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Master Degree Program in  
**Data Science and Advanced Analytics**

**Business Intelligence: Development of a programmatic  
marketing campaign performance dashboard**

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Dissertation / Project Work / Internship Report

presented as partial requirement for obtaining the Master Degree Program in Data Science and Advanced Analytics

**NOVA Information Management School**  
**Instituto Superior de Estatística e Gestão de Informação**

Universidade Nova de Lisboa



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# **BUSINESS INTELLIGENCE: DEVELOPMENT OF A PROGRAMMATIC MARKETING CAMPAIGN PERFORMANCE DASHBOARD**

by

Mariana Byrne

Dissertation / Project Work / Internship report presented as partial requirement for obtaining the Master's degree in Advanced Analytics, with a Specialization in Data Science / Business Analytics

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October 2022

## STATEMENT OF INTEGRITY

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*Mariana Byrne*

*Lisboa, November 22<sup>nd</sup> 2022*

## **ABSTRACT**

Business intelligence is a discipline that has been around since the 1980s and has provided many innovative tools and technologies to support decision making and performance management. Its combination with business performance management led to the appearance of performance dashboards that bring key metrics into a single display. This transforms into more efficient and effective decision making.

This report describes a business intelligence project carried out at GroupM, an established marketing company, world-leading in media investment. The aim of this project was to develop a programmatic marketing performance dashboard that would innovate the way the team would manage the campaigns. Previously, the marketers used a manual method that involved manually extracting reports from the different ad server platforms, manipulate the report structure to make it uniform, and then running an Excel file that would aggregate all these files into a single report, where they would be able to look at the data. This process consumed a lot the team's time and so, this marketing performance dashboard allowed the marketers to access the data in an easier and timely fashion, permitting a more efficient campaign performance management.

The project was developed using Salesforce Datorama, which allows for easy integration of data through its various native API connections as well as ingestion of raw excel/csv files through TotalConnect data streams. The Programmatic Marketing team provided an initial mock-up of the expected look of the dashboard, which served as the base of the data model that was created.

This project was deemed as successful, and the team has already reported that the time spent on the daily monitorization of the performance of the campaigns has drastically decreased since using the dashboard.

## **KEYWORDS**

Marketing Performance Dashboards; Programmatic Marketing; Business Intelligence

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## LIST OF ABBREVIATIONS AND ACRONYMS

<b>BPM</b>	BUSINESS PERFORMANCE MANAGEMENT
<b>DSP</b>	DEMAND-SIDE PLATFORM
<b>DSS</b>	DECISION SUPPORT SYSTEMS
<b>GUI</b>	GRAPHICAL USER INTERFACE
<b>KPI</b>	KEY PERFORMANCE INDICATOR
<b>MIS</b>	MANAGEMENT INFORMATION SYSTEMS
<b>MS</b>	MANAGEMENT SCIENCE
<b>OLAP</b>	ONLINE ANALYTICAL PROCESSING



# 1. INTRODUCTION

Nowadays, data is at the core of most decision-making processes. Business intelligence is an important contributor to business performance management seeing as it makes the decision-making process more efficient and effective by saving time and money and allowing decision makers to make smarter decisions fully based on data (Clark et al., 2007). The convergence of both these fields culminates in the appearance of the performance dashboards, which help organizations to measure, monitor and manage business performance (Eckerson, 2011).

In the context of marketing literature, the measurement of marketing performance is one of the most prominent research fields (Bolton, 2004; Lehmann, 2004). It is an important area of research since it allows marketing professionals to identify, monitor and communicate campaign performance with the use of key performance indicators (KPIs) (Few, 2006).

Although the literature on business intelligence and marketing performance measurement is well developed, there is few academic literature bringing these two disciplines together (Stone et al., 2014). Stone et al. (2014) suggest that there is still an important area of research that is needed to relate the impact of these two rapidly changing disciplines on the relationship between them.

On the side of business intelligence, one of the latest, and most notable, developments has been in-memory processing, which reduces the time needed to analyze high volumes of data, and consequently accelerates the analysis process (Stone et al., 2014). On the side of marketing, the emergence of programmatic marketing has led to increased volumes of data since it tracks user-related information and, at the same time, monitors each user's interaction with the ad (González and Mochón, 2016). Because of this, BI and marketing performance measurement should come together in a fully automated way, leaving behind reports that require manual work and that take a long time to be operational.

This report aims at explaining and showing the results of a project developed with GroupM. The project consisted of the creation of a performance dashboard with the main key performance indicators of programmatic marketing campaigns so that the campaign managers would be able to look at the data in one single place, in a more automatic manner. The Programmatic team identified an opportunity to innovate and automate the campaign management process, seeing as, previously, this process included a lot of manual work on the team's part. Every day, the campaign managers had to manually extract reports from 5 different platforms, where an Excel file would read the data and allow the users to manually match the ad server campaign to the DSP campaign. On top of that, some of the reports extracted from the platform did not follow a traditional Excel structure and so they also required some data manipulation. The innovative marketing performance dashboard allowed the marketers to access the data in an easier and timely fashion, permitting a more efficient campaign performance management.

The structure of the report is as follows: in the rest of this section, there will be a brief introduction of the company with which this project was carried out, as well as an explanation of programmatic marketing and the business intelligence technologies used for this project; in section 2, a literature review will be carried out on some of the most relevant papers on business intelligence, business performance management and performance dashboards and their uses in the marketing field; the

methodology will be discussed in section 3 and section 4 will contain a detailed description of the project, followed by the conclusions in section 5.

## **1.1. COMPANY DESCRIPTION**

GroupM is the world's leading company in media investment, with over 60 offices spread over the 5 continents. The company seeks to find and/or create valuable audiences for the client and to be able to engage them effectively and efficiently with the brand, creating the desired marketing results. The company is composed of several advertising agencies, including Mindshare, Wavemaker, Mediacom, Essence, m/SIX, Acceleration and Xaxis, where each one seeks to stand out in its area, generating added value to the company and its clients. (GroupM, 2022)

In particular, Xaxis is the audience buying, programmatic marketing agency that combines innovative AI technology and advanced omnichannel solutions that allow advertisers to transform digital media investments into real business outcomes, translated into generated brand awareness and higher engagement with customers (Xaxis, 2022). The Xaxis teams are split in 2: Engagement and Operations. The Engagement team connects the clients to the agencies while the Operations team manages the campaigns of the two proprietary programmatic products offered by GroupM, Xaxis and plista, that use extensive amounts of data, technology, and AI in order to boost marketing efficiency, in real time. Both these products benefit from the agency's proprietary data management platform that stores the audience data, which enables the clients to target specific audiences that will have the highest affinity to the ad.

