NOVA IMS Information Management School

MDDM

Master's degree Program in

Data-Driven Marketing

The importance of Advertising Operations in a Company:

The use of Floodlights in Creative Rotation, for the optimization of AdOps work

Cláudia Pereira Trigo

Internship Report

presented as partial requirement for obtaining the master's degree Program in Data-Driven Marketing

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação
Universidade Nova de Lisboa

NOVA Information Management School
Instituto Superior de Estatística e Gestão de Informação
Universidade Nova de Lisboa

THE IMPORTANCE OF ADVERTISING OPERATIONS IN A COMPANY: THE USE OF FLOODLIGHTS IN CREATIVE ROTATION, FOR THE OPTIMIZATION OF ADOPS WORK

By

Cláudia Pereira Trigo

Internship Report presented as a partial requirement for obtaining the master's degree in data-Driven Marketing, with a specialization in Marketing Intelligence

Supervisor: Prof. Teodora Szabo-Douat

June 2023

STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledge the Rules of Conduct and Code of Honor from the NOVA Information Management School.

Cláudia Pereira Trigo

Lisbon, June 2023

ACKNOWLEDGEMENTS

Firstly, I would like to express my gratitude to my parents, Teresa and Jorge, and my sister, Margarida. They have been present throughout my entire academic career at Nova IMS - Information Management School, offering constant support, encouragement, and values such as determination, and resilience. They have also assisted me in my daily life, helping me to balance my personal and academic life and to succeed in both.

I extend my heartfelt thanks to my boyfriend, Pedro, for his unwavering support and motivation, which has enabled me to complete this master's degree. He has always believed in my potential and dedication.

I would also like to acknowledge Prof. Teodora Szabo-Douat for her invaluable support, guidance, and encouragement. From the beginning, she has provided me with comprehensive and focused direction in the preparation of this master's dissertation.

Finally, I am grateful to my colleague from the internship, Bruno, who has helped and guided me throughout the campaign implementation and analysis, sharing his extensive knowledge in the field.

ABSTRACT

Floodlights, tracking tags placed on a client's website, provide real-time data and a centralized platform for tracking and reporting on advertising campaigns, delivering valuable insights into performance Advertising Operations, more commonly referred to as AdOps, teams face a daunting task when managing campaigns, as the lack of optimization of ad server-managed campaigns results in all creatives in a campaign being displayed equally to users, regardless of their performance. This Internship Report explores the use of Floodlights in creative rotation as an important tool for AdOps professionals to optimize work and ad delivery.

This report provides an in-depth analysis of Floodlights and their impact on advertising campaigns, including their benefits and limitations. In addition, it will comprehensively analyze the obstacles encountered in the AdOps team from the company where the internship was conducted, during the process of implementing, managing, and improving campaigns. The findings of this study will contribute to the knowledge on Floodlights and their role in optimizing work and ad delivery in the digital advertising industry. Furthermore, this report aims to improve the work of the AdOps team in my internship company.

Ultimately, this study highlights the importance of investing in advanced measurement tools to remain easily discoverable across multiple digital devices and achieving better outcomes for clients.

KEYWORDS

AdOps, Digital Marketing, Floodlights, Campaign Performance, Creative Optimization, Ad Server.

INDEX

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS AND ACRONYMS

AdOps	Advertising Operations
CM360	Campaign Manager 360
CPC	Cost-Per-Click
CPM	Cost-Per-Thousand-Impressions
DSP	Demand-Side Platform
GA360	Google Analytics 360
GDPR	General Data Protection Regulation
GMP	Google Marketing Platform
GTM	Google Tag Manager
KPI	Key Performance Indicator
ROI	Return On Investment
RTB	Real-Time Bidding
SSP	Supply-Side Platform
URL	Universal Resource Locator
UTM	Urchin Tracking Module

1. INTRODUCTION

The internet has become a ubiquitous presence in people's lives, and its widespread adoption has changed the way it is used and their attitudes towards it. The number of users has grown exponentially from 2.3 billion in 2012 to 5.1 billion in 2022, indicating the enormous impact of the internet on society (Faria, 2022). However, the shift towards reduced browsing and information search, along with growing skepticism about online information (GWI, 2022) and the shift of spending less time in traditional media versus digital media, represented in the Figure 48 in Annexes, will have a profound impact on everyone.

The global advertising and marketing industry has responded to this change by focusing on effective strategies and moving towards digital channels (GWI, 2022). The industry is projected to grow at a rate of nearly 15% and generate an estimated revenue of 946.9 billion dollars by 2027 (Global Industry Analysts, Inc, 2022), with digital advertising spend reaching a record high of 366 billion US dollars in 2021, accounting for two-thirds of all advertising investments worldwide (Faria, 2022).

Consumers now spend an average of 6 hours and 43 minutes online during their 15-hour awake time, as Figure 49 in Annexes shows, representing almost half of their awake time (GWI Core 2013-2022, 2022). As customers interact with companies across multiple digital devices, it is crucial for companies to be easily discoverable. However, with changing privacy regulations, such as Google's moving away from third-party cookies to first-party cookie tracking technology by 2024 (Elias, 2022), it has become more complicated. Investing in future-proof measurement tools like floodlights that rely on first-party data is essential.

The use of such tools can help deepen customer connections and create more relevant and higher-quality experiences (Ugeux et al., 2022). A 2022 survey commissioned by Google and conducted by Storyline Strategies found that 86% of consumers will be loyal to a brand that is transparent about data collection (Luciano, 2022).

By bringing together ad space providers and buyers, AdOps ensures that relevant advertising campaigns generate revenue through efficient workflow processes and Ad servers, becoming increasingly important in the implementation of business-critical strategies (Xu, 2022).

Floodlights, which are tracking tags attached to a client's website, are an important asset for AdOps because they give them access to real-time data and a centralized platform for tracking and reporting on advertising campaigns, providing valuable performance insights (Campaign Manager 360 Help, 2023). This internship report summarizes the knowledge and skills acquired during the nine-month internship by examining the impact of floodlights in creative rotation for a client's campaign in order to optimize AdOps work and improve campaign performance. The goal is to demonstrate the importance of AdOps in a company's marketing strategy, as well as its role as a critical component of the digital marketing ecosystem.

As the link between Campaign Manager 360[1], abbreviated to CM360, and Google Analytics 360[2], also known as GA360, creates a relationship between site behavior and user identity in order to study the impact of a campaign, this report will aid in understanding how the change in creative rotation impacts

[1] Web-based ad management system for advertisers and agencies

[2] Web analytics service that tracks and reports website traffic

the campaign's performance. This is particularly important when the metrics available are limited to clicks, impressions, and user sessions (Analytics Help, 2023).

The purpose of this internship report is to emphasize the importance of AdOps and the use of floodlights in digital advertising. Given the ongoing increase in digital advertising spending, it is crucial for companies to invest in future-proof measuring tools in order to gain key performance insights. Doing so enables them to create more meaningful and high-quality consumer experiences while remaining competitive and relevant in the ever-changing digital market.

2. LITERATURE REVIEW

AdOps plays a crucial role in the marketing funnel by supporting the delivery and management of digital advertising (Dhanaraj & Parkhe, 2006) and creative optimization (Kim, 2017), to ensure that the appropriate ad reaches the intended audience at the appropriate time. However, there is limited prior research that examines the role and impact of AdOps on advertising campaigns, and the lack of understanding and knowledge about the importance of advertising operations (Van Den Berg, 2018) can result in a lack of resources allocated toward advertising, leading to inefficient and ineffective campaigns with lower returns and reduced profitability.

The global financial crisis of 2008 prompted companies to decrease their marketing budgets, but online advertising expenditures have increased significantly since then. In the United States, spending on online advertising surpassed that of television advertising in 2016 (eMarketer, 2016) and exceeded that of television advertising in 2018, according to the Interactive Advertising Bureau (IAB). Online advertising, according to some practitioners, has a greater impact than offline advertising, while its long-term impact is questioned by others (Watson, 2016).

A study undertaken by On Device Research (ODR), commissioned by Interactive Advertising Bureau UK (IAB UK), examined 516 digital advertising campaigns worldwide from 2018 to 2021 (On Device Research (ODR), 2022b), with the aim of providing advertisers with valuable insights on how to enhance their strategies. The study revealed that the most effective campaigns incorporated a comprehensive array of digital marketing tactics, resulting in increased intention to purchase. Further analysis of confidential data on the yearly advertising costs of 1651 firms spanning a seven-year period unveiled that both paid search advertising and display advertising had a favorable effect on company performance and value (Bayer et al., 2020).

The optimization of ad delivery is a fundamental aspect of advertising operations, it can lead to increased conversion rates and revenue (Tiwana & McAfee, 2019). The management of ad inventory is a crucial part of AdOps, which research conducted by J. Smith et al. (2018) found that companies that effectively manage their ad inventory can see an average increase in ad revenue by 15%. Furthermore, AdOps also has the tools to improve the marketing funnel's performance and make campaigns more effective and efficient, by playing a crucial role in data and measurement (Brown et al., 2017) along the user path to conversion.

According to Cristal (2014), optimization entails using ad-serving data to make an improved adjustment in the campaign (Cristal, 2014). After the campaign is initiated, it is optimized by displaying more successful ads more frequently or by enhancing user engagement. This optimization can be accomplished using either auto-optimize or manual-optimize methods (Cristal, 2014). When using manual optimization, the AdOps team must export daily reports of campaign data, analyze it, and make the necessary modifications to improve performance or delivery. In contrast, in automatic optimization, machine learning is employed to automate the process, and the ad server uses data to alter the creative optimization of the advertising in real-time.

Studies have also shown that a well-designed and executed AdOps campaign can lead to an improvement in marketing funnel performance, resulting in campaigns that are both more cost-effective and successful. This is conducted by utilizing data and analytics to understand consumer behavior, as well as by regularly testing and optimizing campaigns (Adshead et al., 2019). Certain forms

of online advertising, such as banner ads, which are a type of graphic image displayed on webpages that redirect users to a page providing information on the product depicted, can effectively influence customer behavior, and increase the likelihood of purchase (Goh & Chintagunta, 2006). Moreover, banners are frequently employed as referrals to direct customers to other sites that align with their preferences, personalization being crucial in increasing site visibility, driving traffic, and boosting sales (Bloom et al., 2006).

Retargeting also has the potential to endow display advertising with the same intent quality as search advertising while also being better for brand building. The ability to gather and analyze data on consumer behavior, preferences, and demographics is revolutionizing advertising, allowing companies to create more effective advertising campaigns that are tailored to specific segments of their target audience (M. Smith, 2015).

Based on the available evidence, it appears that utilizing user data for targeted digital advertising is highly advantageous for both advertisers and publishers. This was illustrated in a trial conducted by Google in 2019, where publishers who were unable to sell personalized advertising earned roughly 70% less revenue than those who could (CMA, 2020). On the other hand, offline advertising methods like television and newspapers often lack the ability to track which customers were exposed to an advertisement or attribute a direct sale to it. Nevertheless, offline advertising can be more effective in building brand awareness, consideration, and preference because it offers greater opportunities for execution and placement (Bayer et al., 2020).

A crucial factor in determining how advertisers allocate their budget across publishers and platforms is the ability to measure advertising effectiveness. Advertisers must be able to monitor user actions online to gauge effectiveness, which is typically accomplished by analytical tools like tags. The AdOps team is responsible for creating these tags, during campaign setup, commonly used on the websites and apps of advertisers. Studies have shown that Facebook tags have a prevalence of between 40 to 50% on the most popular websites, while Google tags are found on over 80% of the most popular websites, providing a significant advantage over other platforms. Furthermore, Google can track visits to physical stores through the mobile data it collects from users, making it easier for them to compare their performance to other platforms and potentially hindering the entry of new competitors.

One of the entrusted responsibilities of the AdOps team is in creating tags, which includes Floodlights. The creation of these tags enables the ad server to track and report the user's behavior on the website they are visiting, from the length of their visit to the actions they take, such as clicking on the checkout or customer service help button (Campaign Manager 360 Help, 2023). The gathered data can then be used to build lists of users who have taken similar actions on the client's website, resulting in the creation of audiences that can be leveraged in the future.

Data systems and the vast amounts of data collected from business transactions are now commonly used by businesses to make better decisions (Clifford, 2008), highlighting the importance of a good tracking system. The advancements in technology, such as data analytics, artificial intelligence, and especially programmatic advertising, have become increasingly vital in the performance and value of online advertising campaigns.

Furthermore, the implementation of regulations (Google, 2022) such as the ePrivacy Directive and General Data Protection Regulation (GDPR), alongside the reduction in the utilization of third-party

cookies (Gozman, 2022), has paved the way for the emergence of first-party data. This type of data is regarded as more precise, dependable, and respects the privacy of consumers (Gozman, 2022). However, many companies have not yet fully embraced or prepared for this significant change. AdOps, on the other hand, has the potential to play a crucial role in facilitating this shift, and this change presents an opportunity for businesses to engage with their customers in a manner that is both more personalized and more effective.

The idea behind this internship report is to optimize campaigns more efficiently by utilizing floodlights to gather user behavior data directly from the website, rather than solely relying on data provided by the ad server. This approach deviates from conventional practices and fills a research gap by leveraging floodlights to feed the ad server's machine learning algorithm. By combining this concept with auto-optimization, the AdOps team can reduce the time spent on manual optimization and ultimately enhance the campaign's performance by targeting a more valuable audience, while also saving valuable resources.

This leads to the three research questions:

(RQ1) How does Floodlight implementation affect AdOps team's optimization work?

(RQ2) In creative optimization, how do floodlights affect campaign performance?

(RQ3) In what ways does the AdOps team benefit from the connection between CM360 and GA360?

To provide a comprehensive understanding of AdOps and its related concepts, the following subsections of this literature review will provide a concise summary of the fields that encompass AdOps, to impart a more profound understanding of the topic.

2.1. Channels and Data Points

The digital media landscape is becoming increasingly fragmented (GWI, 2022), requiring marketers to use various channels to effectively target a specific market segment. More time is spent with digital media than with traditional television (eMarketer, 2020), as seen on Figure 48 in Annexes, one of the reasons being the younger generation weaning themselves off. Each channel plays a distinct role in targeting audiences at distinct stages of the customer journey, and marketers can use a variety of channels in a single media plan, as it often takes multiple exposures to an advertisement to achieve results.

However, traditional media data poses limitations in terms of tracking and measurement, hindering marketers' ability to gather comprehensive information on the impact of campaigns on consumer behavior. Digital streaming services are addressing these limitations, allowing for greater personalization, and tracking of viewer behavior, leading to more efficient campaigns and data targeting, and tracking in real-time (Dwivedi et al., 2021), but while it presents new consumer trends and behaviors such as improved mobile experiences and increased sharing, it also has its drawbacks such as shorter attention spans, usage of multiple screens and devices, multitasking, and distractions (Montagni et al., 2016).

Marketers can now display different advertisements to different households viewing or listening to the same program, providing them with greater insight into who is viewing their ads. The pandemic

has intensified this tendency, with 33% of European consumers and 41% of Americans indicating that they have started or expanded their usage of internet streaming channels in 2021 (Ader et al., 2021)[3].

The marketing industry must reconcile traditional brand building with performance marketing. Brand building focuses on traditional mediums like TV ads, while performance marketing emphasizes online activity tracking (Ader et al., 2021). Measuring the impact of brand-building campaigns is difficult because there is only a correlation between sales increases and brand campaigns, not a direct causal relationship. Chief Marketing Officers (CMOs) are concerned because 83% of Chief Executive Officers (CEOs) view marketing as a key driver of company growth (Boudet et al., 2019). This imbalance leads to marketing budgets prioritizing customer acquisition over demand and attention at the top of the funnel.

To address this challenge, organizations employ a comprehensive marketing approach known as full-funnel marketing, which encompasses both brand building and performance marketing. This approach involves the coordination of teams, implementation of measurement systems, and utilization of performance indicators. The main goal is to gain a deeper understanding of how each stage of the marketing funnel influences the others. A data-driven full-funnel marketing strategy involves planning each customer journey stage with specific data points to track behavior (Ader et al., 2021).

To accomplish this goal, it is imperative to ensure the coordination of advertisement format, content, and channels while devising a plan for each stage of the customer journey that entails tracking customer behavior using specific data points (On Device Research (ODR), 2022a). The efficacy of the campaign can be measured through a range of data points gathered during the Awareness, Consideration, and Conversion stages of the journey. Therefore, it is crucial to determine which channels are reaching which audience and gather data throughout the funnel to measure the campaign's success.

The actions that the brand takes to facilitate a transaction can impact the decision-making process. Touchpoints refer to the locations where a user interacts with a brand and receives marketing communications, which leads to actions and data points for the brand. These interactions can happen in both physical and virtual spaces (Bajak, 2021), and brands use traditional media, technology, and employees to establish them. Due to the numerous brand touchpoints and purchasing options, consumers today seamlessly transition between physical and virtual spaces, making the decision-making process challenging (Edelman, 2010). To effectively engage consumers at every stage of their journey, it is imperative for brands to utilize multiple online and offline stimuli in their marketing communications. To accomplish this, it is important to establish a comprehensive data point path to track the user journey through the company's media campaign focus, as shown in Table 1.

Table 1 - Media Focus: Action and Data Point

Media Focus		Action	Data Points
1	Awareness	Search for products or services	Home Page Views, Onsite Searches, and Company Info Page Views

[3] McKinsey & Company COVID-19 Europe Consumer Pulse Survey 6/18–6/21/2020, n = 5,645, across Italy, France, Germany, Spain, UK, and Portugal, sampled and weighted to match European general population 18+ years; McKinsey & Company COVID-19 US Consumer Pulse Survey 7/30–8/2/2020, n = 2,024, sampled and weighted to match the US general population 18+ years.

		Learning about the brand and its services	Product Page Views, Email List Signups, and Product Comparison Tools
2	Consideration	Interaction with the site while considering a purchase	Account Creation and Added Products to Cart
3	Intent to Convert and Conversion	Immediately before making a purchase	Checkout Step 1, Checkout Step 2, and Checkout Step 3
		Intended Action align with the client's business goals	Product Purchase and Revenue

Source: (WPP Academy, 2023)[4]

2.2. MAJOR RESPONSIBILITIES OF ADOPS

The significance of AdOps in both the marketing funnel and campaign performance cannot be underestimated, yet there is limited prior research on the subject. This highlights the need for further studies to research the correlation and importance of AdOps in a company's marketing strategy.

AdOps encompasses a range of procedures that aid a marketing team in managing, operating, and optimizing advertising campaigns. These procedures include the trafficking, delivery, optimization, and reporting of digital advertising campaigns for a variety of clients, Appendix A explains the core responsibilities of AdOps. In addition, AdOps teams collaborate closely with client personnel to ensure that campaign results are achieved, creatives are evaluated and approved, and advertising orders and instructions are clearly understood. This approach helps to ensure the success of the overall advertising campaign.

However, with the increasing use of multiple screens and devices, each providing a unique user experience, this process has become more complex. In response to this trend, AdOps teams are adapting to new methods such as programmatic advertising, which automates the purchase of digital ad space through software. It is fundamental that these teams have a thorough understanding of the advertising ecosystem, being aware of the requirements of both the buy-side (advertisers) and the sell-side (publishers).

The Ad Server plays a vital role in the ad operations process by serving as the foundation for all campaigns' implementation, scheduling, and optimization. The communication between the ad servers and the publisher's web server allows for the dynamic delivery of the most relevant ads, tailored to the specific parameters of the campaign, thereby streamlining the process of purchasing and planning digital advertising (Cristal, 2014). The team at GroupM primarily utilizes the Ad Servers Adform, Amazon Ad Server, and Campaign Manager 360 from Google, in addition to utilizing Google Analytics 360 for comprehensive reporting and analysis of all marketing campaigns and organic performance.

2.3. PROGRAMMATIC ECOSYSTEM

Initially, digital advertising was sold in a manner similar to newspaper ads, with the publisher and the agency having a direct, one-to-one interaction. But, with the emergence of programmatic models, the process of distributing advertising across various websites has been automated, resulting in higher efficiency and larger reach that would have been impossible to achieve through manual processes.

[4] Course provided and given by the parent company where this internship report was developed.

The programmatic ecosystem is made up of various components, illustrated in Figure 1.

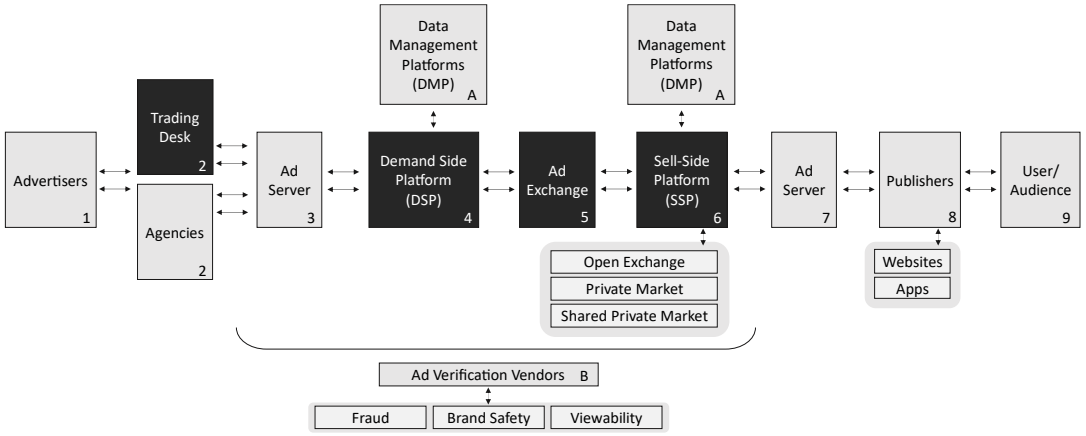

Figure 1 - Programmatic Ecosystem[5]

Publishers frequently encounter challenges in effectively monetizing their entire inventory, leading to unsold inventory that is subsequently sold to ad networks at a slightly reduced price. To address this issue, ad servers provide a solution by enabling publishers and advertisers to optimize, oversee, and distribute advertisements across multiple paid channels. Leveraging advertising campaign settings, such as audience segments, budget allocation, and timeline, these servers dynamically determine the most suitable ads to display to specific audiences in real-time across diverse devices and media channels.

