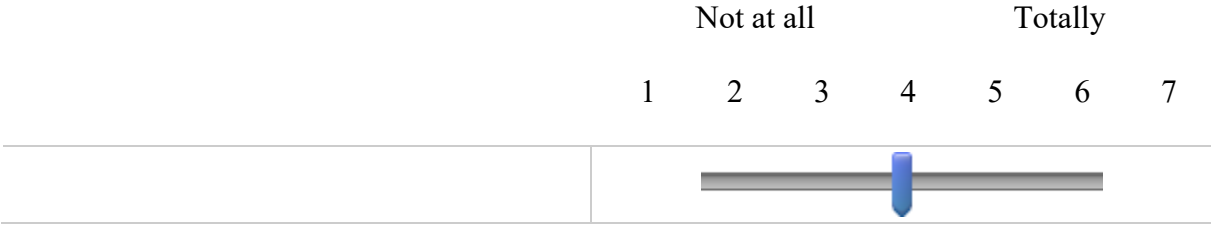
Very poor

Excellent

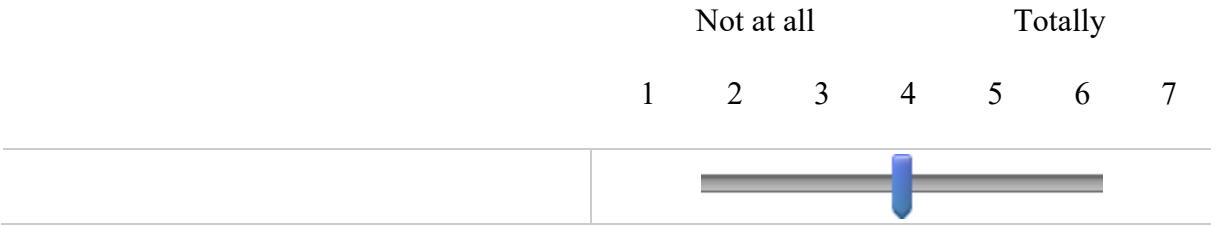
1 2 3 4 5 6 7



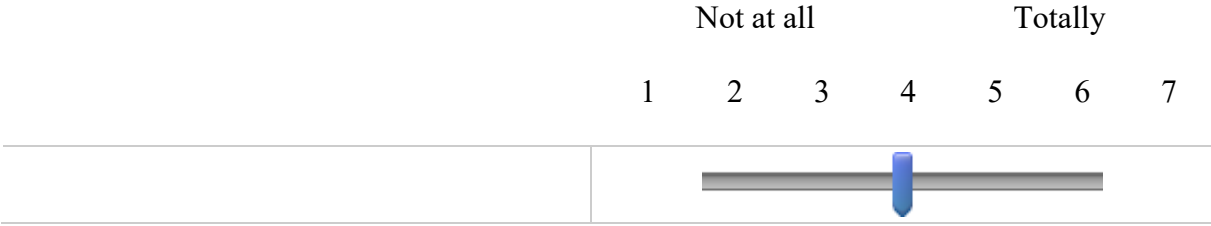
Q4 How much do you trust on Nike?



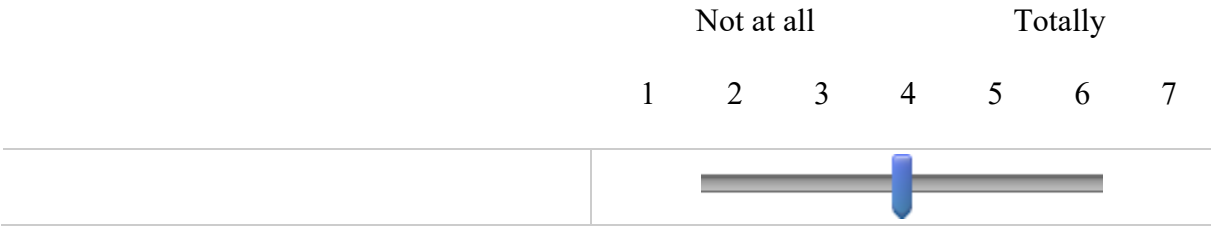
Q5 How familiar are you with Nike?



Q6 To what extent was your decision influenced by the reviews?



Q7 To what extent was your decision influenced by the brand?



End of Block: Nike

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