

CONSUMER-BRAND ENGAGEMENT IN OTC MEDICATION: CAN  
PHARMACEUTICAL COMPANIES INCREASE BRAND USAGE INTENTIONS  
BY IMPROVING PERCEIVED SOCIAL MEDIA ACTIVITY?

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## **Abstract**

The rise in social media brought enormous challenges and opportunities for companies. These platforms can help increase consumer engagement and allow companies to monitor and analyse consumer generated content, using that information to enhance consumers' brand perception. Hence, it becomes imperative for companies to be able to provide effective social media marketing communications. However, there are some sectors that are unable to do it as efficiently as others. This difficulty is reflected in the pharmaceutical sector, as consumers are less willing to follow this type of brands on social media. Hence, the purpose of this dissertation is to give an overall analysis of whether an effective social media usage by pharmaceutical companies can improve consumer engagement, and lead to brand usage intent. The aim is also to assess whether consumer involvement and average brand page participation have an impact on this relationship. The data collection and analysis have been performed through quantitative analysis, supported by a questionnaire, administered online and built based on the literature of different authors regarding the previously mentioned topics. Results showed that for the category of over-the-counter products, consumer involvement is still a predictor of consumer-brand engagement, with indirect positive effect on brand usage intent. Furthermore, this study proves a positive impact of perceived social media activity both on consumer-brand engagement and brand usage intent. This way, pharmaceutical companies must keep investing in social media channels, working on the development of content that is appealing for their target consumers.

**Keywords:** social media, pharmaceutical sector, consumer-brand engagement, brand usage intent.

**JEL:** M31; I12

## Resumo

A crescente popularidade das redes sociais trouxe enormes desafios e oportunidades para as empresas. Estas plataformas podem contribuir para o *consumer-brand engagement* e permitem a monitorização e análise de conteúdo gerado pelo consumidor, com o objetivo de melhorar a percepção que o mesmo tem da marca. Assim, torna-se imperativo que as empresas comuniquem eficazmente nas redes sociais. No entanto, há alguns setores que são incapazes de fazê-lo tão eficientemente quanto outros. Essa dificuldade reflete-se no setor farmacêutico, sendo motivada por uma menor disposição por parte dos consumidores para seguir este tipo de marcas nas redes sociais. Esta dissertação pretende analisar se o uso de redes sociais por empresas no setor farmacêutico pode melhorar o *engagement* e conduzir à intenção de uso da marca. O objetivo é ainda avaliar se o envolvimento do consumidor e os seus níveis de interação com as marcas em contexto digital influenciam essa relação. A recolha de dados foi feita através de um estudo quantitativo, apoiado por um questionário *online*, construído com base em estudos de diferentes autores em relação aos conceitos mencionados anteriormente. Os resultados mostraram que, para produtos *over-the-counter*, o envolvimento do consumidor é um preditor do *consumer-brand engagement*, com efeito positivo indireto na intenção de uso da marca. Constatou-se ainda um impacto positivo da percepção relativa à presença das marcas nas redes sociais tanto no *consumer-brand engagement*, como na intenção de uso da marca. Assim, as empresas farmacêuticas devem investir nas redes sociais, trabalhando no desenvolvimento de conteúdo atrativo para os seus consumidores-alvo.

**Keywords:** redes sociais, setor farmacêutico, *consumer-brand engagement*, intenção de uso da marca.

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## **Chapter 1 – Introduction**

The beginning of the century brought many technological developments, such as social media platforms, which enabled people to be more active and participative in brand's life, establishing higher interactions and engagement with organizations (Mamic & Almaraz, 2013). This rise in social media presents enormous challenges and opportunities for pharmaceutical companies, as it not only has the capacity to increase consumer engagement with a brand, as also allows companies to monitor and analyse consumer generated content, using that information to enhance consumers' brand perception (Enyinda, Ogbuehi, & Mbah, 2018; Felix, Rauschnabel, & Hinsch, 2017).

The spread of digital tools in today's world transformed the next generation of buyers, that relies heavily on social media and the internet when it comes to search for information regarding health issues (Pegasus, 2018). This generation have been born surrounded by several technologies that had completely changed their consumption behaviour and decision-making process (Francis & Hoefel, 2018). Due to that, these consumers not only show higher levels of ability to cross-reference different sources of information than prior generations, but also tend to have shorter periods of attention and an improved ability to quickly filter out whether a certain brand or message is relevant for them (Francis & Hoefel, 2018). Nevertheless, several brands with riskier products, such as in the pharmaceutical sector, still find it difficult to reach them through these channels.

This way, it becomes imperative for pharmaceutical companies to be able to provide effective social media marketing communications, in order to be part of the consumer journey and improve consumers' relationship with the brand (Enyinda et al., 2018). This brings a challenge to marketers, related to the need to build effective communication strategies with messages that sound appealing to consumers and to build brands with which they want to be engaged (Duffett, 2017).

The aim of the present study is thus to prove that pharmaceutical companies must keep investing their time and efforts into improving their social media communication, as it will allow their consumers to be highly engaged with brands and create incentives for them to prefer the brand inside the category. Having this, the present dissertation aims to cover the objectives mentioned below:

1) Explore the concepts of consumer involvement, consumer-brand engagement, social media and brand usage intent, connecting them to the pharmaceutical industry, with a special focus on over-the-counter products. (Achieved from the literature review).

2) Evaluate the impact of social media and its influence on brand usage intent regarding over-the-counter products.

3) Provide theoretical and managerial contributions for pharmaceutical companies for improving their relationship with consumers and increasing the benefits of social media usage (Achieved from the discussion of the results).

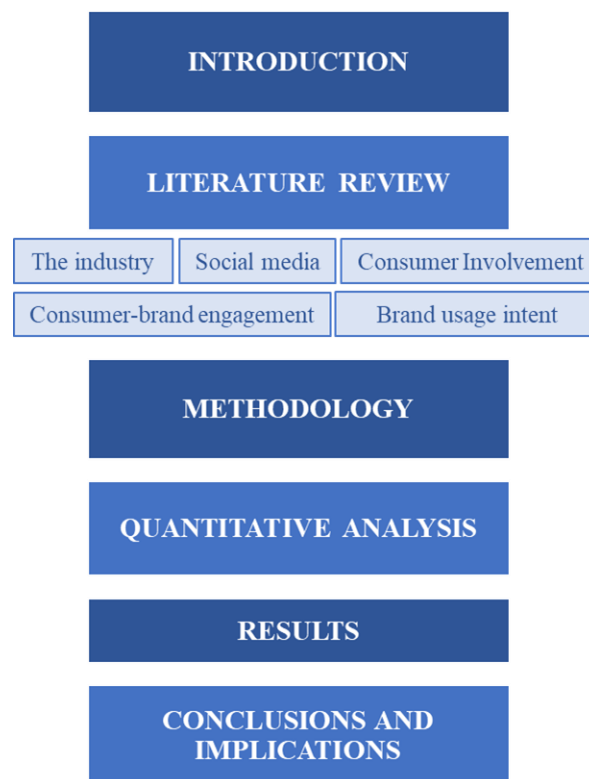
To be able to address these objectives, it is essential to start with a primary research focused on consumer-brand engagement, its antecedents and consequences, and also the differences of this status in an online and offline environment; social media and the key advantages brought from digital communications; as well as clarify the concepts of brand usage intent and consumer involvement. It is also important to try to relate these concepts to the pharmaceutical sector.

After this, there is the need to gather relevant data (through the form of an online questionnaire on the main constructs under study, with pre-defined scales), to be analysed and lead to some conclusions related to the research problematic. This analysis will help explain if consumers do have motivation to interact and, possibly, engage with over-the-counter product brands on social media, as well as to assess the role that perceptions built on these interactions will play on their intentions to prefer the brand instead of similar ones inside the same category. The purpose of the study is thus to provide insights that allow to reach answers to the following research questions:

- (i) What is the role of consumer involvement and consumer-brand engagement in the brand usage intent of consumers regarding over-the-counter products?
- (ii) To what extent do consumers' perceptions regarding OTC brands' communication through social media platforms impact consumer-brand engagement dimensions?
- (iii) Does perceived social media activity significantly influence brand usage intent regarding OTC products?

This dissertation is divided into six major sections, as described in Figure 1. The first one (introduction) has the purpose of introducing the topic to be studied, motivation and its relevance. The second section (literature review) serves as a basis for understanding the main concepts being studied. In methodology part, an explanation on how the study was designed, the reasons behind the choice of the method, and how all the data for this analysis was collected will be provided. In the fourth section (results), the collected data is analysed and discussed. In the last part of this study, the main theoretical conclusions and managerial implications are summarized, and limitations are pointed out to serve as a starting point for future studies.

**Figure 1: Structure of the dissertation**



Source: own elaboration.

## **Chapter 2 – Literature Review**

### **2.1. The pharmaceutical industry**

By being the responsible for the development, production and marketing of medications, the pharmaceutical industry represents an important part of the global economy. The leading pharmaceutical companies come from the United States and Europe. Based on prescription sales, Roche is the world's largest pharmaceutical company. Other top global players include Novartis, Pfizer, Johnson & Johnson, Merck & Co., Sanofi and GlaxoSmithKline (Statista, 2020). Branded, patented medicines by far make up the largest share of pharmaceutical revenues. On the other hand, generics are of substantial importance for the availability of medicines to large parts of the population.

The pharmaceutical market can be divided into two main sectors: the prescription (Rx) drugs and the over-the-counter (OTC) drugs. The difference between both is that while Rx drugs are available only with a doctor's prescription, OTC drugs can be bought without a doctor's prescription, allowing self-medication (Temin, 1983).

The rise of new technologies is bringing different and new perspectives to the pharmaceutical sector. A report conducted by PwC (2009) shows that ten years ago the pharma industry was already no longer being rewarded for incremental innovation. In that sense, pharmaceutical companies were forced to show the added value of their brands and to deliver premium products and services according to their targets' needs and preferences. In fact, the key to growth in the pharmaceutical industry is now more dependent on understanding consumer needs than on the creation of new products or on the improvement of existing ones (Bondarenko, 2019).

As a result, nowadays, pharmaceutical marketing goes beyond the development of point-of-sale materials, detailing to healthcare professionals or the use of traditional media (TV, radio, out-of-home advertising). There are several new communication tools, such as social media, that marketers can use to optimize their communication strategies. Combining them with traditional media in a strategic way will not only impact sales but also strengthen brands (Batra, R., & Keller, 2016).

On top of that, globally, the overall pharmaceutical industry is recently changing with the entrance of new competitors such as Amazon and Google. These big tech companies started developing pharmaceutical products, having transformed the entire

business model, as they can provide both easy access and improved experience to consumers (Nawrat, 2019).

## **2.2. The OTC market**

### **2.2.1. The opportunity**

Nowadays, consumers are becoming more sedentary and eager to prefer junk foods and to adopt behaviours that damage their health, contributing to a rise in cases of health disorders, as headaches, allergies, colds, among others (Lakshmi & Lakhani, 2015). On the other hand, consumers are also becoming more informed (Lakshmi & Lakhani, 2015). This way, the need for over-the-counter (OTC) medication has emerged due to an increasing trend towards self-care and self-medication practices, leading to an increase in number of Rx-to-OTC switches (Cohen, Paquette, & Cairns, 2005; Palmer, 1990). While some years ago this switch used to occur only for drugs that were used to treat common diseases characterized by symptoms that were easy to identify, nowadays this possibility of switching status has been being enlarged, as consumers tend to be more actively searching for self-medication options (Martins, Gonçalves, Marcelo, Vilão, & Da Silva, 2016).

There are numerous business advantages that can result from switching a certain drug's status to non-prescription. Several companies decide to switch their drugs to OTC in order to increase the revenue generated (life-cycle management), to develop a defence strategy against generic competitors, to expand an OTC medicine portfolio, and to broaden consumer access to innovative OTC medications (Mahecha, 2006). Nevertheless, by switching to an OTC status, most of times the company also becomes allowed to invest in direct-to-consumer advertising, as the United States and New Zealand are the only two countries in the world that allow direct-to-consumer advertising of prescription drugs. In Portugal, Rx can only be promoted to healthcare professionals.

On the other hand, the extent to which this switch is beneficial for the consumer is not clear. Indeed, the medicine becomes much easier to access from the consumer perspective, as the visit to a doctor will no longer be required to purchase that drug, allowing consumers to save both time and money (Lakshmi & Lakhani, 2015). On the opposite, medications are not reimbursed by the state, health insurance or health subsystems anymore, which can lead to a higher price point (Creyer et al, 2001)

The success of an Rx-to-OTC switch is thus dependent on several factors. The most important ones are related to the timing of market entry, the ability to provide a safe, effective and easy-to-use product that consumers need, having a brand name that is recognizable, gaining market exclusivity, and providing a clear, consistent marketing message that communicates and sustains product competitive advantages (Mahecha, 2006).

### **2.2.2. The OTC market in Portugal**

The pharmaceutical market has changed a lot throughout the last years. In Portugal, this market was registering a relevant growth over the years between 2013 and 2016. However, in the last years this pattern has changed, and the value of production has been decreasing, which led to a CAGR equal to -1,3% during the period between 2010-2018. On the contrary, data indicates that pharmaceutical companies have been increasing their R&D investments, being 2018 the year with the higher value of investment (around 116M €) (Apifarma, 2019).

Focusing on the OTC segment only, it is possible to conclude that overall there has been an upward trend in the market between 2005 and 2013, which can be explained by several factors, including the steady opening of drug stores in this period and some prescription to non-prescription switches (Cruz, Caramona, & Guerreiro, 2015). This led to an increase in terms of market share of OTC drugs in the overall pharmaceutical market. In parallel, the market for Rx drugs has been registering a slow growth in the last decade, driven not only by the fact that prices are stable or decreasing, but also due to all Rx-to-OTC switches.

Even though the OTC medicines account for around 18% of the Portuguese pharmaceutical market in the Pharmacy channel and represent the most relevant segment of Consumer Healthcare sales in pharmacies (IQVIA, 2020), medicines available as non-prescription in countries with similar United Nations Human Development Index are still classified as prescription-only in Portugal (Cruz et al, 2015).

In 2013, it was introduced a new “pharmacy-only” category in Portugal, which requires some OTCs to be sold only in pharmacies due to its security profile. This category also exists in other countries, such as the UK, while for some other countries, as

Australia, Japan or New Zealand, there are some OTCs that can only be sold by a pharmacist (Cruz et al., 2015).

### **2.2.3. Consumer behaviour regarding OTC products**

When consumers decide to self-medicate themselves, they tend to remove the HCP from the OTC drug adoption process (Creyer et al., 2001). Thus, it is important to ensure that companies are able to provide easy access to accurate and useful information about the drug, namely regarding possible side effects and contra-indications (Creyer et al., 2001; Palmer, 1990).

Consumers can use several sources in order to obtain information regarding OTC medications. The OTC medication label is an important source of information available for consumers to make appropriate purchase decisions (Sansgiry, Cady, & Adamcik, 1997). However, information available to consumers is of little use, unless consumers are actively involved in seeking and using the information. Thus, the decision-making process to purchase a product is affected by both the quality of information sources and the level of consumer involvement in the purchase process (Petty & Cacioppo, 1986).

Moreover, a study conducted by Lee et al (2015) showed that the perceived amount of exposure to and attention paid to drug advertising were the most consistent significant predictors of attitude and behaviour outcomes. The same study suggests that exposure to drug advertising is associated with positive perceptions of drug advertising (Lee, King, & Reid, 2015)

On the contrary, some authors defend that previous experience with an OTC product is the primary factor determining actual repeat purchase of the pharmaceutical brand, followed by the opinions and previous experience of family, friends and health professionals, price tolerance and brand trust (Lodorfos, Mulvana, & Temperley, 2006).

This theory is enlarged by Srivastava & Wagh (2017) who identified five factors influencing the purchase of OTC pharmaceutical products, including influencers (doctor's advice, pharmacist's advice, friends' advice, and testimonials), reliability, awareness, corporate image, and promotion. The more positive an individual perceives the attitude of friends, family and health professionals towards an OTC brand, the greater their intention to purchase the product (Lodorfos et al., 2006). Moreover, medicinal



factors, aesthetics (size, flavour, colour, taste, and shape), and producer's image also have a major influence on purchase of the OTC pharmaceutical products (Srivastava & Wagh, 2017).