To facilitate programmatic buying, third-party tech start-ups emerged as brokers since website owners lack the technical expertise to automate their ad space sales (Xu, 2022). Ad networks used to bundle and sell advertising space from various websites to advertisers, but digital auctions, also known as Real-Time Bidding (RTB), followed. In RTB, advertisers bid on every ad that is presented to each user (Cristal, 2014).

As a result of operational inefficiencies, Ad Exchanges emerged, which are digital marketplaces that enable publishers and advertisers to bid on advertising space in real-time. Advertisers can purchase ads effortlessly across multiple destinations at once, instead of arranging purchases directly with specific publishers, which can be time-consuming (Cristal, 2014).

To function as a bridge between brands and media buying platforms, agencies have established programmatic Trading Desks within their organizations recently. As a part of WPP, GroupM as Xaxis, a programmatic media company that provides a full range of services, including innovative AI technology, sophisticated omnichannel solutions, data-driven creative, and worldwide programmatic expertise, all tailored to this sector's necessities. These desks collaborate with Demand Side Platforms (DSPs) to streamline media buying strategies by focusing on the most probable audience for a specific brand, product, or service (Qin et al., 2018).

As publishers shift towards automation in the trading of unused inventory, the use of Ad Networks has decreased. The development of technology and strategies for incorporating audience data into their

[5] Figure created by the author of this report in collaboration with the Head of Xaxis & Programmatic at GroupM

platforms has made DSPs and Service Providers (SSPs) progress rapidly, resulting in the Ad Exchange model becoming less common.

As a result of this growth in programmatic advertising, an ecosystem of businesses known as Ad Ops has developed. This industry has experienced significant growth, estimated to be worth around 724 billion dollars. Furthermore, market projections indicate that the programmatic advertising sector is poised to continue expanding, with estimated revenues reaching 725 billion U.S. dollars by 2026 , as seen on Figure 50 (Statista Research Department, 2022).The trend towards automated ad buying is also gaining traction in Europe, where the programmatic ad market has more than doubled since 2017 and is projected to exceed 100 billion dollars by 2024.

2.4. First-Party Data Strategy

As privacy becomes increasingly important, marketers must find ways to adapt to these changes for the long term. Obtaining first-party data is essential for creating a sustainable foundation, and it is necessary to have the appropriate tools and obtain consent, when necessary, to acquire this data. To adapt to these changes, advertisers should take an integrated approach, which may include creating a more resilient user data infrastructure through the acquisition of first-party data, implementing accurate measurement strategies, integrating data into models, and automating advertising strategies through machine learning (Stocks, 2022). The acquisition of first-party data is expected to play a leading role in the future of digital advertising.

The Container Store, a shop specializing in storage solutions, was forced to close its physical locations during the COVID-19 pandemic. Google saw an opportunity to tempt buyers who had previously not made online purchases by combining data on stay-at-home patterns and adopting far-reaching improvements to the online shopping experience, such as free delivery, extended return periods, discounts, and deals. As a result, the company experienced an extraordinary spike in new online consumers and revenues, with the company earning its first ever one million dollar online sales month in April. This shows the significance of quickly adopting consumer information to meet the needs of customers (Popstefanov, 2021).

Cookies are frequently utilized to recollect website preferences, login credentials, and selected items in shopping carts, even when the user has left the site (Norton Team, 2015). Nevertheless, cookie files have the potential to be utilized in advertising processes, such as behavioral profiling and retargeting. The primary domain (website) being accessed is responsible for storing first-party cookies, which allow website administrators to gather analytical data, recall language preferences, and provide other services that enhance the user experience. Conversely, third-party cookies are employed for cross-site tracking, ad-serving, and retargeting and are generated by domains other than the primary one being accessed directly (Wlosik & Sweeney, 2022). The existence of second-party cookies, which are transferred between companies via a data partnership, is a contentious issue.

With the implementation of the European General Data Protection Regulation (GDPR) in 2018, there has been a renewed focus on cookie banners as companies fear heavy fines and warnings. Before this regulation came into effect, it was predicted that only three percent (Ryan, 2017) to twenty percent (GFK, 2017) of visitors who would accept cookies (Mueller, 2018). However, with the increased expectations for privacy among users, there has been a rapid change in digital advertising, including new privacy regulations and the rise of ad blockers, as well as a decrease in the availability of data used

for measurement and targeting, such as browsers blocking third-party cookies and Apple restricting tracking on iOS.

The impact on advertising operations could be a perceived decline in the return on ad spend (ROAS) of paid ad campaigns, and an actual decline in the ROAS of network-based remarketing and explicit targeting options. According to a study conducted by Google (Rogers et al., 2021), companies that establish connections between their first-party data sources have the potential to generate 1.5 times the incremental revenue from individual ad placement interactions (Samuels & Patel, 2020).

As a result, it is imperative for advertisers to take initiative-taking measures in adapting to the changes in privacy regulations, particularly those related to first-party and third-party cookies, to support the effectiveness of their advertising campaigns.

3. THE COMPANY

3.1. GROUPM

GroupM is a worldwide media investment firm that includes multiple agencies such as Mindshare, Mediacom, Wavemaker, Essence, and m/Six, as well as the programmatic business, Xaxis. The firm allocates over sixty-three billion dollars annually for media investments, accounting for thirty percent of all media billings worldwide (GroupM, 2022).

Through its global organization of media experts, trading expertise, market-leading brand-safe media, technology solutions, addressable TV, content, sports, and more, GroupM gives advertisers an advantage over their competitors.

Their partnerships with media and technology companies lead to innovations that are frequently the first of their kind, establishing them as a prominent player in the advertising industry. They are responsible for one-third of all worldwide advertisements and have the distinction of being the largest spenders on prominent advertising platforms such as Amazon, Meta, and Google. The company has two "Top 5" global agency networks, employs over 40,000 people, and runs in eighty markets, being committed to "shaping the next era of media where advertising works better for people", as stated by GroupM Global CEO Christian Juhl.

Figure 2 - The Organization

In order to provide businesses seeking to maximize their media investments with comprehensive support, GroupM offers five primary services. To begin, GroupM takes pride in providing exceptional customer service, a simple structure, a constant focus on quality, and a results-driven approach. Second, they provide enhanced activation services and intelligence that are driven by innovative technology and direct funds toward accomplishing business goals. The third service focuses on data science, with the goal of gaining a competitive advantage through the use of constantly evolving data, providing an alternative to identity-based solutions. Finally, GroupM provides technology

development services that combine advanced analytics with data strategy to create tomorrow's media. GroupM hopes that by leveraging advanced technology, data-driven insights, and exceptional customer service, it can help businesses achieve their marketing goals (GroupM, 2023).

3.2. Internship Description

During the nine-month internship at GroupM in the AdOps department, I gained firsthand experience in the technical aspects of advertising operations, Appendix B gathers all of the technical skills from the various stages of the internship. During the first three months, I learned how to control campaigns independently from an Ad server and was able to set up simple campaigns based on tracking. I also became familiar with the basic processes of implementing a campaign and the technical terms used in an Ad server. By the end of the first stage, I was able to pull reports from various platforms with ease.

In the second stage, from three to six months, I further deepened my understanding of the technical terms used in a verification tool and was able to make setups with different formats, creatives, and publishers independently. I also gained dexterity in two different Ad servers and was able to make controls for them. Additionally, I learned how to perform complex set-ups for the programmatic departments of the company: Xaxis, Plista, LightRoom, and PBU (Programmatic Buying Unit), and became familiar with the use of verification platforms. By the end of this stage, I was able to understand what programmatic campaigns are and how they work, as well as set up campaigns with automatic creative rotation rules.

Finally, during the third and final stage, which was until the nine months, I was able to perform setups and management for three different Ad servers, Appendix C outlines all of the platforms and services that were used throughout the internship. I also developed the skills to research and detect why tags were not firing and became proficient in reading floodlights and Google Tag Manager, also referred to as GTM. I understood the differences, potentialities, and limitations between Ad servers and verification platforms and resolved discrepancy issues when checking the page code.

3.3. Tools and Technology

This chapter briefly describes the technologies and tools used during the internship. The emphasis is on providing an overview of each technology, its purpose, and its necessity for not only the internship tasks but also for developing the goal presented in this internship report, successfully.

3.3.1. Campaign Manager 360

Campaign Manager 360 is a digital advertising platform used by AdOps teams to manage, execute, and measure the success of digital advertising campaigns. It provides a centralized solution for managing various aspects of a campaign, including ad serving, tracking, targeting, and reporting, by supporting display, video, and mobile advertising across various platforms and devices.

The importance of CM360 for an AdOps team lies in its ability to streamline and automate manual and time-consuming tasks involved in managing digital advertising campaigns. It also provides robust reporting and analytics features, allowing AdOps teams to measure the performance of their campaigns and make data-driven decisions to optimize for better results. By using CM360, AdOps teams can increase efficiency, accuracy, and accountability in their work, leading to better results for their advertising campaigns.

The hierarchy of a Campaign Manager account begins with an account level, where the account properties such as currency, language, and time zone for all advertisers within the Campaign Manager account are set. At the parent advertiser level, Floodlight configurations can be created to be shared among all platforms in the Google Marketing Platform, also known as GMP, allowing the floodlight conversion attribution model to consider all the child advertiser's campaigns. Child advertisers, which manage campaigns, placements, ads, and creatives, are situated under the parent advertiser, and inherit audience and Floodlight data from the parent advertiser.

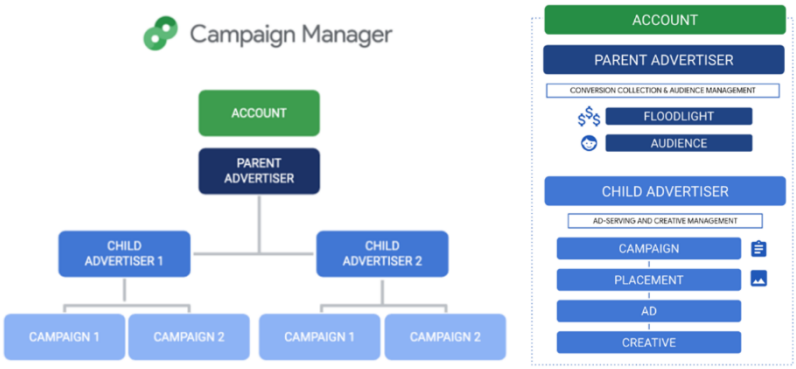

Figure 3 – Campaign Manager account hierarchy

Floodlights

Campaign Manager's Floodlight tags are conversion tracking tags used to measure website conversions, important actions, and KPIs (Key Performance Indicators) on the client's website. Comprehensive floodlight tracking makes it possible to attribute conversions across multiple campaigns, helping determine which advertising campaigns are resulting in valuable customer actions.

When measuring conversions, there are two primary types of Floodlight tags: counter tags and sales tags. Counter tags are ideal for campaigns targeting an increase in site visits or brand awareness, as they track visitor interactions on the site. Alternatively, sales tags are intended for campaigns aimed at boosting purchases by tracking transactions on the site and individual items sold.

Additionally, Floodlight tags can be customized through custom variables, to gather more information beyond standard Floodlight metrics. Custom variables can be used to gather information like location on the page, page URL, form options chosen by the user, and order details, and can be accessed in Report Builder to create reports and even used to build audiences. However, it is important to note that these variables must not hold any personally identifiable information due to privacy regulations established in the European Union.

3.3.2. Google Analytics 360

Google Analytics 360 is an innovative analytics platform that provides comprehensive reporting on all aspects of website activity, including audience demographics, behavior patterns, and multi-channel attribution. Unlike Floodlight tags in CM360, GA360 collects information about how users interact with the website. This data sheds light on where website traffic is coming from, the most popular areas of the site, and any barriers users may encounter during conversions. If linked with CM360, Display & Video 360, or Search Ads 360, Google Analytics 360 will also receive data from paid media campaigns, making it the ideal solution for centralizing reporting.

The default data collected by GA360 are the pages viewed by the visitors and users' information such as browser type, device, language, frequency and recency of visits, and any details extracted from the page URL, such as campaign and source parameters. To measure other aspects of the website behavior such as button clicks, form completions, contact requests, and e-commerce purchases further configuration is needed.

Google Tag Manager

Additional data points can be gathered by implementing event tags on the website, and the data collected by default can be enriched by custom dimensions. Data collection in GA360 is eased by adding code to each page of the website but can be more easily managed through Google Tag Manager. Floodlight and Google Analytics tagging are centralized and managed by GTM, which makes it possible to update any measurement tags used for data collection quickly and easily without requiring the client's web development team to manually update each page's code.

Google Analytics 360 is integrated into each page of a website to collect data on pageviews and, if configured, events can gather data on specific actions, such as gallery views or video plays. Pageviews can be used to check valuable information such as landing pages, the page where each user arrives at the website, and form success pages, often called 'thank you pages. Customized events can also be used for conversions other than page URLs, like product impressions, purchases, and product links. To get more information than the standard dimensions, custom dimensions can be added to GA360. These dimensions can be used to define conversions, audience lists, and reporting. They might also include information like product information, a section of the website, and membership status.

3.3.3. Linking Campaign Manager 360 and Google Analytics 360

To gain a comprehensive view of a campaign's performance, it is crucial to set up a link between CM360 and GA360. This is because Campaign Manager provides insights into the effectiveness of paid media, while Google Analytics provides information about website traffic from both paid and unpaid sources (Figure 4). Accessing real-time data is important for informed decision-making, especially when optimizing resource allocation.

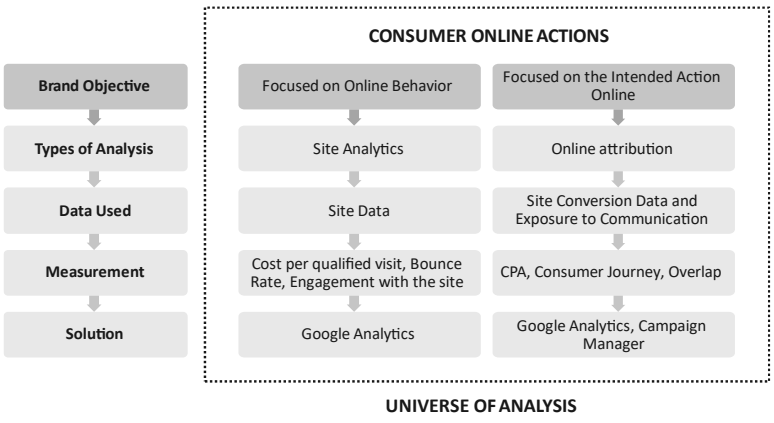

Figure 4 – Platform Solution for evaluating a brand objective success[6]

When measuring the impact of an awareness campaign, such as the one that will be analyzed in this report, that only uses floodlights and parametrizable URLs (Uniform Resource Locator), relying solely

[6] Figure created by the author of this report in collaboration with the Head of Data & Tech at GroupM

on clicks and impressions, presents significant challenges. To obtain a full picture of the campaign's outcome, it is important to establish a connection between Campaign Manager and Google Analytics. By doing so, the AdOps team can measure the campaign's impact by identifying users who have accepted cookies and establish a connection between site behavior and user identification, thereby providing a more complete picture of the campaign outcome.

The mockup in Figure 5 illustrates the data flow structure between platforms in the context of the company under analysis. The platforms Search Ads 360 and Display & Video 360 are solely included in the figure to highlight the data flow between platforms. In this setup, the accounts are linked to a single brand, and Floodlight data is shared from the Campaign Manager parent advertiser to both Search Ads 360 and Display & Video 360. This configuration eases the seamless flow of data across various channels, including display, search, programmatic buys, and third-party search engines.

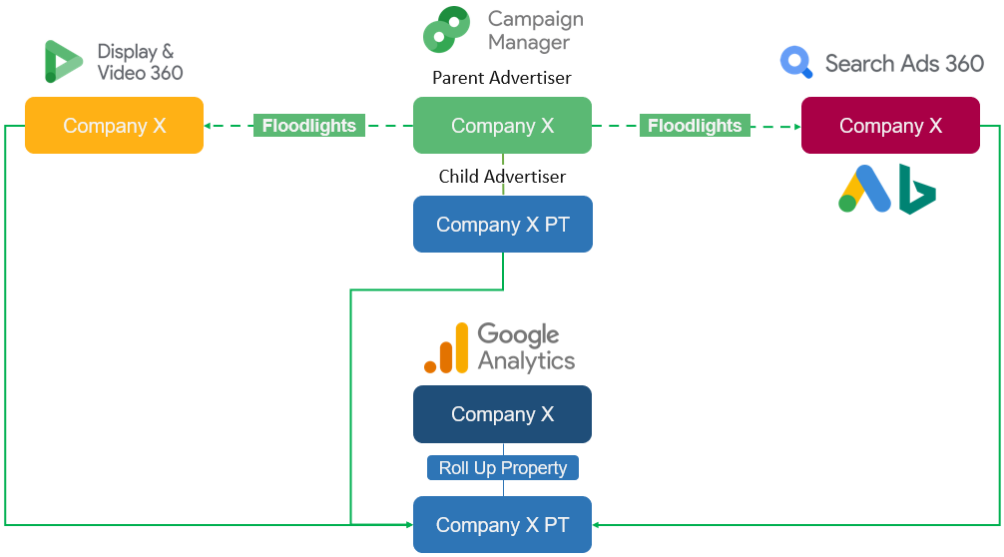

Figure 5 - Mockup depicting the data flow between platforms[7]

Having both Campaign Manager and Google Analytics is crucial for a successful campaign as they supply a comprehensive view of the performance of a campaign. Together, they enable a marketer to make informed decisions and perfect the allocation of resources to maximize campaign performance.

[7] Figure mockup created by the author of this internship report based on the data flow hierarchy of the client used for this report.

4. METHODOLOGY

4.1. RESEARCH CONTEXT AND MODEL

Currently, a significant number of campaigns managed in the Ad Servers lack optimization, which leads to the display of creatives to users in an equal manner rather than giving precedence to those that demonstrate superior performance. It was during the internship at GroupM that I recognized the potential to elevate client campaigns and streamline the AdOps team's manual operations through the implementation of a more refined and optimized creative rotation approach.

For instance, if a company tries to sell a pack of three items, three creatives of the same size will rotate equally for each item inside of that ad, investing the same amount of money and affecting the same number of users, each one of them reflecting the message they are trying to convey to the user. If one of the creatives performed better, the AdOps team would change the weight of the investment in the three creatives to put more money into the creative with better performance. If, on the other hand, one of the creatives performed worse, the AdOps team would need to manually switch it on and off every day so that the campaign would not be affected. To have this insight, a considerable amount of time would be spent managing the campaign's performance and changing each creative's setup.

Therefore, it was hypothesized that the creative rotation increases the optimization of AdOps work (H1) because this change in the creative rotation strategy would result in the team having more automated work when it comes to changing creatives and reducing the setup and managing of the campaign (Figure 6).

Incorporating floodlights, instead of using a traditional rotation given by the platform as is the case of rotation based on click-through rate, also known as CTR, into the creative optimization process during the rotation of creatives, is expected to result in campaigns being more efficient and effective, which leads to hypothesize that the optimization strategy moderates the positive impact of creative rotation on the campaign performance, with this effect being stronger with “time-on-site >60s” floodlight than with CTR (H2). But this change would just be a good impact if this strategy’s new implementation would lead to a good campaign outcome, making the improvement of Campaign Performance mediate the effect of creative rotation on the optimization of AdOps work (H3).

Valuable performance insights must be provided so that it is possible to make informed decisions regarding advertising campaigns automatically and instantly, and having CM360, GA360 and the link between them allows for the full picture to be extracted. This leads to the hypothesis that the link between GA360 and CM360 has a positive impact on campaign performance, making the view with the link better than without it (H4), allowing for a more comprehensive picture of the situation.

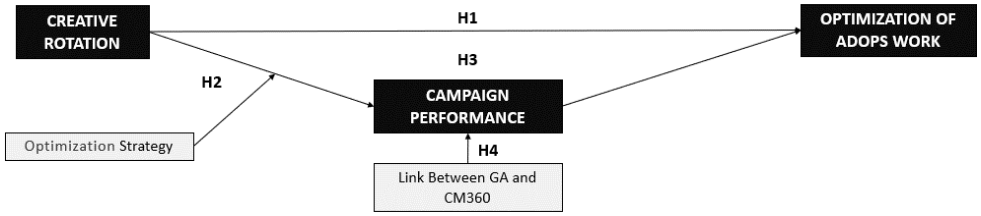

Figure 6 - Research Model

4.2. DATA COLLECTION

The approach adopted for this internship report, which aims to address the research questions, involves scrutinizing data gathered during the execution of the advertising campaign's creative strategy.

