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THE ESSENTIAL FEATURE TO LEVERAGE RETARGETING EFFECTIVENESS IN ONLINE ADVERTISING

A Facebook and Instagram case study

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Project Work presented as partial requirement for obtaining the Master's degree in Statistics and Information Management

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by

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ABSTRACT

With Internet space being crowded with advertising, generic ads considerably lose effectiveness and the importance of relevant communication increases. A great deal of past work has demonstrated the advantages of retargeting strategy in online advertising due to user's recognition of retargeting ads as more meaningful. However, marketers do not know which element is determinant for the success of retargeting, as distinct features were mentioned in the existing literature. The purpose of the current study is to assess and further evaluate the most crucial element of retargeting strategy. By comparing the relevant features state by several authors and empirically test the single element of segmentation alone through a case study, it is aimed to verify the determinant influence of targeting the right users. This investigation combines a qualitative review on the states of several papers on retargeting issue, its different features, and a benchmark of the adequate metrics to evaluate them. The work is completed with an exploratory real-life experiment with the exam of a set of Facebook and Instagram advertising for a financial company over a nine-month period. The results suggests that segmentation is the most determinant element in the success of an online retargeting strategy. Other aspects such as advertising placement and ad frequency further influence the communication outcome. This study helps to disclose the complexity of retargeting by unveil the central element for an effective strategy, supporting marketers and managers in future online advertising and complementing the existing literature on the matter.

KEYWORDS

Advertising Effectiveness; Behavioral Segmentation; Online Advertising; Retargeting

RESUMO

Com a crescente presença da publicidade no mundo digital, os anúncios genéricos perdem eficácia e a importância de uma comunicação relevante aumenta. Estudos anteriores demonstram as vantagens do uso de uma estratégia de retargeting na publicidade online, resultando na perceção dos utilizadores desses mesmos anúncios como mais relevantes. No entanto, os marketers desconhecem qual o elemento determinante que garante o sucesso do retargeting, ainda que a literatura existente mencione diferentes componentes. O objetivo deste estudo é abordar e investigar o elemento crucial numa estratégia de retargeting. Através da comparação de vários componentes relevantes mencionados por diferentes autores e avaliando empiricamente o elemento da segmentação isoladamente através de um estudo caso, pretende verificar-se se a influência de escolher os utilizadores certos como target é determinante. Esta investigação conjuga uma análise qualitativa de vários artigos sobre o ponto de situação do tópico do retargeting, os vários elementos que o constituem e um benchmark das métricas mais adequadas para avaliar os mesmos. O trabalho é complementado com uma experiência exploratória em ambiente real através da análise de um conjunto de anúncios em Facebook e Instagram de uma empresa financeira, por um período de nove meses. Os resultados sugerem que a segmentação é o fator determinante no sucesso de uma estratégia online de retargeting. Outros aspetos como o posicionamento da publicidade e a frequência do anúncio influenciam conjuntamente os resultados da comunicação. Este estudo permite a compreensão da complexidade do retargeting através da demonstração do elemento central para uma estratégia eficiente, apoiando marketers e gestores em campanhas online futuras e complementa a literatura atualmente existente sobre a temática.

PALAVRAS-CHAVE

Publicidade Eficiente; Publicidade Online; Retargeting; Segmentação Comportamental

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LIST OF ABBREVIATIONS AND ACRONYMS

APP	Application
CPA	Cost per Acquisition
CPC	Cost Per Click
CR	Conversion Rate
CRM	Customer Relationship Management
CTR	Click-Through Rate
EU	European Union
GDPR	General Data Protection Regulation
KPI	Key Performance Indicator
TV	Television

1. INTRODUCTION

In order to succeed, companies must reach the right user, at the right time with the right content. By doing so, organizations can enhance customer satisfaction, engagement and by extending, sales and revenue. Digital advertising has proved to allow a greater level of personalization, such as target messages to specific customer segments. Online channels enable new forms of communication and advertising, breaking past limitations, and are now becoming one of the most important channels for marketing these days (Tiago & Veríssimo, 2014). With the increasing spending in online advertising over the last years (Li, Luo, Lu & Moriguchi, 2020) and the growing importance of digital channels in companies' marketing strategy, to allocate resources across different types of media in the most efficient way became key to succeed (Dwivedi, Ismagilova, Hughes, Carlson, Filieri, Jacobson, ... & Wang, 2020).

Segmentation is seen as a vital component of every company marketing strategy, and the advantages are widely recognized among professionals (Canhoto, Clark & Fennemore, 2013; Dibb, 2001). In theory, market segmentation allows organizations to tailor their products and services to then advertise them to customers most likely to purchase it (Yankelovich & Meer, 2006). The recent technological developments, and the fact that consumers have become less predictable in their buying habits, lead companies to shift to a marketing strategy with a customer-centric approach and higher level of personalization in communications with their customers (Dibb, 2001).

Retargeting segmentation, as an online marketing strategy, aims to increase the level of ad personalization of the offer communicated and the message itself. More than a criterion for segmentation, retargeting is a sophisticated and rather unknown form of ad personalization (Bleier & Eisenbeiss, 2015). This method has already demonstrated to be more precise in targeting customers and at a comparably lower cost than traditional media channels, such as TV (Scott & Craig-Lees, 2010). As brands' investments in online marketing carry to increase, gather insights on how to designate resources efficiently is crucial to achieve market advantages (Li, Abbasi, Cheema & Abraham, 2020). Consumers are becoming more demanding and increasingly sophisticated in their purchase behavior, which requires brands to leverage the power of data and information to be capable to communicate the right products and services to the right segments, at the lowest cost possible. Some authors state that retargeting is mandatory in companies' possibilities of implementing resource-rich, long-term customer relationships (Dibb, 2001). Display retargeting advertising to users presuppose to show meaningful ads that contribute to the relationship between consumer and brand.

With Internet space being crowded with advertising, generic ads considerably reduce effectiveness and the importance of relevant communication increase. The study from Bleier & Eisenbeiss (2015) shows that advertising with higher personalization had an increase of the click-through rates to 27%. Further, the literature states that tailoring communication according to customers' interests and tastes, based on their past online behavior, decreases online marketing expenditure while increasing advertising effectiveness (Bleier & Eisenbeiss, 2015; Chen & Hsieh, 2012). However, investigation of this recent segmentation method that aligns with management objectives is still needed (Dibb & Simkin, 2009; Kantola, 2014). Even with the expanding interest in retargeting, marketers do not comprehend under what circumstances this technique is indeed effective. Outcomes concerning the ability to target online users to increase ad effectiveness are mixed (Bleier & Eisenbeiss, 2015). It still

remains unclear which variables influence the value brought to a firm by retargeting strategy (Kalaignanam, Kushwaha & Rajavi, 2018). The numerous studies on media retarget segmentation require a methodological approach for evaluating retargeting outcomes (Rubinstein, Gutierrez, Sorkine & Shamir, 2010) and determine the key features to be considered when implementing this strategy.

This investigation aims to fill some lacks in previous papers by answering the question "What is the essential feature to leverage retargeting effectiveness?". Supported by real data from the financial industry, and the proposed ideas from authors such as Barnes, Bruce Murthi and Rao, Bleier and Eisenbeiss, Kantola and others, it is aimed to validate the aspects that contribute to the superior performance of retargeting advertising, in comparison to strategies not based on the user's previous behavior. Past research has focused on advertising format, type of products and services displayed, advertising messages and even placements. However, the variable of segmentation alone, excluding other types of personalization, has lack of study. This investigation will deliver ads to target users based on their previous online interaction with the company website, without any other form of ad personalization. The performance of the ads will be compared to identical advertising with different segmentation characteristics. By doing this, it is aimed to isolate the retargeting segmentation variable and further understand its effects.

To better answer the stated question, the goals of this research are the following. It is aimed to explore and identify the essential elements that integrate an effective retargeting strategy. The second goal is to assess and categorize the appropriate metrics to evaluate a retargeting advertising strategy. It is intended to give practical insights on to how to measure the effectiveness of remarketing strategy for online marketing campaigns. And finally, the third goal is to test the use of retarget segmentation as the only feature personalized in a retargeting strategy. To overcome some limitations of past studies, it will be taken into consideration data collected not only based on consumer buying behavior, but also from social media activities as advised by Bleier and Eisenbeiss (2015).

To further acknowledge the research question, and achieve the three stated goals, the current study will use a natural science approach. The first goal of assess the main elements to design an effective retargeting strategy, will be discussed through literature review. The features considered essential will be based on previous studies from other authors. The second goal will use the same approach as the first, having past papers as foundation to determine the most suitable metrics and performance indicators for online advertising measurement. The last goal will be accomplished through an experiment by a company from the financial sector, that operates in the Portuguese market. The research developed a comparison study between segmentation based on retargeting versus segmentation based on users' psychographics characteristics. It will be implemented an online marketing campaign in Facebook and Instagram network containing several ad groups, each based on different segmentation criteria. The advertisements present in each ad group are identical, with the same images and the same message. The performance of the digital ads will be measured over time. This strategy guarantees comparability of the performance on data collected from the ads, and the isolation of the variable segmentation. It is aimed to validate the effectiveness of retargeting segmentation, *ceteris paribus*.

The case study results will be measured and further evaluated based on industry performance KPI's, such as click-through rate and conversion, previous determine in the literature review section. With the collected results, it would be possible to infer the fundamental aspect of an online retargeting strategy. The data gathered includes a set of ad impressions, click-through rates, clicks, conversion and ad frequency, with all KPIs disaggregated by consumer segment. This study used the platform Business Manager to collect, analyze, and compare the performance of the different segments in retarget advertising. The platform is a web analytic service offered by Facebook that gather usage data from website traffic. It allows to drawn analysis on a variety of indicators, enabling a great insight about users and ad performance.

The present study contributes not only for academic literature, but also offers several practical indications for companies' digital investment allocation and online communication actions. The results of the study have several implications that should be considered when designing online retargeting campaigns. In online advertising, customer behavior and consumer journey must be the fundament to create the most efficient marketing strategy. By understanding ads features, placements and messages most adequate for each user segment and customer journey phase, organizations can improve their ad performance and ultimately, generate more sales while better designate their financial resources in their digital marketing campaigns (Bruce, Murthi, & Rao, 2017). This study also demonstrates the benefits of implementing a retargeting strategy, based on segmentation alone. Ultimately, marketing managers can outline and plan their marketing strategies based on offering the most relevant products and services for each customer segment, through a more personalize and tailored message, throughout improvements of the overall customer journey on the process to online purchase (Li, Abbasi et al., 2020).

This document is arranged as follows. The first chapter presents a brief review of the relevant matters of segmentation, particularly retargeting in terms of online marketing strategy. It also contains an assessment of the relevant elements and metrics to design and evaluate a retargeting strategy, based on previous literature. The third chapter continues by explicit the methodology for the experiment, in terms of steps and processes. The fourth chapter provides the results of the real-life experiment and examines if the outcomes are aligned with previous authors' findings. The last chapter concludes and finally, it is offered some recommendations on the future of personalized online segmentation investigation and specifically, retargeting.

2. LITERATURE REVIEW

The aim of the present literature review is to attempt a synthesis of online segmentation matter, with special attention to retargeting strategy and the different types of retargeting, based on previous studies. It is also expected to collect insights on the main elements that build an effective retargeting strategy. Additionally, it will be determined the most adequate metrics to evaluate online advertising performance.

Concepts such as segmentation and targeting are not new to marketers. Segmentation based alone on demographic characteristics is outdated; we have faced the failing of psychographics attributes analysis and alongside that, consumer behavior is evolving fast. All of these factors demand new solutions in segmentation strategy (Yankelovich & Meer, 2006). The recent companies' database developments offer access to a wider dimension of data segmentation criteria than previously. Segmentation based on demographics and other consumer relevant particularities are being substituted with more refined patterns built upon user's behavioral attributes (Dibb, 2001).

2.1 SEGMENTATION

The concept of segmentation was first brought out by Smith (1956) as the action of categorize the market into different groups, constitute by individual consumers who share homogeneous characteristics, specific preferences and the same desires. Marketers have long been practicing grouping customers into homogeneous clusters – segmentation – and communicating differentiated messages for each segment (Canhoto, et. al., 2013). Each consumer segment represents a sub-group of customers with identical behavior to each other, but different from individuals in another segment. Segmentation is seen as a vital element of every company online communication (Canhoto et. al., 2003). Therefore, finding categories of customers with prevalent behavior and desires that can be addressed through a targeted strategy is key to succeed in a business environment (Stienstra, Ruël & Boerrigter, 2010).

The criteria of segmentation have changed over the years. It started having exclusively demographic traits, to latter on include characteristics such as lifestyle, value and even attitudes (Yankelovich & Meer, 2006). In the last decades, consumer buying habits have become less predictable and as a result, purchasing patterns no longer complied with purely demographic characteristics (Yankelovich & Meer, 2006). As product introduction remained frequent, the need to target customers segments based on personal characteristics and lifestyle, rather than age or income, arise. With the massification of audience, and the deeper understanding of customer needs, stated in the framework of Maslow hierarchy of needs (1958), consumer self-concept, personality and emotions, assume a new relevance for segmentation. Psychographics come to be the most acceptable type of segmentation and had demonstrated to be efficient in brand reinforcement and positioning (Yankelovich & Meer, 2006). Companies nowadays see the different criteria of segmentation as complementary, rather than exclusive (Foedermayr & Diamantopoulos, 2008). However, segmentation boundaries are usually limited to the possibility of accomplishment, instead of the optimal solution (Bonoma & Shapiro, 1983).

The 21st century consumer is the most complex and demanding consumer so far. With access to a substantial amount of information and high expectations for products and services, finding patterns on customers buying behavior is essential to gather input to segmentation strategy. Quinn and Dibb (2010) state that segmentation is capable of expanding retargeting effectiveness, by improving companies' adjustments to the dynamic consumer's demands and behavior. Particularly, recent finds have shown that social media is one of the best channels to provide detailed insight about customer segments and therefore, deliver tailored value propositions (Canhoto et al., 2013). Social media recent developments allow organizations to overcome some limitations of traditional segmentation by proving information on new variables, that lead to a broader range of segmentation possibilities.