Also, the perceived risk which is present when using OTC products significantly affects the loyalty of the consumers. The greater perception of the risk regarding the use of these products, the greater the loyalty to their use (Šapić, Kocić, & Radaković, 2019). Research shows that variables such as pharmacist expertise and perceived risk contribute to brand loyalty among OTC products (van Doorn et al., 2010). According to the research conducted by the author, price sensitivity and promotional activities have no statistically significant impact on creating loyal consumers.

Research provides evidence that for generic buyers believed experience is less important to purchase decisions than for buyers who look directly for the brand name (Lodorfos et al., 2006). In that sense, it is very important that companies work towards the creation of brand awareness. In fact, having a strong brand name allows pharmaceutical companies to differentiate their products from the generic options, building a competitive advantage, as it not only enables them to charge higher prices, but also can speed adoption of a new product if the name is easy to recall. However, the price gap between new brand name drugs and non-branded competition can also be a threat for the company, as it creates incentives for healthcare professionals to prescribe the generic option (Rotfeld, 2009).

As price sensitivity has a significant effect on attitude to repurchase, and previous experience determines an individual's beliefs about the trustworthiness of the brand and has an impact on an individual's sensitivity to the price of the brand (Lodorfos et al., 2006), it is important that companies put effort into providing consumers with a good experience, in order to be able to retain them.

### **2.3. Social media**

Social Media, which can be defined as “*a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content*” (Kaplan & Haenlein, 2010: 61) or as “*mobile and web-based technologies to create highly interactive platforms via which individuals and communities share, cocreate, discuss, and modify user-generated*

*content*” (Kietzmann et al, 2011: 241), includes several types of applications, like YouTube, Facebook, Instagram, Snapchat, LinkedIn, TikTok and Twitter. These social media platforms allow firms to reach engagement levels with the customers much higher than the ones that were possible to achieve with traditional communication tools, both due to the lower costs and the higher levels of efficiency, which make them relevant tools for almost every business (Kaplan & Haenlein, 2010).

These platforms allow consumers to become involved with organisations, by sharing their personal experiences, and to create proximity between brand and stakeholders, by allowing them to share their opinions and expectations, enhancing the overall long-term relationship between companies and consumers (Mamic et al., 2013). Companies must work on the best way to engage the target audience in their brand pages, in order to maintain a real-time contact and create long-term, strong and supportive relationships (Mamic et al., 2013). These platforms, that allow the creation and share of any type of content can also be used to drive sales and build brand awareness (Enyinda et al., 2018). In fact, they can influence every decision, opinion, behaviour or attitude of an individual (Felix et al., 2017).

The type of platform highly influences the levels of digital engagement, as each digital platform will be experienced by its users in a different way (Voorveld et al., 2018). In particular, the way consumers interact with the platform varies a lot: while on Facebook there are only two-way ties, in Twitter it is possible to establish one-way connections (Li, 2018). Nevertheless, the motivators that lead consumers to use the platforms is also different from one to another: while Facebook, Instagram and Snapchat are used for social interaction, YouTube and Pinterest are not (Voorveld et al., 2018).

At the same time, the way consumers perceive brand communications will also depend on the type of platform that is being used. Brand communications (in particular, advertising) on social platforms as Facebook or Instagram are more likely to be appreciated than the ones on YouTube, as in this last case the customer will be forced to watch them in order to access the desired content (Li, 2018). In order to maximize the efficiency of brand communications through social media channels, it is key to either adapt their content to the platform or choose a platform that matches the goal and message that companies want to deliver (Voorveld et al., 2018).

The rise of the Internet allowed consumers to be exposed to numerous ways to engage with brands online. Social media platforms allow consumers to “like” a brand’s information, comment on it, or share it; these are all forms of engagement (Sicilia et al., 2016). Furthermore, these platforms allow companies to deliver information regarding products and brands to consumers in an easy, quick, direct, and cost-effective way.

Social media has caught the attention of many researchers, since it is a new type of online marketing communication tool. It is one of the most effective communication tools answering to most needs related to the steps of the Customer Journey (Keller, 2016). It has the greatest influence on the creation of awareness and salience, the creation of brand personality and image, building trust, eliciting emotions and connecting people.

Though there are many pros for using social media platforms as part of the marketing communication strategy, these should not be used as the only communication method. Hanna et al (2011) state that social media should be combined with traditional media toward a common objective. This is in accordance to Batra and Keller (2016), who state that the main motives for not using social media as the only source of marketing communication include the fact that it may be less effective than traditional media in attracting new users and driving brand penetration; and the fact that consumers are most likely to engage with media, political causes, and fashion and are least likely to engage with consumer goods.

### **2.3.1. Social media for pharmaceutical companies**

Due to the high strict regulatory compliance and privacy issues, the pharmaceutical industry has been slow in adopting social media to enhance their relationship marketing. However, despite these issues, a growing number of pharmaceutical firms are slowly embracing social medial channels to enhance their relationship marketing and brand management.

Social media is completely changing the pharmaceutical and healthcare marketing relationships. It can be used to improve targeting and consumer engagement, as it allows to acquire relevant data through listening, monitoring and analysing the end-user generated content that can be used further in the development of new products or while building a marketing campaign (Enyinda et al., 2018).

Moreover, by bringing the possibility of two-way conversations, social media is a great tool for immediate feedback, which enables companies to better understand how a product is perceived by consumers, as well as their demographics and interests. Nevertheless, the emergence of interactive social media has made it easier for companies to spread their message to millions of consumers about their products. Thus, it is key for any successful company to work on developing an effective marketing communication strategy for their brands, generating favourable feedback from their consumers (Duffett, 2017).

In order to counterbalance the increasing loss of trust in the industry, pharmaceutical companies can invest in relationship marketing-based social media, as it will contribute to cost optimization and allow faster and more efficient response to consumers' changing demands (Enyinda et al., 2018). Moreover, social media has become one of the top-mind options for young consumers' health questions and answers – Generation Z relies heavily on social media and the internet when it comes to health issues (Pegasus, 2018).

In general, consumers that are looking for a pharmaceutical product will tend to ask questions and seek recommendations online (Lee et al., 2015). Thus, if companies have a strong presence on social media environment, potential consumers can identify them as a solution-provider (Enyinda et al., 2018). However, consumers of pharmaceutical brands tend to rely more heavily on highly qualified specialists and dismiss the opinions and evaluations of other consumers (Bruhn et al, 2016), which shows the importance of brand pages versus brand communities or social forums. Thus, the main limitations of social media as a channel for providing health information include its unreliability and the posting of unprofessional content that can reflect negatively on pharmaceutical firms (Enyinda et al., 2018).

Through the use of social media as a marketing communication tool, pharmaceutical companies are also able to enhance their brand recall, as potential consumers associate an organization they see as active on the internet with specific services and will probably remember that brand or company throughout their consumer journey (Enyinda et al., 2018).

## **2.4. Consumer brand engagement**

### **2.4.1. Definition, origin and evolution**

Consumer brand engagement (CBE) plays a central role in the establishment of the relationship between the consumer and the brand (Brodie, Ilic, Juric, & Hollebeek, 2013). The concept of engagement has been studied in different areas including Psychology, Sociology, Political Science and Organizational Behaviour since 2005 (Brodie, Hollebeek, Jurić, & Ilić, 2011; Hollebeek, 2011), however it is quite recent for the Marketing area (Brodie et al., 2013; van Doorn et al., 2010). Brodie et al (2013) considers CBE as a significant tool towards improving and building a sustainable relationship with consumers, mainly in the services area. It is part of the theories regarding the brand-consumer relationship (Baldus, Brian J.; Voorhees, Clay; Calantone, 2014) – thus being inserted in the area of Relationship Marketing. Even though CBE has gained much importance in recent years, there is still no consensus regarding its definition. In that sense, several theories have been proposed to explain CBE.

According to some literature, consumer brand engagement refers to the extent to which consumers are willing to invest their resources as a way of showing loyalty towards brands (Hollebeek, 2011). More precisely, it can be defined as the extent to which a consumer invests in the way he/she interacts with a certain brand, in the cognitive, emotional and behavioural levels (Hollebeek, 2011), and has three key themes: immersion (the consumers usually feel immersed when they use their highly-engaging brands), passion (consumers enjoy being engaged; reveals the extent of individuals' emotional investment in specific brand interactions) and activation (which is related to the amount of effort, time and energy that a customer is willing to spend in interactions with a certain brand).

From another perspective, CBE can be seen as the customers' behavioural manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers that will have an impact on word-of-mouth (WOM) activity, recommendations, the willingness to help other customers, blogging, writing reviews, and even engaging in legal action (van Doorn et al., 2010).

Besides that, consumer brand engagement is defined by Fernandes et al (2019) as a three-dimensional construct, stronger for emotional than functional brand relationships, with significant direct and indirect impact on brand loyalty.

Consumer engagement enhances loyalty and satisfaction, empowerment, connection, emotional bonding, trust and commitment (Brodie et al., 2013). However, there is a fine line between engagement with a brand, that consumers usually appreciate, and the feeling of manipulation for selling, which is the point where consumers begin to question whether they really want to be engaged (Kimmel, 2015).

By measuring and quantifying the levels of consumer engagement and assessing the key performance indicators, it is possible to enhance the understanding of engagement and its outcomes, such as consumer-perceived brand usage intent and brand loyalty (Hollebeek, Glynn, & Brodie, 2014).

Even though early research on consumer engagement with brands used to narrow the concept of engagement to non-transactional behaviors, Hollebeek et al. (2014) presented a broader and multidimensional approach, defining it as “*a consumer's positively valenced cognitive, emotional and behavioral brand-related activity during, or related to, specific consumer/brand interactions*” (p. 6), adding the cognitive and affective dimensions. Some years later, Pansari and Kumar (2016) proposed a comprehensive framework with two types of contributors for customer engagement: direct contributors (purchases) and indirect contributors (feedback, referral and being an advocate for the firm's product and services).

#### **2.4.2. The antecedents and consequences of CBE**

Hollebeek et al. (2014) stated that consumer brand ‘involvement’ acts as a CBE antecedent. Consumer brand involvement is related to an individual's level of interest and personal relevance in relation to a focal object/decision in terms of one's basic values, goals and self-concept (Mittal, 1995).

According to Leckie et al (2016), consumer involvement, consumer participation and self-expressive brand have differing effects on the CBE dimensions (cognitive processing, affection and activation) and brand loyalty. Involvement, participation and self-expressive brand are all found to positively impact cognitive processing (Leckie, Nyadzayo, & Johnson, 2016). Also, involvement and self-expressive brand positively influence affection (Leckie et al., 2016). Furthermore, affection and activation positively influence brand loyalty (Leckie et al., 2016). However, cognitive processing negatively

impacts brand loyalty, whilst involvement (unlike participation and self-expressive brand) has a positive direct effect on brand loyalty (Leckie et al., 2016).

The impact of CBE on the firm and its constituents can vary based on the immediacy of impact, intensity of impact, breadth of impact, and the longevity of the impact (van Doorn et al., 2010). Overall, key consumer engagement consequences include consumer loyalty and satisfaction, consumer empowerment, connection and emotional bonding, trust and commitment (Brodie et al., 2013). This observation provides evidence to support Brodie et al.'s (2011) fifth theme, which states that consumer engagement plays a central role in the process of relational exchange where other relational concepts are antecedents and/or consequences in specific, iterative engagement processes.

Consumer 'self-brand connection' and 'brand usage intent' represent key CBE consequences (Hollebeek et al., 2014). Self-brand connection is the extent to which individuals have incorporated brand(s) into their self-concept (Escalas, 2004), while brand usage intent is the extent to which a consumer aims to buy a certain brand (Harrigan, Evers, Miles, & Daly, 2017). Consumers who are loyal to OTC products show higher purchase intentions (van Doorn et al., 2010).

Consumer brand engagement also contributes to brand loyalty, being that satisfaction acts as a mediator, both for functional and emotional brands (Fernandes & Moreira, 2019). CBE is particularly impactful on Satisfaction for emotional brands, while Satisfaction has a stronger role in the development of brand loyalty for functional brands (Fernandes & Moreira, 2019). Though significant for both brands, the indirect effect of CBE on brand loyalty is overall stronger for emotional brands, leading to a stronger total effect of engagement when compared with functional brands (Fernandes & Moreira, 2019).

All in all, CBE can derive from variables as satisfaction (Pansari and Kumar, 2017), trust, commitment (van Doorn et al., 2010), involvement (Hollebeek et al., 2014) or social identification with a brand community (Baldus, Brian J.; Voorhees, Clay; Calantone, 2014) and can lead to outcomes such as higher levels of brand loyalty, brand usage, and recommendation (Loureiro, Gorgus, & Kaufmann, 2017).

### **2.4.3. Online consumer brand engagement**

In the last years, the digital transformation has brought different perspectives and ways of working for companies, as well as new ways to engage with their consumers. This change created the need to explore the new ways of CBE, that can also happen online. For example, brand pages are profile pages of brands and products created by companies on social media (Sicilia et al., 2016), thus providing the opportunity for consumers to engage with the featured product or brand-related content (Beukeboom, Kerkhof, & de Vries, 2015). These brand pages usually contain information about products and services, promotions, events, as also work as a communication channel between consumers and the brand.

Research shows that involvement and online brand experience (OBE) are important drivers of online brand engagement. Additionally, brand love is a significant mediator between online brand engagement and e-WOM (Loureiro et al., 2017). Moreover, satisfaction (Kumar & Pansari, 2016), trust, commitment (van Doorn et al., 2010), involvement (Hollebeek et al., 2014) or social identification with a brand community (Baldus et al., 2014) have been regarded as antecedents, while brand loyalty, brand usage, and recommendation have been viewed as outcomes of online CBE (Loureiro et al., 2017).

### **2.5. Consumer Involvement**

Based on the previous studies on CBE (i.e. Brodie et al., 2013; Hollebeek et al., 2014; Leckie et al., 2016), it was decided to examine the most common antecedent of CBE within the social media context: consumer involvement.

Consumer involvement is defined as a state of energy that individuals experience during the purchase process that will shape their information search behaviour (Celsi and Olson 1988). In another words, it refers to the amount of cognitive effort involved in consumer perceptions during a given purchase situation (Bettman, 1979), or the level of interest the consumer shows in a specific product (Solomon, 2011). This concept is reflected by consumers' curiosity and willingness to consume certain products, services or ideas, thus it plays a key role in the decision-making and buying behaviours (Broderick, Greenley, Mueller, Broderick, & Mueller, 2007). For example, some literature shows that when consumers are involved in their purchase of OTC medications, they tend to be more



likely to understand information from the label and evaluate it accordingly (Sansgiry, Cady, & Sansgiry, 2001). Furthermore, low involvement consumers tend to demonstrate more positive responses than high involvement consumers toward drug ads with emotional appeals (Limbu, Huhmann, & Peterson, 2012).

Consumers display several levels of involvement in the buying process, also depending upon the kind of product they are buying. Previous studies showed insignificant direct impact of consumer involvement on purchase intention (Arora, Prashar, Parsad, & Tata, 2019). This is in accordance to Sansgiry et al. (2001) who studied the relationship for OTC products.

Literature shows that consumer involvement can be divided into four main dimensions: situational involvement, normative involvement, enduring involvement and risk involvement.

- **Situational involvement** is caused by the physical and social context of purchase (Mittal, 1995), and may be acute at certain times and in certain situations; it may also reflect a relatively short-term degree of interest, restricted to the purchase situation.
- **Enduring involvement** is related to an interest in an object or event that perdures over time (Warrington & Shim, 2000). Similarly to situational involvement, this type is also related to a person's self-relevance towards the use of a product, but based on the relationship of the product to the consumer's centrally held values across all purchase situations (Celsi & Olson, 1988).
- **Normative involvement** relates to the importance of a product class to the consumer's values, emotions, and ego (Rodgers & Schneider, 1993).
- **Risk involvement** refers to the assessment of importance and/or probability of product risk (McQuarrie and Munson, 1987).