The report followed a conclusive research design with a quantitative method, relying on secondary data, the data resulting from the campaign performance. It is important to note that the client has request not to disclose their identity, and henceforth, they shall be referred to as Company X throughout this report.

The advertising campaign proceeded in three phases:

- Phase 1: The Campaign Proposal and a Plan of Action
- Phase 2: Implementation
- Phase 3: Reporting and Analysis

In the first phase, all relevant information regarding the client's campaign was gathered and considered, including primary and secondary goals, metrics to measure, channels to use, creative formats, target audience, and budget. This information was used to develop a comprehensive plan of action, which covers conversion site requirements, campaign setup in the Ad Server, naming conventions, and URL parameterization.

Regarding the phase of implementation, Floodlights were be created and assessed, and the campaign was set up in CM360, including establishing placements, assigning creatives to ads, and exporting tags for the programmatic team of GroupM, Xaxis.

Lastly, in the last phase, both Campaign Manager and Google Analytics were used to analyze the impact of creative rotation with and without optimization, and daily reports were scheduled to monitor the progress of the campaign.

4.2.1. Phase 1: The Campaign Proposal and a Plan of Action

Contextualization of the Campaign

To provide context, the client offers energy services and approached GroupM with the intention of introducing a new service bundle called the Sustainable Pack through an awareness campaign. Our team managed the entire campaign strategy and design, with the following requirements provided by the client:

- The campaign should aim to raise awareness from a top-of-funnel perspective.
- The primary goal of the campaign is to drive qualified traffic to the client's website.
- Conversion metrics such as clicking on the "Click to Call" button and filling out the contact form needed to be monitored, even though the campaign's main objective is to increase website traffic.

The client was responsible for designing the creatives, specifying that there would be four creatives of the same format - a 300x250 medium rectangle, also designated as MRec. Each creative would display the new service pack and highlight one of its services: “Product_1_300x250” illustration of the pack as a whole, “Product_2_300x250" the installation service, “Product_3_300x250” discounts with brand partners, and “Product_4_300x250" its health benefits.

Campaign Structure on Ad server

A campaign plan for the Ad server was developed jointly with the programming department of GroupM, Xaxis. By connecting to Demand Side Platforms (DSPs), Xaxis makes it easier to buy media, which enables it to acquire ad space from well-known national publishers such as Sapo, Media Capital Digital, Global Media Group, Público, Cofina, RTP, Impresa, among others. The creatives of the campaign will be displayed strategically on these platforms.

After defining these goals and negotiating between the agency and Xaxis, a complete digital plan was created and approved by the client. Then the AdOps team, inputted it in Campaign Manager 360, on the correct Advertiser, and with the correct naming convention.

After creating the campaign using the naming conventions delineated by the department, as there were no client-specific naming conventions, the entire setup of each creative is done for each correspondent publisher and placement. In this case, the campaign only has one publisher, Xaxis, and then Xaxis with the tag that is created and sent to them implements it in the DSP and manage where the ads will be shown through real-time bidding.

After careful consideration, it was determined that the optimal campaign structure involves one placement with one ad, featuring four creatives rotating within the ad, as shown in Figure 7. This setup is expected to maximize campaign performance by allowing creative rotation, which enables optimization towards a defined KPI, being the main goal of this report.

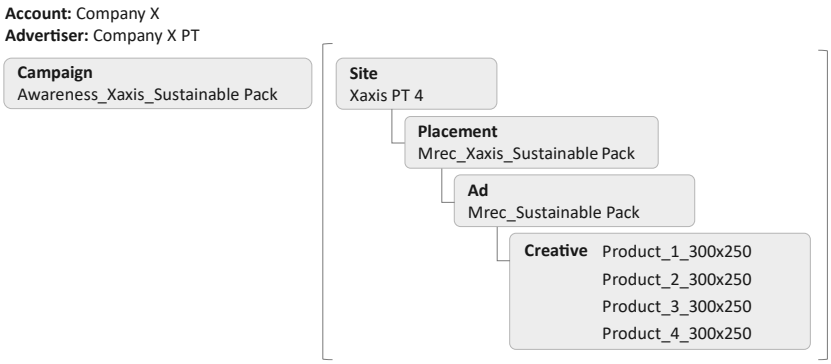

Figure 7 - Campaign Structure

The optimization of AdOps work is significantly influenced by the campaign structure, making it a crucial aspect of this report's goal. Two implementation approaches are available for this campaign structure, one of which is depicted in Figure 7 and was chosen for the campaign under discussion. Depending on the optimization method selected in CM360, this structure may require varying levels of manual intervention.

The first optimization strategy, employed in this report's campaign, is centered around CTR. In cases where one of the creatives is underperforming, the AdOps team would manually activate or deactivate the creatives and closely monitor campaign performance. However, this manual intervention contradicts the goal of automating AdOps tasks.

The other optimization approach involves leveraging first-party and real-time data from the client's website, specifically floodlights in this report's context, to automatically adjust the creatives. This

method enables the AdOps team to periodically check campaign performance to ensure seamless operations without requiring frequent manual intervention.

The second campaign structure entails the daily management of creatives by the programmatic team, requiring additional setup time for the AdOps team to create corresponding placements and ads for each creative, as shown in Figure 8. The programmatic team is also responsible for monitoring the campaign's daily performance, a task that was not needed in the first structure, and if a creative underperforms, the programmatic team must communicate with the AdOps team to manually disable it, creating a bridge of communication that was not needed previously. And lastly, the data used for creative rotation is not first-party but third-party data, obtained from users browsing the websites where the creatives are displayed using the programmatic team's DSP, and this type of data collection is expected to be phased out soon.

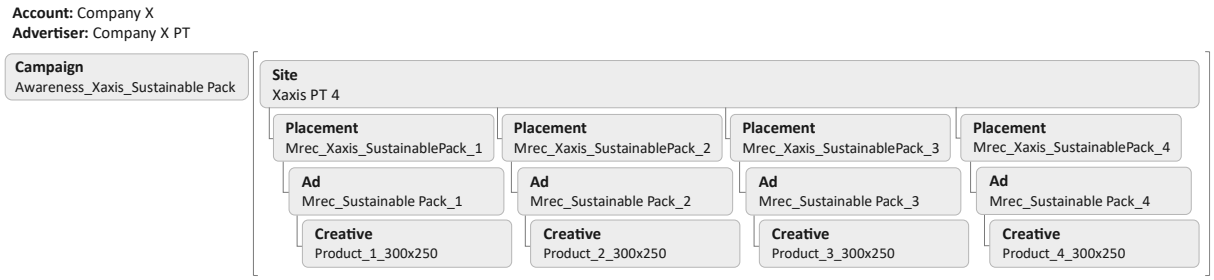

Figure 8 – Campaign Structure if Creative Management is done by Programmatic team

During my internship, I found a significant flaw in the rotation of creatives and observed limited research conducted in this area. This report aims to bridge that gap with the implementation of this campaign using data in creative rotation in an Ad Server.

Through monitoring campaign performance during the internship, I noticed that creatives underperformed, resulting in fewer clicks and minimal conversions. CM360 managed this outcome, serving all creatives equally with the same number of impressions and monetary investment. The AdOps team was thus compelled to closely monitor campaign performance and manually activate or deactivate creatives, as necessary.

Given the challenges associated with optimizing the rotation of creatives within Campaign Manager, I conceived a strategy that used floodlights to achieve greater effectiveness and efficiency in campaign performance. This campaign represents the basis for my master's internship report.

To assess this approach, I applied it to this client campaign, which I divided into two distinct phases. The first two weeks of the campaign were designed to run with the default optimization provided by Campaign Manager, with creatives served according to their CTR. Although optimizing toward clicks results in an increase in website traffic, it is not sufficient to guarantee the traffic generated is qualified. Furthermore, CTR does not measure the impact of the campaign impressions as an awareness strategy, discarding the traffic created by educating the public about these new products through millions of impressions.

To achieve more effective and efficient campaign performance in the subsequent phase, it is imperative to install and trace floodlights capable of extracting user behavior data and provide a new means of creative optimization. Despite this being an awareness campaign, implementing floodlights will provide a comprehensive view of the client's performance. The responsibility of installing

floodlights lies with the Analytics department, not the AdOps team, and the collaboration of both teams is necessary for this part of the setup.

To measure qualified traffic as the campaign's outcome, the primary KPI was chosen in collaboration with the Xaxis team and defined as users who spend sixty seconds on the client's website. To measure this KPI, the floodlight created and used in this campaign was "Time on site > 60sec" which was installed on the client's website, allowing for the optimization and measurement of this goal. Additionally, in response to the client's request for continued monitoring of conversion metrics such as clicking the "Click to Call" button and filling out the contact form, the "Contact request all products + C2C + Customer Acquisition" floodlight was implemented, being designed to record when a user clicks on one of the contact buttons or fills out a form to become a customer. The structure of the floodlights is depicted in Figure 9, along with the desired KPIs and data points along the marketing funnel.

By using the insights extracted from these floodlights, the second phase of the campaign is expected to be even more effective and efficient than the first, proving my point with this new strategy.

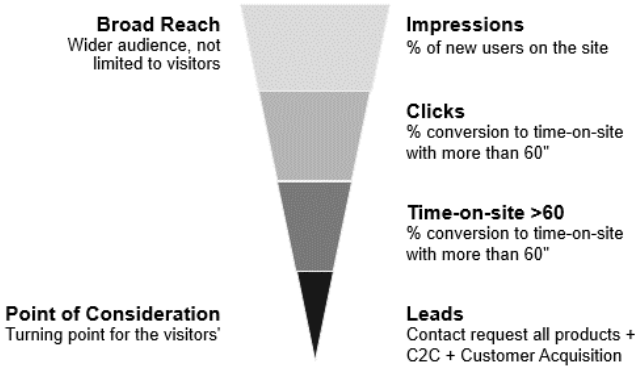

Figure 9 - Distinct KPIs with the Data Points, along the Marketing Funnel

After the initial two-week phase of the campaign, which involved rotating creatives based on CTR, the creative rotation will shift to an optimization strategy based on data extracted from a floodlight, "Time on site > 60sec", which will identify the most effective creative in retaining user attention for more than 60 seconds on the client's website. As a result, is expected for the most effective creative to be prioritized in the campaign's rotation.

The implementation of this strategy will allow for the identification of critical data points that enables the Ad Server to adapt the campaign and optimize the rotation of creatives in real-time. I expect that this new approach will yield a more effective and efficient campaign performance. It is my hope that this research will provide a valuable contribution to the field of digital marketing and lead future campaigns to achieve the best performance.

As mentioned, the campaign was divided into two phases to ease the implementation of two distinct strategies, with the only variation being the creative rotation optimization. This approach was selected to highlight the viability of the proposed strategy to the client and to confirm the effectiveness of the devised approach, as such information was not previously documented in the literature.

4.2.2. Phase 2: Implementation

Confirming All Assets

To start the implementation process, all campaign materials must be readily available and accurate. Setting up requires configuring the floodlights and ensuring their successful firing, parametrizing the landing page to which users will be directed after clicking the ad, and double-checking the client-developed creatives in Campaign Manager.

Floodlights

It is essential to verify the correct functioning of the floodlights and that the goals are properly set up in analytics with the same conditions as those targeted for the campaign. The implementation of the floodlights on the client's website was conducted through GTM. As previously mentioned, Google Tag Manager can read custom variables through Campaign Manager 360, simplifying the tag implementation process.

The Analytics team handles the implementation process, and after successfully implementing all tags in GTM, the team previewed the changes to ensure that the tags were firing at the appropriate pages and moments and that the custom variables were capturing the correct information as seen in Figure 10, Figure 11, and Figure 12.

For this part of the floodlight testing, a series of figures with colored dots will be provided to aid in visualization and connecting parameters between different steps.

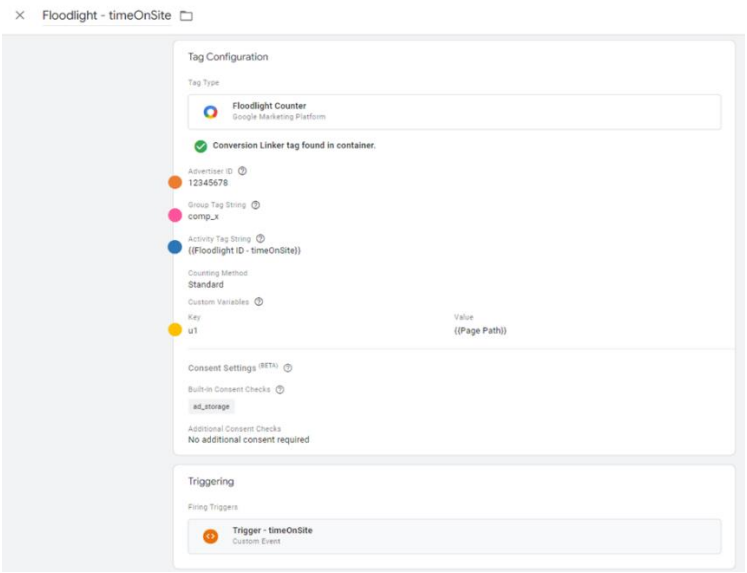

Figure 10 - Floodlight Set Up: timeOnSite

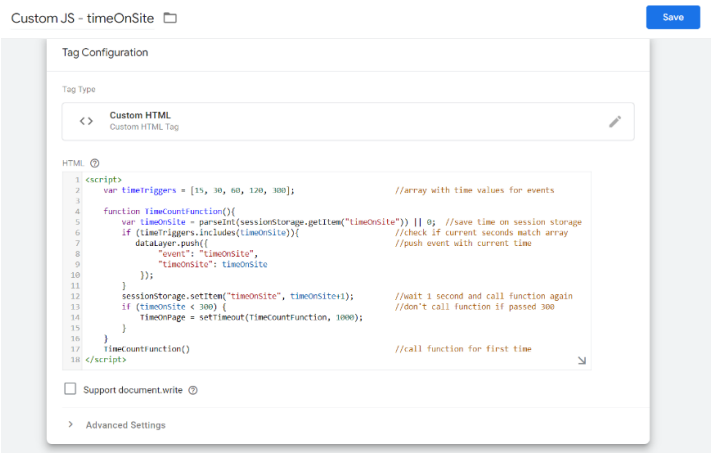

Figure 11 - Custom HTML for TimeOnSite

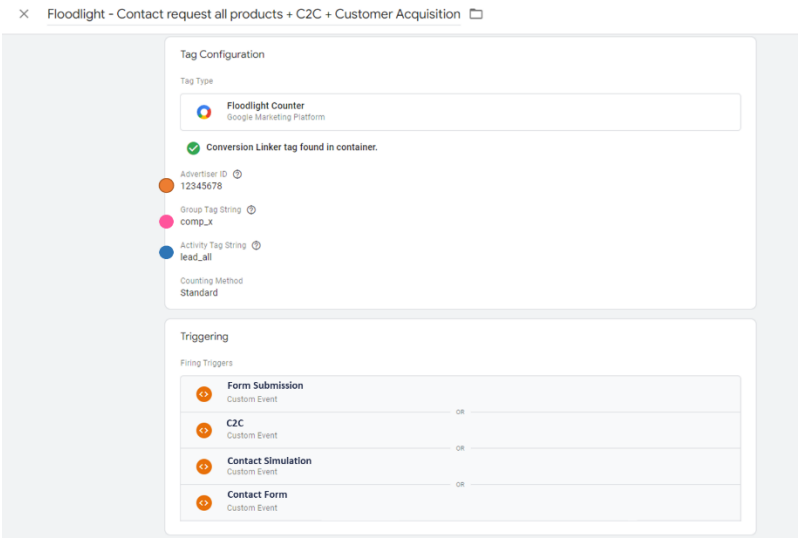

Figure 12 - Floodlight Set Up: Contact request all products + C2C + Customer Acquisition

In the first step of the floodlight testing, it is crucial to perform a thorough double-check of the floodlights created in GTM, as these tags hold essential information that must be properly set to be passed to other platforms.

First, for the "timeOnSite" floodlight, as shown in Figure 10, it is necessary to count the time that a user spends on the website. To accomplish this, an additional tag must be set up, as shown in Figure 11, which involves writing some code in HTML that will store the user's time spent on the website in the datalayer[8], even if the user navigates between different pages on the website. With this information stored, the "timeOnSite" tag can then push that information to five specific time slots (15, 30, 60, 120, and 300 seconds).

To provide contextual information, although it is not necessary for the understanding of this report. It should be noted that:

- The orange dot represents the Advertiser ID assigned by Campaign Manager.

[8] JavaScript object that connects the website's information to the GTM container

- The pink dot refers to the group tag string, which is a manually assigned ID used to uniquely identify a group of tags.
- The blue dot corresponds to the activity tag string and displays the activity that was triggered. This tag string name can be found in the same parameter in Campaign Manager, as seen in Figure 18, where its name is manually assigned. For example, for the "timeOnSite" tag, the name is "time_60", and for the "Contact request all products + C2C + Customer Acquisition" tag, the name is "lead_all".
- The yellow dots represent the Custom Variables, which are pairs of key values used to track data related to users. In this instance, the key "u1" retrieves the page path of the user, as shown in Figure 14.

After creating the tags, the first step is to preview the tags in GTM utilizing the Debug Mode. This preview involves simulating the user's actions to verify that the tags are firing as intended and collecting the correct data in real-time, allowing for troubleshooting and identifying any issues before the tags are pushed to a live environment and start firing for every user.

So, as shown in Figure 13, after opening the client's website, spending more than 60 seconds on it, and clicking on a conversion event that the client wanted to be considered a conversion, such as clicking a button to request a call or filling out a form, it was observed that both of the tags were fired.

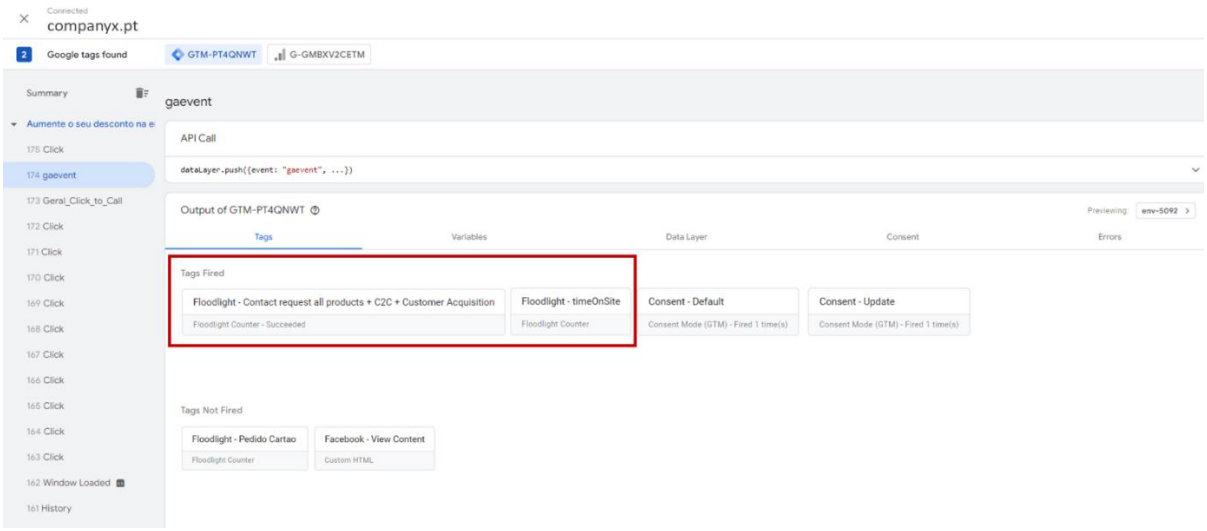

Figure 13 - Preview of Tags: Testing Floodlights trigger on Client Website

The next step of the double-checking process is to ensure that the data being pushed by both tags is accurate. Figure 14 displays the "timeOnSite" floodlight tag, which shows the custom variable commanded in the tag and displays the path taken by the user, in this case, "particulares/servicos/packs". Figure 15 shows the "Contact request all products + C2C + Customer Acquisition" tag, which correctly pushes all the necessary parameters, including the activity tag string.