More than grouping individuals with similar characteristics, the aim of segmentation is to find sub-groups of customers that are profitable than others, since they are key for a company financial performance. Once organizations identify these segments, they must later on target these users and communicate the value proposition by tailor specific offers to them (Yankelovich & Meer, 2006).

There are four types of segmentation: geographical, demographical, psychographic and behavioral. The first three types of segmentation use an a priori characterization of the segments. Customers are classified into a segment, even before they make a purchase or interact with a company (Cooil, Aksoy & Keiningham, 2008). The criteria for characterization maybe age, income, location, lifestyle, or other, depending on the type of segmentation. On the other hand, behavior segmentation is based on the customer's past actions. Retargeting aims to target customers and tailor communication according to their previous purchases and interactions with a company. Based on users' past online behavior, brands personalize different aspects of the digital advertising, such as message, product showed and placement of the ad, in order to leverage the communication relevance for the user.

2.2 RETARGETING

Harker (2008, p299) characterizes online or Internet advertising as, "*any form of commercial content available on the internet, delivered by any channel, in any form, designed to inform customers about a product or service at any degree of depth*". Online communication is the first marketing medium that is actually quantitative and that allows to target individual users as a one-to-one marketing strategy (Meeker, Pearson & Roach, 1997). Retargeting is a specific strategy in online advertising that consists in the process of re-engage potential customers, that have already visited or interacted with a company website or social media, without making a purchase (Isoraite, 2019). These visitors are not exclusively those who have bought, but merely users that visited the website, called "window visitors" (Koti, 2014). Retargeting aims to convert only window-shopping users into buyers. It is a segmentation that focus on actual consumer behavior and therefore, allows predicting business outcomes, such as sales (Yankelovich & Meer, 2006).

Each internet user leaves "footprints" of its activity online, after searching and visiting websites thought all Internet, with its knowledge or not (Muhammad, Dey & Weerakkody, 2018). Retargeting leverage user's "footprint" information, such as demographics, browsing and information search, (Schumann, von Wangenheim & Groene, 2014) and deliver tailored communication to them. Overall, the literature states that tailoring communications consistently improves advertising performance (Lambrecht & Tucker, 2013). This technique aims to persuade users already interested in companies'

offer, that had not taken any action, such as a purchase. Users who search for products on the internet usually abandoned the website without purchasing (Lambrecht & Tucker, 2013). Having this in mind, it is crucial for brands to target users across locations, time and mobile devices, to remind them of their interest in the products and services they have previously interacted. Social media platforms such as Facebook and Instagram allow advertisers to leverage data from the user's browsing activities on the Facebook network and outside (Facebook, 2014), in order to target users based on behavior (Kaulina & Kaulins, 2018).

Users that had visited a company website and searched products, clicked on them, or added items to the cart, are users that were already in the second step of Kotler's buyer's decision process, which is the information search phase (2015). The consumer conversion funnel suggests that in information search phase, to increase the effectiveness of the ad, communication should be more specific (Isoraite, 2019). Previous literature states that the higher the customization of the message, the higher is the relevance of the ad to the user. In fact, users that have already seen a brand offer portfolio, are considerably more attracted to its products or services, when comparing with a user that sees a product for the first time. Retargeting can positively affect sales by trigger a user that, for some reason, started the customer decision-making process but did not progress to the consideration phase and therefore never move to the purchase (Sahni, 2016).

The potential of retargeting strategy has been enhanced by the improvements of new tracking technologies such as online customer relationship management (CRM), that allow to create matches between customers and online users, customers mailing databases and other several events (Barnes, 2002). Marketers can leverage information on consumers' features such as cognitive characteristics, celebrity preferences (Goldfarb & Tucker, 2011), internet searching history (Agarwal, Athey, & Yang 2009), and past purchases to determine the relevant segments to deliver communications through personalized advertising. Information systems also allow advertising results to be monitored in real time, at almost zero cost. This enables more effective optimization of the marketing campaign, leading to better results. Advertising personalization through social media is seen as a great opportunity to increase customer satisfaction (Dwivedi, et al., 2020). Advances in Information Systems admits managing customer data to further take advantage of customer behavior to better offer personalized solutions.

Although retargeting strategy being based on the same principle of target users according to their past interaction with a company, there are different types of retargeting with distinct technologies.

2.2.1 Retargeting Types

In technical terms, retargeting can be implemented by two approaches: based on pixel information or list based. Both of these strategies leverage user's data. One by collecting information regarding users' preferences, and the second by pinpointing them in media channels, to later on delivering these users' communications tailored to their preferences based on the data gathered.

Pixel based technique performs through a piece of code named cookie, implemented in the company website. When users visit the website, they are tagged with the cookie that will follow them across Web pages. Afterwards, when the users are navigating into the Web, outside the company website,

the cookie would allow advertisers to retarget those same users and show them ads containing the products and services they saw previously in the company website (Yang, Huang & Tsai, 2015). Pixel based is the most common form of retargeting, and the advantages consist in this type of strategy being related to a specific website page or product, and therefore, based specifically on user's previous online actions.

In addition to pixel based retargeting, the recent evolutions in information systems inspire the creation of dynamic retargeting. This new technique includes multiple sources of data: recommendations, bidding automation and additionally algorithms based on the user's behavior. These features all associated with each other and complemented with machine learning and big data, generate effective retargeting advertising (Johansson & Wengberg, 2017). Dynamic retargeting is highly intelligent, and by applying the power of the latest information systems, it enables ads to be highly accurate and relevant through personalization and at the same time more cost-efficient. Dynamic retargeting differs in simple pixel based technique in the way that the second does not incorporate machine learning, but rather uses information previously gathered. Lambrecht and Tucker (2013) have found that for users that are actively searching for products in one specific category, dynamic retargeting proof to be more promising to increase user purchases. Nonetheless, when users are not interested in an exclusive product or product category, generic retargeting seems to be more effective.

The second form of retargeting, list based, is not as recent and much simpler than pixel based. It assumes having customer's data previously collect in a company database. This information may be, for example customer's e-mail address, birthday date, or others, that will allow targeting clients across online channels, specific social media platforms and by e-mail. When advertisers use social media such as Facebook, the platform allows targeting Facebook users that match with the customer's data the company possesses, such as e-mail information (Yang, et al., 2015). List based retargeting offers a highly customized solution, due to being based on more information than the user's behavior. However, as a result of not being an automatized process, in most cases, the data used to retarget users often becomes outdated.

2.2.2 Retargeting and Privacy

Regardless of the technique used to implement retargeting strategy, users are becoming more apprehensive regarding the application of their personal data gather through digital footprint or other means (Arya, Sethi & Paul, 2019). The increasing application of personalize advertising has led to an emerging privacy concern by consumers, with the focus on social media platforms and their data treatment (Dwivedi, et al., 2020). This matter raises security affairs among Internet users, which lead to suspicious regarding advertisers and even brands. A number of authors and papers state that consumer's attitude towards digital advertising, and particular retargeting, has negatively increased, in a way that make consumers find it intrusive (Rotfeld, 2006). Intrusiveness is described by Mercanti-Guérin (2020) as the action of advertising to disturb the normal flow of content unit. Some users describe retargeting techniques as disturbing and evasive, which eventually increase ad avoidance and diminish purchase intention (Zarouali, Ponnet, Walrave & Poels, 2017).

In response to customers' concerns, European Union created the General Data Protection Regulation (GDPR) in 2015, being mandatory in May 2018, with the objective to regulate data collection and treatment for all citizens of the European Union (Zaeem & Barber, 2020). GDPR monitor the collection, share and use of personal information by reinforcing laws and policies regarding privacy and customer rights. Following European Union, California claimed the California Consumer Privacy Act in June 2018 that aimed to regulate data issues. Afterwards, other countries such as Argentina and Chile updated their data privacy policies (Cuevas, Cabañas, Arrate & Cuevas, 2019). The goal of the newest data regulations is to enable consumers to have more power over the information they create and how organizations can and cannot use it (Aridor, Che & Salz, 2020).

With the new regulation, organizations that manage EU citizens' data were enforced to comply with the GDPR requirements. Companies all over the EU reply to the new legislation by revising their privacy policy. The main component of GDPR focus on informing the user of the collection and treatment of their personal data, which requires consumer explicit acceptance. One example is the adding cookie consent warning in websites. Another central issue was advertising choices, namely the option for users to not enable companies to use their behavioral information for advertising purposes. In order to be GDPR compliant, several companies are not allowed to continue advertising based on retargeting strategy, as they are forced to limit retargeting or even stop it at all (Gjelsvik & Saga, 2019).

The effects of GDPR in advertising are various. One of the consequences for advertisers and companies is the decline of sales based on advertising. Since several communications' strategy will now be based on fewer amount of user's data, advertising becomes less agile in targeting potential customers. The latest studies have found that among e-commerce websites, revenues have fallen by 13.3% after the GDPR policy (Goldberg, Johnson & Shriver, 2020). The outcomes of display and e-mail advertising have dropped 7.6% in e-commerce revenues, which reflects the correlation found between strictness and monetary consequences of privacy policies (Johnson, Shriver & Goldberg, 2019). Another consequence of the new policy is the limitation of the nature of the data collected. In the following sections it will be mentioned several advertising effectiveness metrics and further analyzed the effect of GDPR on the collection of those indicators over the years. Overall, GDPR may decrease the effectiveness of online marketing activities based on behavioral information, questioning the future of retargeting strategy.

2.3 Essential Elements in Retargeting Strategy

With the recognition of retargeting advantages already proven in the literature, remains the need to determine the essential elements that allow such outputs. Over the years, several authors analyze different features that compose a successful retargeting strategy. However, due to the complexity of the real world and the extent of variables in online advertising, being able to enumerate all the variables that influence the consumer behavior, and quantify that influence, is rather improbable (Ansari & Mela, 2003). Having this in mind, based on previous studies, it was assembled a benchmark of the main features that affect the performance of ads attached to a retargeting strategy in online advertising.

Several mentions state that the format and dimensions of an ad are the determinant factors to achieve the most successful results in online marketing and retargeting strategy (Ansari & Mela, 2003; Bruce, et al., 2017; Chandon, Chtourou & Fortin, 2003; Li & Bukovac, 1999). Although, papers disagree on identifying the most relevant feature between dimensions and creative elements. Most authors agree that format, dimensions, placement, and creative elements, such as static versus animated banners, affect ad's click-through rate. Regarding the prominent factor in ad success, Chandon et al. (2003) came upon the conclusion that the larger the ad dimension, the higher the CTR and the willing to transmit positive word of mouth, up to a certain point. Banner ads with bigger dimensions have shown to improve the reaction time from users and generate more clicks, when comparing with smaller dimension banners (Li & Bukovac, 1999). Advertising with bigger dimensions is associated with higher attention, interaction and engagement, which includes higher CTR (click-through rates) and also positive world of mouth (Bruce, et al., 2017). On the other hand, ads with bigger dimensions have shown to be seen as more intrusive which leads to higher avoidance and in result, lower performance.

Contrary to Chandon et al. (2003), one particular paper that compares ads' creative format and sizes found that animated ads increase ad engagement and additionally had higher carryover effects, regardless of ad format or size (Bruce, et al., 2017). Even though papers differ in identifying the most relevant element of ad format, they all agree on the central role this feature plays in online marketing overall, and not just banners. Ansari and Mela (2003) affirm that the design of an e-mail marketing is central in terms of communication effectiveness and therefore influences the click-through rate possibilities. Regarding format, banners are the most common ad format, however, recent studies have shown that pop-up advertising generate a considerably higher click-through rates, and higher purchase intention in contrast with simple banners (Chatterjee, 2008). Format and size were the first elements to be analyzed in terms of ad effectiveness, however, in the latest years, dimensions were no longer central in the investigation and thus recent literature focus on other aspects.

Ad content remains one of the most quoted elements of an effective retargeting strategy. Overall advertising containing price and discount incentives are more engaging than those that do not have it. Bruce et al. (2017) state that ads with promotional incentives result in higher CTR. Nonetheless, a study containing one thousand and two hundred ads witness that neither price nor discount information on the ads had a straight result in click-through rates. But the relationship between price or promotional information and type of placement were critical to ad success (Chtourou, Chandon & Zollinger, 2002). Several authors affirm that the content of the ad must be personalized for specific users (Ansari & Mela, 2003; Barnes, 2002). Within this concern, a paper found that the degree of personalization of a message, personalization depth, that establish how accurate a banner expresses a consumer's implicit tastes and the numerous products or services display on an ad, determine the effectiveness of advertising (Bleier & Eisenbeiss, 2015). This complies with the results of Lambrecht and Tucker (2013) that suggest that the concreteness of the message, according to consumer's preferences, influence the success of advertising. The more pertinent is the message, the higher the engagement response to the banner. To maximize the advertising effect, ads content should be designed according to users' tastes and preferences, based on the user's profile (Chen & Hsieh, 2012). For Anand and Shachar (2009) it is not sufficient that the ad content is personalized for specific users but also that states the intention of target those users with the content. Meaning, the effectiveness of advertising is influenced by the fact that users are aware that they are being object

of retargeting strategy. These findings also suggest there is a difference in targeting users and personalize the advertising, with the second letting users know they are intentionally targeted with an offer tailored to their preferences.