## 2.6. Brand usage intent

Brand usage intent, which is related to the extent to which a customer has intention to buy a certain brand, is a consequence of CBE (Harrigan et al., 2017). Previous research confirmed that all three dimensions of CBE had significant impacts on brand usage intent;

being affection the dimension which had the greatest impact on brand usage intent, followed by activation and cognitive processing.

Brand usage intent can be defined as the consumers' differential response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes (Yoo & Donthu, 2001). In that sense, a consumer's intent to use one brand over other similar brands demonstrates the inherent value of branding (Yoo & Donthu, 2001).

Consumers process information to form beliefs, use those beliefs to form attitudes, which in turn inform behavioural actions. Consumers who engage with a brand are likely to develop attitudes from beliefs more quickly than consumers who are not engaged (Hollebeek, 2011). Those attitudes are also more likely to be favourable which should lead to increased brand usage intent (Harmeling, Moffett, Arnold, & Carlson, 2017). Particularly, Harrigan et al. (2017) found out CBE with tourism social media sites to be a predictor of brand usage intent – the higher the levels of engagement with the tourism social media sites, the higher the intent of the consumer to use that site again.

### **Chapter 3 – Methodology**

According to (Malhotra, Nunan, & Birks, 2016), the first stage when conducting a research project is to explore or search through a problem in order to provide insights to define the problem and develop an approach. Therefore, the methodology was developed after the literature review on the main aspects regarding the objects of study Consumer Brand Engagement and Social Media communication and the relation within them. As the purpose of the study was to understand if pharmaceutical companies should invest in social media marketing communications as a way of improving their consumer-brand relationships and achieve higher levels of engagement and brand usage intent, the method selected for this research was a quantitative method (questionnaire), in order to have more data to draw the conclusions.

This study is based on descriptive research design as it is based on the prior formulation of specific research questions and hypotheses. Based on the literature review, several hypotheses were further developed and tested through an online survey. In this case, it was used the cross-sectional format that consists of a single cross-sectional descriptive research, being the data collected from a single non-repeated sample. In fact, the data for this study comes from one singular sample. This study consists then in empirical research, where the final conclusions will be conceptualized from the existent data, through SPSS analysis.

#### **3.1 Research Conceptual Model**

Over the past years, several studies have been conducted regarding the effects of the use of social media by brands on consumer brand engagement and brand usage intent. However, up to the moment when this dissertation is being written, there are no studies focusing on the influence of social media platforms on consumer brand engagement for over-the-counter products specifically. Furthermore, there is no specific scientific proof of the relation between consumer brand engagement and brand usage intention for this category.

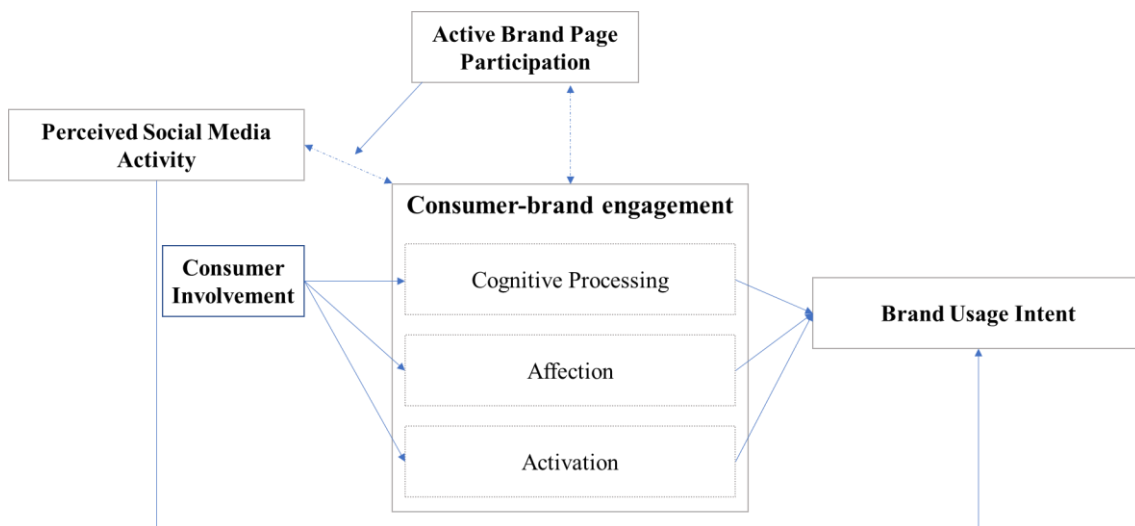
Consumer brand engagement is treated in the current study as multidimensional construct comprising three main aspects: cognitive processing (CP), affection (AF), and activation (AC).

- Affection refers to the degree to which a consumer's degree of positive brand-relationship affects a consumer/brand interaction (i.e. emotional CBE dimension).
- Activation is defined as the amount of time, energy and effort a consumer puts into a particular consumer/brand interaction (i.e. behavioural CBE dimension)
- Cognitive Processing is related to the level to which a consumer thinks about and elaborates on a certain brand interaction (i.e. cognitive CBE dimension) (Hollebeek et al., 2014)

On the other hand, perceived social media activity is assumed to be composed by 5 main dimensions: entertainment, interaction, trendiness, customization and word-of-mouth.

With this in mind, the research conceptual framework was constructed in order to study the consumer perception regarding social media communication for OTC brands and assess the way it influences the three dimensions of the consumer brand engagement - affection, activation and cognitive processing – as well as whether this leads to higher brand usage intentions. Both average brand page participation and consumer involvement were assumed to be antecedents of consumer brand engagement and perceived social media activity.

**Figure 2: Research conceptual model**



*Source: own elaboration.*

### **3.2. Scale Analysis**

The variables used in this study were based and adapted from existent published articles in order to measure the constructs. Thus, several existing scales were considered in order to perform the questionnaire. Some changes had to be made so that the variables would be adapted and valid for the research context.

Consumer Involvement was measured based on the proposed scale by Broderick et al (2007), which measures the construct by dividing it into normative involvement (2 items), situational involvement (3 items), enduring involvement (3 items) and risk involvement (4 items). The measurement of Perceived Social Media Activity (PSMA) is evaluated by the study of Kim & Ko (2012) which is conceptualised in the variables of entertainment (2 items), interaction (3 items), trendiness (2 items), customization (2 items) and word of mouth (2 items). The concept of Consumer Brand Engagement (CBE) was measured with ten statements related with the affection (4 items), activation (3 items) and cognitive processing (3 items) dimensions, previously developed by Hollebeek et al (2014). The development of Brand Usage Intention (BUI) scale was based on Yoo and Donthu (2001) 5-item scale, previously used and adapted by Hollebeek et al (2014). These items were all measured based on a 7-Point Likert Scale, where 1 = Strongly Disagree, 2 = Disagree, 3 = Partly Disagree, 4 = Neither Agree, nor Disagree, 5 = Partly Agree, 6 = Agree, 7 = Strongly Agree. Finally, the scale used for Average Brand Page Participation was developed by Langaro, Rita, & de Fátima Salgueiro (2018) and its items were evaluated according to a scale from '1'(never) to '7'(always). A summary table with all the scales and sources used can be found in Appendix 2.

### **3.3. Hypotheses**

The following assumptions, using the Positivistic approach, will be tested to check if those are confirmed or refuted by the analysis of the data that was gathered through the questionnaire. All the hypotheses were drawn from the assumption that nasal decongestants are considered an OTC product, as the present study is focusing decongestants specifically. Wirtz et al. (2013) found a strong positive association between consumer involvement and consumer engagement in the digital platforms. Dwivedi (2015) also found out CBE to be positively predicted by the role of CI. This is coherent with the studies conducted by Hollebeek et al. (2014) that found a positive relation between CI and the three dimensions of CBE over social media platforms: cognitive

processing, activation and affection. Based on this, the present study assumes the following hypotheses:

**H1a. Consumer involvement has a positive effect on cognitive processing for OTC products.**

**H1b. Consumer involvement has a positive effect on affection for OTC products.**

**H1c. Consumer involvement has a positive effect on activation for OTC products.**

Positive attitudes toward advertising results in analogous attitudes toward the brands, which in turn have a favourable influence on purchase intention (MacKenzie et al., 1986; Bruner and Kumar, 2000). Furthermore, attitude towards an ad has been considered to be an effective measure of advertising effectiveness (Yoo et al., 2010).

**H2: Perceived social media activity is directly related to brand usage intent.**

In the current study, we follow the same approach as the one proposed by Langaro et al (2015), that in the context of brand like pages, users' participatory behaviour is a critical construct to be pursued by brands, as it generates positive brand consequences. Based on this, it is expectable that consumers who are more active on social media pages will tend to have enhanced perceptions regarding brand communications and more likely to engage with them. Therefore, the following hypotheses will be taken into consideration:

**H3: Active brand page participation is positively related to all three consumer brand engagement dimensions (CP, AFF, ACT).**

**H3a: The effect of PSMA on AFF, ACT and CP is moderated by ABPP.**

Hollebeek et al. (2014) define CBE in the context of social media sites as the ability to create a psychological state in the minds of consumers as they interact with the focal brand. The authors argue that CBE enhances the social media site's relationship with customers and, hence, builds up co-creative experiences.

**H4: All cognitive, affective and behavioural dimensions are positively related to perceived social media activity.**

Hollebeek et al. (2014) hypothesized that CBE dimensions have a positive effect on consumer-perceived brand usage intent. They examined the indirect effects of

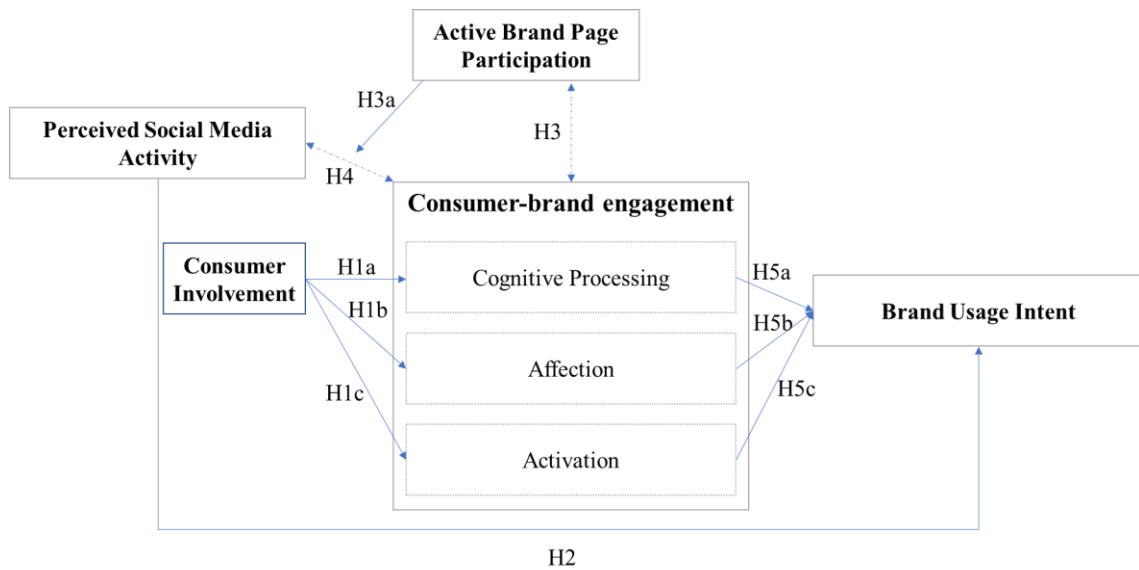
consumer brand involvement on brand usage intent with the CBE mediators. This study showed a significant indirect effect of consumer involvement on brand usage intent.

**H5a: High levels of CP lead to high levels of brand usage intention.**

**H5b: High levels of AFF lead to high levels of brand usage intention.**

**H5c: High levels of ACT lead to high levels of brand usage intention.**

**Figure 3: Research conceptual model with the hypotheses under study**



Source: own elaboration.

### 3.4. Questionnaire

#### 3.4.1. Method Construction and Data Collection

This study used a structured-direct data collection, being a formal questionnaire prepared, where the questions were prearranged. This way, the purpose of the project is disclosed to the participants and the question are fixed-alternative questions that require the responded to select from a predetermined set of responses (Malhotra et al., 2016).

The online survey was built in Google Forms and consisted of a questionnaire with pre-defined scales, with fixed-response alternative questions. This method was chosen since it is easy to conduct and provides consistent data, as the responses are limited to the alternatives stated, which reduces the variability in the result and makes it easier to code, analyse and interpret the data (Malhotra et al., 2016). The fact that it was an online survey brought several advantages, such as the speed of data collection, the low costs, the higher

quality of responses, the removal of interviewer bias, the increase in data quality and the possibility for respondents to answer in a more comfortable way (Malhotra et al., 2016).

The survey was developed only in the Portuguese language, as the brand used as example (Vibrocil) has a different name in different countries, and all the brand's Facebook page content is written in Portuguese. Initially the questionnaire was sent only to 15 respondents aiming to get some feedback on its structure, understandability, feasibility and the items being analysed. Small changes in wording were required in order to make clearer what was being asked as well as the randomization of questions to smooth the similarities between items of the same construct. After implementing the feedback received during the pre-test, the questionnaire was distributed via the internet and spread through different online platforms, such as Facebook, LinkedIn, Instagram and WhatsApp, thus the sample was selected under convenience sampling with snowballing effect.

The questionnaire had a small introduction explaining that its purpose was for a master dissertation with the main goal of studying the impact of social media presence on brand usage intent for OTC products and was composed by 48 questions, all of them of required response and divided into 6 sections. The first section was related to behaviours in Facebook (time spent, average brand page participation) and the second and third ones were focused on consumer behaviours regarding over-the-counter decongestants (consumer involvement and consumer brand engagement). In the fourth and fifth sections, respondents were shown several Facebook posts examples from OTC brands and asked to answer to a set questions where different constructs were being analysed, such as Perceived Social Media Activity and Brand Usage Intent. The last section included 4 demographic questions. The first question of the questionnaire was related to whether the respondent had a Facebook account in order to see if the profile was suited for the main objective of the investigation.

For most of questions, the respondents were required to rate the items on a Likert Scale, which was explained in the form, from 1 to 7. Regarding the demographic questions (age, nationality and gender), they were presented as multiple-choice questions.

The questionnaire was available to public from June 3<sup>rd</sup> to June 16<sup>th</sup> 2020 and a total of 323 responses was gathered.



### **3.4.2. Universe and Sample**

The universe considered for this study included only Portuguese-speaking respondents that have a Facebook account. The sampling method used for this study was the non-probability type with snowball sampling, as the initial group of participants was selected randomly, and subsequent participants were selected based on the referrals by the initial participants through social media. This way, the individuals were chosen randomly to answer the research method (Malhotra, 2010). Even though the minimum sample size considered was established as 300 respondents, the final sample was 323. However, only 317 answers were considered to be valid.

## **Chapter 4 – Quantitative Study**

### **4.1. Data Treatment**

The first step of the data treatment was the exportation of the data from the questionnaire in the Google Forms to an Excel file. From the 323 answers obtained, 5 were incomplete. These respondents revealed they did not have a Facebook account, which was mandatory to be relevant for the purpose of the present study. These answers were thus deleted. While analysing the overall answers, one of the remaining 318 completed ones was also deleted due to unreal Nationality provided (Antarctica). After all, the present study considered 317 valid answers.

As the questionnaire was collected in Portuguese, some corrections were made in the answers in order to be able to translate them and obtain all the plots and tables in English. The data was then imported into the software IBM SPSS Statistics 25 to compute the tests. Using this software, the author was able to do the following analysis: Multiple Regression with Mediation and Moderation Analysis and Cluster Analysis.

First of all, it was necessary to identify the correct type of variable for each item being evaluated. Gender, Nationality, Education level, Known Brands, Frequency of use of decongestants and Frequency of use of Vibrocil products were inserted as nominal variables. Both Age and Time Spent in Facebook were treated as ordinal variables. For the remaining items, in which it was used a 7-Point Likert Scale, a scale variable was used.