The product Xaxis is an offer that comes in the format of image (Xaxis Display and Performance), video (Xaxis Pre-roll Video), and audio (Xaxis Digital Audio). On the other hand, plista is more based on native advertising, where the advertising content blends seamlessly into the editorial environments on selected premium publisher sites. It allows for the client's message to unobtrusively reach its audience through informative content that simultaneously carries an advertising message. It can come in the form of text and image (plista Native Recommendation Ad) or in the form of an in-article video (plista Outstream). (Plista, 2022)

## **1.2. PROGRAMMATIC MARKETING: AN OVERVIEW**

Traditionally, when buying a block of impressions, an advertiser was buying a spot on a website where they would display their ad, which would be the ad that everyone that clicked that website would be exposed to, no matter the user's profile. With programmatic marketing, in specific Real Time Bidding (RTB), an auction environment is created where advertisers can bid, in real time, on a website spot to display their ad to a specific user based on the user's data (Busch, 2014). As a result, the advertiser's ad can reach more specific audiences and generate higher conversion rates, faster and more efficiently.



Figure 1.1 – Programmatic Marketing process

As Bardowicks and Busch (2013) suggest, “programmatic advertising describes the automated serving of digital ads in real time based on individual ad impression opportunities”. The ad impression opportunities are held by the Supply-Side Platforms (SSP) and are made available in real time to the media. The ad impression opportunities provided by the SSPs are then received by the Demand-Side Platforms (DSP) (Busch, 2014), where they are evaluated according to predefined settings for each advertiser, which are stipulated by them and their agency. Another important component of this process is the ad server, which is the platform that provides the creative advertising software to the websites and allows the marketers to monitor the performance of the ad.

As aforementioned, the impression purchasing process is carried out via RTB. For this, the programmatic marketers input into the DSP the budget and terms set by the advertiser and agency. Then, the platform bids within the limits of the marketer’s budget, and an automated decision, based on AI, is taken to analyze whether the value of the ad impression falls inside the advertiser’s budget (Busch, 2014).

For each impression purchased, the ad server sends a tag which is responsible for sending the information from the website to the ad server to enable the tracking of the user-related information and monitoring of the user’s interaction with the ad (González and Mochón, 2016). The whole process, from the creation of the ad impression opportunity to the evaluation, sale, processing and serving of the ad to the users takes approximately 50 milliseconds, and generally occurs millions of times a second via DSP and SSP (Busch, 2014).

Even though this is an automated process, it still requires close identification, monitoring and management of campaign performance. At GroupM, the Xaxis team would typically use Microsoft Excel as their main tool for managing their campaigns, which involved manual ingestions of data from the various platforms. The need for a more automated way to manage these campaigns arose, and so this project was carried out to create a performance dashboard, using Salesforce Datorama, where the team could see the data from both the ad server and the DSP, as well as the most relevant KPIs to manage the campaigns.

### 1.3. TECHNOLOGY

#### 1.3.1. Salesforce Datorama

Datorama is a powerful cloud-based Business Intelligence tool from the Salesforce stack. It allows for easy integration of media data into one single data model, making it possible to visualize the data in one single place. For the integration of the different data sources, it is possible to use the various native

API connectors Datorama has to offer, or the data can be manually configured using a TotalConnect data stream. Another remarkable functionality of Datorama is the possibility of ingesting files by email directly to TotalConnect data streams.

Generally, there are different data types in each data source, such as, Ads data or Conversions data. Each of these data types will have specific dimensions and measurements, where the dimensions are made up of entities with pre-defined relationships between them. Within each data type, a main entity is considered to which all other entities are associated by way of a one-to-one or many-to-many relationship.

The most used data type in the context of marketing is the Ads data stream type, which stores ads delivery and performance data. The entity names of this data type are Campaign, Media Buy, Creative and Site. The main entity is the Media Buy, which is the advertising space on a website. The relationship between the Media Buy and the Site entities is many-to-one, since one media buy is site-specific, but a site can have various advertising spaces. Similarly, each media buy is campaign specific, while a campaign can be associated with multiple media buys, which also portrays many-to-one relationship between the main entity and the Campaign entity. Finally, one creative can be shown in various media buys and, likewise, a media buy can be populated by many creatives, making it a many-to-many relationship between these two entities. (Salesforce Inc., n.d.-a)

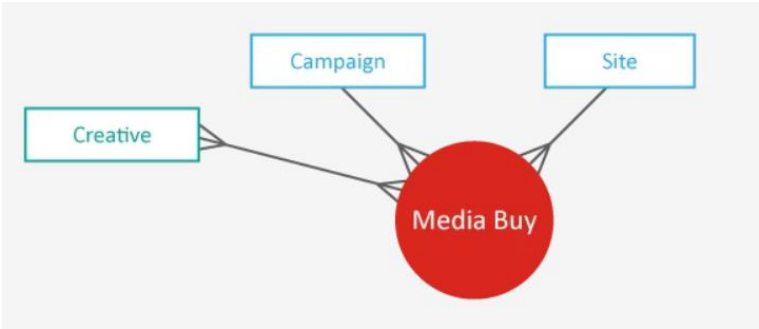


Figure 1.2 – Relationship between main entity (Media Buy) and all other entities in the Ads data type

When the data does not comply with any existing Datorama data types, it is possible to use a Generic data stream type. This data type allows for flexibility in data structure as all entities in it have a many-to-many relationship between them.

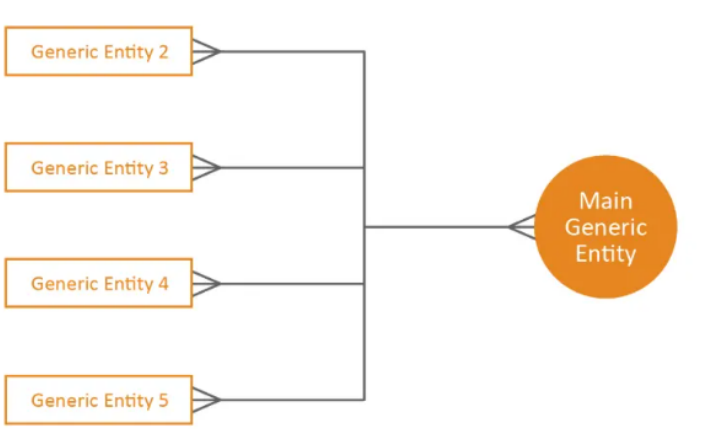


Figure 1.3 – Relationship between main Generic entity and all other entities in the Generic data type

In digital marketing campaigns usually have the same name across different platforms and, in most cases, no single data source holds all the relevant data about the campaign, which is instead shared by multiple platforms that are used by the digital marketers. When the campaign name field from the platforms is mapped to the campaign entity in any of the data types in Datorama, the data is automatically harmonized at the campaign level. This data harmonization provides a holistic view of the data since it brings together data from multiple sources to work in unison as if they were a single data source. (Salesforce Inc., n.d.-b)

There are other tools that can be used in Datorama in order to harmonize the data. One such tool is Data Fusion, which allows for the creation of a link between two dimensions that do not already have an existing data model relationship between them. This link is based on shared values of the fused dimensions. However, unlike with other harmonizing techniques in Datorama, Data Fusion does not have to be based on entity keys and can also be created using entity attributes. Furthermore, a Data Fusion can be useful when harmonizing data from different data types, most commonly between the Ads data type and the Generic data type.