Moving from ad content and design characteristics, placement is another factor considered vital in a successful retargeting strategy in online communication. The placement of advertising on websites has a close cause-consequence relationship with consumer ad processing, engagement and even attitudes, such as clicks (Van den Broeck, Poels & Walrave, 2018). Research has demonstrated that matching ad's subject with website content is key to leverage the power of advertising. In fact, when the content of the ad matches the specific category of the website where it is placed, i.e., a relevant website for the user, the line between advertising and content may become vague and therefore consumer perceived value may increase (Ying, Korneliussen & Grønhaug, 2009). Several studies have found that advertising with placement context congruity leads to more favorable attitudes towards the ad and in result, higher engagement (Moore, Stammerjohan & Coulter, 2005). Retargeting efficiency can be enhanced by displaying ads on a website with valuable content for the user. Chtourou et al. (2002) state that it is the interaction between the content and the placement of the advertising that affect the user's engagement. Additionally, the choice of media channels and websites to promote products and services to consumers act as an indication that the advertised product fits consumer's taste (Anand & Shachar, 2009). Aguirre, Mahr, Grewal and Wetzels (2015) go even further by saying that the credibility of the website where the ad is placed, influences the advertising effectiveness. Having this in mind, numerous investigations have been considered enhance the ads placement in order to increase banner effectiveness (Yaveroglu & Donthu, 2008). The internet space is crowded with advertising, and advertisers have as main objective to deliver valuable content to users in the right context (Lee, Orten, Dasdan & Li, 2012). Formats such as pop-up ads based on ad placement strategies can increase ad response while reduces ad intrusiveness (Ying et. al, 2009).

With all the different features mentioned in existing literature, the one that is most referred to as one of the biggest factors in ad performance effectiveness is the segmentation of the advertising. Considering retargeting segmentation as the primary feature in ad effectiveness assumes that the variables mention earlier (format, size, content, placement) are not determinant to ad engagement. Meaning, communications that target users according to their past online behavior, result in a customer that is on average as likely to convert through all ad variations (Kantola, 2014). Targeting customers according to their tastes, their context and even the company industry, enable to reach potential customers more accurately (Johansson & Wengberg, 2017). Barnes (2002) affirms that "it is critical that advertising is highly targeted and relevant to the consumer", implying that the core feature of an effective online communication is the segmentation of the users to deliver the ads. The same is described by Bucklin and Sismeiro (2009) as the effectiveness of the ads comes from presenting suited information, presumably pertinent to the user, according to their most recent actions. In order to increase consumer response and engagement, brands must target potential customers while delivering a valuable message, that users may perceive as individually relevant to them. With retargeting strategy based on segmentation, the consumer purchase process is optimized (Mercanti-Guérin, 2020; Omar & Atteya, 2020). Some authors go even farther, by stating that the user's behavioral data, collected by cookies, is a primary factor to consider when drawing a marketing strategy (Arya et al., 2019). It further plays a decisive part in influencing the customer's decision. Experiments have shown that behavioral targeting can increase user engagement towards

online advertising, leading to higher CTR. On the opposite side, users that were presented with an ad that were not based on their previous behavior, are much less likely to purchase from the advertising company (Chen & Stallaert, 2014). Some authors even claim the content of the message as a decisive factor, mentioning the importance of show the ads to users that have visited the website for that product or product reviews (Lambrecht & Tucker, 2013). Although Chen and Hsieh (2012) affirm that ad placement is decisive to advertising effectiveness, the authors also mention the importance of creating the ad content based on the user characteristics and tastes. For Anand and Shachar (2009), it is critical for ad effectiveness not only to target particular users according to their preferences, but in addition to clearly show to the recipient the aim of target them intentionally. Bruce et al., (2017) affirm that the content of the message has a great deal of influence in advertising effectiveness, but only if the condition retarget users is ensured. Overall, retargeting is seen as a superior method in online advertising, due to the fact that merely communicate with consumers that are already interested and involved with the advertised products and services (Isoraite, 2019).

Table 1 displays the states from several authors, that have previously mentioned the most relevant matters to online marketing strategy and the features considered critical for an overall better performance.

Table 1: Retargeting elements' studies

Paper	**Finding**	**Dimensions**	**Content**	**Placement**	**Segmentation**
Li & Bukovac, (1999)	Display ads with animation lead to fast user's reactions and produce higher brand recall than static banners. Regarding size, the bigger the dimensions of an ad, the better the reaction time and the clicks, in comparison with smaller banners.	✓			
Barnes, (2002)	To ensure success, it is essential to guarantee that the advertising is deeply target and meaningful to the customers. In order to increase engagement, advertising must be targeted to a specific audience and contain a relevant and valuable message.		✓		✓
Chtourou Chandon & Zollinger, (2002)	The interplay of price content, promotion and type of ad placement is essential to determine CTR.		✓	✓	
Ansari & Mela, (2003)	Personalize design and content is crucial in affecting click-through probabilities.	✓	✓		
Chandon, Chtourou & Fortin, (2003)	The dimensions of display advertising have critical and outcomes. Bigger size banners have a greater result on the willingness to transmit positive WOM, when compared to smaller size banners.	✓			
Moore, Stammerjohan & Coulter, (2005)	When the design of an ad is congruent with the website where is displayed, it generates more positive attitudes.			✓	
Chatterjee, (2008)	Pop-up advertising is more efficient at grabbing attention, generating brand recall and clicks on the ad when compared to standard ads.	✓			

Paper	Finding	Dimensions	Content	Placement	Segmentation
Yaveroglu & Donthu, (2008)	The placement of ads is a feature that allows the improving of banner advertising effectiveness.			✓	
Anand & Shachar, (2009)	Ad effectiveness is influenced by the target advertisements to particular consumers that know they are being targeted. The information in the content of the ad message and the choice of advertising channel is equally important.		✓	✓	✓
Bucklin & Sismeiro, (2009)	Advertisers must provide the most relevant and meaningful information for customers.				✓
Ying, Korneliussen & Grønhaug, (2009)	Using pop-up ads that are contextually targeted, benefits both users and advertisers. Additionally, place ads in a meaningful way reduce the sense of ad intrusiveness.			✓	
Chen & Hsieh, (2012)	It is essential to design a personalized advertisement based on user's profile and preferences. The delivery of the message must also encounter the user's preferences.		✓		✓
Lee, Orten, Dasdan & Li, (2012)	The objective of adverting is to communicate with the most receptive users in the right context in order to increase ad engagement and at the end a desired action.			✓	
Lambrecht & Tucker, (2013)	The efficiency of retarget advertising relies on the how the substance of the message matches the user's preferences. Accordingly, dynamic retargeting is effective to stimulate purchases when the users have visited the website product and other online pages in the product category.		✓		
Chen & Stallaert, (2014)	Advertising not based on behavioral targeting is less likely to generate a user' purchase. This case in click intentions is even more overwhelming with studies show an increase of 670% on the CTR of retarget ads.				✓
Bleier & Eisenbeiss, (2015)	The closer a banner ad reflects a consumer' interest and the higher the ad personalization, the better the advertising performance.		✓		
Aguirre, Mahr, Grewal, de Ruyter & Wetzels, (2015)	The integrity of the website where the ad is placed impacts the effectiveness of that advertising.			✓	
Bruce Murthi & Rao, (2017)	Studies have shown that animated banner ads will grab users' attention and increase ad engagement. In the case of retarget ads, the effectiveness depends on the mention of price incentives.	✓	✓		✓
Johansson & Wengberg, (2017)	Retargeting strategy must target users based on company industry, their interests and consumer context, to ensure that efficiently approach potential customers.				✓

Paper	Finding	Dimensions	Content	Placement	Segmentation
Van den Broeck, Poels & Walrave, (2018)	The localization of advertising on websites across the internet has been proven to be determinant in users' response in terms of ad processing, attention and attitudes, reflected in ad clicks.			✓	
Arya, Sethi & Paul, (2019)	Digital footprint is an essential element to draw an online marketing strategy and plays a critical part in influencing the customer's decision.				✓
Isoraite, (2019)	Remarketing is one of the most targeted and effective forms of online advertising, due to the ability of only target people who are implied with the product or service mention in the advertising.				✓
Mercanti-Guérin, (2020)	The retargeting process aims to improve the consumer purchase through advertising by targeting individual users based on their previous online shopping and browsing activities.				✓
Omar & Atteya, (2020)	Targeting is the most persuasive element of the consumer journey process. The most effective influence on the consumer decision process is in the evaluation stage. This can be due to the fact that the retargeting message is addressed to the consumer that is already searching for the product.				✓
Pinasang, Tulung & Saerang, (2020)	Ad frequency included on the strategy of advertisement to retarget users can build positive intention that led to purchase.				✓

One feature poorly mention in the literature is the effect of time in retargeting. Authors such as Sahni, Narayanan, and Kalyanam (2019) examine retargeting timing, but the focus of the study was the advertising frequency. Pinasang et al. (2020) mention that the frequency of the ads increases the purchase intention in retarget users. However, studies have shown that advertisement with high frequency are predominantly seen as disturbing, annoying and even raise privacy concerns (Kaulina & Kaulins, 2018).

Li, Luo, Lu and Moriguchi (2020) extend the study of frequency by analyzing the consequences of time between the website visit and the display of the ad to users. The study reveals a causal adverse impact in retargeting advertising immediately after the customer visited the company website. Mercanti-Guérin, (2020) also mention that deliver the custom advertising in the appropriate time is as relevant as customize the message itself.

In line with the benchmark analysis and the solid finding on the importance of target segmentation in retargeting strategy, it is expected that segmentation is the essential element to leverage retargeting effectiveness. Therefore, this element will be further evaluated in a real-life experiment, in an

attempt to isolate the variable and prove its impact, according to literature ad performance metrics evaluated in the next section.

2.4 METRICS TO EVALUATE RETARGETING

In order to further evaluate the effectiveness of the retargeting strategy features, it is essential to determine the adequate metrics to measure results. Based on previous literature, it was assessed an array of standard and suitable measures to monitor ad performance in online marketing advertising. More than determine the most efficient strategy, metrics allow advertisers to gather insights on the performance of their online marketing activities. Quantifying and evaluate the performance of advertising not only gives information on the results of their communication actions, but also, allows companies to rapidly react and optimize their outcomes. Having this information, marketers may reallocate resources, by increasing investment in the most profit customer segments or media channels, and consequently improve results and return on investment (Johansson & Wengberg, 2017). The insights about advertising are truly valued, once the capability to evaluate efficiency has proof to have a beneficial impact on the global firm's performance (O'sullivan & Abela, 2007).

In social media platforms, several metrics may be evaluated. Dimensions such as number of comments and likes on the publications, number of active users, number of posts and also the amount of page fans are object of examination in companies' social media pages (Hoffman & Fodor, 2010). However, most social media advertising is made through paid publications, also called dark posts and not by organic posts on the brand profile page. This typology of publications is implemented in an external advertising platform, not in the company social media page. As a result, the publications often do not allow users to interact, by making likes or comments, and since they are not connected to a real social media profile, there is no active users. Therefore, there is not the possibility to evaluate such media metrics. Accordingly, these KPI's will not be object of evaluation in the real-life case study. Instead, the investigation will be focusing the attention on advertising performance metrics, rather than social media metrics.

Most authors evaluate ad performance based on accountable actions such as ad impressions and ad clicks. However, some papers state the importance of evaluating advertising regarding brand image, brand recall and attention (Bruce, et al., 2017; Yaveroglu & Donthu, 2008) and even relevance (Mercanti-Guérin, 2020). Nevertheless, one of social media challenges includes the absence of suitable scales to evaluate and measure customer engagement and interest (Dwivedi, et al., 2020). Due to the lack of information and mechanisms regarding the evaluation of brand image, attention and relevance in an online environment, this analysis will be focused on quantitative insights. The quantitative metrics were gathered through past work and confronted with the most common performance indicators in the marketing area. Namely, ad impression, frequency, clicks and CTR, conversion and website traffic quality, that will be deeply described. From these metrics, it will be further assessed the KPI's possible to be measured in Google Analytics platform, in order to be used in the field experiment.

Ad impression is a metric systematically referred in the literature (Bleier & Eisenbeiss, 2015; Sahni et al., 2019). Through definition, it is the number of times an ad is displayed in a website or app, meaning the number of times an ad was clicked plus the number of times it was predicted to have

been seen but not clicked (Richardson, Dominowska & Ragno, 2007). It is a standard measure of ad payment among online display advertising. However, ad impression can be a misleading metric, whenever analyzed exclusively. When an internet page containing a display ad is loaded, the ad impression of that display ad is automatically counted. Due to the location and dimension of the ad, numerous display ads are in reality never seen by users (Zhang, Pan, Zhou & Wang, 2015). For example, advertising might be located down on the web page and users may never scroll down, however, since the web page has been loaded, the impression was counted. Considering that ad impression by itself do not provide much information about a user's engagement with an ad, advertisers and marketers use a complementary indicator. The standard metric to evaluate an ad's performance is click-through rate, for the reason that better quantifies user's interest in online ads (Regelson & Fain, 2006).

A measurement to be considered in social media, specifically Facebook and Instagram, is frequency. Frequency, or frequency cap, stands for the number of times a user sees an ad (Çetintürk, 2020). Recent studies found that this metric is key to achieve successful marketing results. The frequency cap is defined by the advertiser or marketer when designing the campaign and it sets the upper limit number of ad impressions for a period of time (Sahni et al., 2019). It was found that the number of advertising exhibit has a positive relationship with the user perception of the product and also impacts the click-through rate (Cho, Lee & Tharp, 2001). Nonetheless, frequency is perceived as an advertising guideline, more than a performance indicator as a higher frequency does not imply a higher engagement with the ad.

Click-through rate (CTR) is viewed as the last step in the advertising path to engage the user (Aguirre, et al., 2015). It stands for the number of clicks an ad receives per total impressions, i.e., the number of times an ad is displayed (Richardson, et al., 2007). CTR is the most well accepted metric in ad performance (Ansari & Mela, 2003; Bruce, et al., 2017; Chandon, et al., 2003; Kantola, 2014; Shen, 2002; Yaveroglu & Donthu, 2008). It is a relatively reliable indicator effortless to collect, due to automated programs (Chandon, et al., 2003). Platforms such as AdServer or Facebook Business Management, can efficiently auditor clicks on an individual ad, which is considered a criterion of advertising effectiveness, and sometimes ad payment. CTR results in a standard dimension to establish a price, through cost per click (CPC) and also a revenue projection (Chen & Stallaert, 2014; Regelson & Fain, 2006). Click-through rate is not only important in display advertising such as banners or social media post, but also in other media channels such as e-mail. Ansari and Mela (2003) state that, when designing an e-mail marketing, it should be maximized the possibility of a user to click in at least one of the links presents in the message. One downside of click-through rate is that, frequently, users click on ads unintentionally, due to ad intrusiveness, or visit the website for merely five seconds as a result of curiosity and leave immediately after. In these cases, clicks of these particular users do not lead to any purchase and consequently a high CTR do not imply more purchases or desirable actions. In addition, estimating the possibility of a purchase is more critical to advertisers than the interactivities between users and online ads (Kim, Kwon & Chang, 2011), which reveal the need for a more purchase related indicator.