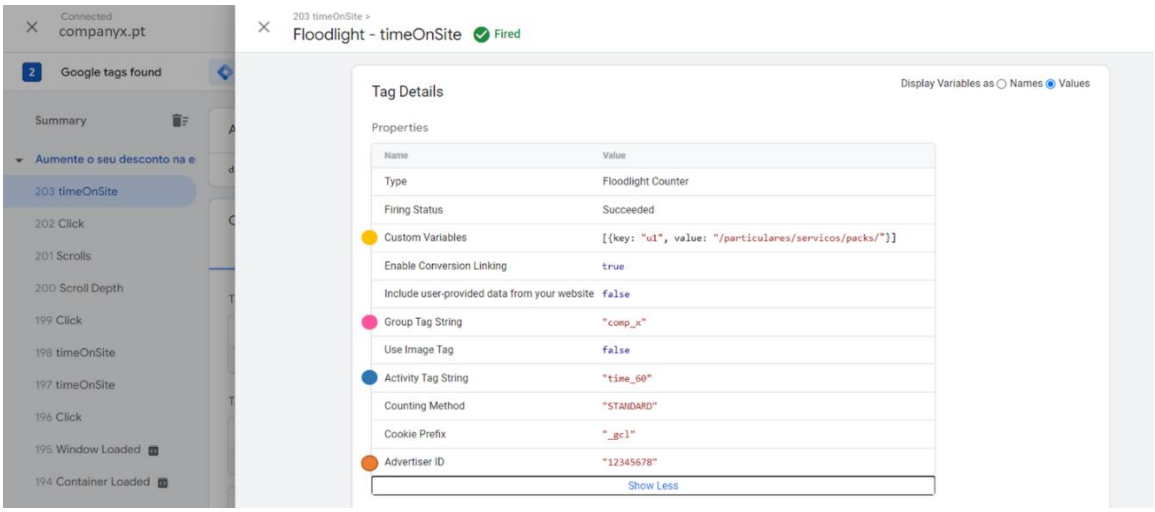

Figure 14 - Preview of Tag: Test Floodlight "timeOnSite"

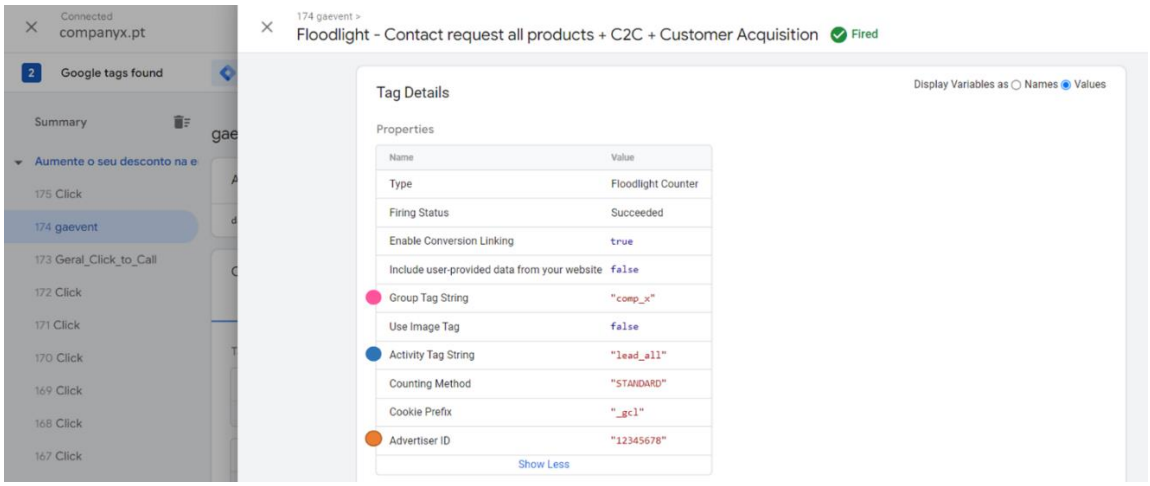

Figure 15 - Preview of Tag: Test Floodlight "Contact request all products+C2C+Customer Acquisition"

To ensure that everything is working correctly, it is sufficient to perform the double-check in GTM. However, for a more comprehensive check, it can also be done in the *Network* tab by right-clicking the mouse and selecting "inspect", as shown in Figure 16, or by using the "Google Tag Assistant" extension, as shown in Figure 17. This method catches blocking issues that could prevent the tag information reach Campaign Manager, despite GTM firing the tag.

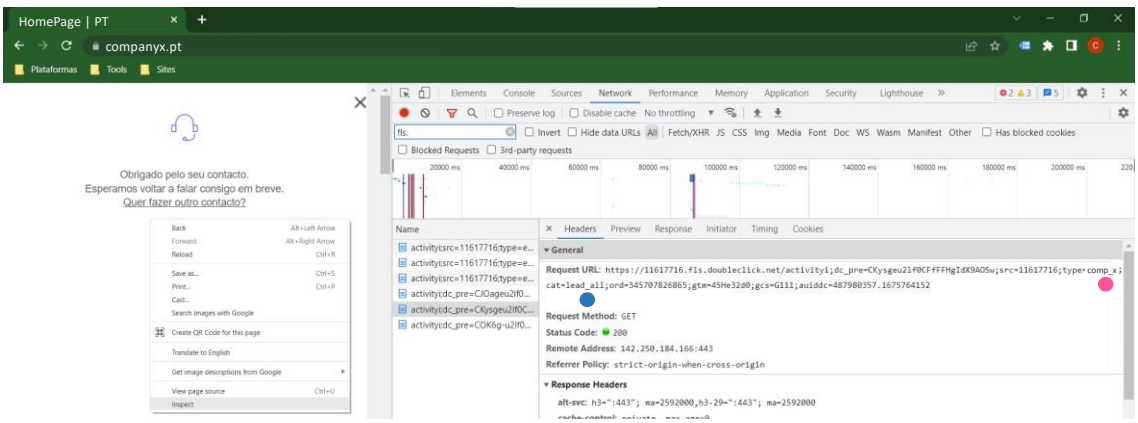

Figure 16 - Inspecting Network to confirm floodlights implementation on the website

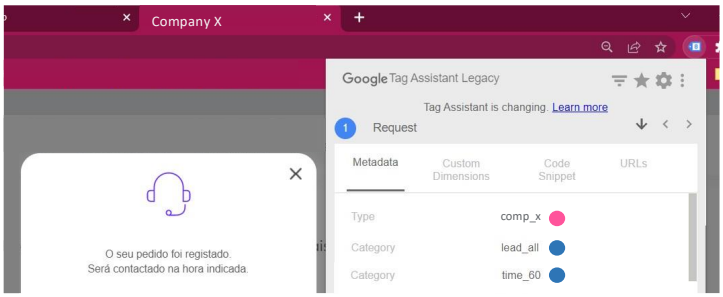

Figure 17 - GTM extension to confirm floodlights implementation on the website

After the two tags are confirmed to be created and functioning in Google Tag Manager and to ensure that the tags are working correctly and collecting the necessary data, the last step is to verify if the respective floodlights in Campaign Manager are in order and are recording data. The floodlights are running and keeping track of data, as shown in the column titled "Impressions yesterday" in Figure 18. Additionally, all the data corresponds accurately to the information seen in Google Tag Manager (dots).

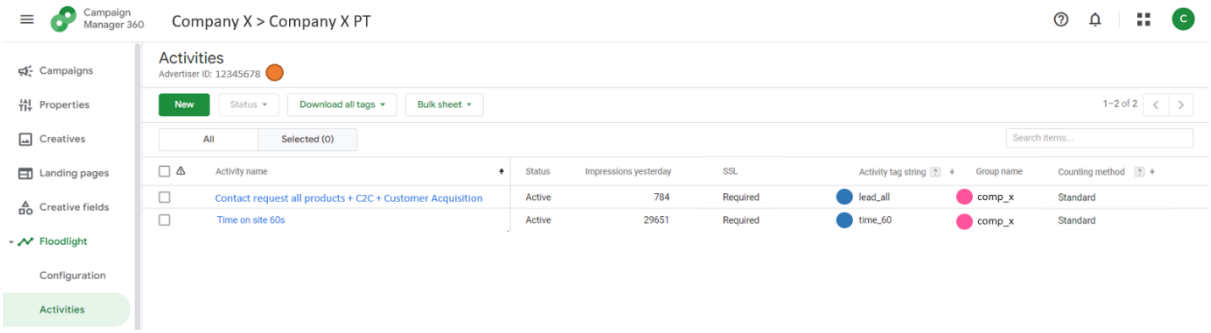

Figure 18 - Floodlight Set Up in CM360

Add campaign parameters to URLs

Through the integration of campaign parameters into the destination URLs, data can be collected to evaluate the overall effectiveness of the campaign while identifying the most productive channels, audiences, formats, and creatives for analysis.

For the campaign in question, this approach facilitates result comparison to pinpoint the most effective marketing strategies for each creative. In this regard, custom parameters added to each creative URL are particularly useful (Analytics Help, 2022). When a user clicks on a referral link, these added parameters are transferred to Analytics, where the corresponding data is accessible and can be scrutinized in the campaign reports.

When constructing a URL for a campaign, it is essential to consider several parameters to be integrated into the destination URL. These parameters include identifying the traffic source, such as publishers like Sapo, Publico, RTP, or platforms like Facebook, Instagram, and Xaxis. It is also crucial to consider the traffic medium, including search, display, social paid, email, and others. Furthermore, the campaign name should be mentioned to identify the campaign in question, and the term specifying location or format, such as feed, stories, native ad, half-page, MRec, and others should be considered. Additionally, specifying content is necessary, especially where there is a distinction between different themes or creatives.

All these parameters should be considered to construct a URL that accurately represents the campaign and directs traffic to the correct destination, otherwise, the level of detail for campaign analyses will

be limited and unable to differentiate behavior between various sources or creatives, and the information not measured is not recoverable.

The following four UTMs[9] were constructed, as seen in Table 2, one for each creative, for this campaign.

Table 2 - UTMs for each Creative

Creative	UTM
Product_1_300x250	https://www.companyx.com?utm_source=xaxis&utm_medium=display&utm_campaign=sustainable_pack&utm_term=300x250-dmc&utm_content=product_1
Product_2_300x250	https://www.companyx.com?utm_source=xaxis&utm_medium=display&utm_campaign=sustainable_pack&utm_term=300x250-dmc&utm_content=product_2
Product_3_300x250	https://www.companyx.com?utm_source=xaxis&utm_medium=display&utm_campaign=sustainable_pack&utm_term=300x250-dmc&utm_content=product_3
Product_4_300x250	https://www.companyx.com?utm_source=xaxis&utm_medium=display&utm_campaign=sustainable_pack&utm_term=300x250-dmc&utm_content=product_4

Set Up Development

Once the campaign has been created on Campaign Manager and named "Awareness_Xaxis_Sustainable Pack", the subsequent action is to generate the placement, which involves completing the required parameters.

- Site: Xaxis PT
- Compatibility: Display
- Payment Source: Agency (as the agency is responsible for all ad serving expenses to CM360)
- Dimensions: 300x250
- Status: Active
- Placement Schedule: The dates during which the campaign will be active.

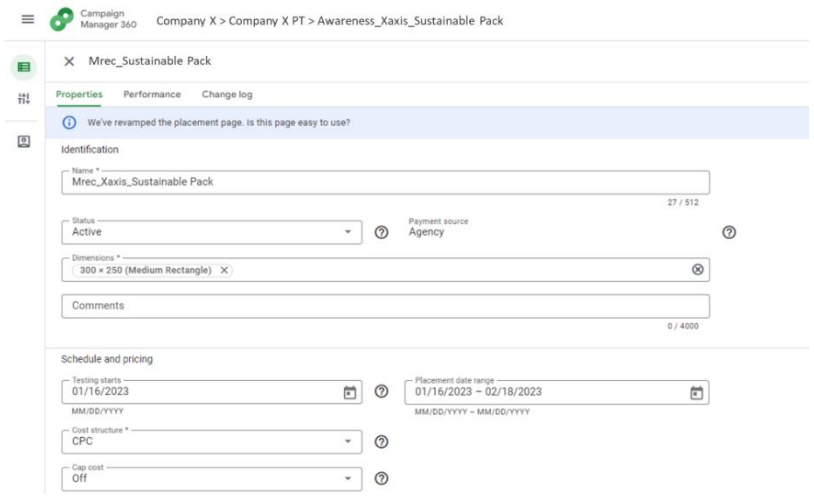

Figure 19 - Placement Set Up

Since the creatives have already been uploaded and double-checked, the ad where the creatives will rotate needs to be created and the creatives assigned to it. At the ad level, the creative type chosen is

[9] Codes known as UTMs (Urchin Tracking Modules) are snippets of text added to the end of a URL to help identify the source of website traffic.

“standard ads” because they work for any creative type: display, in-stream, and rich media. In this step, the URL assignment for each creative is also attributed (Figure 20).

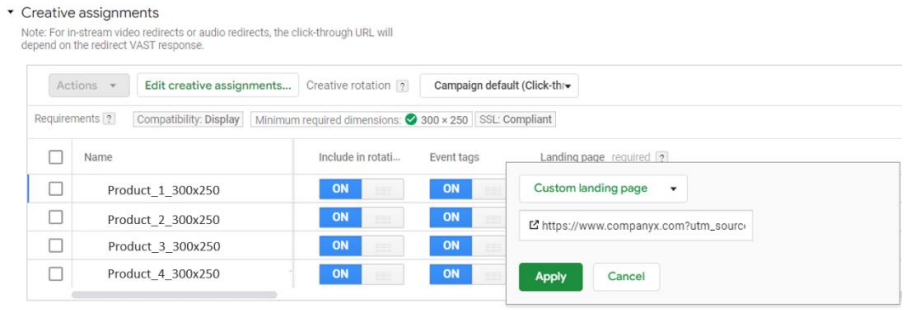

Figure 20 - Custom Landing Page defined on the Creative Level

After accomplishing the steps mentioned above, there is only one more step left to execute, which entails implementing a creative rotation among the four creative elements.

As previously stated, during the first phase of the campaign the creatives will be configured to operate using CTR optimization, as represented in Figure 21.

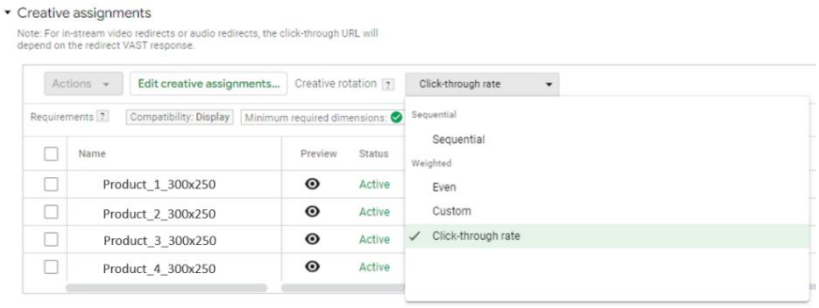

Figure 21 – Creative Rotation: CTR optimization

In the second phase of the campaign, starting two weeks after the campaign goes live, the creative rotation will be optimized for the "Time on site > 60sec" floodlight. This process requires configuring the creative rotation at the campaign level, making all the creatives subsequently serve with that optimization, as Figure 22 illustrates.

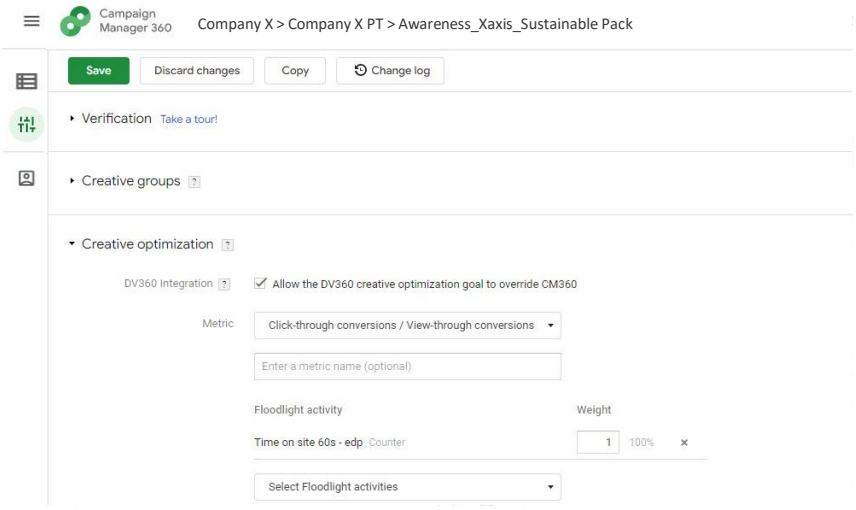

Figure 22 - Creative Rotation: Campaign level

With this, the setup is completed, as shown in Figure 23.

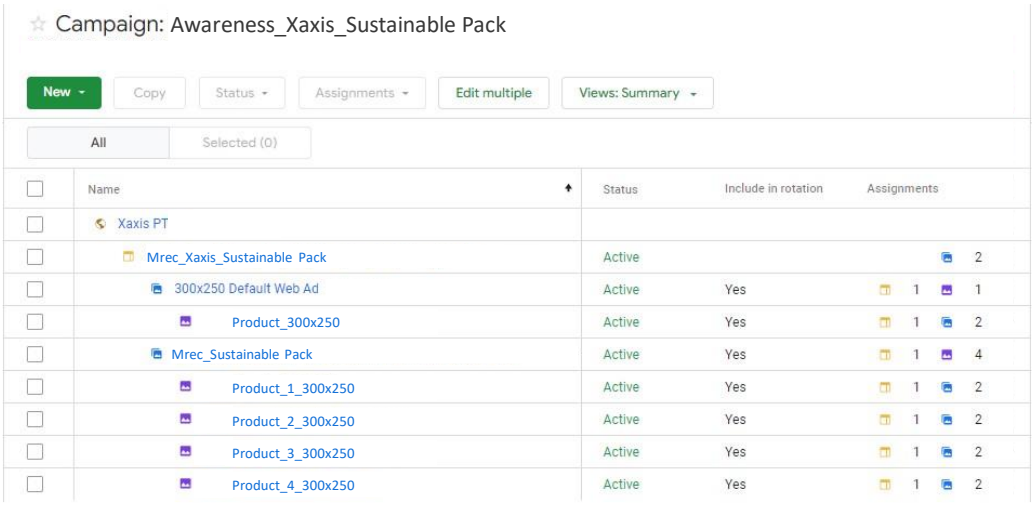

Figure 23 - Overview of the Campaign Set Up

To finalize the campaign, the next step involves creating a tag. This tag is a JavaScript snippet for the placement (Mec_Xaxis_Sustainable Pack) that once loaded will display the respective ad, and as exported from the platform in an Excel file, the tag is then sent to the Programmatic unit of GroupM, Xaxis, where they will implement it in the programmatic campaign configuration. This process concludes the last step in the campaign creation.

4.2.3. Phase 3: Reporting and Analysis

To effectively evaluate the performance of a campaign and provide a comprehensive report on its outcome, it is crucial to create a custom report in both Campaign Manager and Google Analytics. Combining the reports from both platforms will allow for direct visualization of the results from the Ad server and an analysis of the impact of the display campaign on the website's user behavior.

This combined analysis will provide a more complete picture of the campaign's effectiveness and allow for better decision-making based on the results obtained. Additionally, the reports will also assess the effects of the data if the link between the two platforms had not been established, thereby highlighting the benefits of using both platforms for campaign analysis.

Reports in Campaign Manager

To obtain the necessary data analysis, and answer the research questions, two reports must be generated in Campaign Manager.

The first report, named "Offline Report" (Figure 24) is scheduled to run during a specific date range and only displays data related to implemented campaign creatives. The selected dimensions include Campaign, Site, Placement, and Creative, while the metrics are Impressions, Clicks, and Click Rate. The report includes Click-through and View-through conversion activities for "Time on site 60s" and "Contact request all products + C2C + Customer Acquisition". The report is saved and sent in Excel format to the specified email address every day until the campaign's last day.

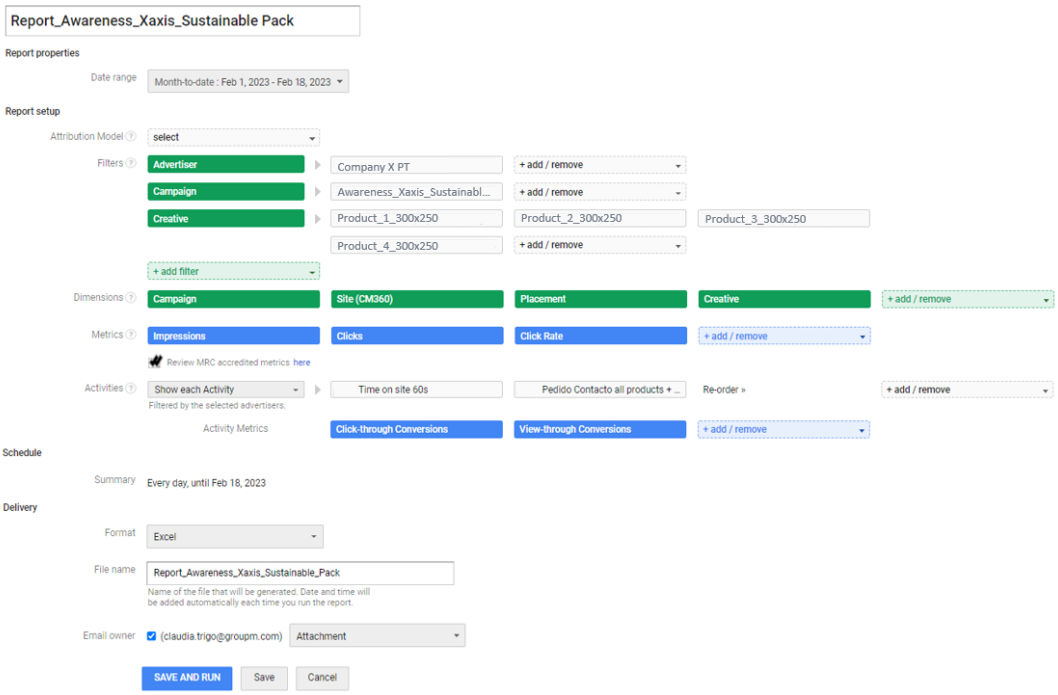

Figure 24 - Report in CM360: Offline Report

The second report, the "Assisted Conversion" report (Figure 25) provides details on the assisted conversions of the four creatives.