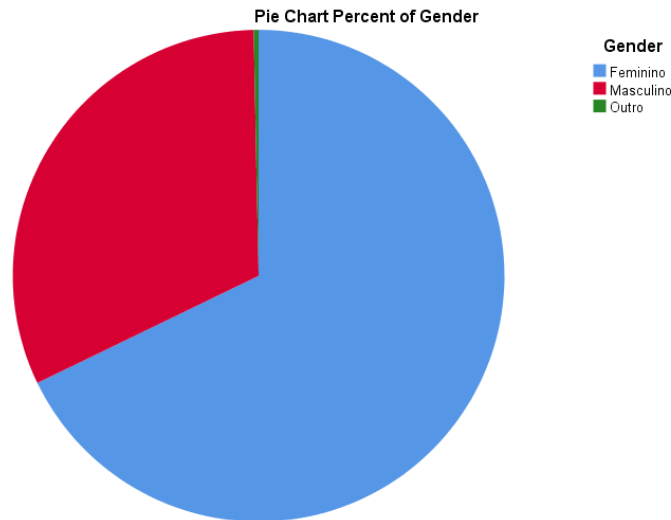
### **4.2. Respondent Profile**

In order to make it easier to interpret data, the Age question was presented to respondents as a multiple-choice question, with 5 different age groups. The obtained data thus demonstrates that the majority of respondents are between 18 and 25 years old (46,1%), followed by people aged between 26 and 35 years old, who represent 26,1% of the sample. This is followed by 11,4% of people aged 46-55 years old, 10,1% between 36-45 and only 6,3% who are more than 55 years old.

Looking at the proportion of respondents in terms of gender (Figure 4), the results illustrate that the majority of respondents are female (68,7%), surpassing both the amount of male respondents (31,9%) and those who identify themselves with other genders (0,3%). Additionally, the pie chart from Figure 5 looks at the proportion of respondents

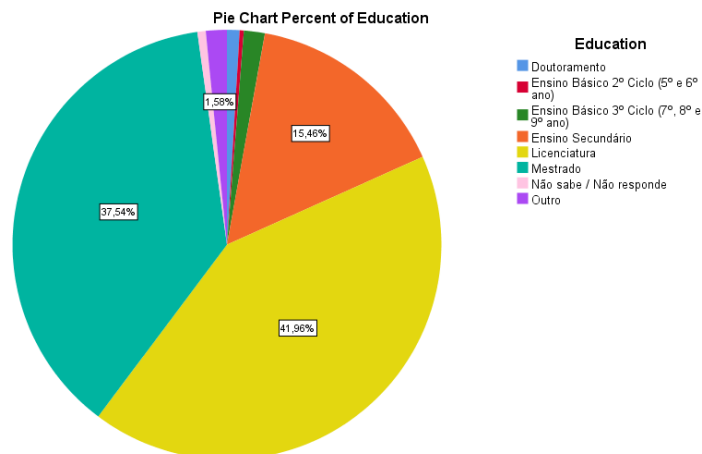
in terms of level of education. It shows that the majority of respondents hold either an undergraduate degree (42,0%) or a master (37,5%).

**Figure 4: Pie Chart for Gender**



Source: own elaboration using SPSS.

**Figure 5: Pie Chart for Education level**

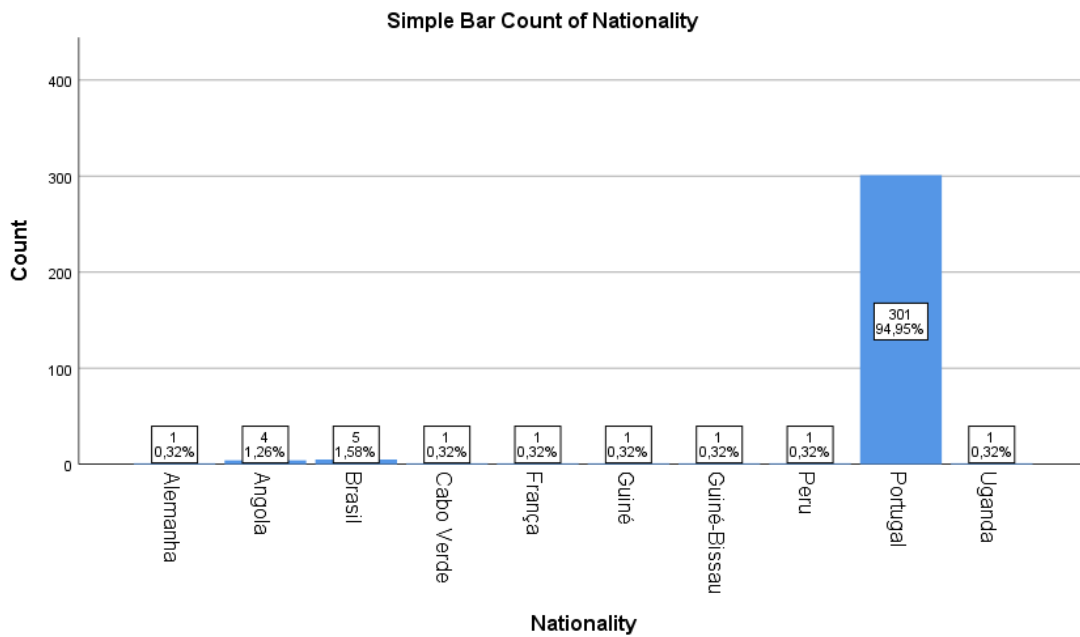


Source: own elaboration using SPSS.

The last demographic variable analysed was the country of origin of the respondents. There was a total of 10 different Nationalities. Most of the responses were from Portuguese citizens, who account for 95,0% of the valid answers. The second

biggest representation in the sample was from Brazil with 5 answers representing 1,6%, followed by Angola, with 4 answers representing 1,3% of the sample. Figure 6 below illustrates the distribution of the sample by Nationality.

**Figure 6: Distribution of Nationality**



Source: own elaboration using SPSS.

Regarding behaviours in Facebook, the majority of respondents reveal that they use to spend less than an hour per day in this social media platform (58,4%) or between one and two hours (27,1%). Moreover, only 24,9% of the respondents from the study actually follow OTC or other similar healthcare brands on Facebook.

It is also possible to understand that 185 respondents have already used Vibrocil products (58,4% of the total sample) and 238 respondents consider themselves to be frequent users of nasal decongestants (which corresponds to 49,5% of the sample).

## Chapter 5 – Results

### 5.1. Descriptive Statistics

The following section provides the analyses of the results of the Descriptive Analysis calculated through SPSS Statistics 25.

Both the Mean and Standard Deviation were computed for all items and to the new subscales represented as Constructs that were previously mentioned and computed accordingly, as well as the maximum and minimum values for each item. The list of the total analysis can be found in Appendix 3.

#### Average Brand Page Participation (ABPP)

Average Brand Page Participation was composed by 3 variables. The values for the Mean and Standard Deviation of each item are displayed in the Table 1.

The item with higher mean value, 3,84, was ABPP1 – *Click like to posts, photos or videos at the brand like page*. The construct ABPP representing Average Brand Page Participation was obtained through computing the mean of the items ABPP1, ABPP2 and ABPP3. ABPP has mean value of 3,3945 and Standard Deviation of 1,04390. The Mean value is lower than the middle value in the Likert Scale from 1 to 7, indicating that the respondents tend to reveal low levels of active brand page participation.

**Table 1: Descriptive statistics for ABPP**

		Min	Max	Mean	Std. Deviation
ABPP1	Click like to posts, photos or videos at the brand like page (BLP)	1	7	3,84	1,205
ABPP2	Comment the posts published at the BLP	1	7	2,83	1,206
ABPP3	Share with friends the content published at the BLP	1	7	3,51	1,315
ABPP		1	7	3,3945	1,04390

Source: own elaboration; data obtained using SPSS.

## Consumer Involvement (CI)

Consumer Involvement was evaluated through 12 question items. The values for the Minimum, the Maximum, the Mean and the Standard Deviation for each item are presented in the Table 2 below.

As shown in table 2, the item CIR2 - *I believe that differing brands of OTC would give different amounts of pleasure* corresponds to the highest Mean, having the value 4,58. On the other hand, the item CIN2 - *Buying OTC helps me express my personality* displays the lowest mean, equal to 2,49. The items have Standard Deviation between 1,252 and 1,906, the latest corresponding to CIS2 – *It is extremely important that I make the right choice of OTC*.

Through computing the Means of every answer to the items regarding Consumer Involvement, the constructs CIN, CIS, CIE and CIR were created. From Table 2, it is possible to highlight that CIR was the construct with the highest mean ( $\bar{x} = 4,3273$ ), while CIN was the one with the lowest ( $\bar{x} = 2,1782$ ). CIS displayed the highest standard deviation, with a value equal to 1,49413. From this, it is possible to understand that respondents tend to involve themselves in the purchase process due to the level of risk they associate to OTC products, even though they usually do not feel incentives to link this category to their values or emotions.

The Mean for the CI variable is 3,3948 and the Standard Deviation 1,16194. Since the scale used was the Likert Scale with values from 1 to 7, the Mean represents a value between being neutral and somewhat disagreeing.

**Table 2: Descriptive statistics for CI**

		Min	Max	Mean	Std. Deviation
CIN1	I can tell a lot about a person by the type of nasal decongestant she chooses	1	7	2,49	1,453
CIN2	Buying decongestants helps me express my personality	1	6	1,87	1,252
CIN		1,00	6,00	2,1782	1,17352
CIS1	Buying decongestants requires a lot of thought	1	7	3,07	1,583

CIS2	It is extremely important that I make the right choice of a decongestant	1	7	4,04	1,906
CIS3	Choosing between decongestants is a very important decision	1	7	3,37	1,734
CIS		1,00	7,00	3,4911	1,49413
CIE1	I attach great importance to decongestants	1	7	3,38	1,638
CIE2	I have a strong interest in decongestants	1	7	2,67	1,663
CIE3	I enjoy buying decongestants	1	7	2,56	1,535
CIE		1,00	7,00	2,8665	1,36720
CIR1	All brands of decongestants would not be equally enjoyable	1	7	4,49	1,632
CIR2	I believe that differing brands of decongestants would give different amounts of pleasure	1	7	4,58	1,630
CIR3	In purchasing decongestants, I am certain of my choice	1	7	4,14	1,635
CIR4	It is really annoying to make an unsuitable purchase of a decongestant	1	7	4,10	1,796
CIR		1,00	7,00	4,3273	1,41713
CI		1,00	6,08	3,3948	1,16194

Source: own elaboration; data obtained using SPSS.

### Consumer Brand Engagement (CBE)

Consumer brand engagement was measured in 10 different items, which correspond to the three dimensions previously assumed in this study: Cognitive Processing (CP), Affection (AFF) and Activation (ACT).

**Table 3: Descriptive statistics for CBE**

		Min	Max	Mean	Std. Deviation
CP1	Using Vibrocil gets me to think about Vibrocil	1	7	2,92	1,603

CP2	I think about Vibrocil a lot when I'm using it	1	7	3,64	1,798
CP3	Using Vibrocil stimulates my interest to learn more about it	1	7	3,16	1,717
CP		1,00	6,67	3,2396	1,41792
AFF1	I feel very positive when I use Vibrocil	1	7	4,56	1,440
AFF2	Using Vibrocil makes me happy	1	7	3,07	1,649
AFF3	I feel good when I use Vibrocil	1	7	4,58	1,450
AFF4	I'm proud to use Vibrocil	1	7	3,41	1,609
AFF		1,00	7,00	3,9041	1,29613
ACT1	I spend a lot of time using Vibrocil compared to other category brands	1	7	3,70	1,831
ACT2	Whenever I'm using OTCs, I usually use Vibrocil	1	7	4,32	1,773
ACT3	X is one of the brands I usually use when I use Vibrocil	1	7	4,57	1,741
ACT		1,00	7,00	4,1964	1,61492
CBE		1,00	6,80	3,7924	1,26669

Source: own elaboration; data obtained using SPSS.

It is possible to see from the data displayed in Table 3 the values for these 3 variables, which were originated by computing the mean of the items that were referring to each of them. This way, it is possible to understand that the highest mean is the one for Activation ( $\bar{x} = 4,1964$ ), with a Standard Deviation of 1,61492, which is also the highest among the 3 computed variables. From this, as the mean is higher than 4 (the medium value of the Likert scale used), one can see that respondents tend to have a very light preference for the brand being evaluated.

However, taking a deeper look into the 10 items, it is also possible to assess that the lowest mean is the one for CP1 – *Using Vibrocil gets me to think about it*. In fact, CP has the lowest mean overall, which is equal to 3,2396. On the other hand, the highest mean value corresponds to AFF3 - *I feel good when I use Vibrocil*, with a value equal to 4,58 and a Standard Deviation of 1,450. This leads to the conclusion that respondents tend not to elaborate too much on the brand itself while they are using it, but when asked about it they actually tend to slightly agree that this brand makes them feel good.



Overall, the mean for CBE is equal to 3,7924 with a Standard Deviation of 1,26669 – which indicates that respondents tend to be neutral or even slightly disagree that they are actually engaged with the OTC brand being studied.

### **Perceived Social Media Activity (PSMA)**

In the questionnaire, there were 11 question items intended to the Perceived Social Media Activity analysis. In order to be easier to analyse the data, items were grouped into the main dimensions of PSMA, originating variables PSMAE, PSMAI, PSMAC, PSMAW and PSMAT. The values for both the Mean and the Standard Deviation for each construct are presented in Table 4.

From the table, it is possible to see that PSMAW corresponds to the lowest Mean, with the value 2,6136, with a Standard Deviation equal to 1,38014. This allows to reach the conclusion that respondents have low intentions to share social media content regarding OTC products with their friends and relatives. On the contrary, PSMAI mean is the highest one, being equal to 4,0095, with a Standard Deviation of 1,37370. As this item was measured in a Likert Type Scale with 7 items, it is possible to understand that respondents are quite neutral in what regards the extent to which these pages enable information sharing.

Through computing the Means of every answer to the items, the construct PSMA was created. The Mean for this variable is then 3,5503 and the Standard Deviation 1,14714.

**Table 4: Descriptive statistics for PSMA**

		Min	Max	Mean	Std. Dev.
PSMAE1	Using this social media page is fun.	1	7	3,15	1,575
PSMAE2	Contents shown in this social media page seem interesting.	1	7	3,75	1,614
PSMAE		1,00	7,00	3,4495	1,46066
PSMAI1	This social media page enables information sharing with others.	1	7	3,89	1,629
PSMAI2	Conversation or opinion exchange with others is possible through this social media page.	1	7	4,20	1,568
PSMAI3	It is easy to deliver my opinion through this social media page.	1	7	3,94	1,629
PSMAI		1,00	7,00	4,0095	1,37370
PSMAC1	This social media page offers customized information search.	1	7	3,65	1,571
PSMAC2	This social media page provides customized service.	1	7	3,43	1,456
PSMAC		1,00	7,00	3,5379	1,39908
PSMAW1	I would like to pass along information on brand, product or services from this social media page to my friends.	1	7	2,79	1,551
PSMAW2	I would like to upload content from this social media page to my personal page.	1	7	2,44	1,419
PSMAW		1,00	6,00	2,6136	1,38014
PSMAT1	Contents shown in this social media page is the newest information.	1	7	4,64	1,297
PSMAT2	Using this social media page is very trendy.	1	7	3,19	1,507
PSMAT		1,00	7,00	3,9117	1,21635
PSMA		1,00	6,27	3,5503	1,14714

Source: own elaboration; data obtained using SPSS.

## Brand Usage Intent (BUI)

Brand Usage Intent was divided into 5 items: BUI1, BUI2, BUI3, BUI4 and BUI5. From these, BUI4 - *Even in any other brand has the same features as brand X, I would prefer to use brand X* was the one which recorded the highest mean even though the means for all items were similar to each other, always between 3 and 4 (corresponding to a level of neutrality or slightly disagreeing). The standard deviations were also quite similar across all items, being BUI3 the item where respondents were the most aligned.