To overcome CTR obstacles, advertisers and marketers often rely on a measure called conversion rate. Conversion rate (CR) monitors the number of users that complete a specific action, e.g., add to cart, fulfil a questionnaire or making a purchase, among the total number of users that click on the ad (Lee et al., 2012; Kantola, 2014). The increasing demand to reconcile advertising and profitability

result in higher attention to conversion metrics, as it takes into account direct selling purposes (Shen, 2002; Yaveroglu & Donthu, 2008). The capability to assess the odds of a user to perform a desired action, such as a purchase, is reflected in the CR. Since the ultimate goal of an ad is to generate a purchase, or other profitable action, the value of online advertising is to establish the right occasions to show an ad to users most likely to take that action (Lee et al., 2012). In result, estimating the CR allow advertisers to select the best performance set of ads, i.e., the ads with higher conversion rates, and display them. Ultimately, gather insights on ad conversion rates and execute the adjustments can increase company's profitability in a direct way (McDowell, Wilson & Kile Jr, 2016).

Table 2 gathers a benchmark of several retargeting metrics mention in previous investigations on the matter. The authors consider distinct elements as more relevant in online marketing and so it was assessed the collection of such indicators throughout time and region.

Table 2: Benchmark of retargeting metrics

Paper	**Origin (Europe versus not Europe)**	**Ad Impression**	**Frequency**	**Click-through rate**	**Conversion**	**Time Spent on the website**
Cho, Lee and Tharp (2001)	Not Europe		✓			
Shen, (2002)	Not Europe			✓	✓	
Ansari & Mela, (2003)	Not Europe			✓		
Chandon et al., (2003)	Europe			✓		
Hofgesang, (2006)	Europe					✓
Regelson & Fain, (2006)	Not Europe			✓		
Richardson et al., (2007)	Not Europe	✓				
Yaveroglu & Donthu, (2008)	Not Europe			✓	✓	
Bucklin & Sismeiro, (2009)	Not Europe					✓
Kim et al., (2011)	Not Europe				✓	
Lee et al., (2012)	Not Europe				✓	
Chen & Stallaert, (2014)	Not Europe			✓		
Kantola, (2014)	Europe			✓	✓	
Aguirre et al., (2015)	Not Europe			✓		
Bleier & Eisenbeiss, (2015)	Not Europe	✓				

Paper	Origin (Europe versus not Europe)	Ad Impression	Frequency	Click-through rate	Conversion	Time Spent on the website
McDowell et al., (2016)	Not Europe				✓	
Bruce et al., (2017)	Not Europe			✓		
Johnson, Lewis & Nubbemeyer, (2017).	Not Europe	✓		✓		
Sahni et al., (2019)	Not Europe	✓	✓			
Çetintürk, (2020)	Not Europe		✓			
Li et al., (2020)	Not Europe				✓	
Mercanti-Guérin, (2020)	Europe		✓	✓		
Pinasang et al., (2020)	Not Europe				✓	✓

As mention previously, GDPR policy has changed data collection and treatment in the European Union. From May 2018, websites need to acquire the explicit consent of users for being able to collect their data (Allen, Berg, Berg, Markey-Towler & Potts, 2019). In addition, GDPR states that the user has the right to request their data to be erased at any time, which causes changes in the current advertising model. Although companies usually do not collect personal data such as name, e-mail, address or telephone, the new law makes data collection much more difficult. The reason is that the European Committee state that storing and use cookie information handles is in fact personal data (Urban, Tatang, Degeling, Holz & Pohlmann, 2018). Meaning that without explicit user consent, advertisers cannot collect user's click-stream information in the format of cookies and therefore cannot target those users across different websites.

Although the impact of data collection policy worldwide, the indicators that measure ad effectiveness remain practically the same. From the table 2 it is possible to assess that since 2018 there is not a shift from the metrics already evaluated on previous years in advertising. However, there are some overall tendencies of effectiveness in advertising industry. For example, ad frequency started to be a standard metric after 2018, and before that there was little mention of it regarding retargeting strategy. One of the explanations for this fact can be the increasing user's feeling of intrusiveness concerning retargeting advertising, that lead marketers to be more focus in ad frequency (Çetintürk, 2020). On the other hand, for click-through rate the acceptance as an indicator for ad performance remain consistent over time. Since the first mention of retargeting as an advertising strategy (Shen, 2002), to most recent studies (Pinasang et al., 2020) this indicator is widely accepted in the online marketing.

With online advertising becoming increasingly complex and elaborated, advertisers and marketers urge to find reliable measures on the performance of their online actions. The ability to regulate

advertising outcomes is essential for success in online marketing. According to the previous literature, the metrics considered adequate to predict and measure the effectiveness of online advertising are ad impression, clicks, click-through rate, conversion, conversion rate and frequency. These indicators based on the literature review, industry best practices and also, information available for examination, will allow a solid analysis of the data gathered from the real-life case study further on.

3. METHODOLOGY

The purpose of the current study is to determine the essential advertising element to leverage the retargeting strategy effectiveness, focusing on segment and target users according to their past online behavior. To achieve this goal, it is used a natural science approach, based on literature review and complemented with a real-life case study. Three research objectives were previously defined in order to allow a full understanding on the subject. The objectives are the following. Analyze the essential elements to design a retargeting strategy; assess the metrics most adequate to evaluate ad performance of those elements; and finally, prove the importance of segmentation by the way of a case study.

First goal, that is to determine the fundamental elements that compose an effective retargeting strategy in online advertising, was already discussed in the literature review. Through an examination of studies from several authors, the result was an assemble of four different elements: dimension, content, design and segmentation. From the literature review and benchmark analysis, it was proven the importance of the feature of segmentation in remarketing strategy. Therefore, segmentation is assumed as the critical element to leverage retargeting effectiveness and accordingly will be the main object of examination.

The second goal used the same method as the first. In order to deduce the metrics and performance indicators suitable for the analysis of online advertising, it was gathered a compilation of indicators, based on previous papers. These indicators, namely impressions, clicks, click-through rate, conversions, conversion rate and frequency, were selected based on the work from past studies, industry best practices and also, information available for examination, considering the limitations of the chosen company and the Business Manager platform.

The last goal evaluates the use of retargeting segmentation as the only feature personalized in a retargeting strategy and will be executed by the means of a life experiment. To analyze the importance of segmentation in retargeting strategy, it will be carried out a segmentation cluster based on behavioral characteristics. This study will address the subject of retargeting segmentation by implementing a Facebook, Instagram and Messenger marketing campaign with segmentation based on the user's behavior. In order to fully analyze the performance of behavioral segmentation, three other types of segmentations will be addressed, for the purpose of comparison exclusively. To discuss the topic of research, it was obtained data from a Portuguese company, operating in the financial sector. This strategy guarantees comparability of the performance of data collected and the isolation of the variable "segmentation". It is aimed to validate the effectiveness of retargeting segmentation, *ceteris paribus*.

Experiments of real-life segmentation must express the realistic challenges managers face (Dibb & Simkin, 2009). In reaching this aim, the field experiment was conducted through an over nine month period on Facebook Network, during which it was assembled the aggregated impressions, clicks, click-through rates, conversion rates and further evaluated costs and ad frequency. Additionally, the indicator reach was also collected, as it reflects the number of potential users that saw the brand content on the Facebook network. This research is quantitative and therefore collects data to further analyze it. As a result, it will be measured the advertisements' effectiveness, in the light of an array of metrics, and generalize theory statements.

The process for this investigation is the following. Initially, the Facebook and Instagram campaign design will be conceived and further described, contemplating the aspects mandatory to address the subject of retargeting segmentation. The experiment includes a description of the retargeting strategy execution in order to construct a cohesive foundation for retargeting future investigation and managerial advice. Second, data from the marketing campaign, namely metrics afterwards enumerate, will be collected for a period of nine months and store in the Business Manager platform. Lastly, in the end of the campaign, data collected in this period will be gathered and uploaded to a Microsoft Excel file where it will be performed detail examination and comparisons between the behavioral segmentation and the psychographic segmentations. In the end, it is aimed to prove the superior performance of the behavioral segmentation in comparison with the remaining ones.

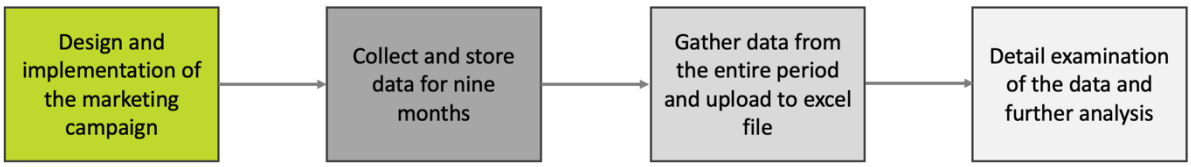

Figure 1: Case study process

3.1 ADVERTISING CAMPAIGN DESIGN

As advise by several authors, companies must consider the use social media to communicate to their target audiences (Dwivedi, et al., 2020). Organizations can profit from taking social media channels as elemental in their business strategy. Therefore, the first step to outset the investigation was the design and implementation of the Facebook network marketing campaign, which includes the Instagram and Messenger platform. The campaign was first designed and implemented in May 2020 for the purpose of the company to advertising their services. The settings of the campaign considered the specifications for this particular study.

The Facebook network campaign structure was first conceived to promote the company's products and services, with performance goals rather than brand awareness objectives. Meaning, these specific ads were designed to lead the users to conclude a specific action in the company website. The desired action was the submission of a formulary to require the company's services. In addition to fulfill the performance goals, the campaign structure was designed to ensure the requirements of this research. It is aimed to deliver identical adverting to all users, with the only variation being the segmentation, thus the users target by the ads.

The users were automatically redrawn of the segmentation group when they have taken the desired action, in this case, fulfill the questionnaire requiring the company services. Regarding the universe of users impacted in this study, users were casually exposed to a psychographic or behavioral segmentation ad when visiting the Facebook social network.

Following the campaign structure, it was designed four different ad groups, each one with a distinct segmentation cluster. Different ad groups not only allow a distinct segmentation, as well as

guarantee equal delivery of ad variations, preventing the Facebook algorithm to spread impressions between segmentations. Every ad group target one distinct segment. Particularly, one based on behavioral segmentation and three based on psychographic criterion. The ad groups with psychographics characteristics are based on the knowledge of the platform regarding the user's tastes, desires and life events. The first ad group, Interests, target users that are in the market for financial products such as personal loans and credit cards, and also products and services related to vacations, online shopping, tourism and trips. The second one, Fans, contains segments of users that have interacted or seen the brand online communications such as previous marketing campaigns or Facebook and Instagram posts.

To apply a retargeting strategy, one of the segmentation clusters consists in users that had online interaction with the company, meaning, have visited the company website previously. By visiting the website these users show interest in the company's services and consequently are more valuable as potential customers. Concerning the users target by behavioral segmentation, all users who have visited the company website within a 30-day time were qualified for this case-study. Since the beginning of the experiment, in May 2020, until the end, users were frequently embarking to the case-study over their activating actions of visiting the company website. Every time a user accesses the website, is implemented a cookie to the user and their interactions are registered in the user individual profile in the form of clickstream data. When the user leaves the company's website and go to the Facebook social network, the cookie allows the platform to show a specific ad to the user.

With the platform knowledge on the users that visit the company website, it was possible to create a fourth ad group with segmentation based on the retargeting user's psychographics characteristics. These characteristics are identical to the users that had visited the website, i.e., the users in the retargeting cluster, but the ad group do not target the users of the retargeting segment. The aim is to identify users that are similar in preferences and tastes with users that have already shown interest in the company but acquiring new ones that have not contact with the brand before. This segment is called the Lookalike segment.

Table 3 – Business Manager segmentation details

<table>
<tr><th>Psychographic Segmentation</th><th>Behavioral Segmentation</th></tr>
<tr><td>Interests:
In market for: loans, credit cards;
Looking for services related to online shopping, vacations, trips and tourism.</td><td rowspan="3">Retargeting:
Users that have visited the company website product pages within 30 days;
Users that have spent more time in the company website within 30 days.</td></tr>
<tr><td>Fans:
Interact or viewed previous ads from the company on Facebook or Instagram.</td></tr>
<tr><td>Lookalikes:
Users with the same demographic and interest characteristics as the users that have visited the company website or that become a client.</td></tr>
</table>

Of the four segmentations, the behavioral ad group is the only one that target users based on their past interaction with the company, reflected in the website visit made previously. Consequently, when a user included in the retargeting ad group is impacted with the company ad, it is not the first time the user sees the brand. On the contrary, the target users from the psychographics segmentations, may not be aware of the brand's product and services, until they are exposed to the Facebook or Instagram ad. Studies have shown an increase of advertising engagement between consumers already familiarized with the company message (Sawyer & Ball, 1981). Therefore, it is expected better results in the behavioral segmentation, when compared with the other ones. The users from all the different ad groups visualize the advertising in an identical way. To the users target according to their past online behavior, there is no mention regarding the fact they have already visited the company website and thus the users from this ad group experience an equal ad to the users from other segmentations.