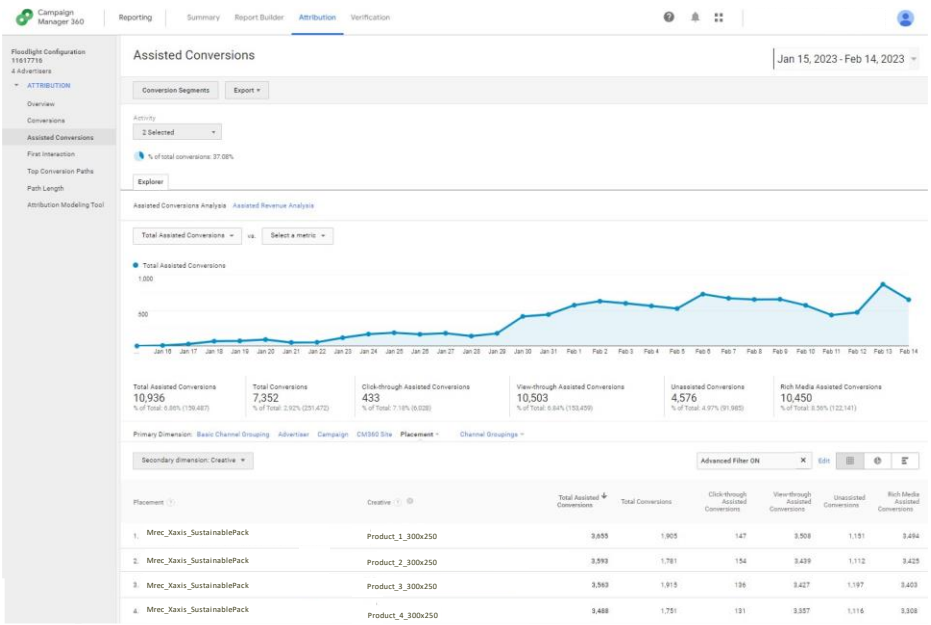

Figure 25 - Report in CM360: Assisted Conversions

Reports in Google Analytics

A customized report, depicted in Figure 26, was generated in Google Analytics to gain a more precise comprehension of the campaign's performance by emphasizing website behavior and conversions. Furthermore, a segment named "Awareness_Xaxis_Sustainable Pack" was established, as displayed in Figure 27, to facilitate dynamic and comprehensive data analysis by filtering the total website users to only users that were impacted by the campaign.

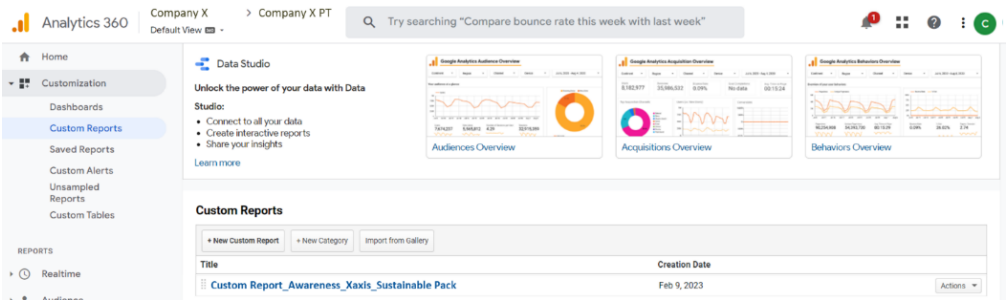

Figure 26 - Custom Report: GA360

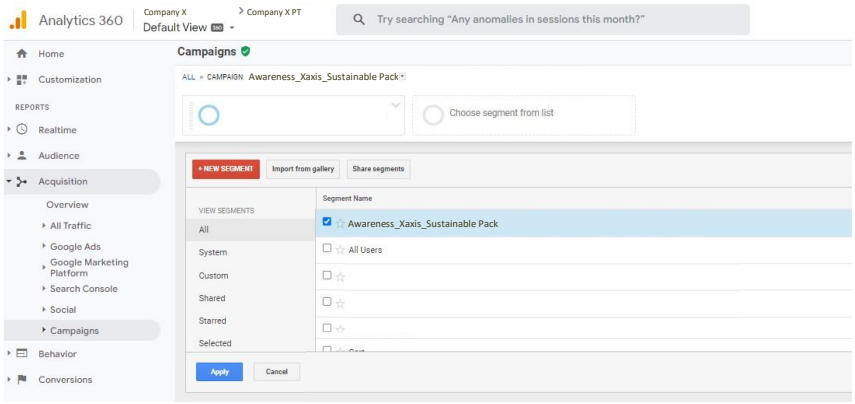

Figure 27 - New Segments in GA360

The view shown in Figure 28 aims to address the research question on the advantages of the Campaign Manager and Google Analytics link for the AdOps team. This view presents the data that would be accessible if the connection between the platforms did not exist, leaving the analyses that will be done in the next chapter based on this view to not be entirely accurate as it can only identify users that came from the campaign after arriving on the website with the post-click URL parameters (UTMs).

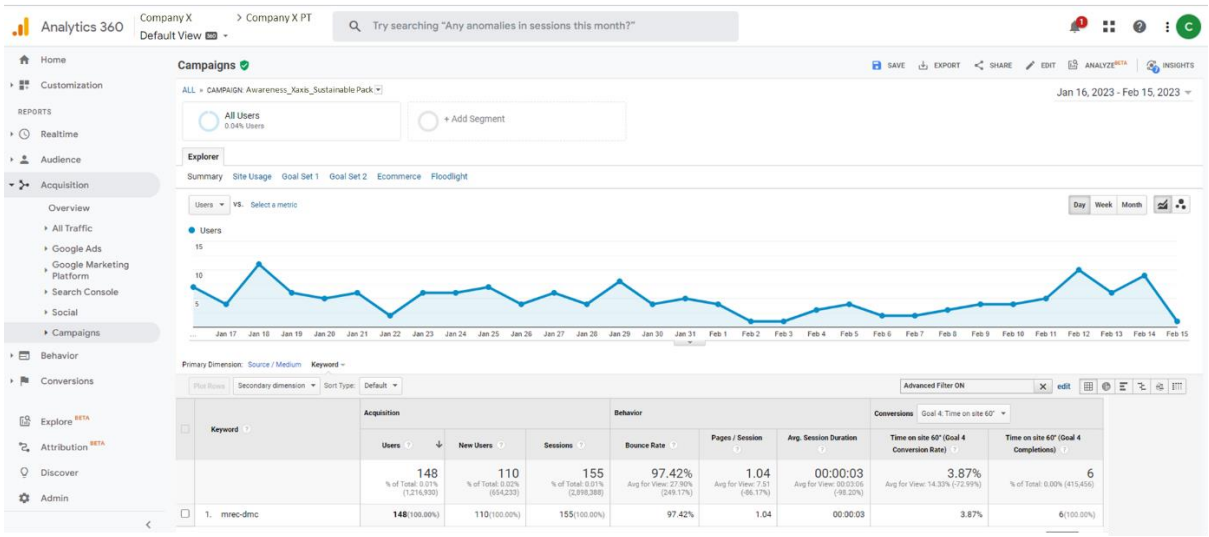

Figure 28 - View of the Campaign in GA360 if CM360 is not linked

To track the evolution of the campaign and draw conclusions, two additional reports were created that were made possible by linking the two platforms. The first report, shown in Figure 29, displays the click-through and view-through dimensions, showing users who clicked on the campaign creative to enter the website, as well as those who were impacted by the campaign but came to the website

through other channels. The second report, shown in Figure 30, details the channels used to reach the website after being impacted by the campaign.

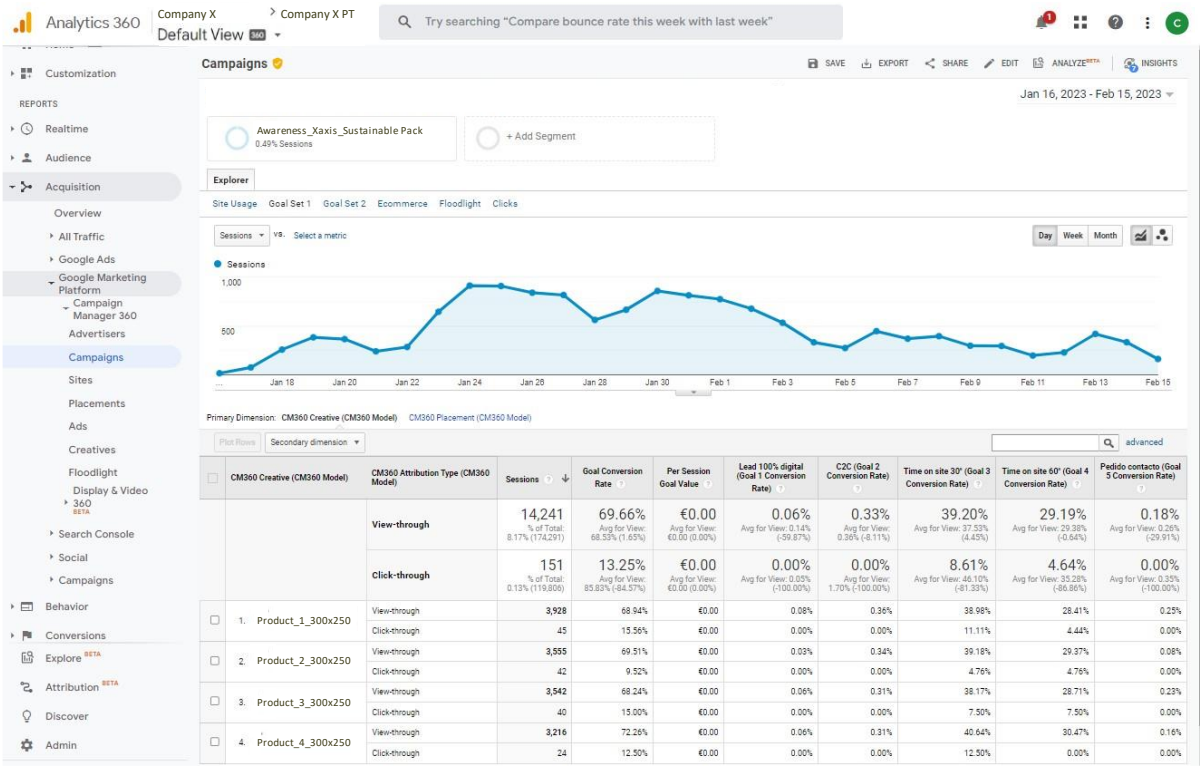

Figure 29 - View of the Campaign in GA360 if CM360 is linked: Click-through and View-through

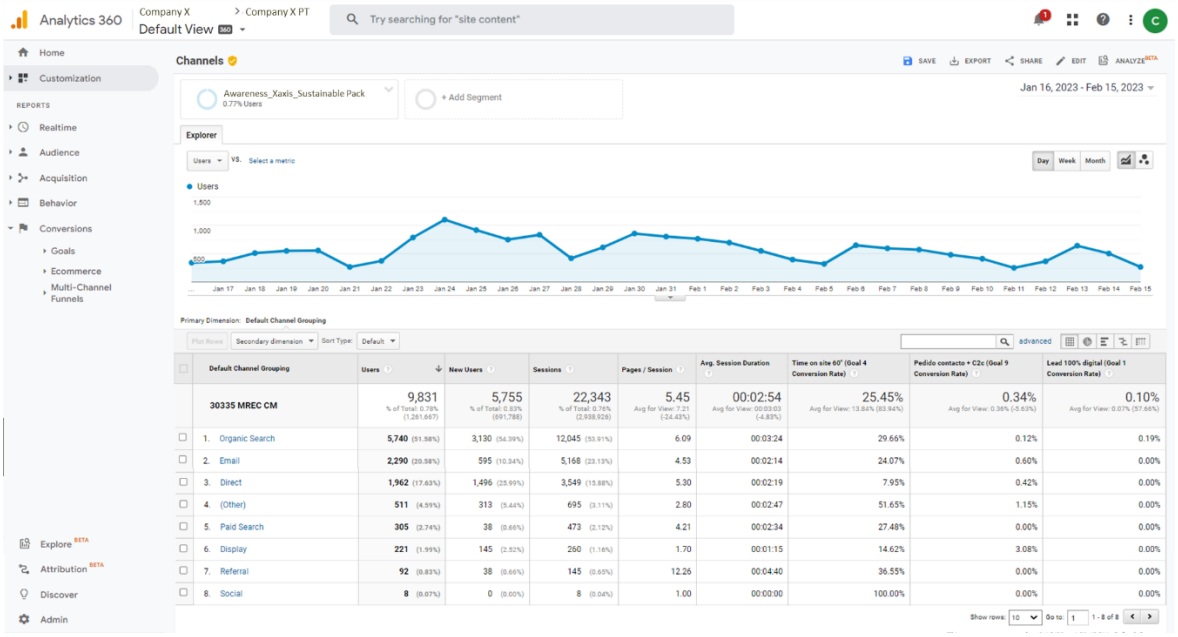

Figure 30 - View of the Campaign in GA360 if CM360 is linked: Channel Grouping

5. RESULTS AND DISCUSSION

The report's objective is to study how the use of floodlights, specifically "Time on site > 60sec," affects the optimization of AdOps team manual work. This floodlight recognizes the most effective creative that retains user attention on the client's website for over 60 seconds and prioritizes it in the campaign's rotation.

First, it will be assessed whether the AdOps team's work was optimized and whether the hours spent on setup and management were reduced and made more efficient just by altering the strategy. Subsequently, a campaign performance analysis will be conducted, as the optimization of the AdOps team will not result in better outcomes for the client if the campaign performs poorly. The rotation strategy and data from CM360 and GA360 will be evaluated within the campaign performance to verify the accuracy of the hypothesis.

5.1. OPTIMIZATION OF ADOPS WORK

Once the strategy has been defined, the setup process begins, which used to be a manual task that consumed a lot of time. However, with this new implementation, the objective is to reduce the set-up time and the hours required to manage the campaign daily.

To provide a clearer understanding of the time required for each strategy, a visual aid in the form of Table 3 was created. This table shows the time required for the setup, management, and the total of both, for Campaign A when creative management is on the programmatic side, Campaign B when the creative rotation strategy is done by CTR, and Campaign C when the creative rotation strategy is done by Floodlight, and the strategy to be proven in this internship report.

Table 3 - Campaign Setup and Management Time

	Campaign Setup A				Campaign Setup B				Campaign Setup C			
Task	Number	Days (No.days/2)	Time (in minutes)	Total (in minutes)	Number	Days (No.days/2)	Time (in minutes)	Total (in minutes)	Number	Days (No.days/2)	Time (in minutes)	Total (in minutes)
Nomenclatures	4	-	2	8	1	-	2	2	1	-	2	2
Placements	4	-	5	20	1	-	5	5	1	-	5	5
Creatives	4	-	5	20	4	-	5	20	4	-	5	20
Test Pages	1	-	10	10	1	-	10	10	1	-	10	10
Test Tags	4	-	5	20	1	-	5	5	1	-	5	5
Implementing Rotation Optimization	-	-	-	-	1	-	2	2	-	-	2	2
Total Setup (hours)				**01:18**				**00:44**				**00:44**
	Campaign Management A				**Campaign Management B**				**Campaign Management C**			
Task	Number	Days (No.days/2)	Time (in minutes)	Total (in minutes)	Number	Days (No.days/2)	Time (in minutes)	Total (in minutes)	Number	Days (No.days/2)	Time (in minutes)	Total (in minutes)
Turning On-Off	2	-	5	10	2	-	5	10	0	-	5	0
Placements/Creatives Management	4	5	4	80	4	7	5	140	4	7	2	56
Total Management (hours)				**01:30**				**02:30**				**00:56**
Total Campaign (hours)				**02:48**				**03:14**				**01:40**

After analyzing Table 3, it becomes apparent that Campaign C needed the shortest implementation duration, in contrast to Campaigns A and B. Campaign C demanded a total of one hour and forty minutes for implementation, while Campaign A took two hours and forty-eight minutes, and Campaign B consumed three hours and fourteen minutes. Every time each task between the three campaigns is different, a distinct color was employed to accentuate that alteration.

For Campaign A, there were four placements, resulting in four nomenclatures, and each placement required testing four tags, each involves making sure that the tag is pushing the creative and it redirects to the designated UTM (Table 2), upon click on the creatives. These tasks (purple) took forty-eight

minutes, which is not the case for Campaigns B and C, where a rotation strategy was utilized. For Campaigns B and C, only one placement was required, with one nomenclature that resulted in one tag, requiring only twelve minutes to complete this part of the setup.

The task of linking the creatives to the placement and assessing the landing page, the general URL given by the client, takes the same amount of time for the three scenarios, thirty minutes.

The duration needed to execute the rotation strategy is significant for both Campaigns B and C and plays a vital role in addressing the research question of this report. Furthermore, if the default rotation strategy provided by the Ad server was the same as the strategy implemented using data-driven optimization, it would compromise the testing of H1.

The execution of the rotation strategy took the same duration for both campaigns B and C. However, upon closer scrutiny of the table, it can be observed that the "Number" column is absent for Campaign C. This is because regardless of the number of placements, the task can be completed within two minutes for Campaign C as the change is made at the campaign level, as portrayed in Figure 22. Conversely, for Campaign B, the change must be made manually for each ad, as demonstrated in Figure 21. While the task required two minutes for both campaigns B and C, it is important to note that for campaigns with multiple distinct size creatives, which is common in most client campaigns, it would take an additional two minutes for each placement, since for distinct size creatives, different placements are needed, and for this campaign there is only one size creative. For Campaign A, this field is not an option to fill, because the rotation of the creatives is done by the programmatic team.

When looking at the task of managing campaigns, it becomes clear that there are differences between them. Campaigns A and B took one hour and thirty minutes and two hours and thirty minutes, respectively. With a total of fifty-six minutes spent on campaign management, Campaign C required the least amount of time.

The first management task involves turning creatives or placements on and off when they underperform, which is usually done at least once during a campaign, according to my nine months of AdOps experience and my leader's experience in the field. This task typically takes ten minutes, five minutes to turn off the placement, and another five to turn it back on when needed, as was illustrated in Campaign A. In Campaign B, this task was not executed, but it was considered for comparison purposes since it would have been necessary if the campaign's strategy had remained unchanged due to its outcome when reaching the two-weeks mark. In Campaign C, this task was unnecessary, and the campaign is still ongoing at the client’s request, due to its positive rotation results, which will be examined further in a subsequent subchapter.

The last task involves managing the creatives or placements, with Campaign C taking significantly less time at only fifty-six minutes, in contrast to Campaigns A and B which took eighty minutes and one hundred and forty minutes, respectively.

In Campaign A, even though the creative rotation is performed programmatically, it still requires monitoring by the AdOps team, although with less time since the programmatic team conducts a more thorough analysis, taking five days out of a two-week campaign duration to ensure smooth operation, with two days per week during the campaign and an additional day on the final day. For Campaign B, monitoring the metrics was necessary for seven days within the two-week campaign duration, as the Ad servers’ default rotation was found to be ineffective. Hence, it was crucial to inspect the creatives

thoroughly to achieve the best results. Following the two-week campaign period, the campaign data analyzed by the AdOps team showed that the creatives were not performing up to par. If the Campaign C strategy had not been implemented, some of the creatives would have had to be deactivated, which emphasizes the need to closely monitor the campaign's progress when using this approach. For Campaign C, it took only five days, like Campaign A, and managing the creatives only required two minutes per day since optimization was effective, resulting in favorable results without requiring extensive management time.

One key factor to consider that is not reflected in the table is the cost for the client in terms of the total time spent on the campaign setup and management. Campaign A required less time to manage the placements, compared to campaign B, but this reduction only considered the hours worked by the AdOps team. However, since a second team, the Xaxis programmatic team, participates in this scenario to reduce the AdOps management time, the hours worked by Xaxis would increase, resulting in higher costs for the client since two teams were managing the campaign.

Taking all of this into consideration is clear that Campaign C, the campaign that used the floodlight is the one that would benefit the AdOps team, and the client, when it comes to using this new creative rotation strategy to increase the optimization of their work, making it more efficient and effective, confirming the first hypotheses.

5.2. Campaign Performance

All the campaign performance data required to develop the tables and figures for the next chapter can be found in Appendix D, Appendix E and Appendix F.

5.2.1. Optimization Strategy

Impressions

The campaign serving strategy, Floodlight strategy, resulted in fewer total impressions for this period (Figure 31) but had an impact in the share of impressions for each creative (Figure 32). In the CTR-based optimization strategy, each creative received the same impressions share, around 25% each receiving between 336 000 and 337 000 impressions, while in the Floodlight-based optimization strategy, varied significantly between the creatives, ranging from 13% to 43%.