Another tool used to harmonize the data, is calculated measurements and dimensions, which can be set up outside of the mapping of the data streams, allowing for different aggregations of the data. Furthermore, there are also filtered measurements, which are created by choosing a metric and applying filters to it.

### **1.3.2. Google Cloud Functions**

Other technologies used in this project were Cloud Functions. Cloud Functions are a scalable, functions as a service (FaaS) product that allow the developers to deploy their code in the form of a function to the cloud provider, in this case Google Cloud. These functions handle the operational infrastructure of code that is put in the cloud and enables code to be run at a frequency set by the developer.

## 2. LITERATURE REVIEW

This section presents a literature review to identify relevant studies in the business intelligence field, with a special focus on its contribution to business performance management and their convergence in performance dashboards (Eckerson, 2011). Additionally, the role of performance dashboards in the marketing field will also be analyzed.

### 2.1. BUSINESS INTELLIGENCE

This section discusses the relationship between management science and analytics that is brought together by the discipline of business intelligence. This notion is presented by Mortenson et al. (2015) work that explains the history of scientific management by highlighting its evolution, divided into six periods describing the ecosystem of disciplines and technologies associated with analytical decision making in business. Complementing this section of the report is Eckerson (2011) work on performance dashboards.

#### 2.1.1. Evolution of management science

The first period, comprehended between 1910 and the end of the Second World War, is known as the Scientific Management period, attributed to the publication of Taylor's *The Principles of Scientific Management*. It was marked by the impact of the innovations brought on by the Second Industrial Revolution, also known as Technological Revolution, on the managerial theory and process. The ending of the Second World War set the scene for significant innovations, since the emergence of new technologies led to new products, services, and industries, as well as new management approaches.

Following the conclusion of the war, a new period begun that extends into the mid-1960s, and sees the development of the Scientific Method, and highlighted by the increased use of the management science (MS) discipline in businesses. The pioneers of the growing computer technologies and of the MS discipline, recognizing the beneficial cost-saving potential of both their areas of expertise, joined forces to develop new applications for each of their tools and technologies. The more significant application of this period was the commercial applications of computers and MS, which "capitalized upon the appetite for a more scientific methodology to business and decision making".

However, it was not until the mid-1960s that computers became accessible to more businesses (Ceruzzi, 1999), which in turn impacted the application of MS practices. This is recognized as the third period, which lasted until the mid-1970s, and is characterized by the growth of Management Information Systems (MIS). Even though there were significant advancements in hardware and software that allowed data to be more integrated in the businesses, there was still a gap between the potential value of these systems and their realized value to decision makers.

In attempting to close this gap, a new period started, from the mid-1970s to the late 1980s, which was led by the desire to increase the usability of MIS and computers in the business and decision-making processes. This resulted in the development of a new application of computing technologies, and what is considered to be the most significant outcome of this period, the Decision Support System (DSS). The goal of the DSS is to support the decision-making process and reduce the uncertainty surrounding this process, allowing the decision maker to make decisions in a more efficient and effective manner (Clark et al., 2007). DSS were built on computer technologies which used algorithms and models to

analyze the data, and the results were shown on graphical user interfaces (GUIs) that could be used by the decision-makers.

One of the main catalysts for the fifth period was the increasing volumes of data, which posed technological challenges, the most significant one being the large datasets that became available in this period. This forced a change in the architecture, into what is now known as the business intelligence architecture, which consists of a combination of the DSS, databases, market research, and the transactional data collected into new data warehouses, which made the storage, management, and delivery of data more efficient and consistent within the organization. One big difference in this new architecture was the appearance of dashboards, which were pre-populated with key performance indicators (KPIs) that provide timely information and quickly convey the critical measures of business performance (Eckerson, 2011). This period ran from the late 1980s until the mid-2000s and saw the development of the internet, which posed an even bigger challenge at the start of the next period due to the influx of data that was produced.

Finally, the sixth period, was marked by the increased prominence of Analytics, and, in the authors' opinion, lasts from the mid-2000s until the present day. The development of the internet at the end of the last period created an abundance of data for which the BI architecture and relational databases were unable to provide support, and consequently a demand for new technologies and architectures grew. And so, new changes were applied to the scientific approach in the form of new architectures and processing techniques.

According to Mortenson et al. (2015), "the similarities between analytics, business intelligence and management science stem from the fact that they all share a similar purpose: the improvement of business operations and decision-making through the utilization of information, quantitative analyses, and/or technologies". Furthermore, the authors argue that the relationship between scientific management and analytics is brought together by BI.

### **2.1.2. Performance dashboards**

BI is commonly used as a broader term to refer to a process, or concepts and methods, that improve decision making by using fact-based support systems (Sabherwal et al., 2011). Advances in MIS and DSS, and technologies led to the development of BI systems, in the late 1980s, which were, from then on, extensively used in many areas of business where decision-making was involved (Trieu, 2017).

A BI system is a combination of technological tools that are designed to gather, integrate, and analyze large volumes of data to understand their opportunities, strengths, and weaknesses (Harrison et al., 2015) and provide effective support to the decision-making process. These information systems support decision processes by:

1. Facilitating aggregation, systematic integration, and management of structured and unstructured data,
2. Dealing with large volumes of data,
3. Providing end-users with increased capabilities to analyze data and discover new knowledge,
4. Offering analysis, reporting, and forecasting solutions (Ain et al., 2019).

The technological tools in a BI system include data warehousing, online analytical processing (OLAP) and dashboards. A data warehouse is a central repository that gathers and stores clean and detailed

data from multiple sources for in-depth analysis (Yoon, 2008). OLAP supports multidimensional data analysis in real time and enables users to explore the data by using operations such as aggregation, filtering, and pivoting (Ain et al. 2019). Finally, the dashboard serves as the front-end application, where data can be visualized through graphs and charts.

One of the most critical applications of BI in the recent years is the emergence of business performance management (BPM) (Clark et al., 2007). Many organizations have enhanced the traditional BI systems' capabilities to use them to better monitor, measure and manage the business performance. BPM relies on a combination of processes and technologies that enable organizations to optimize performance and achieve goals.

In the 2000s, with the convergence of BI and BPM, a new tool was created called the performance dashboard. This new tool was adopted by many organizations which witnessed its critical role in BPM initiatives since, according to Eckerson (2011) "they provide a window into business performance and a visual way to chart progress against goals".

Performance dashboards have three main applications: monitor, analyze, and manage. Furthermore, a performance dashboard is a layered information system that allows users to look at the most important information, insights, and alerts so that they can measure, monitor, and manage business performance more effectively.

The increased adoption of the performance dashboard as a support tool to BPM can be explained by its increased coordination, the offer of a consistent view of the business, reduced costs and redundancy, empowered users, and the delivery of actionable information. In short, performance dashboards show the right information at the list of benefits to the organizations, such as the ability to communicate and refine strategy, right time, so that the right users can use it to make optimal and efficient decisions.