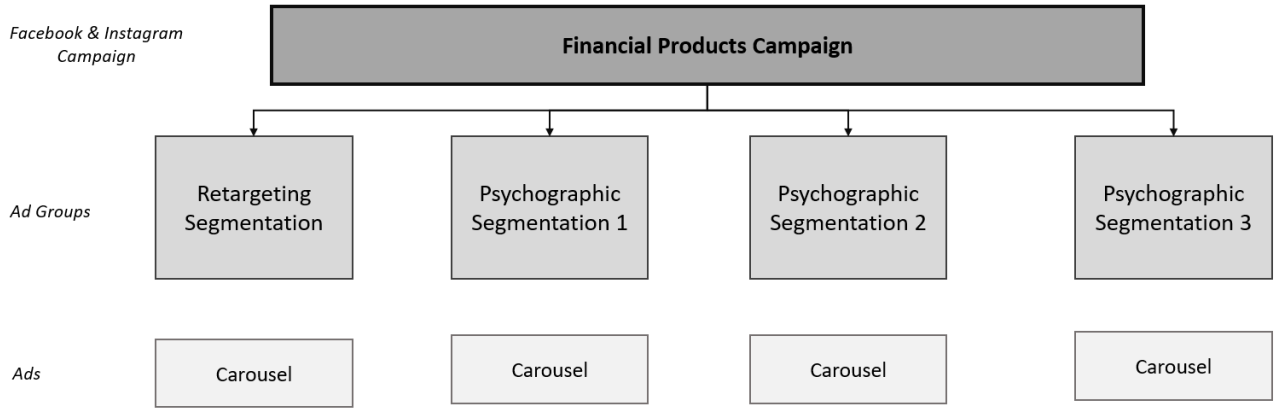

Figure 2: Facebook Campaign Design

To assure comparability of the performance of each segment, the ads present in each ad group were identical. It was selected one ad format for each ad group, specifically, the carousel. The carousel format is composed by a single post in the network feed with two or more images, with the option to swipe through the different cards, alongside different commercial copies and call-to-action buttons. The content of the ad creative was checked and approved to ensure sufficient quality regarding the platform standards and performance best practices. To ensure comparability between segments the image, copy display, website link and call-to-action button were the very same in all ad groups. Additionally, daily budget and bidding strategy were set equal for all the four ad sets to try to achieve an equal delivery of ad impressions.

In order to avoid advertising fatigue, the carousel ad images and copies were both replaced monthly. The image creativities were compliant with the company communication moments and the seasonal times, such as summer holidays, Black Friday or Christmas. Nonetheless, all the ads from different ad group segmentations were replaced at the same time and with the same content, ensuring the similarity of the ads in all time and avoiding any form of bias in the experiment.

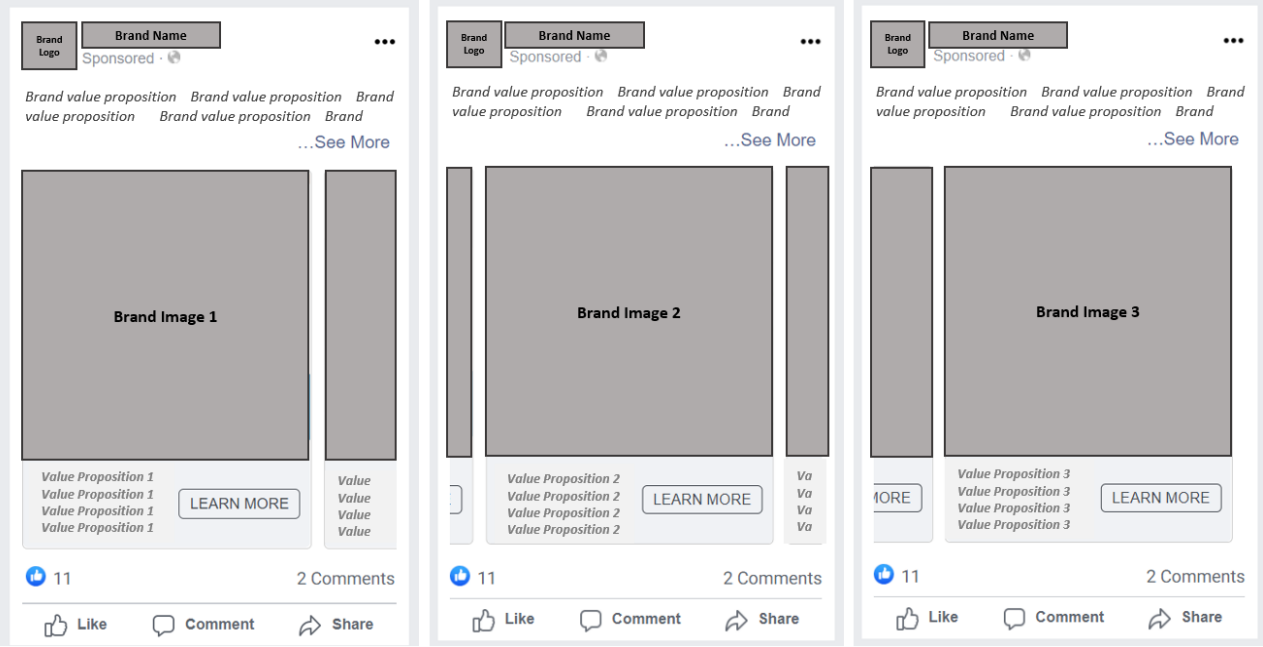

Figure 3: Facebook Carousel Ad

Regarding placement, the main ad positioning on Facebook is sidebar placement and in stream ads, also known as native advertising or feed ads. Sidebar ads are effortlessly avoided by users in comparison to feed ads, who are more disguised between content (Van den Broeck, et al., 2018). On Instagram network it is possible to place in content ads, as in Facebook, and also on stories. For this campaign only the in content ads were used on the Facebook and Instagram platform. The carrousel format was setup to only be shown in the Facebook and Instagram page feed, and in any other placement. The aim is to provide a more cohesive aspect of the ad with the platform content and eventually avoid advertising blindness. On the other hand, for the Messenger platform, out of content ads were advertise.

In the period from May 2020 to January 2021, the Facebook and Instagram campaign have been always active, and, in that time, click-stream data was continuously collected.

3.2 Data Collection

Data for the current study was gathered from a Portuguese company in the financial sector, operating in the Portuguese market. The chosen company, that wish to remain anonymous, provides financial services for individuals and maintains a strong online strategy with the purpose of generating online purchases of their services. The organization was selected based on their suitable requirements for the particular study and the possibility to use and collect data, under anonymity. The financial company illustrated in this experiment was adequate for this study as a result of: i) digital channels being the greatest source of customer acquisition. In result the company has a well-developed online marketing strategy. And ii) due to company dimensions and maturity in the market, it was possible to gather a great amount of data. This allows a long term and comprehensive reflection on the segmentation approaches of the firm's online strategy.

To gain greater insights about the subject in study, clickstream data was collected for the period of nine months, from May 2020 to January 2021, until the adequate amount of data had been collected. It was possible to achieve this aim due to the always on strategy of the company social media on the Facebook network. Data was collected through Facebook and Instagram platform Business Manager, which is the platform that allows to manage all Facebook Network marketing and advertising activities. The platform stores data from the advertising activities and allow to create reports on the performance of the ads. Due to its practicality the platform was used to store and further analyze the data and later on transfer it to Microsoft Excel to further analysis.

It was aimed to gather data that allow the evaluation and further comparison of the different segmentation in terms of ad performance. Evaluation metrics were selected based on current practices of online advertising agencies, the result of the assessment of adequate metrics already discussed and the practical capabilities and conditions derived from specifications of the chosen company operations. According to this, information on the following KPI's was collected: reach, ad impression, clicks, click-through rate, conversion, conversion rate, cost per click, cost per acquisition and ad frequency. Detailed data records were gathered. Since the nature of the Facebook and Instagram campaign is performance, rather than awareness, the metric conversion was further evaluated. In the context of this investigation, the term "conversion" is used to describe the action of completing an online formulary in the company website, in order to require the company services.

3.3 ANALYSIS APPROACH

The experimental design for the lab study aims to achieve comparable results between the four different segmentation ad groups. A total of 2.646.427 times the ads were seen on the Facebook network. Since one user may belong to more than one segmentation, the same user may have seen the ad more than one time.

To amplify the amount of available performance metrics, Business Manager data reports were used to evaluate ad performance. From the Business Manager platform were gathered indicators such as reach, impressions, clicks, CTR, cost of each click, conversions, cost per conversion and ad frequency, as previously mention on the retargeting metrics benchmark. In addition to the standard performance elements, data regarding user's age and gender were gathered and further analyze. It was attempted to acquire new insights on the relationship of retargeting advertising and user's demographic characteristics.

In order to determine the most effective segmentation used in the Facebook and Instagram campaign, it was compared side by side, each metric's data collected. A quantitative analysis was developed to evaluate the segmentation that better perform in each one of the metrics. This analysis tests differences on the performance metrics. The values of these metrics were presented in their absolute form.

Concerning the performance metrics object of analysis, reach metric reflects the number of unique users that encounter an ad at least one time on the Facebook network. This indicator admits a better understanding of the estimate number of people the company can turn into a client. On the other hand, impression is the number of times an ad was displayed. One ad can be shown to the same user

two times, which generates one reach and two impressions. As mention formerly, due to incapacity of the platforms to measure the accuracy of the users' visualization of the ads that are count as impressions, clicks are a better engagement indicator. For the particular case study, to achieve the most reliable insight, only clicks made in the ad link were considered for the analysis. Clicks made by users in the image of the ad were not contemplated, as an attempted to gather the data that most truly reflects the user's engagement.

To complement the absolute metrics mentioned, ratios such as click-through rate and conversion rate were examined, for the sake of a fair comparison among segmentation with distinctive impressions, clicks and conversions volume. CTR and CR are among the most accepted performance metrics in online advertising as they allow a solid comparability. In addition, the cost per click and cost per conversion, or acquisition, were subject of study for the same reason as the performance ratios.

Once the user's time spent on the company website was not possible to be evaluated and considering that the element of time is mentioned several times on the literature, it was considered the examination of the performance indicators by hour of the day. Similar to the age and gender investigation, it is aimed to determine the interconnection between time and ad efficiency.

The data gathered in the platform Business Manager was analyzed and compiled using Microsoft Excel, ensuring an efficient construction of an overview on the main metrics. In performance indicators such as impressions, click-through rate and conversions, it is expected that the ad group with retargeting strategy outperforms the other three ad groups, by presenting higher values than the other ad groups. In other measures such as cost per click, it is anticipated that the three psychographic segmentations present higher costs. The evaluation of all the KPI's collectively will determine which type of segmentation lead to better advertising results. In the end, it is expected to prove the superior performance of the ad group that target users from behavioral segmentation, in comparison with ads with psychographics segmentation.

4. RESULTS AND DISCUSSION

The data gather from the 26th of May to the 31st of January consists of the assembly of 2.646.427 ad impressions, 12.402 clicks, of which 9.919 made by single users, and 1.326 conversions. The collection of data includes information regarding the age and gender of the users, as well as the platform the advertising was displayed, type of ad, and information by the hour of the day.

A real-life case study on the Business Manager platform provided insights on the importance of segmentation to an efficient online retargeting strategy. This experiment features four segments, each of them with one ad at the time, all of them identical. Information was dissected utilizing several metrics described earlier. The indicators used in this field study are reach, impressions, clicks, click-through rate, cost per click, conversions, conversion rate, cost per acquisition of new customer (conversion cost), and frequency of the ad.

Placement: Ad type and platform

Table 4: Ad Placement Type

	Impressions	**Clicks**	**Click-through rate**	**Cost per Click**	**Conversion**	**Conversion Rate**
Out of Content (Messenger)	262.227	271	**0.10%**	0.68€	57	**0.02%**
In Content (Facebook & Instagram Feed)	2.384.200	12.131	**0.51%**	0.67€	1.269	**0.06%**
Total	2.646.427	12.402	0.47%	0.67€	1.326	0.05%

In regard to ad placement, in content ads show a superior performance in all KPIs when compared to other placements. Ads placed on Facebook and Instagram feed, i.e., in content, display more than nine times the number of ad impressions, 2.384.200, when compared to out of content ads displayed in Messenger, 262.227. The same happens with clicks, with in feed publications presenting 12.131 clicks and Messenger publications showing only 271. There are two reasons for this phenomenon. In the first place, in content ads on Facebook and Instagram platform have more opportunities to be shown to users, due to the greater stock of ad space (Facebook, 2021). This situation leads to a higher number of impressions and therefore more opportunities to generate clicks. The second reason is that due to the better performance of in content ads compared to out of content ads, after a time, the Facebook algorithm started to privilege the delivery of in content ads. For all of these, it is mandatory to compare the CTR and CR indicators since they result of ratios and allow a solid analysis. Together with CPC and CPA, these metrics admit a reliable side by side comparison of the two ad types.

Analyzing the click-through rate in table 4, in content ads show a much higher CTR of 0.51% than the out content ads, with 0.10%. A higher CTR reflects a higher engagement from the users that saw an

ad, meaning that in content ads were able to gather greater attention from the users, when compared with out of content ads. As stated by Van den Broeck et al. (2018) the placement of advertising is strongly related with attitudes and clicks towards an ad. Which is consistent with the notorious difference of performance results in the two types of ad placement.

The CR follows the same pattern. The conversion rate of in content ads is three times higher than ads in other placements: 0.06% compared to 0.02%. This is consistent with findings from authors such as Ying et al. (2009) that state that placing the ads in a meaningful way for the user tends to generate less ad avoidance and therefore more engagement. Ad's efficiency can be improved by display advertising in websites that have integrity and that are seen as valuable by users (Aguirre, et al., 2015), which in this case is Facebook and Instagram platform with in content advertising, rather than Messenger.