Through the mean of all the 5 items, it was possible to compute the mean for the variable BUI, which is 3,5748, as well as the standard deviation, equal to 1,43619. By being lower than 4, the mean value for this variable indicates that respondents slightly disagree that they feel incentives to prefer the brand under study above other similar competitors.

**Table 5: Descriptive statistics for BUI**

		Min	Max	Mean	Std. Deviation
BUI1	It makes sense to use Vibrocil instead of any other brand even if they are the same	1	7	3,63	1,553
BUI4	Even in any other brand has the same features as Vibrocil, I would prefer to use Vibrocil	1	7	3,72	1,518
BUI2	If there is another brand as good as Vibrocil, I prefer to use Vibrocil	1	7	3,49	1,546
BUI3	I prefer to use Vibrocil	1	7	3,55	1,557
BUI5	If another brand is not different from Vibrocil in any way, it seems smarter to use Vibrocil	1	7	3,48	1,542
	BUI	1	7	3,5748	1,43619

Source: own elaboration; data obtained using SPSS.

## 5.2. Exploratory analysis

In this section, SPSS 25 and its extension PROCESS were used to perform the following tests: reliability analysis, validity analysis, cluster analysis and multiple

regression analysis using moderation and mediation models. Afterwards, the output will be analysed and described in order to create the statistical ground for conclusions.

### 5.2.1. Reliability and validity analysis

A reliability test was performed in order to assess the reliability and validity of the sample. The analysis has been conducted through the statistical program SPSS 25. In order to assess the reliability of the study, the Cronbach's alphas were computed for all items and constructs. This statistical measure aims to provide a numerical value for the internal consistency of a collection of data, by measuring the extent to which all items are effectively the same concept. The Cronbach's alpha can assume any value between 0 and 1, but the higher the value of the alpha, the higher is the reliability. Therefore, if the alpha is below 0.5 the value is not acceptable, a score between 0.7 and 0.79 is acceptable, between 0.8 and 0.89 means that the consistency is right and equal to 0.9 or above is excellent.

The results can be found in Table 6 below. They show that for all main constructs the alpha values are higher than 0.9, thus indicating high reliability values. Taking a look into the sub-constructs, it is possible to see that all of them display a Cronbach's alpha higher than 0.5, thus all can be accepted as reliable. The sub-construct with the lowest value is Normative Involvement (Cronbach's Alpha = 0.664), but it is quite close to the threshold of 0.7 and thus can also be accepted. Moreover, for the present study, Consumer Involvement will be analysed as a main construct, thus the relevant value of Cronbach's Alpha is the one equal to 0.912.

**Table 6: Reliability analysis for all items**

<i>Main construct</i>	<i>Sub-construct</i>	<i>Items</i>	<i>Cronbach's Alpha</i>
<i>Consumer Brand Engagement</i>	Cognitive Processing	CP1	0,775
		CP2	
		CP3	
	Activation	ACT1	0,891
		ACT2	
		ACT3	
	Affection	AFF1	0,863
		AFF2	

		AFF3		
		AFF4		
<i>Consumer Involvement</i>	Normative involvement	CIN1	0,664	0,912
		CIN2		
	Risk involvement	CIR1	0,868	
		CIR2		
		CIR3		
		CIR4		
	Enduring involvement	CIE1	0,804	
		CIE2		
		CIE3		
	Situational involvement	CIS1	0,817	
CIS2				
CIS3				
<i>Perceived Social Media Activity</i>	Customization	PSMAC1	0,828	0,922
		PSMAC2		
	Trendiness	PSMAT1	0,664	
		PSMAT2		
	Word of mouth	PSMAW1	0,804	
		PSMAW2		
	Interaction	PSMAI1	0,814	
		PSMAI2		
		PSMAI3		
	Entertainment	PSMAE1	0,808	
PSMAE2				
<i>Brand Usage Intent</i>		BUI1		0,961
		BUI2		
	-	BUI3	-	
		BUI4		
		BUI5		

Source: own elaboration; data obtained using SPSS.

### 5.3. Cluster Analysis

In order to better understand if the previous experience and engagement with the brand is impacting the remaining variables, it was conducted a 2-Step Cluster Analysis. This way, the sample was divided into 2 different clusters, being the variable *FrequentUserVibrocil* used as the categorical variable. The first cluster included 58,4% of the respondents, who confirm that they have already experienced products from this brand, while the second cluster contains 41,6% of the respondents, who never used any Vibrocil product. The quality of the clusters obtained was fair but very close to the threshold of good, and thus the results were taken into consideration. This allowed to

compare the mean values and distributions of consumer involvement, brand usage intention and perceived social media activity.

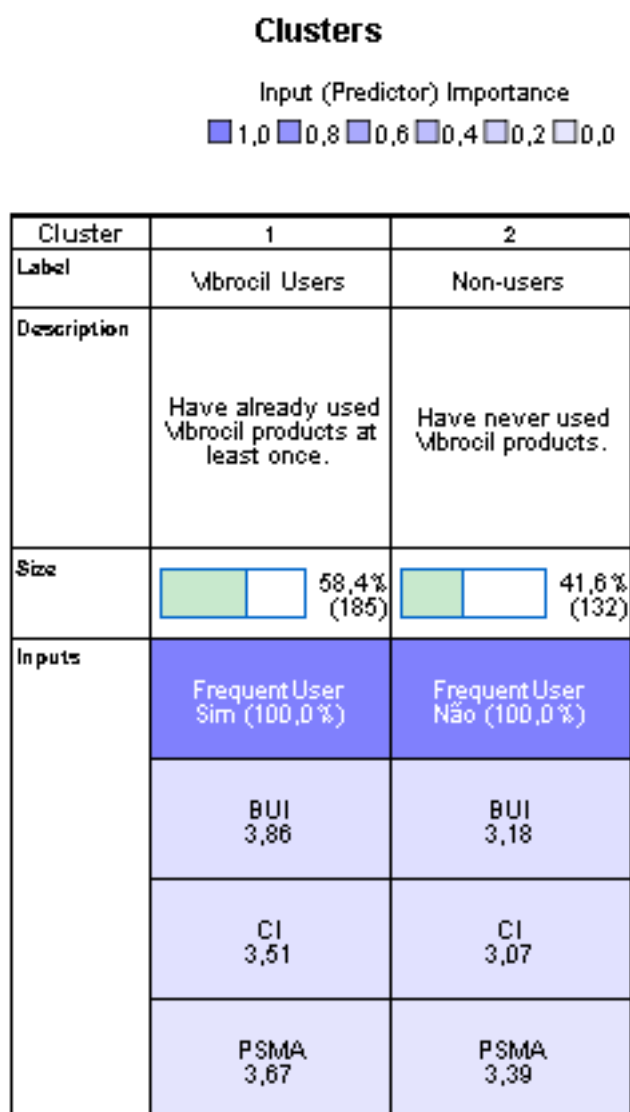
**Figure 7: Cluster Analysis - Model Summary**



Source: own elaboration; obtained using SPSS.

As per Figure 8 below, it is possible to see that respondents who have already used Vibrocil products rank higher in every variable under study. This means that consumers who have already used the brand not only are more willing to prefer it comparing to other similar options inside the category (BUI = 3,86), but also tend to be more involved in the purchase of this type of product (CI = 3,51). They also show a higher mean of perceived social media activity (PSMA = 3,67), which indicates that they are also more open to be impacted by communication of this brand and tend to enjoy more of it than respondents who are not familiar with it.

**Figure 8: Cluster Analysis – Clusters' data**



Source: own elaboration; obtained using SPSS.

## 5.4. Multiple Regression

### 5.4.1. Assumption of the Multiple Regression

The research conceptual model under study was analysed in two different analysis which underlined the same assumptions. This happened because the independent variables and the moderators/ mediators of the conceptual model in both configurations are the same and they are also valid in each model; hence, they are present in all configurations. The confidence level for all the intervals is of 95.0000. In order to proceed with the multiple regression analysis, it is necessary to test the basic assumptions, which will be presented throughout the following sections. If all the assumptions hold, it is possible to use the model for statistical inference, if not, it is only valid for the sample. For the multiple regression analysis, as relationships among all variables will be analysed, the sample under study contains only the FrequentUsers (n = 185), as it was considered that respondents who never used the brand cannot be engaged to it, and thus they are not relevant for this part of the study.

#### 5.4.1.2. Linearity of the model

The multiple regression model is the following:

$$\text{Brand Usage Intention} = \beta_0 + \beta_1 \times \text{Consumer-brand engagement} + \beta_2 \times \text{Consumer Involvement} + \beta_3 \times \text{Perceived Social Media Activity} + \beta_4 \times \text{Average Brand Page Participation} + \varepsilon$$

By construction, the model thus assumes linearity, and the assumption holds.

#### 5.4.1.3. Mean of the residuals

When the mean of the residual components is equal to 0, it is possible to conclude that the mean of the fitted value is the same as the mean of the observed value. In the present study, the mean of the residual is 0, thus this assumption holds.

**Table 7: Descriptive statistics of the residuals**

	Minimum	Maximum	Mean	Std. Deviation
Predicted Value	1,0073	6,4745	3,8728	1,14108
Std. Predicted Value	-2,511	2,280	,000	1,000
Standard Error of Predicted Value	,083	,451	,158	,053



Adjusted Predicted Value	,9535	6,4544	3,8703	1,13973
Residual	-3,81654	2,31560	,00000	,99964
Std. Residual	-3,776	2,291	,000	,989
Stud. Residual	-3,826	2,325	,001	1,003
Deleted Residual	-3,91907	2,38579	,00255	1,02870
Stud. Deleted Residual	-3,982	2,355	-,001	1,014
Mahal. Distance	,227	35,455	3,978	3,883
Cook's Distance	,000	,082	,006	,012
Centered Leverage Value	,001	,194	,022	,021

Source: own elaboration; obtained using SPSS.

#### 5.4.1.4. Correlation between the independent variables and the residuals

One of the assumptions of multiple regression states that the independent variables are not correlated with the residual terms. From Table 8, it is possible to see that even though PSMA, CBE and CI display a Pearson Correlation equal to 0,000, and thus are not correlated to residuals. The same does not happen to ABPP, for which the value of the Pearson Correlation is different from zero. Therefore, one of the independent variables is correlated to the residual terms. As the residuals are related to the part which cannot be explained by the analysis, it is not possible to have a correlation between them and the variable. This way, this assumption does not hold.

**Table 8: Correlations**

		Unstandardized Residual	PSMA	CBE	CI	ABPP
Unstandardized Residual	Pearson Correlation	1	,000	,000	,000	,164*
PSMA	Pearson Correlation	,000	1	,579**	,428**	,210**
CBE	Pearson Correlation	,000	,579**	1	,441**	,123
CI	Pearson Correlation	,000	,428**	,441**	1	,186**
ABPP	Pearson Correlation	,164*	,210**	,123	,186**	1

\*. Correlation is significant at the 0.05 level (2-tailed).

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

Source: own elaboration; obtained using SPSS.

#### 5.4.1.5. Correlation among the residual terms

In order to be able to perform multiple regression analysis, it is mandatory that there is no correlation among the residual terms. According to the results from SPSS, Durbin-

Watson value is very close to 2, thus the residuals are not correlated. This assumption holds.

**Table 9: Model summary**

Model Summary <sup>b</sup>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,752 <sup>a</sup>	,566	,556	1,01075	1,973

a. Predictors: (Constant), ABPP, CBE, CI, PSMA

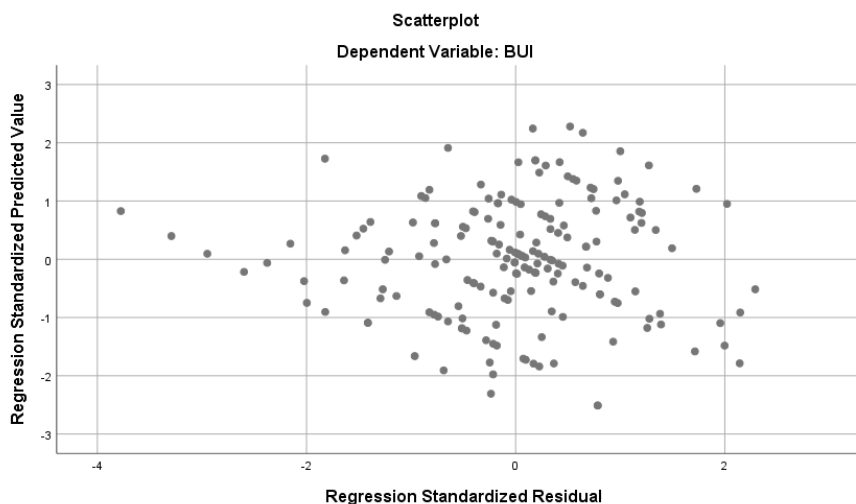
b. Dependent Variable: BUI

Source: own elaboration; obtained using SPSS.

#### 5.4.1.6. Variance of the random term

It is also necessary that the variance of the random term is constant. For the present study, probably this assumption fails. In Figure 9, residuals do not seem to be randomly distributed around 0 (zero).

**Figure 9: Scatterplot – Distribution of the residuals**

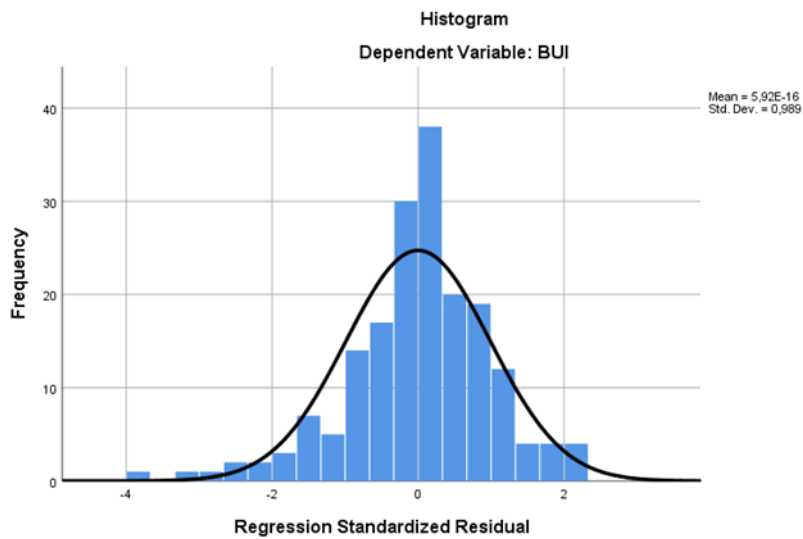


Source: own elaboration; obtained using SPSS.

### 5.4.1.7. Normality of the residuals

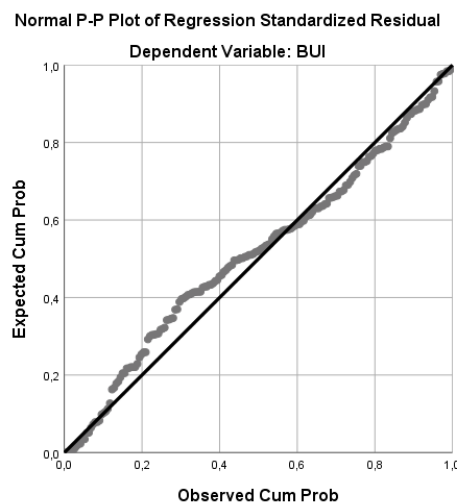
As per Figure 11, it is possible to understand that residuals are not randomly distributed along the 45° line. Furthermore, from Figure 10, it is also possible to see that residuals do not follow a normal distribution. Thus, this assumption possibly fails.

**Figure 10: Histogram – Distribution of the residuals**



Source: own elaboration; obtained using SPSS.

**Figure 11: P-Plot – Distribution of the residuals**



Source: own elaboration; obtained using SPSS.