As aforementioned, a performance dashboard is the product of the convergence of two powerful disciplines: BI and BPM. It is ideally built on a business intelligence/data warehouse infrastructure so that a clean and consistent integration of data is guaranteed, which can then be used to populate the dashboards in a timely fashion.

## **2.2. BUSINESS INTELLIGENCE IN THE MARKETING FIELD**

A marketing performance dashboard aggregates the key marketing metrics into a single display. In other words, they can be seen as a performance dashboard adapted to the marketing needs. In this section the work of Pauwels et al. (2009) which examines the reason for the increased usage and development of marketing performance dashboards, as well as provide an explanation of what they consist of and the five developmental steps to achieve a successful dashboard.

### **2.2.1. Marketing performance dashboards**

The notion of having a system that tracks the KPIs of a company has been the subject of research for many years, with business performance management and business intelligence systems being the main disciplines to support it. However, there is few academic literature that brings together business intelligence systems and marketing performance measurement (Stone et al., 2014). Marketing performance dashboards are a good example of the culmination of these two disciplines since they



provide a response to the need of integrating various business activities, measuring the short-term results of marketing and the long-term health of the marketing asset, and isolating the effects of marketing actions from the other influences on corporate performance (Ambler, 2003; Rust et al., 2004, cited in Pauwels et al., 2009).

Pauwels et al. (2009) suggest that much like a car's dashboard, a marketing performance dashboard brings the key metrics into a single display providing a concise set of interconnected performance drivers in one single view. They are mainly used as a tool to track marketing effectiveness and to support marketing decision making.

Purposes of such dashboards include enforcing consistency in measures and measurement procedures, monitoring performance, and planning goals and strategies for the future (based on the present). Dashboard metrics can be used as early indicators of performance that portray the different scenarios that can occur and consequently allowing the marketers to react accordingly.

Because of this, dashboards can be seen as a decision support system that provides guidance to managers on decision making. As defined by Little (1979), a marketing decision support system is "a coordinated collection of data, systems, tools, and techniques with supporting software and hardware by which an organization gathers and interprets relevant information from business and environment and turns it into a basis for marketing action". The display provided by the dashboard is the output of a larger dashboard system.

Wind (2005) argues that "properly created dashboards provide the mechanism to drive effective management and resource allocation decisions". Pauwels et al. (2009) delineate five stages that should be followed in order to achieve a successful dashboard design, and that will be analyzed in the next sub-section of this report.

In the first stage, the KPIs should be selected based on the ones that are the most relevant to track progress towards specific objectives. In a second stage, the dashboard is populated with the relevant data. This is not a trivial process since the volume of data is very large and comes from various sources. Due to this, some metrics will be more important than others and so they must be chosen with consideration.

The third stage is the one that takes the dashboard from a simple presentation of information to a deeper understanding of the business and DSS, and involves establishing the underlying relationships between the metrics. Analyzing the metrics by themselves does not reveal the true attribution of performance change or the capabilities to generate and test alternative mix allocations.

The fourth stage applies the underlying model of the dashboard to planning and budget setting (Wind, 2005, cited in Pauwels et al., 2009). Furthermore, these forecasting and scenario planning abilities provide the managers with a tool for evaluating marketing productivity. Zeithaml et al. (2006) suggest that these abilities are not realized in most current dashboards, whose main focus tends to be reporting current operations.

The fifth and final stage links the marketing metrics to sales and to financial consequences for the firm, consequently aligning marketing with corporate goals.

This five-step development process, however promising, is not a realistic view in the real world, since, as the authors affirm, most companies have problems even completing the second stage.

In conclusion, the authors' work provides an explanation of what marketing performance dashboards are, their purposes and their development. Their increased usage in the marketing field can be attributed to the large volumes of data available and their ability to display the most significant metrics in a single place.

### **2.3. BRIEF DISCUSSION OF THE LITERATURE REVIEW**

The work carried out by Mortenson et al. (2015) provides an overview of the evolution of the discipline of management science and explain the importance of BI, which during the late 1980s, started to be integrated in the core of the decision-making process, in the context of scientific management. One of the most critical applications of BI in the recent years is the emergence of BPM, where enhanced traditional BI systems are used to better monitor, measure and manage critical business activities.

The convergence of both these disciplines, according to Eckerson (2011), is shown in the appearance of performance dashboards, a fully developed BI tool used to visually convey the KPIs needed to monitor, analyze, and manage business performance allowing business managers to make informed and effective decisions.

In the context of marketing, marketing performance dashboards have been making an appearance as tools to support the monitoring of marketing effectiveness and decision-making process needed in marketing management. Pauwels et al. (2009) suggest a five-stage development process for the design of a marketing dashboard which includes the selection of key metrics, populating the dashboard with the data, determining the underlying relationships between the marketing metrics, forecasting and scenario planning, and connecting marketing metrics to financial consequences.

### 3. METHODOLOGY

This project was carried out using a Scrum methodology, an agile framework for managing product development (Scrum.org, 2022). It helps people and teams to deliver value through adaptive solutions for complex problems.

Using this methodology, teams work in short timeframes, typically around two weeks, called sprints. Each sprint is planned at the end of the previous sprint, and at the end the tasks that were planned are reviewed where each team member discusses what was accomplished and possible challenges they might have encountered.

This project was developed during 7 two-week sprints. The project started with the gathering of the requirements from the Programmatic team. As aforementioned, the team identified a need for innovation and automation in what concerns the tool used to manage the campaigns, since, before the dashboard, the team was using an excel file that implied a lot of manual work, with the manual extraction of daily reports from the platforms, the match between ad server and DSP campaigns and the setting of goal and KPI for each campaign. The answer to this problem came in the form of this project that offered a single dashboard where the team could manage and monitor their campaigns in a more automated way.

During the gathering of requirements, a list of the accounts to be integrated in Datorama was drawn so that they could start being integrated and so that the match between ad server and DSP could be investigated. The team explained that this match was made through the creative code, dimension by the same name in DSP, which matched with the media buy id from the ad server. During this phase, a mockup for each dashboard page was created, where the team identified the KPIs and the tables and graphs that were more appropriate.