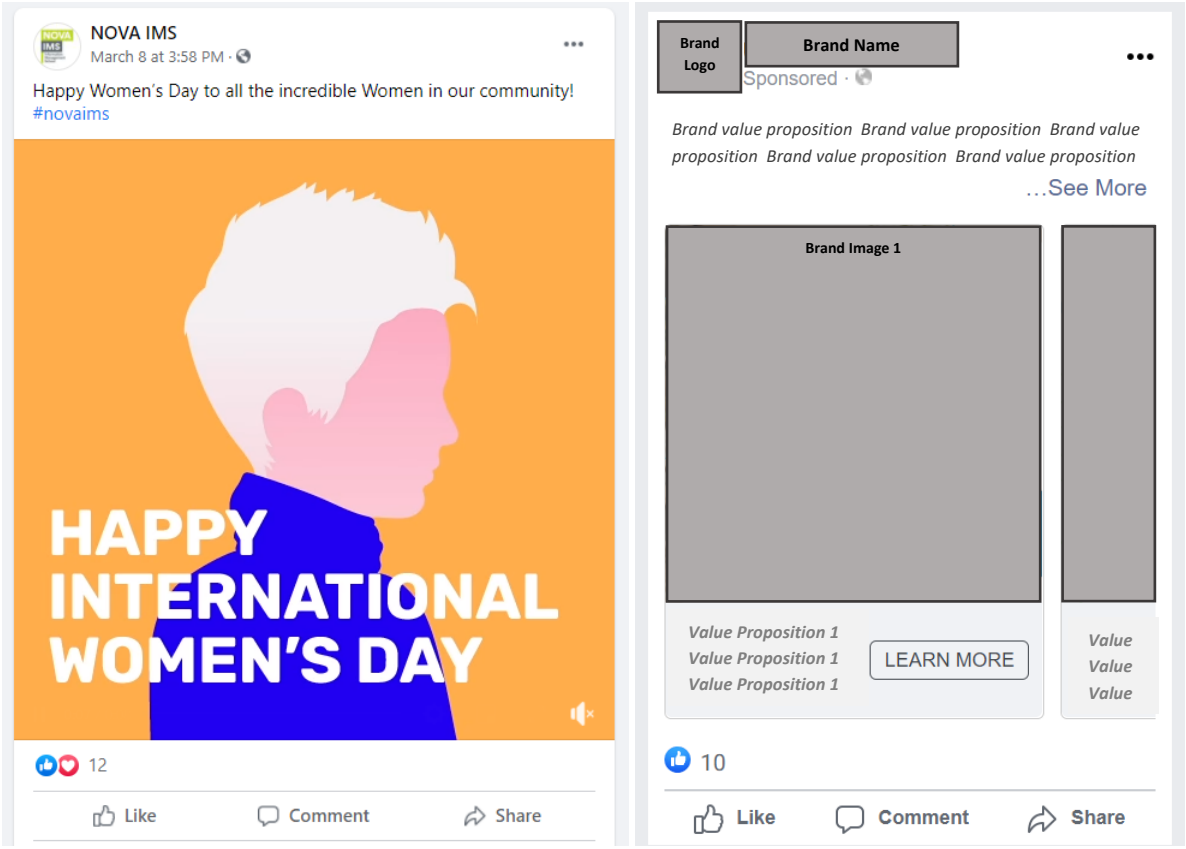

Figure 4: Organic (left) and Sponsored (right) Facebook Post

In content ads display a very similar appearance to organic Facebook or Instagram posts. The agreeable design of the ads with the design of the website they are placed on generates more positive attitudes (Moore et al., 2005). On the contrary, Messenger ads do not display such a high congruity with the environment they are placed. In line with the findings from previous authors, this fact ends up generating feelings of ad intrusiveness in the users and lower engagement towards the out of content ads.

Table 5: Ad Placement Platform

	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition
Facebook	1.955.101	10.416	**0.53%**	**0.64 €**	1.048	0.05%	6.33€
Instagram	429.099	1.715	0.40%	**0.74 €**	221	0.05%	6.20€
Messenger	262.227	271	0.10%	**0.68 €**	57	0.02%	**6.03€**
Total	2.646.427	12.402	0.47%	0.67 €	1.326	0.05%	6.24€

Looking into the data by platform, Facebook clearly displays the best click-through rate, of 0.53% when compared to 0.40% and 0.10% of Instagram and Messenger, respectively. It is possible to conclude that ads present on Facebook feed tend to generate more positive user's attitudes, reflected in the higher CTR. Even so, Instagram platform also registered a high click-through rate, when compared to Messenger.

In terms of cost efficiency, Facebook platform shows the lowest CPC, with 0.64€ for feed ads and 0.68€ for Messenger Ads. The Instagram platform records a cost per click of 0.74€, being the platform with the higher cost per user click. However, in terms of CPA Instagram records a cost of 6.20€, lower than Facebook with 6.33€. Even so, Messenger has the cheapest cost of acquisition of the three, with 6.03€ for each customer, but with much less volume of conversions than the other platforms. Messenger might be a suitable platform in terms of cost efficiency, but it is not expected to generate as many clients as Facebook and Instagram.

Segmentation

Table 6: Segmentation

	Reach	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition
Fans	6.170	72.818	381	0.52%	**0.50 €**	29	0.04%	6.60€
Interests	**282.718**	691.443	2.007	0.29%	0.59 €	120	0.02%	9.88€
Lookalike	215.629	**999.722**	4.971	0.50%	0.59 €	370	0.04%	7.88€
Retargeting	**83.140**	**882.444**	**5.043**	**0.57%**	**0.68 €**	807	**0.09%**	**4.25€**
Total	587.657	2.646.427	12.402	0.47%	0.62 €	1.326	0.05%	5.83€

Analyzing the results of the four segmentations, three based on psychographic characteristics and one based on user behavior, there are some indicators that stood up. Considering the reach column of the table 6, it is possible to observe the number of users that came across the brand's content in

the Facebook network. Although the reach for Retargeting segment is only 83.140 users, the third greatest among segmentations, in terms of clicks it outstands the others, with 5.043 clicks in total. The joint analysis of these two indicators already unveils the superior performance of retargeting segmentation. Despite the 282.718 reach users for Interest segmentation, the ads display 2.007 clicks, reflecting the lower engagement from these users throughout the ads. As described by previous studies, the effectiveness and engagement of advertising are influenced by the relevance of the message to the users, based on their recent actions (Bucklin & Sismeiro, 2009). The 83.140 users in the Retargeting segment that saw the ad had also visited the company website recently, perceiving the content of the company advertising as more meaningful for them. Resulting in a higher volume of clicks on the ad.

Regarding the impressions, it is the segmentation of users similar to the website visitors that got the highest number, 999.722 impressions. The second one is the Retargeting segment, with 882.444 impressions follow by the users with an interest in the company market and users that have interacted with previous publications with 691.443 and 72.818 impressions each. As mention previously, when the platform has gathered insights on the ad performance, it starts to prioritize the display of ads with better results. This leads to much higher impressions in the segmentations with better results, in this case, the Retargeting and Lookalike segments.

As displayed in table 6, clicks on the ad do not follow the same distribution as the impressions. It is the Retargeting segmentation that presents the highest number of clicks, 5.043 contributing to the highest CTR. As described earlier, this indicator allows a better comparison between ads with different impressions and clicks volume. The Retargeting segmentation presents a click-through rate of 0.57%, much higher than the three psychographic segmentations, with 0.52% for Fans, 0.50% for Lookalikes and, 0.29% for Interests. This indicator shows that users in the Retargeting segmentation display a higher interest in the ad when compared with the psychographic segmentation due to their clicking action in the ad. Which is consistent with literature findings, mentioning that users who encounter an ad related to the content they saw previously have positive intentions towards the ad and higher click intentions (Chen & Stallaert, 2014).

Although the greater interaction with the advertising, the cost of bringing the Retargeting users into the company website is much higher than the rest of the segments. Retargeting segmentation displays the most expensive cost per click of 0.68€, when compared to 0.59€ or 0.50€ to the other segments. In this case, a higher click-through rate does not translate into lower click costs. A possible explanation for this phenomenon is the fact that users seen by the platform as more likely to turn into customers, i.e., click on the advertising, have a higher cost than the users not as likely to be interested in the company offer. And for the platform, users that have already visited the website are more qualified as interest in the product.

Regarding the most important metric to the company, the conversion, Retargeting segmentation clearly displays the best results. Arya et al. (2019) state that the user's browsing history is crucial to influence their decision, which is consistent with the findings from the case study. Analyzing the total number of conversions, Retargeting segment with 807 conversions outrate the other three with more than the double conversions than the best of psychographic segments, with 370 conversions. This pattern is reflected in the conversion rate, having 0.02% in the Interests segment, 0.04% in the Lookalikes and Fans, compared with 0.09% in the Retargeting segment. The intention to take the

desired action by the users that have already visited the company website is clear. Barnes (2002) also founds that highly target adverting is essential in online marketing success. The higher volume of conversions and the higher click-through rate of Retargeting segment show the superior effectiveness of retargeting as a form of online advertising and is consistent with the finding by authors such as Isoraite (2019), Omar & Atteya (2020) and Pinasang et al. (2020). These authors state that retargeting is the most effective and influential form of online advertising, generating the highest ad performance.

The users included in the Retargeting segment not only end up converting much more when clicking the ad, as also, the cost of acquiring them is much cheaper for the company than the users in the psychographic segments. The CPA in the Retargeting segment is 4.25€, whereas the cost of acquisition of the Fans is 6.60€, the Lookalike is 7.88€ and Interests is 9.88€. Authors such as Scott (2010) mention that the better the segmentation and the target, the lowest cost of acquiring customers. Mercanti-Guérin et al. (2020) also affirm that a retargeting strategy allows optimizing the consumer purchase process, which includes a lower cost of customer acquisition as displayed in the case study.

The findings in the case study are consistent with the study from Aguirre et al. (2015) as the authors found that financial brands that advertise on Facebook display better performance, namely higher CTR, with advertising that reflect the user's preferences. The highly target ads to users familiar with the brand increased click-through rate intentions.

From the most reliable indicators that allow a side-by-side comparison, CTR, CPC, CR and CPA, it is clear the superior performance of the retargeting segmentation, when compared to the different types of psychographic segmentations. If the users by psychographics segmentations were target according to their past online behavior, i.e., by a retargeting strategy, the higher engagement would be reflected in the higher click-through rate and conversion rate. In this scenario, it would be possible to increase the number of clicks by 37% and the conversions by 127%, as demonstrated in the Appendix A. This impressive growth in the number of conversions, that represents the action closer to the purchase in the digital environment, directly affects the company's financial performance.

Frequency

Table 7: Ad Frequency

	Clicks	**Click-through rate**	**Cost per Click**	**Conversion**	**Conversion Rate**	**Frequency**
Fans	381	**0.52%**	0.50 €	29	**0.04%**	**11.80**
Interests	2.007	0.29%	0.59 €	120	0.02%	**2.45**
Lookalike	4.971	0.50%	0.59 €	370	0.04%	**4.64**
Retargeting	5.043	**0.57%**	0.68 €	807	**0.09%**	**10.61**
Total	12.402	0.47%	0.62 €	1.326	0.05%	**5.75**

In terms of ad frequency, there is not a clear pattern in the relationship of this indicator to the conversion rate, as shown in table 7. The Retargeting ads were showed to the users 10.61 times on average and display the best performance ratios, as seen before. These findings are consistent with previous studies from Pinasang et al. (2020) who notice that higher frequency ads build up purchase intention in retarget users. Although the Fans segment is the one with the highest frequency, 11.80 times, it presents the second best click and conversion rate, 0.52% and 0.04% accordingly.

The higher the frequency of the ads, the higher the positive attitudes towards it, up to a certain point. From the data gather, it is possible to assess that a higher frequency generates a higher click and conversion rate, until a certain recurrence. As for the Interests, Fans and Retargeting segment, the higher the frequency of the ad, the higher is the click-through rate. However, for the users in the Fans segment, the highest frequency of 11.80 times, translates it into the second best click-through rate, and not the highest as expected. The same pattern was found by Kaulina and Kaulins (2018) as very high advertisement frequency is likely to be seen as disturbing and do not bring the best result in the best performance.

It is conceivable that the maximum frequency that generates positive attitudes is between 4.64 and 11.80 times since the Retargeting segment displays the best performance ratios with 10.61 of frequency. On the other hand, the number of times to display an ad that is seen as disturbing seems to be more than 10.61 once Fans with 11.80 of frequency do not register the best click-through rate and neither the best conversion.

Placement and Segmentation

Platform

Looking closer to the different segmentations and the platforms in table 8, Facebook presents the higher impressions and clicks for all segments. To be able to surpass the fact that Facebook has more ad placement available than Instagram or Messenger platforms, it is mandatory to compare performance ratios. Analyzing the CTR, Facebook also displays the highest click-through rate in all segmentations, except for the Fans, where Instagram record a higher value, 0.66%. A higher click-through rate indicates that ads on Facebook platform were more engaging for all the different segments, with Fans being the only exception. The 0.64% CTR for Retargeting, 0.54% for Lookalikes, and 0.36% for Interest show that the users that have been exposed to ads on Facebook are more engaged than those users that saw the same ad on other platforms. In contrast, although for the Fans segment Facebook displays more impressions and clicks on the ads, the CTR is higher on Instagram. It appears that for this particular segment, users on Instagram display more interest in the company products.

Table 8: Segmentation and Platform Placement

	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition
Fans	*72.818*	*381*	*0.52%*	*0.50 €*	*29*	*0.04%*	*6.60€*
Facebook	**62.062**	**332**	0.53%	0.50 €	25	0.04%	6.66€
Instagram	5.720	38	**0.66%**	0.54 €	4	0.07%	**5.15€**
Messenger	5.036	11	0.22%	**0.38 €**	0	-	-
Interests	*691.443*	*2.007*	*0.29%*	*0.59€*	*120*	*0.02%*	*9.88€*
Facebook	**441.649**	**1.591**	**0.36%**	**0.54€**	72	0.02%	11.83€
Instagram	154.975	389	0.25%	0.80€	46	0.03%	**6.76€**
Messenger	94.819	27	0.03%	0.84€	2	0.00%	11.38€
Lookalikes	*999.722*	*4.971*	*0.50%*	*0.59€*	*370*	*0.04%*	*7.88€*
Facebook	**764.991**	**4.126**	**0.54%**	**0.56€**	286	**0.04%**	8.03€
Instagram	162.563	757	0.47%	0.75€	68	**0.04%**	8.34€
Messenger	72.168	88	0.12%	0.61€	16	0.02%	**3.33€**
Retargeting	*882.444*	*5.043*	*0.57%*	*0.68€*	*807*	*0.09%*	*4.25€*
Facebook	**686.399**	**4.367**	**0.64%**	**0.65€**	665	**0.10%**	4.26€
Instagram	105.841	531	0.50%	0.88€	103	**0.10%**	4.52€
Messenger	90.204	145	0.16%	0.91€	39	0.04%	**3.37€**
Total	2.646.427	12.402	0.47%	0.62 €	1.326	0.05%	5.83€

Following the CTR pattern, the cost of each click is lower for the platform with the highest click-through rate. The segments of Retargeting, Lookalikes and Interests display the lower CPC on the Facebook platform, with 0.65€, 0.56€ and 0.54€ respectively. For the users in the Fans segment, although the Instagram platform registered the higher click-through rate it is Messenger that has the lower CPC of 0.38€. Nonetheless, the lowest cost of bringing users to the company website in this segment does not lead to any new customers.