#### 5.4.1.8. Correlation among the explanatory variables

**Table 10: Correlation between explanatory variables and BUI**

Model	Coefficients <sup>a</sup>									
	Unstandardized		Stand.	t	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	-,274	,355		-,772	,441					
CI	-,017	,072	-,013	-,234	,815	,343	-,017	-,012	,765	1,306
CBE	,790	,075	,656	10,472	,000	,734	,616	,516	,618	1,617
PSMA	,157	,080	,121	1,964	,051	,515	,145	,097	,640	1,563
ABPP	,179	,077	,120	2,342	,020	,222	,172	,115	,931	1,074

a. Dependent Variable: BUI

Source: own elaboration; obtained using SPSS.

When the variables under study are strongly correlated, there can be a problem for the research. On the contrary, it is crucial to have explanatory variables with low levels of correlation between them, as this supports the idea that they are in fact explaining the dependent variable. To verify whether this happens for the variables under study, it is necessary to analyse the value of Tolerance, as well as the VIF, Variance Inflator Factor, which should be above 0.1 and above 10, respectively. This threshold will guarantee that there is not a severe problem of correlation among the independent variables. Since TOL > 0.1 for all independent variables, the conclusion is that they are not correlated among themselves. In another words, there is no correlation among the explanatory variables, thus this assumption holds.

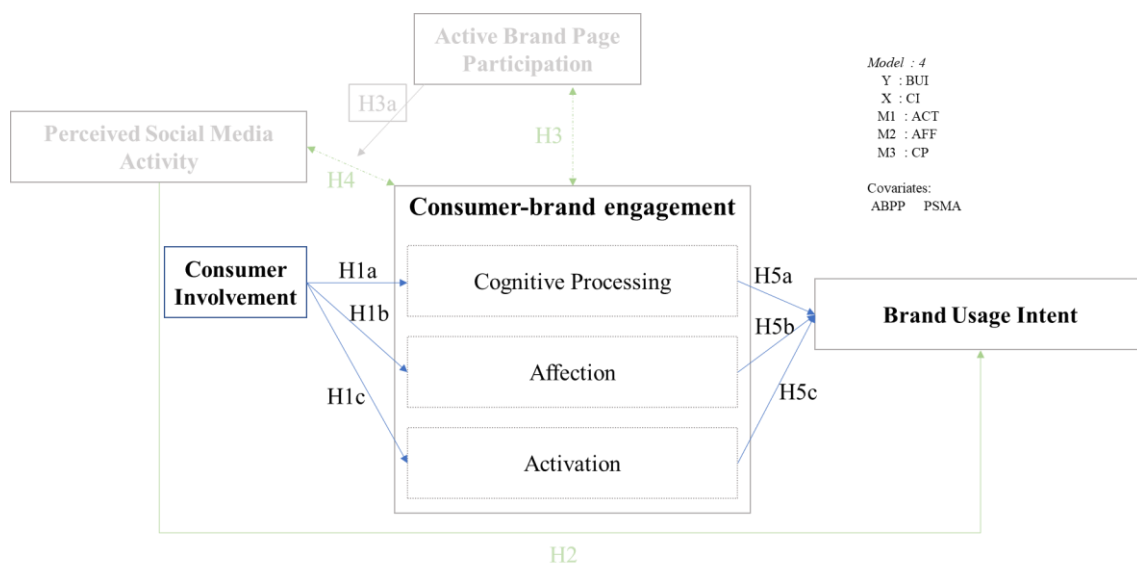
As some of the previous assumptions fail, the model can only be used to characterize the sample analysed and no generalizations will be possible to make for the population. It will not be possible to use the model for inference.

#### 5.4.2. Multiple regression with BUI as the dependent variable; AFF, ACT and CP as mediators and CI as independent variable

Regression analysis was used to investigate the hypothesis that the three dimensions of consumer-brand engagement (cognitive processing, affection and activation) mediate the effect of consumer involvement on brand usage intent. For this,

an analysis through PROCESS has been conducted, and Model 4 was used, assuming BUI as the dependent variable, CI as the independent variable, the three dimensions of CBE (AFF, ACT, CP) as mediators. Both ABPP and PSMA were introduced as covariates, as even though they are not the focus of this first analysis, they should also be considered as they have an impact on the overall model (Figure 12). This model presents a p-value lower than 0,05, equal to 0,0000, for all relationships being studied. This means that the mediators ACT, CP and AFF, as well as the variable BUI can be predicted and explained by the model suggested, using CI as the independent variable. If the p is minor than 0,05, such as in this case, it means that at least some of the variables used are important in explaining the dependent variable and the mediators.

**Figure 12: Structure of the Model**



Source: own elaboration.

**Table 11: Predictors of ACT, AFF and CP**

OUTCOME VARIABLE: ACT							
<b>Model Summary</b>							
R	R-sq	MSE	F	df1	df2	p	
,4431	,1964	2,1360	14,6610	3,0000	180,0000	,0000	
Model							
	coeff	se	t	p	LLCI	ULCI	
constant	1,6551	,4995	3,3135	,0011	,6695	2,6407	
CI	,2192	,0994	2,2050	,0287	,0230	,4154	
ABPP	-,0213	,1107	-,1924	,8477	-,2398	,1972	
PSMA	,4988	,1011	4,9330	,0000	,2993	,6983	

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**OUTCOME VARIABLE: AFF****Model Summary**

R	R-sq	MSE	F	df1	df2	p
,5807	,3372	1,1069	30,5290	3,0000	180,0000	,0000

**Model**

	coeff	se	t	p	LLCI	ULCI
constant	1,3129	,3596	3,6512	,0003	,6034	2,0224
CI	,2916	,0716	4,0744	,0001	,1504	,4328
ABPP	-,0537	,0797	-,6738	,5013	-,2110	,1036
PSMA	,4748	,0728	6,5226	,0000	,3312	,6184

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**OUTCOME VARIABLE: CP****Model Summary**

R	R-sq	MSE	F	df1	df2	p
,6284	,3949	1,2266	39,1597	3,0000	180,0000	,0000

**Model**

	coeff	se	t	p	LLCI	ULCI
constant	,1277	,3785	,3374	,7362	-,6192	,8746
CI	,2964	,0753	3,9337	,0001	,1477	,4450
ABPP	-,0457	,0839	-,5444	,5868	-,2112	,1199
PSMA	,6032	,0766	7,8718	,0000	,4520	,7544

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**Level of confidence for all confidence intervals in output: 95,0000**

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Source: own elaboration; obtained with PROCESS.

Results indicated that consumer involvement was a significant predictor of activation,  $B = .2192$ ,  $SE = .0994$ ,  $p < .05$ , affection,  $B = .2916$ ,  $SE = .0716$ ,  $p < .05$ , and cognitive processing,  $B = .4450$ ,  $SE = .0753$ ,  $p < .05$ . Furthermore, the 95% confidence intervals contain only positive values, higher than zero, thus it is possible to conclude that the effects of CI on ACT, AFF and CP are always positive. These results support the mediational hypothesis, and thus *H1a. Consumer involvement has a positive effect on cognitive processing for OTC products; H1b. Consumer involvement has a positive effect on affection for OTC products and H1c. Consumer involvement has a positive effect on activation for OTC products* hold.

On the other hand, the effect of ABPP on all the three CBE dimensions (AFF, CP, ACT) was not significant ( $p > 0,05$  for all variables). From this, it is possible to reject *H3: Active brand page participation is positively related to all three consumer brand engagement dimensions (CP, AFF, ACT)*, and state that in this study there was no significant effect proven of active brand page participation in the consumer-brand engagement dimensions (CP, AFF, ACT).

Additionally, this data also shows that the effect of PSMA on the CBE dimensions is significant for all of them ( $p = 0,0000$ ). As the confidence intervals only contain values which are higher than zero, this effect must be positive, thus it is possible to infer that *H4: All cognitive, affective and behavioural dimensions are positively related to perceived social media activity* holds and cannot be rejected.

**Table 12: Predictors of BUI**

OUTCOME VARIABLE: BUI						
<b>Model Summary</b>						
R	R-sq	MSE	F	df1	df2	p
,7631	,5823	,9938	41,1318	6,0000	177,0000	,0000
<b>Model</b>						
	coeff	se	t	p	LLCI	ULCI
constant	-,4145	,3590	-1,1545	,2498	-1,1229	,2940
CI	,0119	,0717	,1656	,8687	-,1296	,1533
ACT	,3768	,0666	5,6553	,0000	,2453	,5083
AFF	,2611	,1016	2,5706	,0110	,0607	,4616
CP	,0907	,0816	1,1114	,2679	-,0704	,2518
ABPP	,1728	,0756	2,2847	,0235	,0235	,3221
PSMA	,2019	,0810	2,4916	,0136	,0420	,3619
<b>Level of confidence for all confidence intervals in output: 95,0000</b>						

Source: own elaboration; obtained with PROCESS.

From Table 12, it is possible to understand that both cognitive processing and consumer involvement cannot be considered significant predictors of brand usage intent, as both variables display a p value higher than 0,05. The remaining variables under study (activation, affection, average brand participation and perceived social media activity) all have p-values under the value of 0,05 and are thus significant. Moreover, all of these have 95% confidence intervals containing positive values exclusively, all of them higher than 0, which reveals a positive impact on the dependent variable, BUI. Based on this, it is possible to conclude that *H5b: High levels of AFF lead to high levels of brand usage intention* and *H5c: High levels of ACT lead to high levels of brand usage intention* hold, while *H5a: High levels of CP lead to high levels of brand usage intention* must be rejected. Approximately 58% of the variance in brand usage intent was accounted for by the predictors and mediators ( $R^2 = .5823$ ).

**Table 13: Total effect model – BUI as dependent variable**

<b>OUTCOME VARIABLE: BUI</b>						
<b>Model Summary</b>						
R	R-sq	MSE	F	df1	df2	p
,5475	,2997	1,6384	25,6835	3,0000	180,0000	,0000
<b>Model</b>						
	coeff	se	t	p	LLCI	ULCI
constant	,5636	,4375	1,2884	,1992	-,2996	1,4269
CI	,1975	,0871	2,2683	,0245	,0257	,3693
ABPP	,1466	,0970	1,5122	,1322	-,0447	,3379
PSMA	,5686	,0886	6,4207	,0000	,3939	,7433
<b>TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y</b>						
<b>Total effect of X on Y</b>						
Effect	se	t	p	LLCI	ULCI	
,1975	,0871	2,2683	,0245	,0257	,3693	
<b>Direct effect of X on Y</b>						
Effect	se	t	p	LLCI	ULCI	
,0119	,0717	,1656	,8687	-,1296	,1533	
<b>Indirect effect(s) of X (Consumer Involvement) on Y (BUI)</b>						
	Effect	BootSE	BootLLCI	BootULCI		
TOTAL	,1856	,0710	,0489	,3280		
ACT	,0826	,0425	,0006	,1667		
AFF	,0761	,0403	,0106	,1669		
CP	,0269	,0312	-,0299	,0972		
<b>Level of confidence for all confidence intervals in output: 95,0000</b>						

Source: own elaboration; obtained with PROCESS.

Consumer involvement was no longer a significant predictor of brand usage intent after controlling for the mediators, as  $p = 0,8687$ , which is lower than 0,05, indicating that there is no direct effect of consumer involvement in brand usage intent, suggesting full mediation. In parallel, the indirect effect was tested using a percentile bootstrap estimation approach with 5000 samples, implemented with the PROCESS macro Version 3.5. These results indicated the indirect coefficient was significant,  $B = 0,1856$ ,  $SE = 0,0710$ , 95%  $CI = 0,0489; 0,3280$ , which is consistent with the studies conducted by Hollebeek et al. (2014). Consumers who were more involved were then associated with brand usage intent scores that were approximately 0,1856 points higher as mediated by CBE dimensions. However, as for CP the lowest level confidence interval is equal to -0,0299 and the highest is equal to 0,0972, the indirect effect value can assume any value between these two values. As this interval contains the zero, it is possible that the indirect effect of CI on BUI mediated by CP is equal to zero, thus inexistent, or slightly negative.

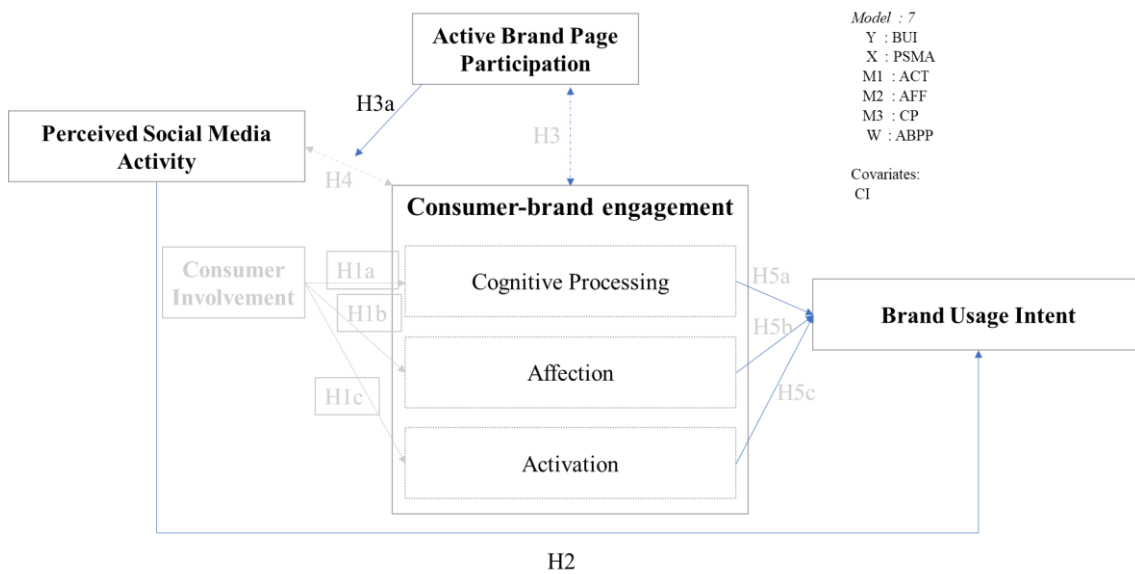


Regarding the effect of PSMA on BUI, considering the total effect model, this effect is significant ( $p = 0,0000$ ) and the 95% confidence interval shows that it should be somewhere between 0,3939 and 0,7433, which indicates that there is a positive relationship between both variables. Based on this, *H2: Perceived social media activity is directly related to brand usage intent* holds: we cannot reject the hypothesis that states a positive relationship between PSMA and BUI.

### 5.4.3. BUI as the dependent variable, CP, AFF and ACT as mediators, ABPP as moderator and PSMA as the independent variable

A second regression analysis was used to investigate the hypothesis that the three dimensions of consumer-brand engagement (cognitive processing, affection and activation) mediate the effect of perceived social media activity on brand usage intent, assuming this is moderated by average brand page participation. For this, an analysis through PROCESS has been conducted, and Model 7 was used, assuming BUI as the dependent variable, PSMA as the independent variable, the three dimensions of CBE (AFF, ACT, CP) as mediators and ABPP as the moderator. CI was introduced as covariate, as even though they are not the focus of this second part of the analysis, they do have an impact on the overall model (Figure 13).

**Figure 13: Structure of the Model**



Source: own elaboration.

**Table 14: Predictors of the mediators ACT, AFF and CP**

**OUTCOME VARIABLE: ACT**

**Model Summary**

R	R-sq	MSE	F	df1	df2	p
,4549	,2069	2,1196	11,6776	4,0000	179,0000	,0000

**Model**

	coeff	se	t	p	LLCI	ULCI
constant	,2244	1,0510	,2135	,8312	-1,8496	2,2984
PSMA	,9227	,2922	3,1578	,0019	,3461	1,4992
ABPP	,4144	,3027	1,3688	,1728	-,1830	1,0117
Int_1	-,1248	,0808	-1,5454	,1240	-,2842	,0346
CI	,2144	,0991	2,1642	,0318	,0189	,4100

**OUTCOME VARIABLE: AFF**

**Model Summary**

R	R-sq	MSE	F	df1	df2	p
,5956	,3548	1,0836	24,6073	4,0000	179,0000	,0000

**Model**

	coeff	se	t	p	LLCI	ULCI
constant	-,1482	,7515	-,1972	,8439	-1,6311	1,3347
PSMA	,9077	,2089	4,3447	,0000	,4954	1,3199
ABPP	,3912	,2164	1,8075	,0724	-,0359	,8183
Int_1	-,1275	,0577	-2,2073	,0286	-,2414	-,0135
CI	,2867	,0708	4,0471	,0001	,1469	,4265

**OUTCOME VARIABLE: CP**

**Model Summary**

R	R-sq	MSE	F	df1	df2	p
,6350	,4032	1,2166	30,2335	4,0000	179,0000	,0000

**Model**

	coeff	se	t	p	LLCI	ULCI
constant	-,9780	,7963	-1,2283	,2210	-2,5493	,5932
PSMA	,9308	,2214	4,2048	,0000	,4940	1,3676
ABPP	,2910	,2293	1,2690	,2061	-,1615	,7436
Int_1	-,0965	,0612	-1,5765	,1167	-,2172	,0243
CI	,2927	,0751	3,8988	,0001	,1445	,4408

Product terms key:

Int\_1 : PSMA x ABPP

Level of confidence for all confidence intervals in output: 95,0000

Source: own elaboration; obtained with PROCESS.