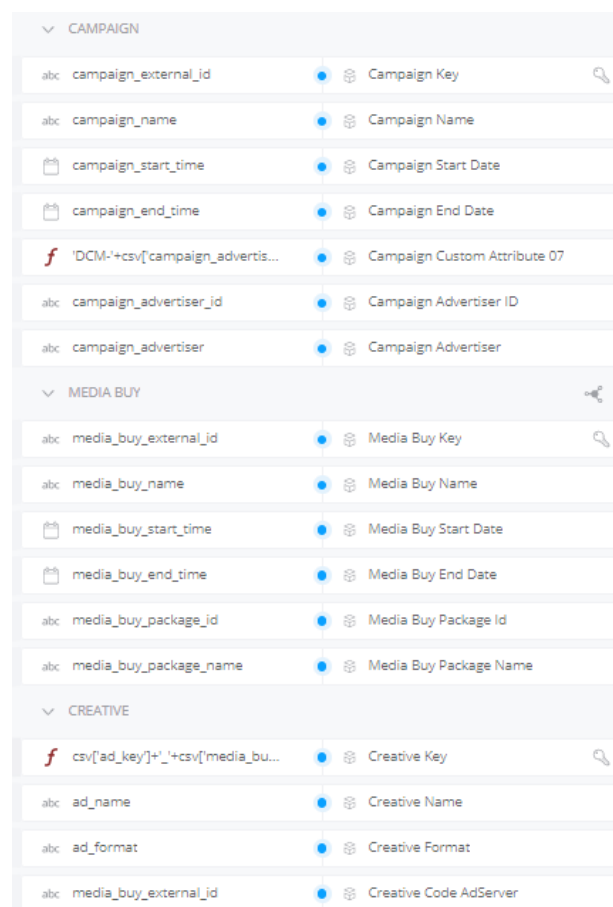
After the accounts were integrated in Datorama, and the match made, it was noted that some information essential for the dashboard to work was not present in any platform and had to be manually inserted by the team. Since the precedent of this project was the amount of manual work involved in the process of campaign managing, it was also an objective of this part of the project to create an easy retrieval of this information. For that a Google Sheet was created with a previously agreed on structure with the information need for the dashboard. This Google Sheet is stored on the cloud and is automatically ingested with the campaign and media buy name via a Cloud Function that runs every day. Similarly, for the data to be ingested into Datorama, a Cloud Function, in the form of a button, was created that forced the processing of a data stream in Datorama that retrieves the most recent data inserted into the Google Sheet.

Finally, the KPIs used to monitor the performance of the campaigns had to be created. In this list there is Total Served, Total Served Yesterday, Daily Goal, Days Missing, Percentage Served, Percentage Progress and Remaining from Goal. These metrics were created using the Calculated and Filtered Measurements in Datorama, except for Days Missing which was created using a formula directly in the mapping of the data stream. After this step, the dashboard pages were developed based on the views on the mockup created by the team.

## 4. PROJECT DEVELOPMENT

### 4.1. DATORAMA HIERARCHY – DATA MODEL

The first step of this process is to create the data model and link all the data sources. As aforementioned, Datorama has many native API connectors which makes the data ingestion easier. For the ad server data, 33 data streams were created, using these connectors: 13 for Adform, 14 for Google Campaign Manager, 5 for Sizmek Ad Suite, and 1 for Weborama. For each of these data streams, there is one Ads data type and one Conversions data type, with all the Datorama data model relationships. An important field that must be mapped in these data streams is the Creative Code, which is an attribute of the Creative entity and is the field that will be used for the match between the ad server data and the DSP data.



CAMPAIGN			
abc	campaign_external_id	●	Campaign Key
abc	campaign_name	●	Campaign Name
📅	campaign_start_time	●	Campaign Start Date
📅	campaign_end_time	●	Campaign End Date
f	'DCM-'+csv['campaign_advertis...	●	Campaign Custom Attribute 07
abc	campaign_advertiser_id	●	Campaign Advertiser ID
abc	campaign_advertiser	●	Campaign Advertiser
MEDIA BUY			
abc	media_buy_external_id	●	Media Buy Key
abc	media_buy_name	●	Media Buy Name
📅	media_buy_start_time	●	Media Buy Start Date
📅	media_buy_end_time	●	Media Buy End Date
abc	media_buy_package_id	●	Media Buy Package Id
abc	media_buy_package_name	●	Media Buy Package Name
CREATIVE			
f	csv['ad_key']+'_'+csv['media_bu...	●	Creative Key
abc	ad_name	●	Creative Name
abc	ad_format	●	Creative Format
abc	media_buy_external_id	●	Creative Code AdServer

Figure 4.1 – Entities in the ad server data streams (Ads Data Stream type)

For the DSP data, the API connector for AppNexus (also called Xandr) was used initially and had one data stream per advertiser and per product (Xaxis and Plista). Using this connector, 77 data streams were created for Xaxis and 39 for Plista. However, the processing of these data streams would fail, almost daily, due to having many reports being generated at a time, which led incorrect data.

To try and resolve this problem a workflow was created, inside Datorama, that would process only 4 AppNexus data streams at a time so that there were not more than 5 reports running simultaneously. This solution seemed to work momentarily but since there were a lot of data streams to process, the

workflow took too long to run and had to start in the early hours of the morning. This led to a new problem: the data that was being brought in was not consolidated from the day before. Finally, as last attempt, a scheduled report was set up that is sent via email to a TotalConnect Ads data stream from the platform.

Additionally, the team identified the need for some extra information that was not present in either the DSP or the ad server. So, a Google Sheet was set up, where the team would be able to input all the relevant information. For this Google Sheet, an Ads data stream was created, using the Google Sheet API connector from Datorama. This Google Sheet is ingested with AppNexus data from a Datorama report that is sent via a Google Cloud function. From this Datorama report the Google Sheet is populated with the name of the campaign and the name of the media buy, and the team fills in all the other columns: Product (essential for the distinction of the dashboard pages), Start and End Date, Revenue Value, Goal Type, Goal and Notes.

The Google Sheet is lodged inside the Datorama environment, and once the data is filled in, it is sent to the data stream by way of a Cloud function disguised as a button, which prompts the Google Sheet data stream to be processed and bring in the new information into Datorama.