The conversion rate does not follow the same pattern as the click-through rate. Retargeting segment records the highest CR both in Facebook and Instagram, with 0.10%. For Lookalikes the conversion rate of 0.04% is also registered both on Facebook and Instagram. Whereas Fans and Interests display 0.07% and 0.03% in Instagram, as the highest rates. For these two segments, the cost of customer acquisition is also lower on Instagram, 5.15€ and 6.76€. While for Retargeting and Lookalikes it is on the Messenger platform that the CPA is the lowest.

Kantola (2014) states that users are as likely to convert through all ad variations, as long as they are target based on their previous online actions. However, the users from retargeting segment do not display the same conversion rate for the different platforms. For Facebook and Instagram platforms, the CR values are identical, 0.10% for both placements. Nonetheless, Messenger users display a

conversion rate of 0.04%, much lower than the other two. As stated ahead, the ad stock in Messenger is less than in the other two platforms, which may influence the results. Even so, the discrepancy of the result rate is quite big, contradicting the state from Kantola (2014).

The asymmetries in performance metrics may indicate that different platforms may be more suitable for certain segmentations, as some user segments have more affinity with specific media channels (Anand & Shachar, 2009). In the case of segmentation based on psychographic characteristics, in specific interaction with brand content and interests, Instagram appears to improve engagement results. Van den Broeck et al. (2018) found the same results, affirming that ad placement has a close cause-consequence relationship with consumer ad processing and engagement, translated into clicks.

Ad Type

Table 9: Segmentation and Ad Type

	Impressions	**Clicks**	**Click-through rate**	**Cost per Click**	**Conversion**	**Conversion Rate**	**Cost per Acquisition**
Fans	*72.818*	*381*	*0.52%*	*0.50€*	*29*	*0.04%*	*6.60€*
Out of Content	5.036	11	0.22%	**0.38€**	0	-	-
In Content	67.782	370	**0.54%**	0.50€	29	**0.05%**	6.45€
Interest	*691.443*	*2.007*	*0.29%*	*0.59€*	*120*	*0.02%*	*9.88€*
Out of Content	94.819	27	0.03%	0.84€	2	0.00%	11.38€
In Content	596.624	1.980	**0.33%**	**0.59€**	118	**0.05%**	9.86€
Lookalikes	*999.722*	*4.971*	*0.50%*	*0.59€*	*370*	*0.04%*	*7.88€*
Out of Content	72.168	88	0.12%	0.61€	16	0.02%	**3.33€**
In Content	927.554	4.883	**0.53%**	**0.59€**	354	**0.73%**	8.09€
Retargeting	*882.444*	*5.043*	*0.57%*	*0.68€*	*807*	*0.09%*	*4.25€*
Out of Content	90.204	145	0.16%	0.91€	39	0.04%	**3.37€**
In Content	792.240	4.898	**0.62%**	**0.67€**	768	**0.16%**	4.30€
Total	2.646.427	12.402	0.47%	0.62€	1.326	0.05%	5.83€

For all the different segmentations, in content ads show a higher CTR and a lower CPC, with the Fans segment being an exception of the cost per click. The Retargeting segment display 0.62% of CTR in in content ads, compared to 0.16% of out content ads. For Lookalikes the difference is 0.3% and 0.12%; for Interests is 0.33% and 0.03%. For the Fans, the asymmetry is less notorious with 0.54% for in content ads and 0.22% for out content ads. The general higher click-through rates in in content ads demonstrate the higher engagement of advertising displayed seemlier on the website content, as oppose to ads placed in specific locations without congruity with the placement. The higher engagement towards ads blend in the content result in lower click cost, as seen previously. The different types of segmentation do not influence the performance results of in content and out of content ads.

Looking into the conversion rate in table 9, the same pattern is identified in all segmentation groups: higher CR in in content ads when compared with out of content. For Retargeting segmentation, the conversion rate of in content ads is 0.16%, compared with 0.04% of out of content. However, the cost of each conversion does not follow the same distribution. In Retargeting and Lookalikes segmentation, the CPA of in content ads is higher than out of content, 4.30€ versus 3.37€ for Retargeting and 8.09€ versus 3.33€ for Lookalikes. In the Interest segment, the CPA of out of content is lower than in content ads, however, the segment only has 2 conversions, which is not significant for taking conclusions.

All the four segments, with two different types of segmentation characteristics, display a higher engagement, reflect in the greater CTR and CR, in in content ads when compared with out of content ads. These results support the findings of Yaveroglu and Donthu (2008) as ad placement proves to determine advertising effectiveness. For the case study, in content ads show a much higher engagement and positive attitudes as stated by several authors like Moore et al. (2005), Van den Broeck et al. (2018) and Ying et al. (2009) and the type of segmentation does not have consequences in this pattern.

Gender

Table 10: User's Gender

	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition
Female	1.213.294	5.889	**0.49%**	**0.62€**	641	**0.05%**	**5.69€**
Male	1.423.573	6.475	**0.45%**	**0.63€**	682	**0.05%**	**5.95€**
Total	2.646.427	12.402	0.47%	0.62€	1.326	0.05%	5.83€

In this field study, the amount of data gathered from female and male users is very close from a 50%-50% distribution, with 46% of the total impressions made by women and 47.5% of the total clicks. Note that there were 9.560 impressions, 38 clicks and 3 conversions from users who gender as considered unknown. Due to the minor volume of these users, the data insights from the unknown gender as not subject of analysis.

An overall exam of table 10 does not display great differences between genders. The click-through value is very approximate, 0.49% for females and 0.45% for males, and the conversion rate is identical: 0.05%. As for costs, the cost per click and conversion is likewise very similar. The CPC for female users is 0.62€ and for male is 0.01€ above. Additionally, in the cost per acquisition females display a lower cost, but male users registered only 0.26€ more for customer, with a CPA of 5.95€. With KPI's so similar between genders, it is necessary to evaluate the existence of irregularities within each segment.

Table 11: Segmentation and User's Gender

	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition
Fans	*72.818*	*381*	*0.52%*	*0.50 €*	*29*	*0.04%*	*6.60€*
Female	42.590	219	0.51%	0.52€	11	0.03%	10.37€
Male	29.857	162	**0.54%**	**0.47€**	18	**0.06%**	**4.24€**
Interests	*691.443*	*2.007*	*0.29%*	*0.59€*	*120*	*0.02%*	*9.88€*
Female	316.394	972	**0.31%**	**0.58€**	70	**0.02%**	**8.07€**
Male	372.514	1.023	0.27%	0.60€	49	0.01%	12.58€
Lookalikes	*999.722*	*4.971*	*0.50%*	*0.59€*	*370*	*0.04%*	*7.88€*
Female	421.060	2.096	**0.50%**	0.60€	170	**0.04%**	**7.46€**
Male	575.070	2.857	**0.50%**	**0.57€**	200	0.03%	8.20€
Retargeting	*882.444*	*5.043*	*0.57%*	*0.68€*	*807*	*0.09%*	*4.25€*
Female	686.399	4.367	**0.60%**	**0.65€**	665	**0.09%**	4.35€
Male	105.841	531	0.55%	0.71€	103	**0.09%**	**4.15€**
Total	2.646.427	12.402	0.47%	0.62 €	1.326	0.05%	5.83€

When looking into gender asymmetries within segments in table 11, ad engagement does not seem to follow a pattern. For Retargeting and Interests segments, the female users display a higher CTR. With 0.60% when compared to 0.55% for males in Retargeting group and 0.31% versus 0.29% for users in Interests. On the other hand, male users belonging to the Fans segment have the highest click-through rate, 0.54% and for the Lookalike segment the CTR is the same for both genders, 0.50%. The gender with higher CTR is usually the one with the lowest cost per click, excepting the Lookalikes segment that displays the same click-through rate for both genders, but registered a lower CPC in male users, 0.57€. The asymmetry in this metric does not display a clear pattern.

Analyzing the conversion rate for Lookalikes and Interests segmentations, the female users display the higher CR, with 0.04% and 0.02% respectively. For Fans the highest CR is 0.06% from male users. In Retargeting segment both genders registered the same 0.09% conversion rate. Naturally, through all segments, the cost of conversion is lower in the gender with a higher conversion rate, as noticed earlier. Only in the retargeting segmentation, male and female users display an identical CR, of 0.09% and the male users registered a lower cost per acquisition of 4.15€. Even so, the overall analysis does not display any significant asymmetries in terms of gender performance.

Age

The age differences in the collected results are notorious. The highest number of ad impressions is registered by the age group of 25-34, which is not a surprise since the biggest demographic group of Facebook users in 2021 were between 25 and 34 years old (Statista, 2021). When it comes to clicks, table 12 shows that it is the segment of 35-44 that registered the higher volume, 3.819 clicks for the time range. To better understand the ad engagement of each age group it is mandatory to analyze the CTR. The users with more than 55 years display very high click-through rates, of 1.11% from 55-

64 and 1.15% for 65+. These results are rather outliers when compared with the click-through rates of the other age segments that are less than 0.75%. One interesting pattern found is that the higher the age of the users, the higher is the click-through rate. This event might indicate that the product promoted in the ad triggers more engagement in older users, reflected in the higher CTR on the 55-64 and 65+ age range. Instinctively, the cost per click of each demographic segment is lower in the age groups with higher CTR, where users with 65+ years display a 0.31€ per click and 55-64 years' users with 0.35€ per click.

Table 12: User's Age

	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition	Frequency
18-24	310.107	906	0.29%	0.62€	129	0.04%	5.69€	**6.20**
25-34	**1.044.073**	3.455	0.33%	0.81€	471	0.05%	5.88€	5.88
35-44	799.309	**3.819**	0.48%	0.80€	448	**0.06%**	**5.45€**	5.73
45-54	343.227	2.545	0.74%	0.48€	221	**0.06%**	**5.50€**	5.51
55-64	104.763	1.160	**1.11%**	**0.35€**	44	0.04%	9.17€	**4.76**
65+	44.946	517	**1.15%**	**0.31€**	13	0.03%	12.52€	**5.09**
Total	2.646.427	12.402	0.47%	0.62 €	1.326	0.05%	5.83€	5.75

However, in terms of conversions, the pattern found is not the same. The age group with higher CR is 35-44 and 45-54 years, both with 0.06%. As for the age segments of 55-64 and 65+, the conversion rates are the lowest: 0.04% and 0.03%. The join analysis of click-through rate and conversion rate indicates that although users with more than 55 years old show further interest in knowing more about the product when they see the advertising, reflected in the CTR, the users with 35 to 54 years are the ones that end up subscribing for the product. These users have the lowest cost per acquisition, 5.45€ and 5.50€ respectively, for 35-44 and 45-54-years old users. Interestingly, although users above 55 years displayed the lowest cost per click, the conversion cost of these same users is the highest of all the age segments, 9.17€ and 12.52€ for 55-64 and 65+ respectively.

Regarding the frequency, the same pattern found by other authors is displayed. The age segment with lower frequencies, 4.76 and 5.09, exhibit the lower conversion rate, 0.04% and 0.05% for users from the age segment of 55-64 and 65+. On the opposite side, the segment with higher frequency, 6.20 times for the user with 18-24 years presents the same lower conversion rate, 0.04%, as the segments with lower frequencies. It is the frequencies of 5.51 and 5.73 that produce the higher conversion rates: 0.06% for 35-44 years and 45-54 years. The lower frequencies of 4.76 and 5.09 times seem to contribute to a lower conversion rate. Whereas the 5.52 and 5.73 frequencies show a higher CR, supporting the theory that higher ad frequency generates positive feelings towards the ads. This is consistent with the findings of other authors such as Cho et al. (2001) that state the frequency of showed advertising has a positive relationship to the user's perception and is reflected beneficially in the click-through rate. Regardless, once again, the highest frequencies of 6.20 also result in lower performance indicators, the second lowest CR for the segment of 18-24. Kaulina and Kaulins (2018) show that advertising with higher frequency tends to be seen as disturbing and consequently lose effectiveness. The adequate number of times a user sees an ad appears to be

more than 4.76 times as the age segment with this frequency display lower conversion rates; and less than 5.88, once the segment of 25-34 with the higher frequency does not display the best conversion rate.