The interaction Int\_1 indicates the effect of the independent variable PSMA when moderated by ABPP. It is possible to see from Table 14 that Int\_1 has a p-value under 0,05, namely 0,0286, for AFF. The interval of confidence of Int\_1, in this case, is between

the lower limit  $-.2414$  (LLCI) and the upper limit  $-.0135$  (ULCI). Since the confidence interval does not include 0, we can conclude that there is a significant moderating effect. It is possible to say that the coefficient, or b value, is likely to be lower than 0. In other words, there is a negative moderation effect on PSMA by ABPP for the sample under study. This indicates that respondents with higher levels of social media interactions tend to show less interest in the type of content shared by OTC products, whereas the respondents who are less active on social media are in fact more interested on this kind of posts. Additionally, both for CP and ACT, this interaction displays a p value lower than 0,05 (equal to 0,1240 and 0,1167, respectively), indicating that the effect of this moderation is not significant for the remaining two dimensions of CBE. Based on this, *H3a: The effect of PSMA on AFF, ACT and CP is moderated by ABPP* is rejected, as this moderation only holds for AFF.

**Table 15: Conditional indirect effect**

	PSMA	->	AFF	->	BUI
	ABPP	Effect	BootSE	BootLLCI	BootULCI
	2,6667	,1428	,0659	,0231	,2778
	3,6667	,1108	,0510	,0185	,2179
	4,3333	,0894	,0480	,0126	,2015
	Index of moderated mediation:				
	Index	BootSE	BootLLCI	BootULCI	
ABPP	-,0321	,0280	-,0966	,0089	

**Level of confidence for all confidence intervals in output: 95,0000**

Source: own elaboration; obtained with PROCESS.

As the moderation hypothesis was rejected for all the remaining variables, the conditional indirect effect was only analysed for AFF. From Table 15, it is possible to understand that the effect of moderation of ABPP decreases for higher values of ABPP. This means that the impact of the moderator ABPP on the relation under study (indirect effect of PSMA on BUI, mediated by AFF) will be stronger for respondents who are less active on social media. As the 95% confidence interval for the index of moderated mediation contains negative and positive values ( $-0,0966$ ;  $0,0089$ ), it is not possible to conclude on how ABPP is influencing the impact of PSMA on AFF: the moderation can be negative, neutral or positive. Table 16 shows that the effect of ABPP on PSMA is

significant at different (low/medium/high) values of ABPP, as the p-values are always lower than 0,05.

**Table 16: Conditional effect of PSMA at different levels of ABPP**

ABPP	Effect	se	t	p	LLCI	ULCI
2,6667	,5677	,0834	6,8051	,0000	,4031	,7324
3,6667	,4403	,0737	5,9741	,0000	,2949	,5857
4,3333	,3553	,0901	3,9436	,0001	,1775	,5331

Level of confidence for all confidence intervals in output: 95,0000

Source: own elaboration; obtained with PROCESS.

**Table 17: Predictors of BUI**

OUTCOME VARIABLE: BUI						
Model Summary						
R	R-sq	MSE	F	df1	df2	p
,7550	,5700	1,0173	47,1952	5,0000	178,0000	,0000
Model						
	coeff	se	t	p	LLCI	ULCI
constant	,0223	,3074	,0725	,9423	-,5844	,6290
PSMA	,2273	,0812	2,7975	,0057	,0669	,3876
ACT	,3806	,0674	5,6474	,0000	,2476	,5136
AFF	,2515	,1027	2,4496	,0153	,0489	,4542
CP	,0875	,0826	1,0600	,2906	-,0754	,2505
CI	,0402	,0714	,5627	,5743	-,1008	,1811

Level of confidence for all confidence intervals in output: 95,0000

Source: own elaboration; obtained with PROCESS.

**Table 18: Direct effect of PSMA on BUI**

Direct effect of X (PSMA) on Y (BUI)						
Effect	se	t	p	LLCI	ULCI	
,2273	,0812	2,7975	,0057	,0669	,3876	

Level of confidence for all confidence intervals in output: 95,0000

Source: own elaboration; obtained with PROCESS.

As per the p-value equal to 0,0000 (Table 17), it is possible to affirm that there is a positive relationship between the independent variable (PSMA) and the dependent

variable (BUI) and all the model is relevant. Moreover, the total predicted variance, R-square, of the dependent variable is equal to 0,5700. In short, the R-square value means that 57% of the variability of BUI is explained by the model proposed. Results in Table 18 also show that PSMA also has a significant direct effect on BUI ( $p = 0,0057$ ), indicating that the mediation by CBE is not a case of total mediation. In fact, by 1-unit increase in PSMA, the level of BUI increases around 0,2273 ( $se = 0,0812$ ). Furthermore, the 95% confidence interval only contains values which are higher than zero, suggesting a positive direct effect. From this, it is possible to conclude that *H2: Perceived social media activity is directly related to brand usage intent* holds.

The following table presents a summary of the hypotheses under study and the extent to which the present study contributed to validate them.

**Table 19: List of hypotheses and validation**

<i>Hypothesis</i>	<i>Validated?</i>	<i>Model testing</i>
<i>H1a. Consumer involvement has a positive effect on cognitive processing for OTC products.</i>	Yes	1 <sup>st</sup>
<i>H1b. Consumer involvement has a positive effect on affection for OTC products.</i>	Yes	1 <sup>st</sup>
<i>H1c. Consumer involvement has a positive effect on activation for OTC products.</i>	Yes	1 <sup>st</sup>
<i>H2: Perceived social media activity is directly related to brand usage intent.</i>	Yes	1 <sup>st</sup> and 2 <sup>nd</sup>
<i>H3: Active brand page participation is positively related to all three consumer brand engagement dimensions (CP, AFF, ACT).</i>	No	1 <sup>st</sup>
<i>H3a: The effect of PSMA on AFF, ACT and CP is moderated by ABPP.</i>	No*	2 <sup>nd</sup>
	*Except for AFF	
<i>H4: All cognitive, affective and behavioural dimensions are positively related to perceived social media activity.</i>	Yes	1 <sup>st</sup>
<i>H5a: High levels of CP lead to high levels of brand usage intention.</i>	No	1 <sup>st</sup>

**H5b:** *High levels of AFF lead to high levels of brand usage intention.*

Yes

1<sup>st</sup>

**H5c:** *High levels of ACT lead to high levels of brand usage intention.*

Yes

1<sup>st</sup>

Source: own elaboration.

## **Chapter 6 – Conclusions and Implications**

The role of social media usage for consumer-brand engagement has been widely discussed in the literature and many diverse propositions can be found. Suggestions have been brought forth regarding the outcomes of this type of brand communication. These involve creation of brand awareness and salience, brand personality and image, building trust, eliciting emotions and improving consumer-brand engagement. However, there is no previous studies investigating these relationships for OTC brands in specific. This research consequently investigated the influence of consumer involvement, average brand participation, perceived social media activity, and consumer-brand engagement on the performance of OTC advertisements in social media, by measuring the impact of all these variables on brand usage intent. This was approached through a quantitative method, combining different analysis to ensure the most reliable results.

This section will then revisit the research objective through a summary of the findings obtained. This will be done by revealing the summary of the findings obtained in the literature review and further investigated in the empirical research, which will subsequently lead to conclusions related to the hypotheses and research questions under study, as well as the implications that the present project has for the Management and Marketing areas.

### **6.1. Theoretical Contribution**

With regard to the theoretical contributions provided by this research, it is important to consider the Research Questions initially intended to be answered:

- (i) Understand the role of consumer involvement and consumer-brand engagement in the brand usage intent of consumers regarding over-the-counter products

This study supported the hypotheses under which affection and activation are predictors of brand usage intent, even though this relationship has not been validated for cognitive processing. According to the present study it is possible to conclude that the more engaged respondents are with a certain OTC brand in the sense that they feel good while using the products, the higher their preference for that brand instead of a similar one inside the category. Additionally, the results showed that consumer involvement is a predictor of CBE for all dimensions in OTC products. This is in accordance with previous

literature, as different authors such as Brodie et al. (2013), Hollebeek et al. (2014) and Leckie et al. (2016) indicated consumer-brand engagement as one of the main consequences of consumer involvement, especially in the social media context, which was also the context in the scope of the present study. However, there was no evidence for the direct effect of consumer involvement in brand usage intent, suggesting full mediation through consumer-brand engagement. This is in accordance with Arora, Prashar, Parsad, & Tata (2019) and Sansgiry et al. (2001) who state that there is no significant direct effect of consumer involvement in the purchase intention.

Furthermore, respondents with higher levels of involvement in the purchase of OTC products revealed higher brand usage intent scores. This means that by having consumers involved in the purchase of OTC, this can lead to a state where they feel engaged with the brand and, consequently, tend to prefer this brand comparing to others inside the same category.

- (ii) Comprehend the influence of consumers' perceptions regarding OTC brands' communication through social media platforms in consumer-brand engagement dimensions

This study provided support to the fact that consumer-brand engagement for OTC products is also driven by perceived social media activity. As data showed significant effect of PSMA on all three CBE dimensions, this means that consumers tend to develop higher levels of engagement with a certain brand when they have positive perceptions regarding their communications through social media platforms. It is also to highlight the fact that from cluster analysis it was possible to conclude that respondents who are already familiarized with a certain brand tend to reveal higher levels of perceived social media activity, which means that frequent users will enjoy more and be more interested in social media content about this brand's products than consumers who do not know the brand at all. This suggests a two-way relationship between both variables, PSMA and CBE.

Even though the sample showed that the most part of respondents were between 18 and 25 years old (46,1%), including Millennials and individuals from Generation Z, both characterized by a need to be always online, communicating and creating content, respondents show moderate levels of interaction with brands in Facebook (3,3945). When focusing on OTC brands specifically, even though they find the brand page



content to be interesting ( $\bar{x} = 3,75$ ), they reveal low intentions to share it with their friends and relatives ( $\bar{x} = 2,6136$ ).

This study also showed a negative moderation effect of ABPP on PSMA for the sample under study, which means that the more active respondents are in social media platforms, the less interested they are in the type of content shared by over-the-counter brands. Contrarily, respondents who tend to interact less with brands on Facebook will find this kind of posts more interesting. Additionally, it was possible to conclude that the moderation effect of ABPP on the way PSMA contributes to brand usage intent will be stronger for respondents who are less active on social media. In other words, as the interactions in social media increase, the effect of this variable will tend to be less relevant.

- (iii) Understand if perceived social media activity can influence brand usage intent regarding OTC products

Results provide evidence that brand usage intent can be predicted by perceived social media activity. In fact, the more positive the perception of social media content, the more willing respondents will be to buy from that brand in specific. Moreover, cluster analysis revealed that frequent users of a certain OTC brand will show higher levels of BUI (preference for that brand). According to Bruhn et al (2016), consumers of OTC products tend to rely more on sources they considered to be reliable. As per the results from descriptive analysis, it is possible to understand that for respondents this kind of social media brand communication's most positive attribute is the fact that it is a source of up-to-date information ( $\bar{x} = 4,64$ ). Based on this, it was expectable that respondents would tend to rely on information they receive through this type of OTC brand Facebook pages. This was in fact confirmed by the study, as it was proved that PSMA has a significant direct effect on BUI ( $p = 0,0057$ ): by 1-unit increase in PSMA, the level of BUI would increase around 0,2273.

From the quantitative study analysis, additional conclusions should be highlighted. After performing the descriptive analysis for each one of the dimensions, it was possible to conclude that respondents, in general, do not feel very engaged with OTC brands ( $\bar{x} = 3,7924$ ). This is supporting Fernandes et al (2019) who found consumer-brand engagement to be stronger for emotional than functional brand relationships. Regarding consumer involvement, the dimension with higher mean is risk involvement ( $\bar{x} =$

4,3273), indicating that consumers tend to be involved in the purchase of OTC products because they associate a certain risk to it and want to make sure they are doing the right purchase, choosing the product which fits them in a better way. This was already expected as previous literature shows that variables such as perceived risk is one of the key variables influencing purchase among OTC products (van Doorn et al., 2010). On the other hand, normative involvement had the lowest mean among all the items ( $\bar{x} = 2,1782$ ), revealing that respondents disagree that the choice of over-the-counter products can be linked to the consumer's values, emotions, and ego. This can be explained by the fact that this category's brands are mainly perceived as functional brands, thus the emotional links to these products are quite limited.

As a concluding remark, the study found that both activation and affection dimensions of CBE are the ones with the highest means when it comes to over-the-counter brands, suggesting their strong importance in the relationship building between respondents and OTC brands. However, perceived social media activity is found to have a bigger impact on CP than on AFF or ACT dimensions, which shows that social media usage can be an opportunity for these brands to improve this third dimension of engagement. In addition, research has further validated that average brand page participation does not influence the relationship with OTC brands, and only moderates the impact of PSMA on CBE for the AFF dimension.

Given all this, one can declare that if respondents are impacted by social media content regarding over-the-counter brands that is able to generate positive perceptions among them, the levels of engagement with those brands will increase and this will have a positive impact in the purchase decision, when comparing this brand to similar ones inside the same category.

## **6.2. Managerial Implications**

This dissertation provided a preliminary experiment to examine whether consumers are willing to be engaged with over-the-counter brand over social media platforms, and the extent to which this relationship would impact their purchase decision. The data analysis, combined with the literature review, led to relevant implications that should be considered for a better understanding of the topic.

The first step is already being respected, as most companies of the over-the-counter industry have already understood the relevance of being present in the social media platforms. However, there seems to be a lack of understanding of the best practices to build lasting customer relationships with their consumers and keep them engaged. Although consumers seem to be quite disinterested and not particularly empathetic with this specific industry, the sample in this study would be more willing to engage and devote preference to a certain over-the-counter brand if they find their social media communications to be appealing. This study provides pharmaceutical marketing managers with important insights to keep consumers engaged in the long-term so that there is an increasing preference for the brands they manage.

First and foremost, social media communication should start being considered as key for consumer engagement, and the concept of brand usage intent as something to invest in throughout different marketing strategies. In fact, there is a great opportunity for the pharmaceutical industry to be able to act effectively on social media platforms and capture consumers' attention and interest, which would once again translate into higher levels of engagement and brand usage intent. The more consumers are impacted by social media communications, the more they will think about the brand, increasing the cognitive processing dimension and, thus, achieving higher levels of engagement, which can further be converted into brand preference by the time of purchase. However, as the road to success is quite dependent on consumers' perceptions, to invest in communication through social media platforms is not enough. As the intentions to share these brands' content revealed to be relatively low, pharmaceutical companies should also put effort into developing new and innovative content, more appealing, attractive and likely to be spread and shared across social media by consumers. Managers need to invest in research in order to understand what their target consumers value in social media and develop content according to their preferences and tastes. This can be done through consumer studies and by keeping the communication lines open, in order to collect and integrate consumers' feedback.

Second, this study showed that respondents tend to be more open to and interested in over-the-counter brands communication for brands they already are familiar with. This way, managers should direct most of their social media campaigns to consumers who already know the brand, in order to strengthen and improve their perceptions. Additionally, they should combine social media investments with other channels that turn

to be more effective for penetration and recruitment of new consumers (for example, detailing to healthcare professionals). Both online and offline channels must be combined in order to achieve a synergic, complete and effective communication strategy.