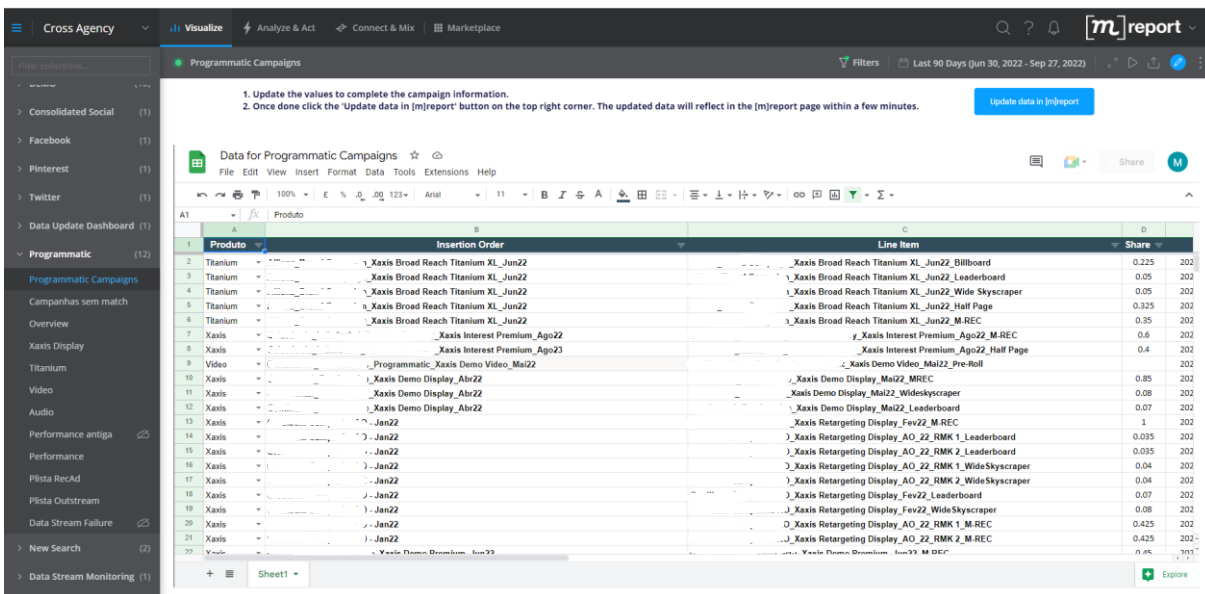


Figure 4.2 – Google Sheet for the input of additional information about campaigns

After having all the necessary data ingested into Datorama, the next step is to connect the data from the ad servers to the data from the DSP. Since the link is made through the Creative Code, and not through the Campaign Name, the match must be done with a data fusion. Seeing as a data fusion only works between different data types, one solution is to have the AppNexus data stored in a Generic data stream (no Datorama data model relationships). For this, a report, from Datorama, was set up with the data from the AppNexus and Google Sheet data streams, and directly sent to a Generic data stream via email. This process is commonly known as a reimmersion.

Measurement (Max. 100)

Dimension (Max. 80)

Figure 4.3 – Dimensions and metrics used in the report for the reimmersion of the AppNexus data

The AppNexus Generic data stream follows a similar data model as the one in the Ads bucket, where the Main Generic Entity corresponds to the Campaign Entity, the Generic Entity 2 corresponds to the Media Buy Entity and the Generic Entity 3 corresponds to the Creative Entity.

Figure 4.4 – Entities of the Generic data stream (AppNexus data)

## 4.2. CREATING THE KPI METRICS

With the data loaded into Datorama, the KPIs previously defined in the mockup can be created. Below there is a brief definition of each KPI and how they were created. In the Appendix is the actual formula used.

- **Days Missing:** Number of days between today and the final day of the campaign. This measurement is created by using a Datorama date function called *DAYS\_BETWEEN(startDate, endDate)* which calculates the number of days between the startDate argument and the endDate argument. It is directly mapped on the data stream.
- **Total Served:** Total amount already served according to the goal type. This is a calculated measurement set up with IF clauses that returns the total delivery metric according to the goal type. This needs to be a calculated measurement because the goal type is coming from the AppNexus data streams and the delivery metric is coming from the corresponding ad server data stream.
- **Total Served Yesterday:** Amount served yesterday according to the goal type. This is a calculated measurement set up with IF clauses that returns the amount of the goal delivery metric that was registered on yesterday's system date.
- **Remaining from Goal:** Amount that is left to be served to achieve the goal. This is a calculated measurement that subtracts what has already been served from the goal.
- **Daily Goal:** Amount that is expected to be served daily, until the end of the campaign, in order to achieve the goal. This is a calculated measurement that divides what is remaining from the goal by the number of days left until the end of the campaign.
- **% Served:** Percentage of what was already served against what is expected to be served (goal). This is a calculated measurement that divides the Total Served measurement by the Goal measurement.
- **% Progress:** Percentage of days that already passed since the beginning of the campaign. This is a calculated measurement has two parts. The first where the number of days missing until the end of the campaign is divided by the number of total days (from the start date until the end date), which gives the percentage left for the serving of the campaign. The second part subtracts this percentage from 1 to give the percentage of days for which the campaign has already been live.

## 4.3. DASHBOARDS

A dashboard page was created for each individual Xaxis and Plista products, which resulted in 5 Xaxis pages (Xaxis Display, Titanium, Video, Audio and Performance) and 2 Plista pages (Plista RecAd and Plista Outstream). Even though each page reports data for a specific product, they share similar layouts and functionalities.

The end-users of the dashboards are the members of the Programmatic team at GroupM whose intentions are to easily monitor the performance of the campaigns and manage them the best way possible. Since they are used to slightly different terminology in the pages there will be dimensions that will appear with different names than the ones previously used in this report. Mainly, Campaign will correspond to Insertion Order and Media Buy will correspond to Line Item.

Below are prints from one of the pages as example. Prints for the rest of the pages can be seen on the Appendix. The data presented in the dashboard is confidential, therefore, the data in the images below is anonymized.

As aforementioned, the DSP used by Xaxis is AppNexus. However, that platform suffered a change of name and is now called Xandr. In order to reflect the data the way the users are more used to it, instead of appearing 'AppNexus' it will appear 'Xandr'.

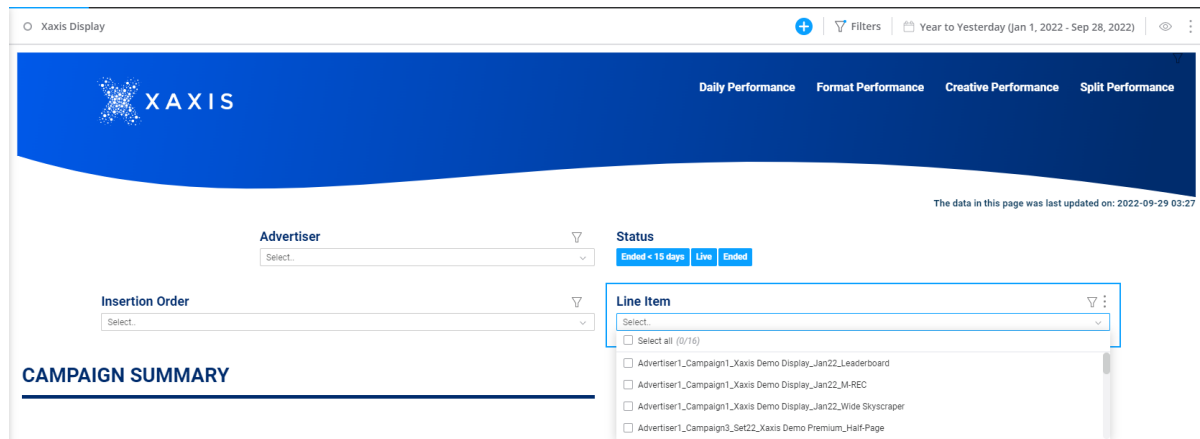


Figure 4.5 – Filters at the top of each page

Each page starts with a collection of filters that can be applied to the page to see a specific Advertiser, Campaign (or Insertion Order) and/or Media Buy (or Line Item). Additionally, each page can be filtered by the campaigns that are still live, that have ended in the last 15 days or that have ended more than 15 days ago.