Time of the day

Table 13: Time of the day

	Reach	Impressions	Clicks	Click-through rate	Cost per Click	Conversion	Conversion Rate	Cost per Acquisition
00:00 - 00:59	52.363	73.779	389	0.51%	0.64€	39	0.05%	6.28€
01:00 - 01:59	30.531	40.592	232	0.58%	0.57€	11	0.03%	12.50€
02:00 - 02:59	16.786	21.089	142	0.68%	0.50€	8	0.04%	9.11€
03:00 - 03:59	9.559	12.055	73	0.62%	0.59€	8	**0.07%**	5.50€
04:00 - 04:59	7.160	8.691	60	**0.71%**	0.51€	11	**0.13%**	**2.90€**
05:00 - 05:59	7.612	9.208	53	0.58%	0.63€	4	0.04%	8.36€
06:00 - 06:59	12.883	16.723	119	**0.73%**	0.49€	9	0.06%	6.53€
07:00 - 07:59	29.747	41.828	235	0.56%	0.58€	19	0.05%	6.96€
08:00 - 08:59	56.891	86.529	462	0.52%	0.59€	49	0.06%	5.33€
09:00 - 09:59	79.425	123.982	581	0.48%	0.59€	68	0.06%	5.13€
10:00 - 10:59	94.977	144.266	591	0.41%	0.68€	**95**	**0.07%**	**4.21€**
11:00 - 11:59	97.394	149.004	643	0.44%	0.63€	84	0.06%	**4.85€**
12:00 - 12:59	96.270	**150.872**	595	0.40%	0.69€	66	0.04%	6.27€
13:00 - 13:59	**104.152**	**165.889**	660	0.39%	0.69€	69	0.04%	6.53€
14:00 - 14:59	**104.396**	**158.982**	694	0.44%	0.63€	**98**	0.06%	**4.52€**
15:00 - 15:59	97.029	**148.229**	743	0.50%	0.57€	72	0.05%	5.80€
16:00 - 16:59	92.540	**137.027**	607	0.45%	0.65€	54	0.04%	7.36€
17:00 - 17:59	89.909	**136.702**	689	0.50%	0.58€	63	0.05%	6.35€
18:00 - 18:59	94.642	**144.354**	703	0.49%	0.59€	72	0.05%	5.81€
19:00 - 19:59	95.873	**147.469**	684	0.46%	0.64€	58	0.04%	7.45€
20:00 - 20:59	102.362	**164.546**	735	0.45%	0.67€	81	0.05%	6.05€
21:00 - 21:59	**115.873**	**195.449**	**904**	0.46%	0.65€	**102**	0.05%	5.72€
22:00 - 22:59	**124.266**	**202.007**	**957**	0.48%	0.62€	**101**	0.05%	5.96€
23:00 - 23:59	**103.261**	**167.155**	**851**	0.51%	0.58€	**85**	0.05%	5.92€
Total	1.715.901	2.646.427	12.402	0.47%	0.62€	1.326	0.05%	5.83€

Time of the day may also be a decisive factor when it comes to online marketing results. In table 13 it is obvious the unbalanced distribution of KPI's indicators regarding the timetable. Although the majority of clicks (8.827) and conversions (921) happens in the second part of the day, between 12:00 and 23:59, the highest CTR and CR are in the first hours. In the first twelve hours of the day, the click-through rate is 0,57% when compared to 0,47% on the second half of the day. The time interval with the highest CTR is 04:00 to 04:59 with 0.71% and 06:00 to 06:59 with 0.73%. The same pattern is displayed in the conversion rate, where is registered a conversion rate of 0.13% between 04:00 and 04:59 and 0.07% between 03:00 and 03:59. An interesting fact is that between 03:00 and 05:59 the potential number of users to display the ads is lower than the rest of the day hours. The average number of reach in the day is 71.496 and from 04:00 to 04:59 the number of potential users is 7.160. For the 06:00 to 06:59 period, the reach number is 12.883, very far from the daily average.

The highest number of clicks happens in the last 3 hours of the day, 904, 957 and 851, which is consistent with the timetables with more potential users to display the ads, 115.873, 124.266 and 103.261 of reach. The hours of the day with more conversions are similar to the ones with higher clicks and in addition, the timetable of 14:00 to 14:59 with 98 conversions and 10:00 to 10:59 with 95 conversions. These results are expected since these particular hours registered the higher number of reach users. A higher reach leads to a higher number of times the ad is displayed to users and therefore more possibilities to convert the users into clients.

The highest conversion rate happens between 04:00 to 04:59 with 0.13% of CR. The second highest conversion rate of 0.07%, is registered at 03:00 to 03:59 and 10:00 to 10:59. Although these timetables do not register the greatest number of opportunities to display the ad to users, it seems that users that encounter the advertising in these times of the day are more engaged with the message and end up converting much more.

In terms of cost, the hour between 04:00 and 04:59 not only registered the highest conversion rate, as also displays the lower cost of conversion, 2.90€. The hour between 10:00 and 10:59 also displays a low cost per acquisition of 4.21€ and the same happen in the next hour, with 4.85€ of CPA.

It is possible to conclude that although the first hours of the day have fewer potential users to display the ad, these users tend to be more engaged with the ad which results in higher click-through rates and higher conversion rates.

4.1 SUM UP

To sum up, this experiment responds to the need for more empirical generalizations that supply a deep understanding of the importance of segmentation in retargeting strategy. Overall, the results from the case study confirm the findings from the literature review, based on previous authors, that segmentations act as a decisive factor for the effectiveness of retargeting strategy. In general analysis of multiple metrics, the segmentation based on users' previous actions shows superior performance. A comparison experience to target users according to different types of segmentation, psychographics and behavioral, prove that display advertising to users that have already interacted with the company, results in higher ad engagement and ultimately higher customer acquisition. Throughout all ad analysis variations, the segment of retargeting registered higher click-through

rates, higher conversions and, at lower costs. Supporting the findings from previous studies from Anand and Shachar (2009), Bucklin and Sismeiro (2009), Chen and Hsieh (2012), Isoraite (2019) and many more, that describe retargeting as the most effective strategy in online advertising.

Additionally, as stated by several authors such as Chtourou et al. (2002), Moore et al. (2005), Yaveroglu and Donthu (2008), and others, ad placement influences the performance of advertising. In content ads exhibit a much high-performance metrics. Using advertising that displays a greater visual congruity with the website where it is displayed lead to higher click-through rates and conversion rates. Naturally, the superior engagement of in content ads benefits from the lower ad intrusiveness, a result of the seemly presence in the website native content.

Although advertising on Business Manager includes the presence in Facebook, Instagram and Messenger platforms, Facebook ads present a greater volume of ad impressions, clicks and overall higher performance ratios than the other two placements. Higher click-through rates and lower CPC of Facebook platform produce more engagement towards the ad and better business outcomes. One important note in the subject is that advertising space stock surpasses greatly the other two, influencing the results.

The frequency of advertising in retargeting strategy seems an under study subject in the literature. As an influence by the studies from Sahni et al. (2019), Pinasang et al. (2020) and Kaulina and Kaulins (2018), ad frequency was analyzed with the intention to better understand its relationship with retargeting. As state by previous papers, a higher frequency of the ads leads to higher click-through rates and conversions, as display in table 7 and 12. Even so, the higher frequency does not premise the higher engagement as the findings from Kaulina and Kaulins (2018) express. Advertisement with a high frequency of repetition is predominantly seen as disturbing and annoying by users, even raising privacy concerns.

The characterization of the users that participate in the study by gender and age gives valuable insights. Despite the fact that the user's gender does not contribute to significant differences in performance results, neither in terms of rates nor costs, the age range influence the outcomes. For the particular finance product advertise by the company, older users with more than 55 years display a very high engagement with CTR of 1% and more. On the contrary, users with middle age, such as 35 to 54 years are the ones that end up subscribing to the company product. The age resembles to be the variable with more discrepancy between ad engagement in terms of click-through rate and customer acquisition reflected in conversion rate.

The examination of results breakdown by timetable generated interesting outcomes. Although in the second part of the day, between 12:00 and 23:59 the reach audience is greater than the early hours of the day, it is between 4:00 and 6:59 that the ads displayed higher engagement. Even with the last 3 hours of the day registered more volume of clicks, when it comes to conversions, early hours show better performance results.

All in all exists an overall consistency between reviewed literature and the results of the real-life case study. This particular investigation demonstrates the importance of target the right segmentation in order to take advantage of the retargeting strategy in online marketing activities. The findings from this study will assist marketing professionals to address retargeting segmentation and enhance advertising outcomes.

5. CONCLUSIONS

Brands are increasingly making efforts in the sense of personalize their communication with customers, in order to be as relevant as possible. In the latest years, the advances in information technologies allowed marketers to have access to a great number of customers' personal and behavioral data. With the power this data brings and with the almost unlimited options in online advertising, brands are communicating through highly target ads to specific customer segments. Companies can now target users across the internet with content tailor to them: by communicate a specific discount or show a product relevant for the user. With the continuously growth of online commerce, acquiring new customers on the internet is imperative. As a result, the companies' investment in online channels and advertising is larger each year.

Although the general understanding of the importance of online marketing advertising and the relevance of reaching the right users, the subject of online retargeting has lack of study. The objective of this study is to unveil the truly crucial element of retargeting. Therefore, this research questions *what is the essential feature to leverage retargeting effectiveness, in an online strategy?*

The paper studies the matter of retargeting strategy as a part of an online marketing communication. In order to determine the conditions mandatory to achieve the highest effectiveness in this strategy, the subject was studied through a natural science approach. Accordingly, it was characterized the concept of segmentation and retargeting, the different features that take part in this strategy and tested the importance of the particular element of segmentation in a real-life test case.

From the previous investigations from several authors, it was assessed four main features that contribute to leverage ad performance, namely dimension, content, placement, and segmentation. The element of time and frequency in ad performance was also approached. Afterwards, it was assembled an array of metrics considered suitable to evaluate the performance of the previously defined ad elements.

This research focus on one feature of ad personalization. It was shown that the variable of segmentation is crucial for an effective strategy, and that without any other type of personalization, it allows to increase ad performance. The study brings new perspective on the effectiveness of online retargeting strategy. Advertisers try to increase the performance results of their ads by creating the best combination of ad format, size, placement and even images. However, results suggests that the most determinant factor for success is the users who are being target, and their past relationship with the brand. The outcomes of the case study indicate that as long as the ads are target to users that have already shown interest in the brand offer, by visiting its website or had other type of online interaction, the ad performance will be superior. It was found that by targeting users that already visited the company website, clicks on the ad could be increase by 37%. In addition, the conversions generated by the same ads, but segmented to retarget users, could raise conversion numbers by 127%.

Even though segmentation appears to directly affect ad performance, other elements such as placement and advertisement frequency appear to impact user's purchase intentions. As discuss earlier, in content ads exhibit a much high-performance metrics than out of content ads. Therefore, the join effects of other variables still need examination.

This approach adds to the existing literature on the matter by revealing that segmentation strategy should be the base of online communications. Additionally, practical managerial insights can be held from the results. When drawing an online retargeting strategy, having data on the previously browsing history of the users is essential to leverage ad performance. More importantly than show tailored messages or include ad discounts, target users that have already interact with the brand, by online or offline actions is the differentiator factor. Secondly, encourage in content ads, that display a native appearance to the platform they are placed, over out content ads, will favorably increase results.

With the increasing importance of digital channels in the consumer journey and the continuing growth of spending in online marketing communications, these findings add valuable insights for advertisers and marketing managers who wish to better allocate resources across online media. The current paper also adds value to the theoretical knowledge of online retargeting strategy, a course on which it is hoped that future investigation may progress. Focus on the research gap not only enrich the understanding on the subject, as also, can assist in the progress of future empirical effort.

The main goal of this investigation, that is to address the critical element of an effective retargeting strategy was achieved, as the findings from the literature and the results from the real-life case study support the decisive importance of segmentation in this online strategy.

It is hoped that this study inspires further research along these constructs and the recommendations listed afterwards.

6. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE WORKS

This study focuses on retargeting strategy in online advertising and the crucial feature to leverage its effectiveness. Throughout a qualitative and quantitative analysis, it was discussed the most relevant affairs related to retargeting strategy and deeply evaluated the segmentation variable. It was examined the four main elements according to the literature that compose this strategy, namely dimension, content, placement, and segmentation. And complement the investigation with a real-life experiment over a Facebook and Instagram marketing campaign. Whilst this method was considered the most adequate, the current paper has some limitations that suggest the direction for future work.

Firstly, the literature used in this investigation discusses the topic from a general aspect and not for the specific industry of the case study experiment. That fact may affect the comparison analysis between the case study results and the literature statements. Additionally, the outcomes and conclusions of experiments in different industries and markets can diverge from the ones in the current case study, that focus entirely in the finance sector. For example, financial product's ads may be more appealing for users that already visit the website, whereas moving services are more engaging for users to whom occur a specific life event, such as buying a new home. The developments from specific market subsections provide important knowledge of their distinctiveness and demonstrate that the assumptions presented in existing literature do not inevitably concern to all cases. Even so, further research might be administered in contrasting industries in order to establish finds to a more general level.

Second limitation is likewise connected to findings generalization. This study is centered on Business Manager, which includes Facebook, Instagram and Messenger platforms. Not only this fact influences the amount of data available for analysis, in addition, other social media and online advertising channels shall vary in outcome. Moreover, online advertisers other than Business Manager could generate different results which limit the generalizability of the conclusions. Future work should address these generalization issues by realizing a real-life experiment isolating the element of segmentation in different online channels and social media platforms.

Third, the present paper studied the impact of different segmentation without variations of other ad features, such as ad content or dimensions. Additional research should consider the combined analysis of segmentation element with other variables such as advertising with different content. Researchers also might examine the effects of retargeting segmentation with different frequency recurrence. Does ad frequency have a proportional relationship with click-through rate and conversion rate for retarget users? Or there is a limit to ad frequency efficiency in all types of segmentations? Future work could investigate the impact of different variables in segmentation for retargeting users specifically.

Even though the current study has approached the topic of privacy concerns and GDPR, new legislations on data issues regarding cookies were not addressed. Cookie technology will suffer from dramatic changes in the next couple of years. Apple, and later on, Google have redefined the tracking permissions on their browsers, restricting the amount of user's data available to be collected by cookies (Arena, 2020). With the new paradigm in the online space, investigation regarding the effects of a more restrictive approach to retargeting advertising is needed. The impacts of the new cookie

policy in the performance results of retargeting strategy and the solutions to overcome such obstacles should be address close at hand.

Finally, considering the case study was made in Business Manager platform, the data gathered on the platform is aggregated which limited the possibility of statistical analysis. A valuable investigation may reside in an experiment that produces individual data that allow a deeply evaluation on a statistical matter. Even though such information is demanding to assemble and involve significant privacy concerns, examine them could present additional insights as regards online retargeting.

Nevertheless the limitations, these study by assessing the main elements of an effective retargeting strategy and metrics to evaluate it, complemented with an experiment of segmentation alone, produce a useful contribution to advertisers and marketers for future online advertising campaigns, and added new insights to the existing literature on the matter.

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APPENDIX

Appendix A – Ad performance results of psychographic segmentations considering metrics value of retargeting segment.

	Clicks	**Conversion**
Psychographic Segmentation with current CTR and CR	7.359	519
Psychographic Segmentation with potential CTR and CR	10.080	1.177
Variation	+37%	+127%