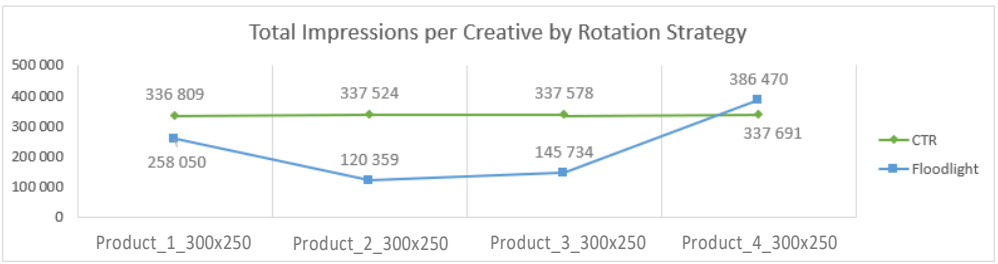

Figure 31 - Total Impressions per Creative by Rotation Strategy

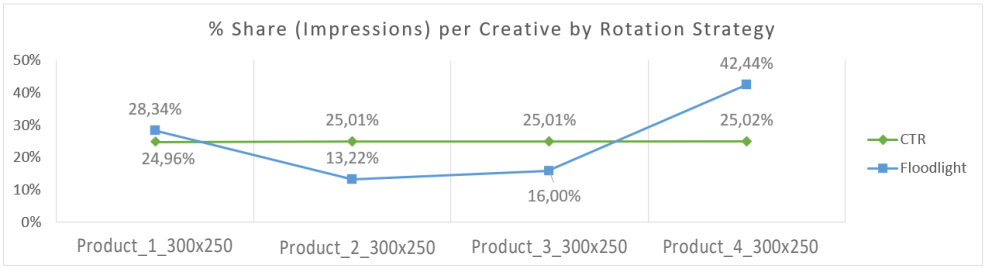

Figure 32 - % Share (Impressions) per Creative by Rotation Strategy

The creative Product_4_300x250 received the highest impressions share (42.4%), while Product_2_300x250 received the lowest (13.2%). This variation in impressions share allowed the Floodlight-based optimization strategy to identify the best-performing creative (Product_4_300x250) and allocate more impressions to it, which could result in higher engagement and conversion rates.

Secondly, the Floodlight "Time on site 60s" optimization strategy was better suited to measure user engagement and intent than the CTR-based optimization strategy. CTR only measures the number of clicks on the creative, which does not necessarily translate to user engagement or intent to purchase. On the other hand, the Floodlight "Time on site 60s" optimization strategy measured the time spent on the site, which is a better indicator of user engagement and intent. This allowed the Floodlight-based optimization strategy to identify which creative was resonating with the audience and allocate more impressions to it, resulting in higher engagement and conversion rates.

Finally, the difference in impressions share and the ability to measure user engagement and intent allowed the Floodlight-based optimization strategy to be more effective in improving campaign optimizations and distributing impressions more efficiently and effectively compared to the CTR-based optimization strategy.

The client can use this knowledge to enhance future campaigns and achieve better outcomes, as this new strategy overcomes the negative impact that CTR optimization had on the rotation of the creatives. When all creatives had almost identical outcomes, not only was the investment not distributed efficiently, but it also inhibited the analysis of the better and worse performing creatives. Moving forward, the client now has valuable insights into their audience and which creatives to improve, advertise, or not advertise, as well as those worth further investment.

Clicks and Clickthrough Rate (CTR)

In this case, we can see that the Floodlight optimization based on "Time on site 60s" did not result in higher clicks or CTR compared to the CTR optimization. However, it is important to note that the Floodlight conversion is based on a different metric, which is the time spent on the site, and it may have different user intent and behavior compared to the click.

For instance, a user who clicks on an ad may leave the site immediately, while another user who spends more time on the site may have a higher likelihood of converting in the long term. The Floodlight conversion may be a better indicator of user engagement and intent, as it measures the time spent on the site, which may be an indication of interest or consideration.

Moreover, it is also important to consider the performance of each creative separately, as they may have different user appeal and engagement. In this case, we can see that the "Product_3_300x250"

had the highest number of clicks and CTR in the CTR optimization strategy, and “Product_4_300x250” had the highest number of clicks in the Floodlight strategy yet “Product_1_300x250” had the highest CTR in the same strategy, while "Product_2_300x250" had the lowest for both.

The client may want to explore the reasons behind the difference in performance and consider optimizing the creative design and messaging to improve engagement.

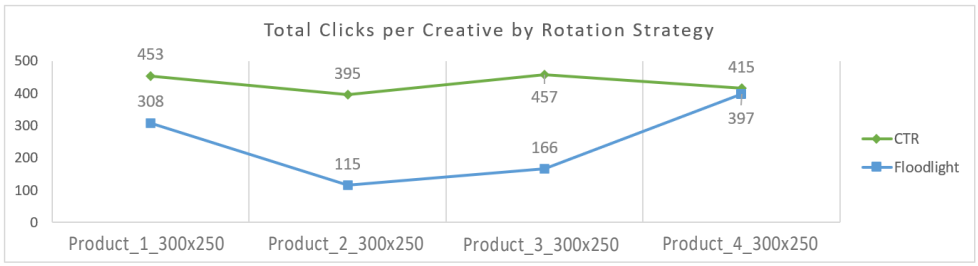

Figure 33 - Total Clicks per Creative by Rotation Strategy

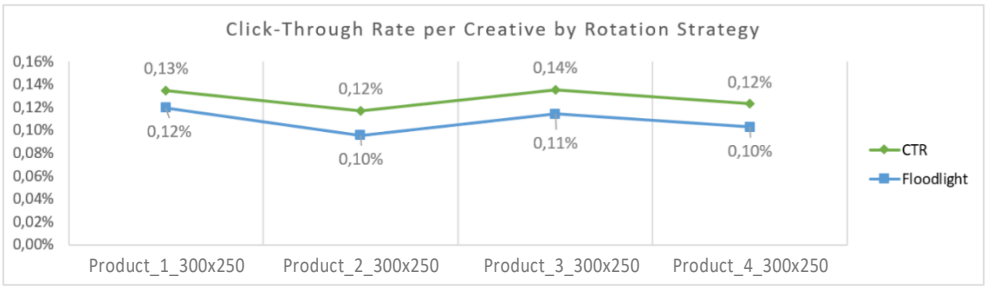

Figure 34 - Clickthrough Rate per Creative by Rotation Strategy

Therefore, it is important to look beyond the clicks and CTR metrics and consider other metrics that may indicate the campaign's success, such as the conversion rate, assisted conversions, click-through conversions, and view-through conversions. These metrics can give a more complete picture of the campaign's performance and can help the client make better-informed decisions about their ad spend.

Conversions and Assisted Conversions

Looking at the assisted conversions, in Figure 35, we can see that the Floodlight strategy has significantly higher assisted conversions for all the creatives compared to the CTR strategy. The assisted conversions indicate that users were engaging with the website after clicking on the ad and spending more time on the website, which could lead to higher brand recall and awareness.

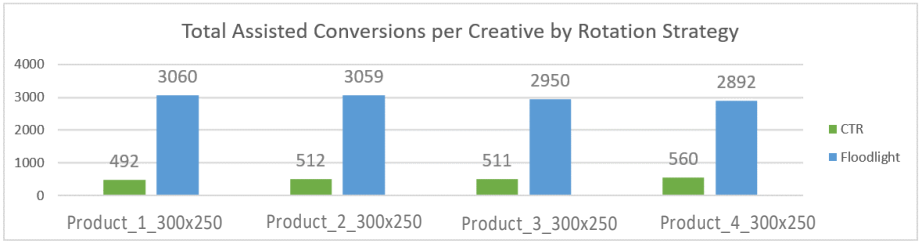

Figure 35 - Total Assisted Conversions per Creative by Rotation Strategy

On the other hand, the CTR strategy yielded a higher number of total conversions for all creatives, as shown in Figure 36. However, it is crucial to note that the lower total conversions in the Floodlight strategy should not be viewed as negative outcome since the campaign had a lower number of

impressions. Therefore, analyzing the outcome based on absolute values would not fully demonstrate the impact of changing the strategy. As a result, Figure 37 was created, which illustrates the share percentage of total conversions between each strategy.

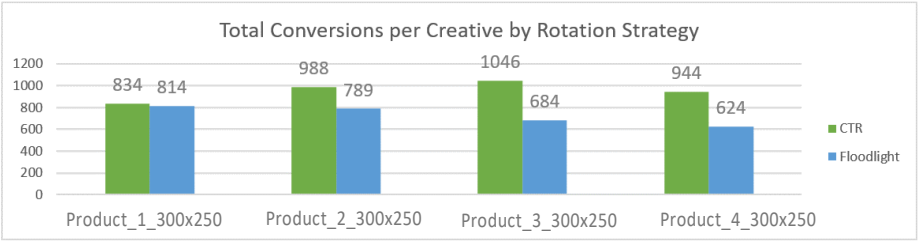

Figure 36 - Total Conversions per Creative by Rotation Strategy

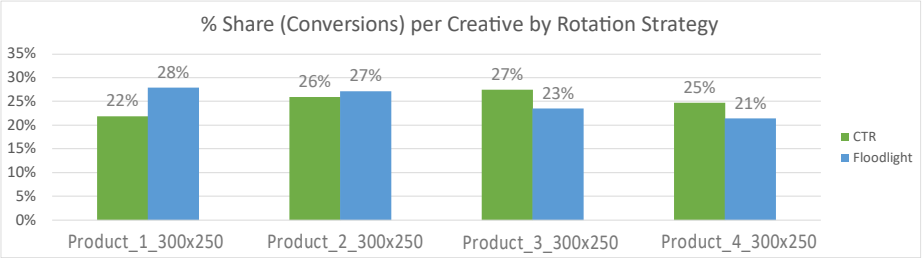

Figure 37 - % Share (Conversions) per Creative by Rotation Strategy

Examining the conversion share percentage for Floodlight optimization suggests that it was successful in encouraging users to spend more time on the website, which in turn led to conversions. Even though Floodlight optimization resulted in slightly fewer total conversions, examining the conversion share percentage provides a different perspective. Under Floodlight optimization, the creative for Product_1_300x250, in particular, had a conversion share percentage of 28%, compared to 22% under CTR optimization.

Given that the client's historical data suggests that the conversion funnel is wider and takes more than sixty days to convert, it is critical to consider the time it takes users to convert. This is due to customers taking longer to decide as the products and services this client sells are more expensive. Therefore, it is plausible that users who spent more time on the website were more likely to become loyal customers over time, even if they did not convert immediately.

Click-Through Conversions and View-Through Conversions

Firstly, analyzing the “Time on site 60s” Floodlight, the CTR optimization strategy resulted in only seven click-through conversions, while the Floodlight strategy resulted in eight click-through conversions (Figure 38). While the difference may appear minor, it is important to note two points, that this period had only two thirds of the impression volume, and the Floodlight strategy resulted in click-through conversions for all four creatives, whereas the CTR optimization strategy only resulted in click-through conversions for two creatives, indicating a lower capability to drive clicks to creatives when underperforming.

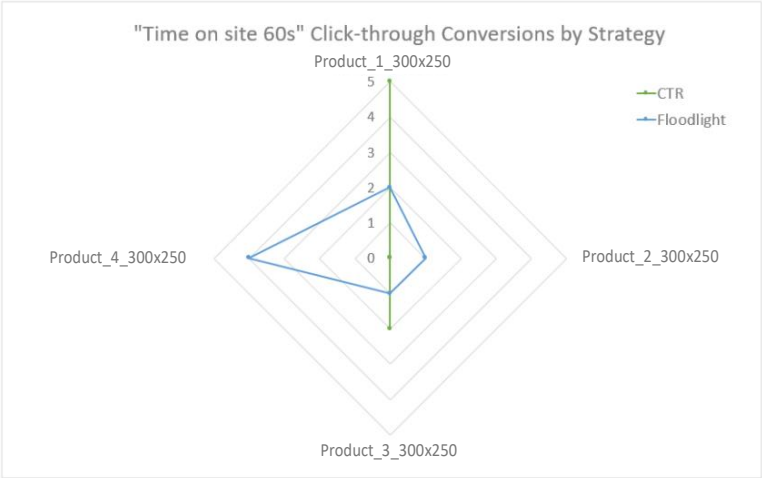

Figure 38 - "Time on site 60s" Click-through Conversions by Strategy

The Floodlight strategy demonstrated superior performance compared to the CTR optimization strategy in terms of view-through conversions in two of the four creatives (Figure 39) "Product_4_300x250" and " Product_1_300x250", even though the latter had the most click-through conversions in the CTR strategy. The view-through conversions for the "Time on site 60s" (Figure 39) are expressed in percentage rather than numeric value, as the latter would not accurately represent the differences between the strategies. The CTR strategy generated more impressions due to its broad audience, and this makes it difficult to compare numeric values with the Floodlight strategy, which had a more specific audience.

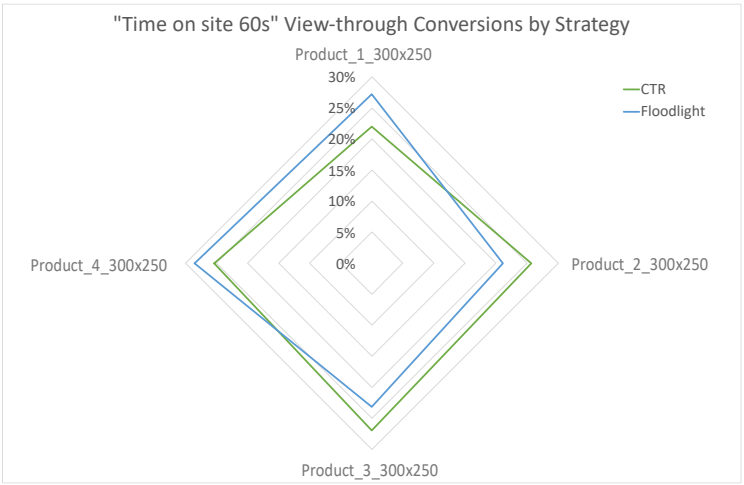

Figure 39 - "Time on site 60s" View-through Conversions by Strategy

It is worth noting that the Floodlight strategy had a wider variation in view-through metrics, which was expected considering the CTR strategy's inefficiencies in terms of impressions shown, as depicted in Figure 32. The Floodlight strategy addressed this issue by generating more view-through conversions for the more effective creatives while reducing exposure for the less effective ones. As a result, the strategy's greater variation made it easier to identify which creatives performed better or worse, offering insights for future campaigns on where to allocate resources and where improvements were necessary while efficiently reducing views for some creatives and increasing them for others.

Regarding the Floodlight "Contact request all products + C2C + Customer Acquisition", the absence of conversions during either optimization strategy does not necessarily indicate poor campaign

performance (Appendix D). This could be attributed to several factors such as the brief duration of the campaign, the campaign's emphasis on awareness rather than clicks, and the small audience size due to the longer conversion funnel time. However, it is important to note that the last factor will eventually be resolved. In fact, the Floodlight strategy yielded a noteworthy 54.7% increase in view-through conversions, totaling ninety-nine, compared to sixty-four during the CTR optimization strategy (Figure 40). This favorable outcome is expected to have a positive long-term effect on click-through conversions.

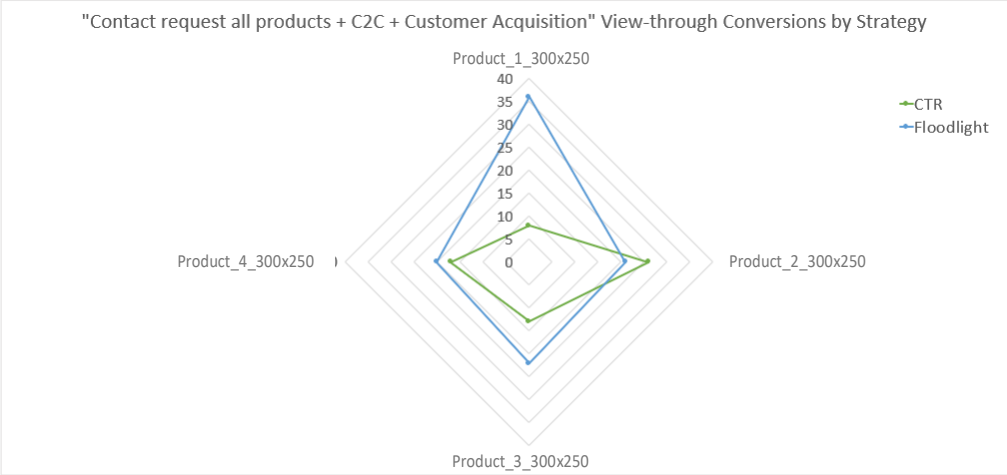

Figure 40 - "Contact request all products + C2C + Customer Acquisition" View-through Conversions by Strategy

This makes it possible to confirm hypothesis two by establishing that the optimization strategy was exceptional in delivering better results for the campaign, not simply better results but also more efficient results when considering the long-term goal of the campaign.

5.2.2. Creative Rotation

After examining all the optimization strategy, the overall creative rotation will now be discussed, by showing the differences between the CTR rotation and the Floodlight rotation in terms of metrics such as Impressions, Clicks, Completion of reaching more than sixty seconds on site, and the conversion rate of Clicks and Impressions, as calculated in Table 4.

Table 4 - Variation between Rotation Strategy[10]

Metric	Variation
Var Clicks	-42,7%
Var Impressions	-32,5%
Var Completion of Floodlight "Time on site > 60s"	-25,1%
Var Conversion Rate Click	33,2%
Var Conversion Rate Impressions	13,2%

Primarily, it is essential to keep in mind that the baseline for any variation is the decrease in the number of impressions during the campaign. This means that any changes in clicks or other metrics during the campaign can be attributed to the variation caused by the decreased impression volume.

[10] Results calculated from the data provided in Appendix D

The variation in clicks during the campaign showed a decline of 42.7%, which was lower than the anticipated 32.5%, indicating that the rotation strategy had a negative impact on clicks. However, it is important to note that this decline was expected since the Floodlight strategy aimed at optimizing for users who spent at least sixty seconds on the client's website. While this may result in a decrease in overall clicks, this audience is considered more valuable and targeted compared to those who simply click on the ad without spending much time on the site.

The Floodlight strategy led to only a 25.1% decrease in the number of users who stayed on the client's website, for more than sixty seconds, a smaller decline than the decrease in impressions, which points to this strategy being successful in driving a more targeted and engaged audience to the client's site, which will be proved in the next paragraphs.

In terms of conversion rates, the data shows an increase of 33.2% for the click conversion rate, and 13.2% for the impression conversion rate. This higher overall conversion rate, when compared to the CTR-rotation strategy, indicates that the Floodlight rotation was successful in targeting users who were more likely to convert.

Moreover, the total assisted conversions increased significantly by 519.58% (Figure 41). This indicates that the Floodlight-optimized creatives were generating more conversions indirectly. Assisted conversions occur when a user clicks on an ad but does not convert immediately, instead, they may return to the website later and convert through a different channel or device. This metric is crucial as it shows the impact that the campaign is having beyond the last click. Further analysis of this data from GA, which will be discussed in the next sub-chapter, will provide for a more comprehensive view of the outcome that came from the assistant conversions in the online channels, emphasizing the veracity of the hypothesis four.

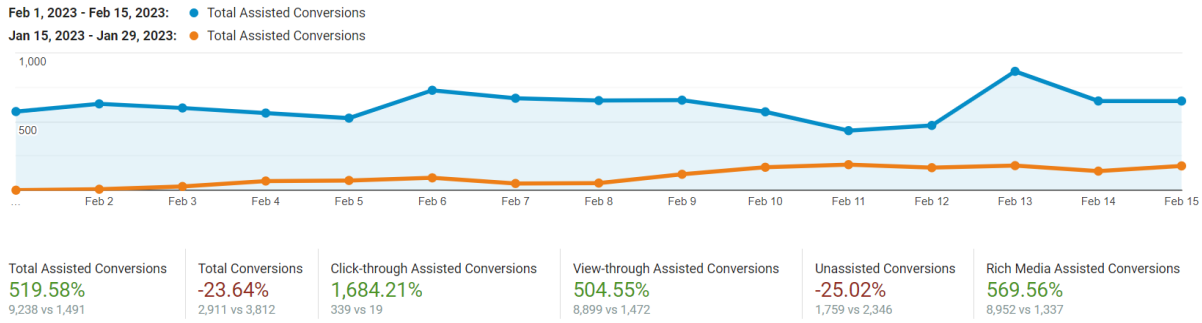

Figure 41 – Variation of Conversions and Assisted Conversions[11]

Although the total conversions decreased by 23.64%, primarily due to the decrease in the volume of clicks and impressions, it is essential to note that the decrease in conversions was driven by a decrease in unassisted conversions (-25.02%). This suggests that the Floodlight-optimized creatives were more likely to be influenced by the advertisement and were resulting in more assisted conversions.

This is further supported by the significant increase in View-through Assisted Conversions, indicating that the Floodlight-optimized creatives were generating more conversions that were influenced by the ad even if the user did not directly click on the it.

[11] Assisted Conversions Report from CM360, as mentioned in Figure 25

Additionally, the variation for click-through and rich media assisted conversions increased by 1,684.21% and 569.56%, respectively, indicating that the Floodlight optimization was successful in reaching and engaging a more valuable audience, who were more likely to convert through multiple touchpoints.

Overall, the Floodlight strategy yielded significant improvements in audience engagement and conversions, despite a decline in clicks and impressions. This reduction in clicks and impressions does not indicate a poor campaign performance, but rather suggests that fewer clicks and impressions resulted in more valuable conversions.