On top of the page there is also a navigation menu that enables the users to scroll directly to each section of the page, as well as a date filter that allows users to choose the time period to be analyzed. By default, this date filter is set to show data from the first day of the year until the last day with data available, in this case yesterday's system date.

## CAMPAIGN SUMMARY

Choose metrics to add to the table below

Xandr Impressions Xandr Impressions (Yesterday) Adserver Impressions Adserver Impressions (Yesterday) Xandr Clicks Xandr Clicks (Yesterday) Adserver Clicks Adserver Clicks (Yesterday) Xandr Viewable Impressions  
 Xandr Viewable Impressions (Yesterday) Xandr Viewable Impressions (GroupM) Xandr Viewable Impressions (GroupM) (Yesterday) Xandr Viewability Rate (GroupM) Xandr Viewability Rate

Line Item	Start Date	End Date	Days Missing ↑	Goal Type	Goal	Total Served	Daily Goal	Total Served Yesterday	Remaining from Goal	% Served	% Progress
Leaderboard_Advertiser1_Campaign1_Xaxis Demo Display_Jan22	10 Jan 2022	22 Jan 2022	-200	Impressions	41.176	42.779	0	0	-1.603	103,99 %	100,00 %
Wide Skyscraper_Advertiser1_Campaign1_Xaxis Demo Display_Jan22	10 Jan 2022	22 Jan 2022	-200	Impressions	47.059	48.451	0	0	-1.392	102,96 %	100,00 %
M-REC_Advertiser1_Campaign1_Xaxis Demo Display_Jan22	10 Jan 2022	22 Jan 2022	-200	Impressions	5.000	501.141	0	0	-496.141	10.022,82 %	100,00 %
Half Page_Advertiser2_Campaign2_Xaxis Demo Premium_Jan22	31 Jan 2022	14 Feb 2022	-177	Impressions	201.568	88.229	0	0	113.339	43,77 %	100,00 %
M-REC_Advertiser2_Campaign2_Xaxis Demo Premium_Jan22	31 Jan 2022	14 Feb 2022	-177	Impressions	134.378	213.107	0	0	-78.729	158,59 %	100,00 %
Half Page_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	13 Sep 2022	22 Sep 2022	-7	Impressions	113.648	111.248	0	0	2.400	97,89 %	100,00 %
M-REC_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	13 Sep 2022	22 Sep 2022	-7	Impressions	227.296	235.458	0	0	-8.162	103,59 %	100,00 %
Leaderboard_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	13 Sep 2022	22 Sep 2022	-7	Impressions	94.707	85.953	0	0	8.754	90,76 %	100,00 %
WideSkyscraper_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	13 Sep 2022	22 Sep 2022	-7	Impressions	94.707	96.028	0	0	-1.321	101,39 %	100,00 %
Billboard_Advertiser3_Campaign4_Xaxis Interest Premium XL_Set22	22 Sep 2022	05 Oct 2022	6	Impressions	159.856	92.268	9.655	15.264	67.588	57,72 %	57,14 %
Half Page_Advertiser3_Campaign4_Xaxis Interest Premium XL_Set22	22 Sep 2022	05 Oct 2022	6	Impressions	223.798	125.736	14.009	20.768	98.062	56,18 %	57,14 %
M-REC_Advertiser3_Campaign4_Xaxis Interest Premium XL_Set22	22 Sep 2022	05 Oct 2022	6	Impressions	255.769	151.175	14.942	23.489	104.594	59,11 %	57,14 %
M-REC_Advertiser4_Campaign5_Xaxis Demo Display_Set22	14 Sep 2022	11 Oct 2022	12	Impressions	512.000	323.281	14.517	15.431	188.719	63,14 %	57,14 %
Wide Skyscraper_Advertiser4_Campaign5_Xaxis Demo Display_Set22	14 Sep 2022	11 Oct 2022	12	Impressions	51.200	26.703	1.884	1.207	24.497	52,15 %	57,14 %
Half Page_Advertiser4_Campaign5_Xaxis Demo Display_Set22	14 Sep 2022	11 Oct 2022	12	Impressions	32.000	20.801	861	1.447	11.199	65,00 %	57,14 %
Leaderboard_Advertiser4_Campaign5_Xaxis Demo Display_Set22	14 Sep 2022	11 Oct 2022	12	Impressions	44.800	30.826	1.075	1.824	13.974	68,81 %	57,14 %
<b>Total</b>					<b>2.238.962</b>	<b>2.193.184</b>	<b>56.944</b>	<b>79.430</b>	<b>45.778</b>	<b>97,96 %</b>	<b>81,73 %</b>

1 - 16 of 16 items

Figure 4.6 – Campaign Summary



In the Campaign Summary section, there is a table with all the KPIs identified by the team as being the most needed for the monitoring of the campaign’s performance. It contains the KPIs discussed in the previous section of this report. There is also the possibility to add other metrics, from the ad server or from Xandr, to the table.

The column with the metric ‘Remaining from Goal’ has an added feature which is that it turns red when its value is positive, indicating campaigns which have not yet achieved their goal. This makes it so that the campaigns that need more attention are more visible to the team.

**DAILY PERFORMANCE**

Choose metrics to add to the table below  
 Xandr Viewability Rate Xandr Viewability Rate (GroupM)

Day ↓	Adserver Impressions	Adserver Clicks	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)	Insertion Order Booked Impressions (Lifetime)
28 Sep 2022	79.430	149	81.501	144	42.899	29.170	1.407.365
27 Sep 2022	57.698	118	59.531	114	32.167	23.481	1.407.365
26 Sep 2022	58.604	102	63.192	110	31.466	24.723	1.407.365
25 Sep 2022	83.010	191	86.290	183	38.157	23.103	1.407.365
24 Sep 2022	91.269	209	93.851	205	43.198	26.222	1.407.365
23 Sep 2022	99.102	167	104.469	163	48.240	31.148	1.407.365
22 Sep 2022	134.645	171	158.172	182	89.783	67.497	1.990.758
21 Sep 2022	115.263	121	122.665	111	72.884	56.839	1.287.393
20 Sep 2022	92.800	128	93.585	99	55.582	43.048	1.287.393
19 Sep 2022	95.594	165	90.800	96	53.623	40.852	1.287.393
18 Sep 2022	58.420	78	61.951	77	36.457	26.324	1.287.393
17 Sep 2022	57.128	85	59.536	85	34.086	23.997	1.287.393
16 Sep 2022	66.896	83	69.225	88	41.150	30.399	1.287.393
15 Sep 2022	71.360	61	76.311	65	44.195	32.586	1.287.393
14 Sep 2022	76.475	73	77.433	61	48.481	35.657	1.287.393
13 Sep 2022	61.783	36	66.025	38	45.298	34.220	583.393
14 Feb 2022	13.216	48	14.110	47	6.399	3.959	469.541
<b>Total</b>	<b>2.193.184</b>	<b>3.380</b>	<b>2.300.169</b>	<b>3.220</b>	<b>1.190.852</b>	<b>864.526</b>	<b>3.107.358</b>

1 - 44 of 44 items

Figure 4.7 – Daily Performance

In the daily performance section, it is possible to analyze the data in a daily basis. It contains the more relevant delivery metrics for each product. It has the possibility of adding two other metrics to the table.