Finally, pharmaceutical companies should be aware of their consumers' growing demand standards as well as of the importance to act fast and to promote a constant two-way communication. Having in mind the strong level of bureaucracy involved in the development of over-the-counter brands' communications, it is crucial to improve and optimize processes, namely the ones involving internal approvals, in order to be able to provide effective, relevant and up-to-date information.

### **6.3. Limitations and Future Research**

Despite the efforts to avoid bias, every study has its limitations. Interpretations of the results must then be analysed keeping in mind the boundaries and shortcomings.

The first issue arose because of the size of the sample, which even though was composed by around 300 respondents, ended up quite smaller due to errors and invalid answers, thus limiting the generalizability of the study. Moreover, as the respondents were mainly Portuguese, and there was a small variety of other nationalities, this study is much more focused on the Portuguese culture which can have an impact on the variables and outcomes. Future research could try to explore the impact of social media usage for OTC products in consumer brand engagement and brand usage intent in other countries to assess whether culture plays a role on the obtained results.

Additionally, the impossibility to perform a longitudinal study because of the lack of resources can also be considered a limitation, as it is not possible to reiterate the results of this study nor to see if any development could have arisen if, for example, consumers got more familiar with OTC communications. It could also be interesting to consider developments that could derive from the new Covid-19 pandemic situation, which might discourage companies to invest in out-of-home advertising and maybe allow social media channels to become even more relevant for brand communications.

Another limitation can derive from the fact that the present study focused only a small category inside the over-the-counter products: the nasal decongestants. Future

studies could replicate the strategy and try to understand if the conclusions would also apply for different categories of OTC products.

Furthermore, for some questions (mainly regarding PSMA), respondents were exposed to a limited number of social media posts, extracted from the Facebook page. Consequently, their reactions, emotions and feedback can be slightly different from what they would be if they were impacted by these ads in their daily usage of social media platforms. Future research could replicate the present analysis with different types of content, different campaigns, or even allow consumers to explore the social media page directly, without pre-selecting the posts, in order to provide them with the full experience of the brand page.

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## Appendix 1 – Online Survey

No âmbito do mestrado em Marketing no ISCTE-IUL, estou a realizar um estudo sobre o impacto da presença de marcas de medicamentos não sujeitos a receita médica nas redes sociais na intenção de uso da marca. Agradeça a sua colaboração, respondendo ao seguinte questionário, que não levará mais de 15 minutos. As respostas serão tratadas estatisticamente e são anónimas, pelo que nunca poderão ser identificadas individualmente.

Muito obrigada pela colaboração!

1. Possui conta no Facebook? \*

Sim

Não

2. Em média, quantas horas passa no Facebook? \*

Menos de 1 hora por dia

Entre 1 a 2 horas por dia

Entre 2 a 3 horas por dia

Entre 3 a 4 horas por dia

Mais de 4 horas por dia

Não sabe/ não responde

3. Por favor indique, numa escala de "Nunca" a "Sempre", com que frequência...

Nunca   Raramente   Algumas vezes   Frequentemente   Muitas vezes   Quase sempre   Sempre

... coloca  
"Gosto" em  
posts,  
fotografias  
ou vídeos  
partilhados  
nas  
páginas de  
Facebook  
que segue

... comenta posts publicados nas páginas de Facebook que segue

... partilha com amigos conteúdo publicado nas páginas de Facebook que segue

## Padrões de uso de descongestionantes nasais



Descrição (opcional)

1. Costuma usar descongestionantes nasais? \*

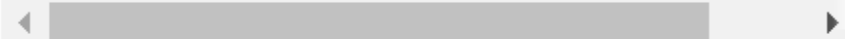
Sim

Não

2. Indique, numa escala de "Discordo Totalmente" a "Concordo Totalmente", qual o seu nível de concordância com as seguintes afirmações: \*

	Discordo totalmente	Discordo	Discordo ligeiramente	Não concordo nem discordo	Concordo ligeiramente	Concordo totalmente
O tipo de descongestionante nasal que cada pessoa escolhe diz bastante sobre si próprio.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comprar descongestionantes nasais requer que pense muito sobre isso.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Atribuo aos descongestionantes nasais uma grande importância.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenho um elevado interesse em descongestionantes nasais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
É muito irritante fazer uma compra inadequada de um descongestionante nasal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gosto de comprar descongestionantes nasais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Escolher entre descongestionantes nasais é uma decisão muito importante.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Comprar descongestionantes nasais ajuda-me a expressar a minha personalidade.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
É extremamente importante fazer a escolha certa de um descongestionante nasal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nem todas as marcas de descongestionantes serão igualmente agradáveis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Acredito que diferentes marcas de descongestionantes nasais irão proporcionar diferentes níveis de bem-estar.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando compro um descongestionante estou confiante/tenho a certeza da minha escolha.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



3. Na lista em baixo encontra várias marcas de descongestionantes nasais. Selecione as que conhece (pode selecionar mais do que uma; se não conhecer nenhuma, prossiga para a pergunta seguinte).

- Nasex
- Vibrocil
- Nasorhinathiol
- Neo-Sinefrina
- Sinutab
- Ilvico Respir
- Vicks

4. Já alguma vez usou produtos da gama Vibrocil? \*

- Sim
- Não

5. Indique, numa escala de "Discordo Totalmente" a "Concordo Totalmente", qual o seu nível de concordância com as seguintes afirmações: \*

	Discordo totalmente	Discordo	Discordo ligeiramente	Não concordo nem discordo	Concordo ligeiramente	Concordo totalmente
Usar a marca Vibrocil faz-me pensar sobre ela.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quando uso descongestionantes nasais, normalmente uso a marca Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me muito confiante quando uso a marca Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tenho orgulho em usar a marca Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sinto-me bem quando uso a marca Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Passo muito tempo a usar a marca Vibrocil em comparação com outras marcas de descongestionantes nasais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Usar a marca Vibrocil faz-me sentir feliz.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Penso na marca Vibrocil quando uso produtos desta marca.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vibrocil é uma das marcas que normalmente uso quando uso descongestionantes nasais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Usar a marca Vibrocil estimula o meu interesse em saber mais sobre a mesma.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Veja com atenção os seguintes posts, retirados da página de Facebook Viver Mais e Melhor - uma página onde se publicam vários conteúdos relativos a marcas de produtos farmacêuticos.



"Sabia que Rhinomer pode ajudar a fortalecer as defesas imunitárias do seu nariz? Proteja-se!"



"Descubra, com Voltaren, alguns exercícios que pode fazer em casa para aliviar as dores de costas!"





Com base no que viu, indique, numa escala de "Discordo Totalmente" a "Concordo Totalmente", qual o seu nível de concordância com as seguintes afirmações: \*

	Discordo totalmente	Discordo	Discordo ligeiramente	Não concordo nem discordo	Concordo ligeiramente	Concordo	Concordo totalmente
É divertido seguir/visitar a página de Facebook destas marcas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Esta página de Facebook permite-me partilhar informação com os outros.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gostaria de integrar conteúdos desta página na minha página pessoal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
O conteúdo partilhado nesta página de Facebook parece interessante.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Os conteúdos são atuais.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Seguir/visitar estas páginas de Facebook está muito na moda.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estas páginas permitem uma pesquisa personalizada de informação.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Estas páginas possibilitam a troca de opiniões e conversa com outros.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Estas páginas oferecem serviço personalizado.

Gostaria de partilhar informações destas páginas com os meus amigos.

É fácil partilhar a minha opinião através das páginas de Facebook destas marcas.

Agora veja com atenção os seguintes posts referentes a produtos Vibrocil, publicados da página de Facebook Viver Mais e Melhor.

"O nariz entupido não o deixa trabalhar? Experimente Vibrocil ActilongProtect!"



Com base no que viu, indique, numa escala de "Discordo Totalmente" a "Concordo Totalmente", qual o seu nível de concordância com as seguintes afirmações: \*

	Discordo totalmente	Discordo	Discordo ligeiramente	Não concordo nem discordo	Concordo ligeiramente	Concordo	Concordo totalmente
Faz-me sentido usar a marca Vibrocil em vez de qualquer outra, mesmo que sejam muito parecidas.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Prefiro usar produtos da marca Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mesmo que outras marcas me ofereçam as mesmas condições, prefiro usar Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Se há outra marca com a mesma qualidade que Vibrocil, prefiro usar produtos da marca Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mesmo havendo uma marca idêntica, parece-me mais inteligente optar por Vibrocil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Sobre si

### Idade \*

- 18-25
- 26-35
- 36-45
- 46-55
- +55

### Género \*

- Feminino
- Masculino
- Outro
- Prefiro não responder

### Nacionalidade (selecione o seu país de origem) \*

### Nível de escolaridade (indique o grau mais elevado que completou) \*

- Ensino Básico 1º Ciclo (4 anos de escolaridade)
- Ensino Básico 2º Ciclo (5º e 6º ano)
- Ensino Básico 3º Ciclo (7º, 8º e 9º ano)
- Ensino Secundário
- Licenciatura
- Mestrado
- Doutoramento
- Outro
- Não sabe / Não responde

## Appendix 2: List of scales and sources used

Author	Construct	Code	Scales
Broderick et al (2007)	Consumer involvement	<b>Normative involvement</b>	
		CIN1	I can tell a lot about a person by the type of OTC she chooses
		CIN2	Buying OTC helps me express my personality
		<b>Situational involvement</b>	
		CIS1	Buying OTC requires a lot of thought
		CIS2	It is extremely important that I make the right choice of OTC
		CIS3	Choosing between OTCs is a very important decision
		<b>Enduring involvement</b>	
		CIE1	I attach great importance to OTC
		CIE2	I have a strong interest in OTC
		CIE3	I enjoy buying OTC
		<b>Risk involvement</b>	
		CIR1	All brands of OTC would not be equally enjoyable
		CIR2	I believe that differing brands of OTC would give different amounts of pleasure
CIR3	In purchasing OTC I am certain of my choice		
CIR4	It is really annoying to make an unsuitable purchase of OTC		
Yoo and Donthu (2001)	Brand usage intent	BUI1	It makes sense to use brand X instead of any other brand even if they are the same
		BUI2	Even in any other brand has the same features as brand X, I would prefer to use brand X
		BUI3	If there is another brand as good as brand X, I prefer to use brand X
		BUI4	I prefer to use brand X
		BUI5	If another brand is not different from brand X in any way, it seems smarter to use brand X
Hollebeek et al (2014)	Consumer Brand Engagement	<b>Cognitive Processing</b>	
		CP1	Using this brand gets me to think about it
		CP2	I think about the brand a lot when I'm using it
		CP3	Using the brand stimulates my interest to learn more about it
		<b>Affection</b>	

		AFF1	I feel very positive when I use the brand
		AFF2	Using the brand makes me happy
		AFF3	I feel good when I use the brand
		AFF4	I'm proud to use the brand
		<b>Activation</b>	
		ACT1	I spend a lot of time using the brand compared to other category brands
		ACT2	Whenever I'm using OTCs, I usually use this brand
		ACT3	This brand is one of the brands I usually use when I use OTC
Kim & Ko (2012)	Perceived Social Media Activity	<b>Entertainment</b>	
		PSMAE1	Using this social media page is fun.
		PSMAE2	Contents shown in this social media page seem interesting.
		<b>Interaction</b>	
		PSMAI1	This social media page enables information sharing with others.
		PSMAI2	Conversation or opinion exchange with others is possible through this social media page.
		PSMAI3	It is easy to deliver my opinion through this social media page.
		<b>Trendiness</b>	
		PSMAT1	Contents shown in this social media page is the newest information.
		PSMAT2	Using this social media page is very trendy.
		<b>Customization</b>	
		PSMAC1	This social media page offers customized information search.
		PSMAC2	This social media page provides customized service.
		<b>Word of mouth</b>	
		PSMAW1	I would like to pass along information on brand, product or services from this social media page to my friends.
PSMAW2	I would like to upload content from this social media page to my personal page.		
Langaro (2015)	Average Brand Page Participation	ABPP1	Click like to posts, photos or videos at the brand like page (BLP)
		ABPP2	Comment the posts published at the BLP
		ABPP3	Share with friends the content published at the BLP

Source: own elaboration.

### Appendix 3: Descriptive Statistics for all variables (SPSS Outputs)

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CI_N1	317	1	7	2,49	1,453
CI_S1	317	1	7	3,07	1,583
CI_E1	317	1	7	3,38	1,638
CI_E2	317	1	7	2,67	1,663
CI_R4	317	1	7	4,10	1,796
CI_E3	317	1	7	2,56	1,535
CI_S3	317	1	7	3,37	1,734
CI_N2	317	1	6	1,87	1,252
CI_S2	317	1	7	4,04	1,906
CI_R1	317	1	7	4,49	1,632
CI_R2	317	1	7	4,58	1,630
CI_R3	317	1	7	4,14	1,635
Valid N (listwise)	317				

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CIN	317	1,00	6,00	2,1782	1,17352
CIS	317	1,00	7,00	3,4911	1,49413
CIE	317	1,00	7,00	2,8665	1,36720
CIR	317	1,00	7,00	4,3273	1,41713
Valid N (listwise)	317				

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CI	317	1,00	6,08	3,3948	1,16194
Valid N (listwise)	317				

#### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CP1	185	1	7	2,92	1,603
ACT2	185	1	7	4,32	1,773
AFF1	185	1	7	4,56	1,440
AFF4	185	1	7	3,41	1,609
AFF3	185	1	7	4,58	1,450
ACT1	185	1	7	3,70	1,831
AFF2	185	1	7	3,07	1,649
CP2	185	1	7	3,64	1,798

ACT3	185	1	7	4,57	1,741
CP3	185	1	7	3,16	1,717
Valid N (listwise)	185				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CP	185	1,00	6,67	3,2396	1,41792
ACT	185	1,00	7,00	4,1964	1,61492
AFF	185	1,00	7,00	3,9041	1,29613
CBE	185	1,00	6,80	3,7924	1,26669
Valid N (listwise)	185				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PSMA_E1	317	1	7	3,15	1,575
PSMA_E2	317	1	7	3,75	1,614
PSMA_I1	317	1	7	3,89	1,629
PSMA_I2	317	1	7	4,20	1,568
PSMA_I3	317	1	7	3,94	1,629
PSMA_C1	317	1	7	3,65	1,571
PSMA_C2	317	1	7	3,43	1,456
PSMA_W1	317	1	7	2,79	1,551
PSMA_W2	317	1	7	2,44	1,419
PSMA_T1	317	1	7	4,64	1,297
PSMA_T2	317	1	7	3,19	1,507
Valid N (listwise)	317				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PSMAE	317	1,00	7,00	3,4495	1,46066
PSMAI	317	1,00	7,00	4,0095	1,37370
PSMAW	317	1,00	6,00	2,6136	1,38014
PSMAC	317	1,00	7,00	3,5379	1,39908
Valid N (listwise)	317				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
PSMAT	317	1,00	7,00	3,9117	1,21635
PSMA	317	1,00	6,27	3,5503	1,14714
Valid N (listwise)	317				



### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BUI1	317	1	7	3,63	1,553
BUI4	317	1	7	3,72	1,518
BUI2	317	1	7	3,49	1,546
BUI3	317	1	7	3,55	1,557
BUI5	317	1	7	3,48	1,542
Valid N (listwise)	317				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
BUI	317	1,00	7,00	3,5748	1,43619
Valid N (listwise)	317				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CP1	185	1	7	2,92	1,603
CP2	185	1	7	3,64	1,798
CP3	185	1	7	3,16	1,717
AFF1	185	1	7	4,56	1,440
AFF2	185	1	7	3,07	1,649
AFF3	185	1	7	4,58	1,450
AFF4	185	1	7	3,41	1,609
ACT1	185	1	7	3,70	1,831
ACT2	185	1	7	4,32	1,773
ACT3	185	1	7	4,57	1,741
Valid N (listwise)	185				

### Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ABPP	316	1,00	7,00	3,3945	1,04390
Valid N (listwise)	316				