Given that the campaign used CPC bidding, this reduction proved beneficial to the client, as they were able to achieve more conversions with less investment. The optimization effectively targeted a more valuable audience, leading to higher conversion rates and an increase in assisted conversions, which corroborates hypothesis number two.

With this, it is evident that hypothesis three came to be confirmed, as the positive campaign outcome resulted in the automation of the AdOps team's work to be more successful. But to further consolidate this hypothesis, the next analysis must also be taken into consideration.

5.2.3. Data provided by Google Analytics 360

View-Through Conversion and Click-Through Conversion

While it was important to analyze data from the click-through and view-through conversions based on impressions in CM360, it is now crucial to analyze the impact of the number of sessions on goal conversion for both strategies, which is accessible only through GA360, data from this metrics is in Appendix F.

Relying only on Campaign Manager data can lead to an incomplete picture since it does not consider that multiple impressions can come from one session. A session begins when a user lands on the website and ends after a period of inactivity or at the end of the day, whereas an impression is the number of times a user views a particular piece of content, such as an advertisement or a page, regardless of whether the user interacts with it.

Based on the results provided, for click-through conversion rates, two of the four creatives saw an improvement in conversion rate under the Floodlight optimization compared to the CTR optimization (Figure 42), Product_4_300x250 and Product_3_300x250, for view-through conversion rates, all four creatives saw an improvement under the Floodlight optimization compared to the CTR optimization (Figure 43).

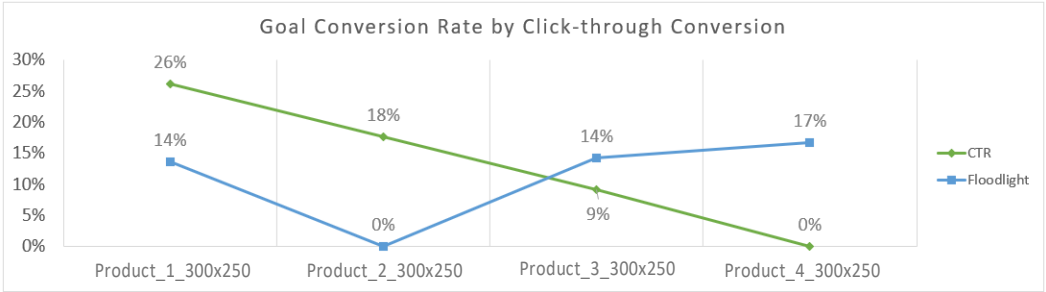

Figure 42 - Goal Conversion Rate by Click-through Conversion

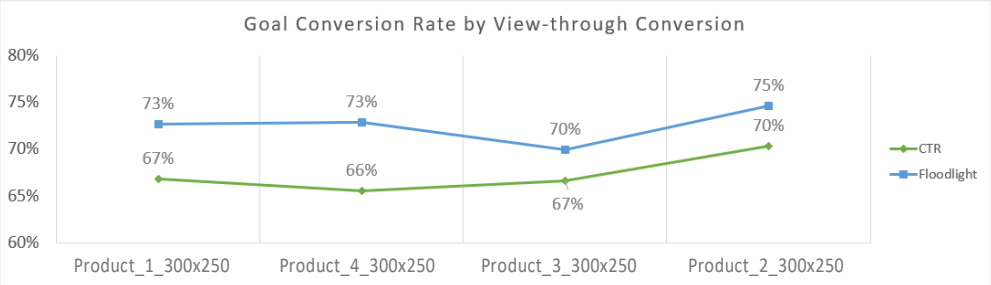

Figure 43 - Goal Conversion Rate by View-through Conversion

The specific metrics provided for Floodlight optimization reveal that even though two out of the four creatives resulted in lower click-through rates, they had much higher conversion rates for view-throughs. For instance, Product_1_300x250 generated a click-through conversion rate of 13.64% under the Floodlight optimization, compared to 26.09% under the CTR optimization, but a higher view-through conversion rate of 72.68% under the Floodlight optimization compared to 66.77% under the CTR optimization. This indicates that the creative was able to raise brand awareness and interest in the advertised product.

Since the primary focus of the campaign was to drive awareness, having a balance of both click-through and view-through conversions is ideal. Click-through conversions are essential for driving direct responses and immediate actions, while view-through conversions are necessary for building brand awareness and influencing longer-term behavior.

On the other hand, it may also suggest that the advertisement is being displayed to users who are further along the customer journey and have already decided to look into the offered product or service. These users may not need to click on the ad to convert because they are already familiar with the brand or have previously engaged with it.

Now analyzing the campaign's results in sessions, it seems that the shift in optimization strategy from CTR to Floodlight did not produce the desired outcome, as both Click-Through (Figure 44) and View-Through (Figure 45) conversion rates on sessions decreased. Nonetheless, the session data provided valuable information since the decline led me to investigate potential external factors that I would not have been discovered by simply reviewing the CM360 impressions. This metric led to the discovery that the client had changed their TV ads to a different product during the period of Floodlight testing.

Another factor to consider is the long window of conversion for users of this client, which can span weeks or months from initial interaction to conversion. As a result, users impacted by the CTR strategy may not have had enough time to convert, thereby contributing to the decrease in sessions observed during the Floodlight testing period.

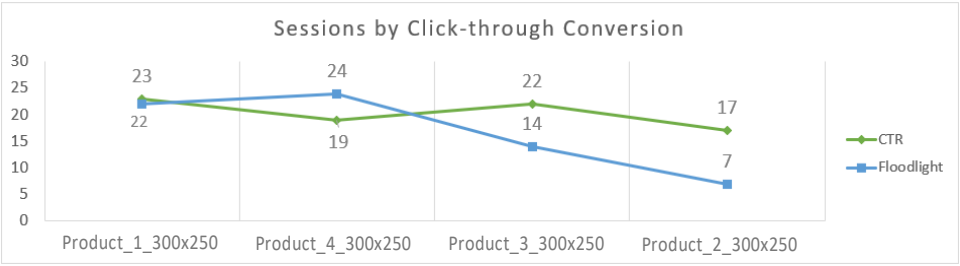

Figure 44 - Sessions by Click-through Conversion

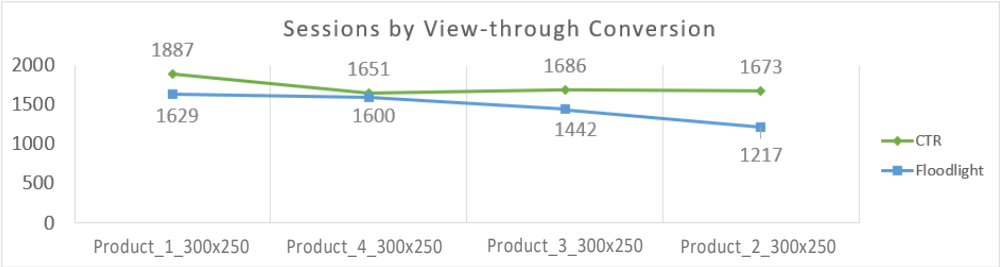

Figure 45 - Sessions by View-through Conversion

Channel Grouping

To better comprehend the contribution of the analyzed assisted conversions from the previous subchapter, channel grouping offers insights into the influence of these conversions on other channels, facilitating an accurate evaluation of their role in driving success across multiple channels.

Examining relevant channel data enables a more comprehensive understanding of how these conversions affected customer behavior and will assist in identifying opportunities for further optimization and enhancement. These analysis focuses on the channel grouping by goal conversion rate and by sessions, which are illustrated in Figure 46 and Figure 47, and all data from GA360 can be found in Appendix E.

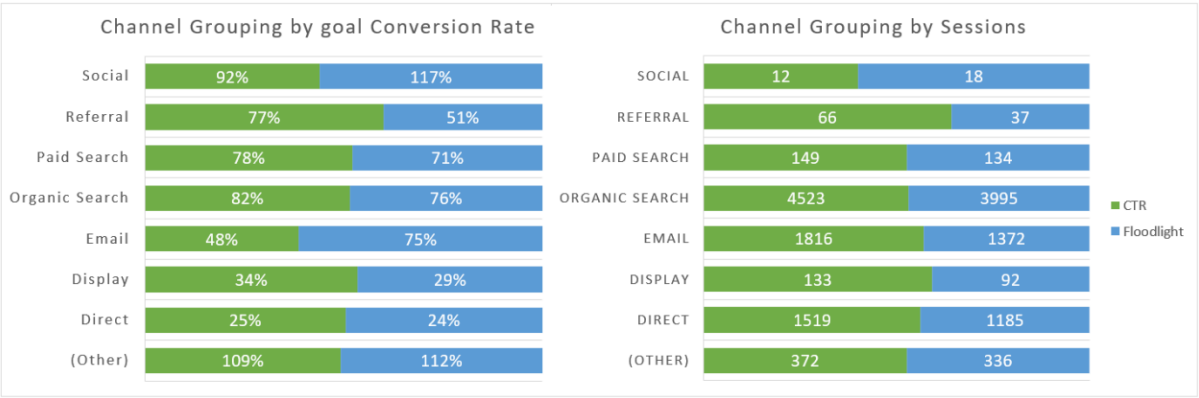

Figure 46 - Channel Grouping by goal Conversion Rate and Sessions

The analysis of channel grouping based on goal conversion rate revealed that the floodlight outperformed CTR across nearly all channels. This implies that optimizing for time on site had a beneficial impact on traffic quality, as opposed to considering all clicks equally, even when users ultimately converted through different channels. For example, the floodlight achieved a conversion rate of 75.36% for email, whereas CTR yielded a rate of 47.74%. It is essential to acknowledge that email and direct traffic were among the few CTR-driven channels with greater conversion rates. Nonetheless, for the majority of channels, the differential in conversion rates did not outweigh the benefits of rotating based on the floodlight.

The floodlight's conversion rate was notably higher than CTR's for social channels, where it was 116.67% compared to CTR's 91.67%. This means that users who spent more time on the client's site from social channels were more likely to convert than those who clicked on the ad.

The channel grouping by sessions reveals that most channels had fewer sessions with floodlight-based creatives than those based on CTR, which is a crucial factor to consider in evaluating the campaign's effectiveness. One explanation for this could be that the floodlight's 60-second threshold resulted in fewer clicks and sessions compared to the CTR-based creatives. This may have resulted in a lower overall number of sessions, even though users who clicked on the floodlight-based creatives were more engaged and spent more time on the client's site.

Another key factor to consider is the distribution of traffic across channels. As mentioned before, the channel grouping by goal conversion rate showed that the floodlight strategy generated less direct and organic traffic, which could have contributed to the lower number of sessions overall. However, the floodlight strategy resulted in higher conversion rates across most channels, indicating that users who did engage with the client's site were more likely to convert. By rotating creatives based on the floodlight, the campaign was able to reach and engage with these high-intent users, resulting in higher conversion rates and sessions.

Moreover, the floodlight's 60-second threshold was a reliable indicator of engagement, as it suggested that users who met this threshold had a meaningful interaction with the client's website. This may have led to a higher likelihood of conversion, as these users may have been more likely to remember the client's brand or product and act later.

Now focusing the results of the conversion rate for the two floodlights created: "Time on Site 60s" and " Contact request all products + C2C + Customer Acquisition" (Figure 47).

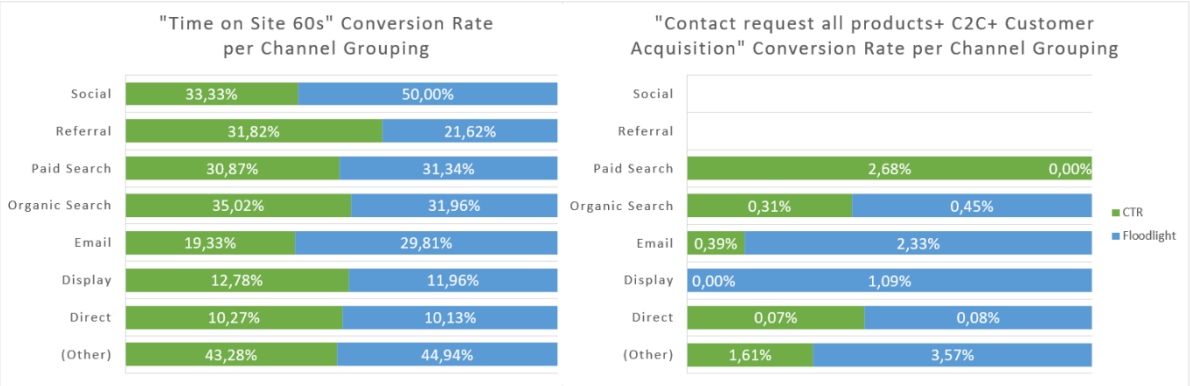

Figure 47 – Floodlights measure on Channel Grouping by Strategy

As the findings illustrate, the "Time on Site 60s" floodlight had a greater conversion rate for the majority of traffic sources. The floodlight performed particularly well for social media and email traffic sources, with an increase in conversion rates from CTR to floodlight of 13.67% and 10.48%, respectively.

Similarly, the "Contact request all products + C2C + Customer Acquisition" floodlight had a greater conversion rate for the majority of traffic sources. The floodlight performed particularly well for email and display traffic sources, with an increase in conversion rates from CTR to floodlight of 1.94% and 1.09%, respectively.

It is critical to recognize that the "Other" channel, as depicted in the specified figures and data from the appendixes, serves as a comprehensive category for traffic in Google Analytics that cannot be classified into a specific channel. Unknown sources, bot traffic, or ad blockers are some of the possible

causes of this situation. Even though Google Analytics does not classify this data, it is still essential to take it into account when looking at the results as a whole.

The capacity to recognize and prioritize the metrics that are most important to a client's business, as well as adapt strategies, accordingly, is vital to campaign success. The floodlight's ability to track relevant interactions and engagement on a client's website proven to be a valuable metric for optimizing the campaign for conversions. Despite the fact that the lighting method resulted in fewer sessions, the higher conversion rates and engagement metrics indicated that it was an effective approach for reaching and connecting with high-intent users. This method not only required less time for setup and management, but it also aided the AdOps team in achieving better results.

Furthermore, the implementation of creative rotation assisted in the optimization of AdOps work in this campaign. This effect was mediated by improved campaign performance, reflected by greater engagement metrics and conversion rates, which proved to have a successful outcome, confirming, and consolidating, the third hypothesis.

In evaluating the campaign's effectiveness, it is important to consider a range of metrics and factors, and the results of this campaign indicate that the floodlight strategy was a strong performer in driving conversions and engagement on the client's site. This more thorough analysis of the data would not be feasible without integrating GA360 and CM360, allowing for a wider picture and leading to previously unknown conclusions about the data, validating the fourth hypothesis.

6. CONCLUSIONS

The implementation of an effective AdOps strategy is crucial in reducing the setup time and daily management hours for campaigns. This study revealed that utilizing a rotation strategy done by Floodlight had the shortest implementation duration and management time. The execution of the rotation strategy played a vital role in addressing the research question of this report, and it was evident that this strategy required the least amount of time for managing the creatives and placements. Moreover, it achieved favorable results without requiring extensive management time, demonstrating the importance of implementing an effective AdOps strategy to optimize campaign performance, save time, and reduce costs for clients, answering the first research questions and confirming the first hypothesis.

The Floodlight optimization strategy has proven to be a successful approach for enhancing audience engagement quality by targeting a more valuable audience, resulting in higher conversion rates, and increased assisted conversions. Upon data analysis, it was found that the decrease in impressions and clicks did not indicate poor results, but rather, generated fewer clicks and impressions that led to more valuable conversions, being more effective than the CTR strategy across nearly all channels. This report suggests that the Floodlight optimization strategy is an effective approach for optimizing ad creatives, thereby proving hypothesis number two, and targeting a more valuable audience leads to higher conversion rates and assisted conversions, resulting in better campaign performance, answering the research question number two.

The Floodlight optimization strategy, particularly targeting the "Time on site more than 60 seconds" metric, was found to be more effective in improving the performance of the campaign. It resulted in a better distribution of impressions and share percentage among the creatives, leading to a higher number of assisted conversions and conversions for the top-performing creatives, and more efficient use of the advertising budget. Additionally, the analysis of view-through conversions and click-through conversions confirmed that the Floodlight optimization strategy was more effective than the CTR-based optimization in capturing user engagement and interest, and in driving clicks to creatives. Furthermore, this successful performance result was attained with less time invested than the CTR strategy or the approach used before optimization, thereby also answering research question number two, and proving hypothesis three.

The integration of CM360 with GA360 has proven to be extremely beneficial for the AdOps team, as it provided deeper insights into audience behavior. Through comprehensive data analysis, it was possible to assess the campaign's impact beyond the last click and uncover opportunities for further optimization and improvement. The insights gained from this report have provided valuable information on the targeting strategy and the effectiveness of creatives, resulting in better campaign performance, proving hypothesis four. This not only benefits the AdOps team but also enables clients to make informed decisions for future campaigns, answering the third research question.

Overall, these findings demonstrate the importance of data-driven decision-making and the use of optimization strategies in advertising campaigns. The Floodlight optimization strategy proved to be effective in improving the performance of the campaign and targeting a more valuable audience. AdOps teams can use these insights to refine their strategies and optimize their campaigns, resulting in better outcomes for clients.

6.1. LIMITATIONS

This report highlights limitations that impacted the analysis conducted during the internship. These limitations are important to acknowledge as they provide context to the results presented and may influence the conclusions drawn from the data.

Firstly, the limitation of not being able to share data regarding the client's campaign due to the client privacy regulations and policies. This restriction meant that the report was unable to present a complete picture of the client's campaign, including details such as the design of creatives and the specific budget used. While this limitation did not impact the core point of the report, it may have impacted the context in which the data was presented, making it more challenging to draw accurate conclusions. Being able to share more information about the client's identity and the package that was being advertised would have clarified the campaign's performance and drawn more valuable insights.

Secondly, the impact of privacy regulations and ad blockers on data availability is another limitation highlighted in this report. Browsers blocking third-party cookies and Apple restricting tracking on iOS made it challenging to track user behavior accurately, resulting in the loss of classification in the channels used by users. This limitation is particularly significant as the data collected using Google Analytics is crucial in understanding user behavior and campaign performance. The inability to classify traffic into a specific channel makes it challenging to identify which channels are driving traffic to the website, leading to difficulties in optimizing the campaign's performance effectively.

Thirdly, the limitation of the floodlight metric used to track users who spend sixty seconds or more on the client's site. This limitation means that users who spend less than sixty seconds on the site are not captured by the floodlight metric, making it challenging to accurately track user behavior. While the floodlight metric was a good strategy to use, testing other types of floodlights for future campaigns would be beneficial in gaining a better understanding of user behavior and campaign performance, but this was the only floodlight with a bigger audience to have an impact on the client campaign, for clients with a bigger audience a different type of floodlight like “adding to cart” would be a great tool in optimizing for an end of the funnel campaign, for example.

Finally, the report highlights that the analysis does not consider external factors that may have influenced the campaign's performance, such as the timing of the campaign or external events. This limitation is important as external factors can significantly impact campaign performance, making it challenging to draw accurate conclusions from the data. Assessing the campaign again at a time when the financial situation of Portugal stabilizes, since the increase in inflation in the last few months impacted the business of the client, the energy business, would be recommended to gain a better picture of its performance, and identify other factors that may have influenced its performance.

6.2. FUTURE WORKS

Due to time constraints and grand expectations, the developed strategy during the internship has significant potential for improvement. Although the project had an excellent outcome as it reduced the workload of the team and optimized the ratio between time reduction and campaign quality, further optimization is necessary to improve the campaign's performance.

To achieve this goal, several strategies are in the pipeline. Firstly, create better audiences and optimize creatives, rather than simply tracking user behavior, in collaboration with the cloud and data team.

This entails creating clustering audiences and identifying groups of users with similar characteristics and behaviors that can be used to advertise certain products. Additionally, clients who are more likely to switch to a competitor will be identified and classified to offer targeted services or advantages that encourage them to stay with the client through advertisements. Another audience improvement involves maximizing data signals to provide personalized experiences to each user by using the data provided by them and providing a more tailored advertisement that aligns with their activity. This includes capturing user data by location, weather, and consumer experience.

To enrich the audience, lookalike audiences with similar demographics and interests, or remarketing audiences, will be created to reach out to those who have already interacted with the brand, enabling specific upselling and messaging.

Another future work to improve this strategy involves changing the creatives to use dynamic creatives[12] that utilize audience data to communicate more efficiently. For example, the ad would display the temperature depending on the user's location, since the client sells energy items, in the event that he ends up selling solar panels, as per the climate the advertising could outline how much the user would save.

Finally, it is essential to emphasize that the internship at GroupM was an excellent experience that opened many doors to future data analysis and advertising career paths. It was an excellent continuation of the curricular component of the master's program and a fantastic conclusion to the MDDM-MI degree.

[12] The ability to change the campaign's creative quickly and automatically in response to multiple data inputs based on climate, geo, time, language, product, behavior, or any other 'dynamic' component.

BIBLIOGRAPHICAL REFERENCE

Ader, J., Boudet, J., Brodherson, M., & Robinson, K. (2021). *Why every business needs a full-funnel marketing strategy*.

Adshead, S., Forsyth, G., Wood, S., & Wilkinson, L. (2019). *Online advertising in the UK*. file:///C:/Users/claudia.trigo/Downloads/Plum%20Jan%202019%20Online%20Advertising%20in%20the%20UK%20-%20Final%20Report.pdf

Analytics Help. (2022). *Collect campaign data with custom URLs*. Analytics Help. https://support.google.com/analytics/answer/1033863#zippy=%2Cin-this-article

Analytics Help. (2023). *Campaign Manager 360 reports - Analytics Help*. Analytics Help. https://support.google.com/analytics/answer/3374673?hl=en&ref_topic=3337851#zippy=%2Cin-this-article

Bajak, M. (2021). Wykorzystanie beaconów w komunikacji marketingowej. *Warsaw: PWN*, *a*.

Bayer, E., Srinivasan, S., Riedl, E. J., & Skiera, B. (2020). The impact of online display advertising and paid search advertising relative to offline advertising on firm performance and firm value. *International Journal of Research in Marketing*, *37*(4), 789–804. https://doi.org/10.1016/j.ijresmar.2020.02.002

Boudet, J., Cvetanovski, B., Gregg, B., Heller, J., & Perrey, J. (2019, June 20). *Marketing's moment is now: The C-suite partnership to deliver on growth | McKinsey*. McKinsey & Company. https://www.mckinsey.com/capabilities/growth-marketing-and-sales/our-insights/marketings-moment-is-now-the-c-suite-partnership-to-deliver-on-growth

Brown, J., Garcia, S., & Lee, J. (2017). The importance of data-driven decision-making in advertising operations. *Journal of Digital Marketing*, 242–257.

Campaign Manager 360 Help. (2023). *About Floodlight - Campaign Manager 360 Help*. Campaign Manager 360 Help. https://support.google.com/campaignmanager/answer/2823388?hl=en

Clifford, L. (2008). Big data: How do your data grow? *Nature*, 28–29.

CMA. (2020). *Online platforms and digital advertising: Market study final report*. www.nationalarchives.gov.uk/doc/open-government-

Cristal, G. (2014). *Ad Serving Technology: Understand the Marketing Revelation That Commercialized the Internet*.

Dhanaraj, C., & Parkhe, A. (2006). Handbook of research on alliances. *Edward Elgar Pub.*

Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, *59*. https://doi.org/10.1016/J.IJINFOMGT.2020.102168

Edelman, D. C. (2010). Branding in the Digital Age: You're Spending Your Money in All the Wrong Places. *Harvard Business Review*. www.hbr.org

Elias, J. (2022, July 27). *Google delays cookie-cutting to 2024*. CNBC. https://www.cnbc.com/2022/07/27/google-delays-cookie-cutting-to-2024.html

eMarketer. (2016). Worldwide ad spending growth. *EMarketer*.

eMarketer. (2020). US Time Spent with Media 2020. *EMarketer*.

Faria, J. (2022, November 21). *Digital advertising worldwide - statistics & facts*. Statista. https://www.statista.com/topics/7666/internet-advertising-worldwide/#topicHeader__wrapper

GFK. (2017). *Europe Online: An Experience Driven By Advertising Summary Results*. GFK. https://datadrivenadvertising.eu/wp-content/uploads/2017/09/EuropeOnline_FINAL.pdf

Goh, K. Y., & Chintagunta, P. K. (2006). The effect of banner advertising on Internet purchasing. *Journal of Marketing*, 98–108.

Google. (2022). *Help with the EU user consent policy*. Google. https://www.google.com/about/company/user-consent-policy-help/

Gozman, V. (2022, September 12). *The Slow Death Of Third-Party Cookies*. Forbes. https://www.forbes.com/sites/theyec/2022/09/12/the-slow-death-of-third-party-cookies/?sh=17bff0264026

GroupM. (2022, June 29). *COMvergence Certifies GroupM as World's Leading Media Agency Group in 2021 Full Year Global Billings Report - GroupM*. https://www.groupm.com/newsroom/largest-media-agency-groupm-comvergence/

GroupM. (2023). *What We Do - GroupM*. GroupM. https://www.groupm.com/what-we-do/

GWI. (2022). *The global media landscape: GWI's flagship report on the latest trends in global media*. https://bluesyemre.files.wordpress.com/2022/12/gwi-the-global-media-landscape-2022-2023.pdf

GWI Core 2013-2022. (2022). *The World Wide Ebb - Social Media's Tipping Point*. https://www.gwi.com/connecting-the-dots/world-wide-ebb

Kim, J. (2017). *Handbook of Research on Marketing Management*. Edward Elgar Publishing.

Lohtia, R., Donthu, N., & Hershberger, E. K. (2003). The impact of content and design elements on banner advertising click-through rates. *Journal of Advertising Research*, 410–418.

Luciano, C. (2022, September). *Embracing first-party data: 3 success stories from HubSpot*. Think with Google. https://www.thinkwithgoogle.com/future-of-marketing/privacy-and-trust/hubspot-case-study/

Montagni, I., Guichard, E., & Kurth, T. (2016). Association of screen time with self-perceived attention problems and hyperactivity levels in French students: a cross-sectional study. *BMJ Open*. https://doi.org/10.1136/bmjopen-2015

Mueller, R. (2018, July 20). *76% of Users Ignore Cookie Banners! | Amazee Metrics*. Advance Metrics. https://www.advance-metrics.com/en/blog/76-ignore-cookie-banners-the-user-behavior-after-30-days-of-gdpr/

Norton Team. (2015, July 7). *What You Need To Know About Cookies*. Norton Team. https://uk.norton.com/norton-blog/2015/07/what_you_need_tokno.html

On Device Research (ODR). (2022a). The Role of Digital Across the Advertising Funnel. In *iab.uk*.

On Device Research (ODR). (2022b). The Role of Digital Across the Advertising Funnel In partnership with On Device Research (ODR). In *iab.uk*.

Popstefanov, G. (2021, February). *Why Marketing agility is a superpower*. Think with Google. https://www.thinkwithgoogle.com/future-of-marketing/digital-transformation/marketing-agility/

Qin, R., Yuan, Y., & Wang, F. Y. (2018). A Pareto optimal mechanism for demand-side platforms in real time bidding advertising markets. *Information Sciences*, *469*, 119–140. https://doi.org/10.1016/J.INS.2018.08.012

The Fast Track to Digital Marketing Maturity, (2021). https://www.thinkwithgoogle.com/_qs/documents/11989/BCG-The-Fast-Track-to-Digital-Marketing-Maturity-Aug-2021.pdf

Ryan, J. (2017, September 12). *Research result: what percentage will consent to tracking for advertising?* Assorted Materials. https://assortedmaterials.com/2017/09/12/new-research-how-many-consent-to-tracking/

Samuels, N., & Patel, S. (2020, June). *How to unlock the power of first-party data*. Think with Google. https://www.thinkwithgoogle.com/intl/en-cee/marketing-strategies/data-and-measurement/first-party-data-bcg-report/

Smith, J., Miller, C., & Perez, A. (2018). The role of advertising operations in managing ad inventory. *Journal of Advertising Research*.

Smith, M. (2015). *Targeted How Technology Is Revolutionizing Advertising and the Way Companies Reach Consumers*. www.amanet.org

Statista Research Department. (2022). *Global programmatic advertising spending from 2017 to 2026 (in billion U.S. dollars)*. Statista. https://www.statista.com/statistics/275806/programmatic-spending-worldwide/

Stocks, K. (2022, September). *Building a successful measurement foundation*. Think with Google. https://www.thinkwithgoogle.com/intl/en-145/marketing-strategies/data-and-measurement/measurement-success/

Tiwana, A., & McAfee, A. (2019). The impact of advertising operations on digital advertising performance. *Journal of Marketing Research*, 229–241.

Ugeux, P., Israel, B., Rezende, L., Noerjanto, V., Soh, Z., & Yang, L. B. (2022). Customer trust and first-party data. In *Deloitte*. https://www.thinkwithgoogle.com/_qs/documents/17442/first_party_data_report_2022.pdf

Van Den Berg, R. (2018). Marketing communications. *Pearson Education*.

Watson, A. (2016). Long-term advertising strategy in short-term world. In *adclarity*.

Wlosik, M., & Sweeney, M. (2022, November 21). *First-Party & Third-Party Cookies: What's the Difference? - Clearcode Blog*. Clearcode. https://clearcode.cc/blog/difference-between-first-party-third-party-cookies/

WPP Academy. (2023). *Brand and Customer Experience*. WPP Online Training. https://wpponlinetraining.com/

Xu, T. (2022). *Ad Ops: Everything You Wanted To Know About Ad Operations | Built In*. https://builtin.com/marketing/ad-ops

APPENDIXES

Appendix A: The Core Responsibilities of AdOps[13]

Task	Responsibility
Implementation	Campaign set-up and execution, including tag[14] generation and testing for campaign launches. Complete testing and quality assurance of creative assets to guarantee compatibility across browsers. Troubleshoot creative issues that hinder implementation, tracking, or reporting and ensure that ad creative complies with technical specifications.
Scheduling	When should the advertisement run for maximum ROI? The definition of scheduling can be a specific time of day or holidays, weekends, or other special occasions. Communicate with Publishers to make sure campaigns are set up and deployed correctly.
Trafficking	Ensure that advertisements are monitored and delivered across multiple exchanges or servers. Ad tag tracking for third-party vendors or using specialized services like Google Campaign Manager, Sizmek, and Adform to implement advertising campaigns. Keep track of creative assets and internal documents that monitor campaign execution and proposals. When necessary, budget according to best practices and optimize performance. Media plans and third-party ad delivery should be reconciled. Coordinate with a variety of teams to guarantee accurate reporting, optimization, and campaign delivery.
Optimization	Every advertisement needs to be made to get the most clicks. Ad placement, word selection, and SEO are all methods of optimization. Advertisements must sometimes show that they are aware of current trends or standards. Provide direction and prompt assistance with technical issues.
Yield management	Identify opportunities to implement solutions that will boost productivity and effectiveness. Each task performed by an Ad Ops team should be related to boosting revenue generation through advertising. Content reorganization based on user behavior analytics or adjusting inventory pricing to boost profits are two examples of this.

[13] Table developed by the author of this report in collaboration with the Head of AdOps at GroupM

[14] A piece of input that describes the data or content to which it is assigned. Tags are nonhierarchical keywords that are used for Internet bookmarks, digital images, videos, and files, among other things.

Appendix B: Technical Skills of the Internship at GroupM

Stage	Period	Technical Skills
1	3 months	To be able to make controls independently from an Ad server
1	3 months	Set up simple campaigns (based on tracking) from an Ad server
1	3 months	Know the basic processes of implementing a campaign
1	3 months	Understand the nomenclatures and technical terms used in an Ad server
1	3 months	Pulling reports from various platforms with ease
2	6 months	Understanding technical terms used in a verification tool
2	6 months	Make setups with different formats/creatives and publishers independently
2	6 months	Make controls of two different Ad servers
2	6 months	Dexterity in two different Ad servers
2	6 months	Complex set-ups with Xaxis, Plista, LightRoom, and PBU
2	6 months	Being able to use a verification platform
2	6 months	Setups with automatic creativeness rotation rules
2	6 months	Understand what programmatic campaigns are/how they work
3	9 months	Perform setups and controls of three different Ad servers
3	9 months	Being able to research and detect why tags are not firing
3	9 months	Being able to read floodlights and Google Tag Manager
3	9 months	Understand the differences/potentialities/limitations between Ad servers and verification platforms
3	9 months	Resolve discrepancy issues when checking the page code

Appendix C: Platforms and Services used in the Internship

Ad servers	Verification Platforms	Programmatic Services
Sizmek ad Suite	IAS (Integral Ad Science)	Xaxis
Campaign Manager 360	Double Verify	Plista
Adform	MOAT	LightRoom
		PBU

Appendix D: Campaign Performance Data Provided by CM360

Strategy	Creative	Impressions	% Share	Clicks	Clickthrough rate (CTR)	Time on site 60s (Click-through Conversions)	Time on site 60s (View-through Conversions)
CTR	Product_1_300x250	336 809	25,0%	453	0,13%	5	963
CTR	Product_2_300x250	337 524	25,0%	395	0,12%	0	1 125
CTR	Product_3_300x250	337 578	25,0%	457	0,14%	2	1 182
CTR	Product_4_300x250	337 691	25,0%	415	0,12%	0	1 114
Total (15/Jan-29/Jan)		**1 349 602**	**-**	**1 720**	**0,13%**	**7**	**4 384**
Floodlight	Product_1_300x250	258 050	28,3%	308	0,12%	2	893
Floodlight	Product_2_300x250	120 359	13,2%	115	0,10%	1	692
Floodlight	Product_3_300x250	145 734	16,0%	166	0,11%	1	758
Floodlight	Product_4_300x250	386 470	42,4%	397	0,10%	4	937
Total (01/Feb-15/Feb)		**910 613**	**-**	**986**	**0,11%**	**8**	**3280**

Strategy	Creative	Conv Rate Clicks	Conv Rate Impressions	Contact request all products + C2C + Customer Acquisition (Click-through Conversions)	Contact request all products + C2C + Customer Acquisition (View-through Conversions)
CTR	Product_1_300x250	184%	0,25%	0	8
CTR	Product_2_300x250	250%	0,29%	0	26
CTR	Product_3_300x250	229%	0,31%	0	13
CTR	Product_4_300x250	227%	0,28%	0	17
Total (15/Jan-29/Jan)		**222%**	**0,28%**	**0**	**64**
Floodlight	Product_1_300x250	264%	0,32%	0	36
Floodlight	Product_2_300x250	686%	0,66%	0	21
Floodlight	Product_3_300x250	412%	0,47%	0	22
Floodlight	Product_4_300x250	157%	0,16%	0	20
Total (01/Feb-15/Feb)		**295%**	**0,32%**	**0**	**99**

Strategy	Creative	Total Assisted Conversions	Total Conversions	Click-through Assisted Conversions	View-through Assisted Conversions	Unassisted Conversions	Rich Media Assisted Conversions
CTR	Product_1_300x250	492	834	8	484	519	426
CTR	Product_2_300x250	512	988	5	507	596	452
CTR	Product_3_300x250	511	1 046	7	504	643	460
CTR	Product_4_300x250	560	944	4	556	588	490
Total (15/Jan-29/Jan)		**2 075**	**3 812**	**24**	**2 051**	**2 346**	**1 828**
Floodlight	Product_1_300x250	3 060	814	123	2 937	447	2 978
Floodlight	Product_2_300x250	3 059	789	115	2 944	475	2 972
Floodlight	Product_3_300x250	2 950	684	105	2 845	423	2 856
Floodlight	Product_4_300x250	2 892	624	104	2 788	414	2 788
Total (01/Feb-15/Feb)		**11 961**	**2 911**	**447**	**11 514**	**1 759**	**11 594**

Appendix E: Channel Grouping Provided by GA360

Channel Grouping	Strategy	Users	Sessions	Goal Conversion Rate	"Time on site 60s" Conversion Rate	"Contact request all products+ C2C+ Customer Acquisition" Conversion Rate
Organic Search	Floodlight	2275	3995	76,42%	31,96%	0,45%
	CTR	2734	4523	81,52%	35,02%	0,31%
Email	Floodlight	773	1372	75,36%	29,81%	2,33%
	CTR	1020	1816	47,74%	19,33%	0,39%
Direct	Floodlight	721	1185	24,47%	10,13%	0,08%
	CTR	914	1519	25,02%	10,27%	0,07%
(Other)	Floodlight	240	336	111,90%	44,94%	3,57%
	CTR	214	372	108,87%	43,28%	1,61%
Paid Search	Floodlight	82	134	70,90%	31,34%	0,00%
	CTR	107	149	77,85%	30,87%	2,68%
Display	Floodlight	73	92	29,35%	11,96%	1,09%
	CTR	95	133	33,83%	12,78%	0,00%
Referral	Floodlight	34	37	51,35%	21,62%	0,00%
	CTR	45	66	77,27%	31,82%	0,00%
Social	Floodlight	17	18	116,67%	50,00%	0,00%
	CTR	11	12	91,67%	33,33%	0,00%
Total	Floodlight	4 215	7 169	68,56%	28,27%	7,53%
Total	CTR	5140	8590	64,75%	27,24%	5,06%

VAR	-18,00%	-16,54%	5,88%	3,79%	48,78%

Appendix F: Click and View-through Provided by GA360

Creatives	Strategy	Attribution Type	Sessions	Goal Conversion Rate	"Time on site 60s" Conversion Rate	"Contact request all products+ C2C+ Customer Acquisition" Conversion Rate
Product_1_300x250	Floodlight	View-through	1 629	72,68%	28,61%	1,35%
	Floodlight	Click-through	22	13,64%	4,55%	0,00%
	CTR	View-through	1 887	66,77%	28,19%	0,21%
	CTR	Click-through	23	26,09%	8,70%	0,00%
Product_2_300x250	Floodlight	View-through	1 600	72,88%	30,81%	0,56%
	Floodlight	Click-through	24	16,67%	8,33%	0,00%
	CTR	View-through	1 651	65,54%	27,68%	0,36%
	CTR	Click-through	19	0,00%	0,00%	0,00%
Product_3_300x250	Floodlight	View-through	1 442	69,97%	29,20%	0,97%
	Floodlight	Click-through	14	14,29%	7,14%	0,00%
	CTR	View-through	1 686	66,61%	28,00%	0,30%
	CTR	Click-through	22	9,09%	4,55%	0,00%
Product_4_300x250	Floodlight	View-through	1 217	74,61%	31,47%	0,74%
	Floodlight	Click-through	7	0,00%	0,00%	0,00%
	CTR	View-through	1 673	70,29%	29,83%	0,36%
	CTR	Click-through	17	17,65%	0,00%	0,00%
Total	Floodlight	View-through	5 888	72,47%	29,94%	0,92%
Total	Floodlight	Click-through	67	13,43%	5,97%	0,00%
Total	CTR	View-through	6 897	67,29%	28,42%	0,30%
Total	CTR	Click-through	81	13,58%	3,70%	0,00%

VAR	Click-through	-17,28%	-1,09%	61,19%	0%
VAR	View-through	-14,63%	7,70%	5,36%	201,21%

ANNEXES

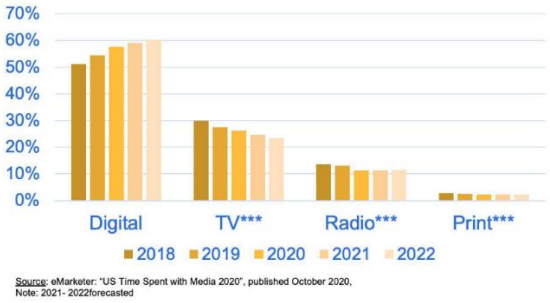

Figure 48 - Time Spent by Media Type in the US 2018-2022

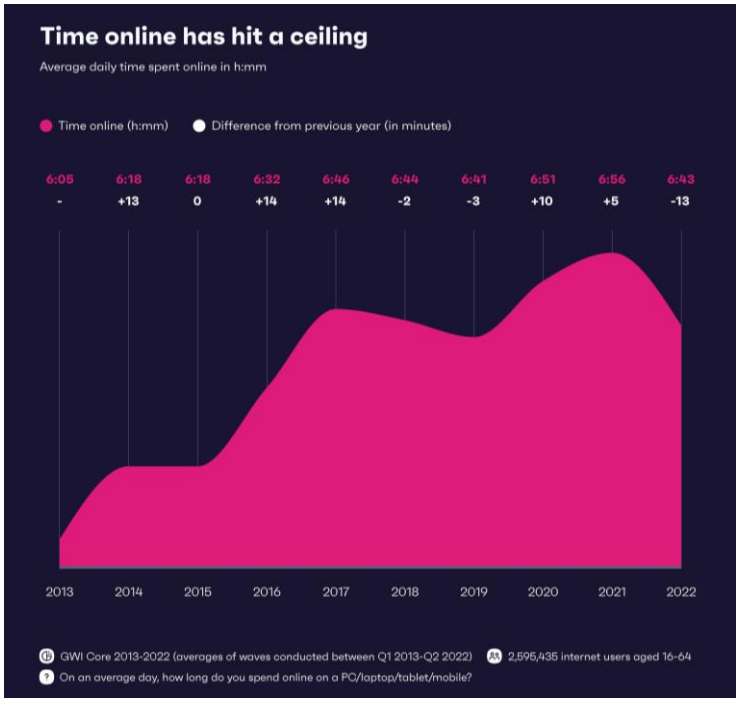

Figure 49 – Average daily time spent online in h:mm

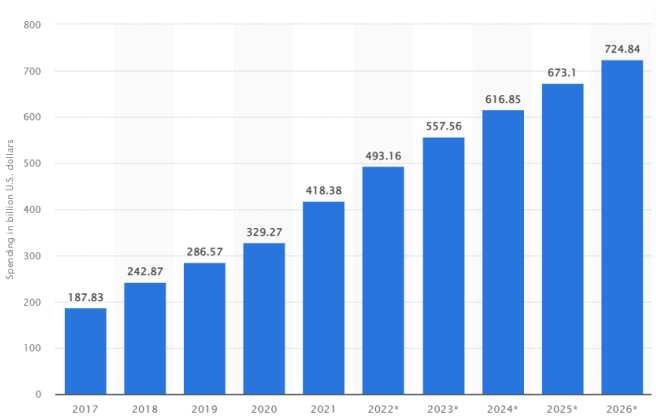

Figure 50 - Global programmatic advertising spending from 2017 to 2026 (in billion U.S. dollars)