**FORMAT PERFORMANCE**

Choose metrics to add to the table below  
 Xandr Viewability Rate Xandr Viewability Rate (GroupM)

Format

Format	Day ↓	Adserver Impressions	Adserver Clicks	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)
Half-Page	28 Sep 2022	79.430	149	81.501	144	42.899	29.170
Leaderboard	27 Sep 2022	57.698	118	59.531	114	32.167	23.481
MREC	26 Sep 2022	58.604	102	63.192	110	31.466	24.723
Widescraper	25 Sep 2022	83.010	191	86.290	183	38.157	23.103
	24 Sep 2022	91.269	209	93.851	205	43.198	26.222
	23 Sep 2022	99.102	167	104.469	163	48.240	31.148
	22 Sep 2022	134.645	171	158.172	182	89.783	67.497
	21 Sep 2022	115.263	121	122.665	111	72.884	56.839
	20 Sep 2022	92.800	128	93.585	99	55.582	43.048
	19 Sep 2022	95.594	165	90.800	96	53.623	40.852
	18 Sep 2022	58.420	78	61.951	77	36.457	26.324
	17 Sep 2022	57.128	85	59.536	85	34.086	23.997
	16 Sep 2022	66.896	83	69.225	88	41.150	30.399
	<b>Total</b>	<b>2.193.184</b>	<b>3.380</b>	<b>2.300.169</b>	<b>3.220</b>	<b>1.190.852</b>	<b>864.526</b>

1 - 44 of 44 items

Figure 4.8 – Format Performance

In the format performance section, it is possible to analyze the data in a daily basis, and per format. The filter on the side of the table allows the users to filter the table for the desired format. It contains

the more relevant delivery metrics for each product and also has the possibility of adding two other metrics to the table.

### CREATIVE PERFORMANCE

Choose metrics to add to the table below  
 Xandr Viewability Rate Xandr Viewability Rate (GroupM)

Creative Name	Adserver Impressions ↓	Adserver Clicks	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)
M-REC_Advertiser1_Campaign1_Xaxis Demo Display_Jan22	501.141	462	521.460	461	208.941	163.065
M-REC_Advertiser4_Campaign5_Xaxis Demo Display_Set22	323.281	461	332.352	483	162.328	126.572
M-REC_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	235.458	309	250.045	294	147.599	119.044
M-REC_Advertiser2_Campaign2_Xaxis Demo Premium_Jan22	213.107	621	227.266	602	112.156	88.457
M-REC_Advertiser3_Campaign4_Xaxis Interest Premium_XL_Set22	151.175	218	156.651	215	78.129	63.025
Half Page_Advertiser3_Campaign4_Xaxis Interest Premium_XL_Set22	125.736	359	133.278	343	63.509	20.516
Half Page_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	111.248	109	118.844	103	79.800	45.338
WideSkyscraper_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	96.028	73	100.533	43	71.552	53.356
Billboard_Advertiser3_Campaign4_Xaxis Interest Premium_XL_Set22	92.268	245	95.326	236	43.959	35.530
Half Page_Advertiser2_Campaign2_Xaxis Demo Premium_Jan22	88.229	299	93.575	285	35.627	10.819
Leaderboard_Advertiser1_Campaign3_Set22_Xaxis Demo Premium	85.953	83	94.722	61	59.491	49.959
Wide Skyscraper_Advertiser1_Campaign1_Xaxis Demo Display_Jan22	48.451	45	49.320	39	45.564	25.612
Leaderboard_Advertiser1_Campaign1_Xaxis Demo Display_Jan22	42.779	16	44.011	12	30.898	27.307
Leaderboard_Advertiser4_Campaign5_Xaxis Demo Display_Set22	30.826	8	33.206	5	20.035	18.219
Wide Skyscraper_Advertiser4_Campaign5_Xaxis Demo Display_Set22	26.703	54	28.194	22	20.657	13.473
Half Page_Advertiser4_Campaign5_Xaxis Demo Display_Set22	20.801	18	21.386	16	10.607	4.234
<b>Total</b>	<b>2.193.184</b>	<b>3.380</b>	<b>2.300.169</b>	<b>3.220</b>	<b>1.190.852</b>	<b>864.526</b>

1 - 16 of 16 items

Figure 4.9 – Creative Performance

In the creative performance section, it is possible to analyze the data per creative (lowest granularity). It contains the more relevant delivery metrics for each product and also has the possibility of adding two other metrics to the table.

### SPLIT PERFORMANCE

Split ↓	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)	Xandr Viewability Rate	Xandr Viewability Rate
Telecunaria	137.997	526	64.460	37.795	27,39 %	46,71 %
RTP	122.360	210	61.633	42.995	35,14 %	50,37 %
RTB	522.890	394	293.887	220.283	42,13 %	56,20 %
RCDM	171.253	267	84.204	59.741	34,88 %	49,17 %
Publico	97.172	257	65.829	47.729	49,12 %	67,74 %
Observador	89.299	80	22.430	13.013	14,57 %	25,12 %
MSN	211.291	86	161.685	120.555	57,06 %	76,52 %
MCD	108.925	66	65.915	56.300	51,69 %	60,51 %
Globalmedia	234.811	234	77.367	52.567	22,39 %	32,95 %
Deals	89.078	64	51.183	37.675	42,29 %	57,46 %
Cofma	363.952	607	146.900	94.559	25,98 %	40,36 %
AEIDU	151.141	429	95.359	81.314	53,80 %	63,09 %
<b>Total</b>	<b>2.300.169</b>	<b>3.220</b>	<b>1.190.852</b>	<b>864.526</b>	<b>37,59 %</b>	<b>51,77 %</b>

1 - 12 of 12 items

Figure 4.10 – Split Performance

In the split performance section, it is possible to analyze the data for each split, which is the site on which the campaign was delivered. This table contains the most relevant Xandr metrics and allows the users to see the detailed performance of the campaign in each split.

## 5. CONCLUSIONS

A business intelligence tool, such as a performance dashboard, aims at improving the quality of decision making by turning it into a more efficient and effective process. Based on these values, this tool becomes an important part of any decision-making process.

When applied to marketing, a performance dashboard can be used for various purposes. This report focuses on the use of a performance dashboard for programmatic marketing campaign performance monitoring and management, a project developed with GroupM. The objective of this project was to implement a marketing performance dashboard for each of GroupM's Xaxis products leaving behind the previously used Excel file, with manually updated reports, which consumed a lot of time for the campaign managers. The goal of the dashboard was to depict the main KPIs for each Xaxis product in one centralized and single view, allowing the campaign managers to manage and monitor their campaigns in a more automatic and efficient way.

The feedback from the team has been very positive, as they have started using the dashboard. They have already relayed that the time spent on campaign performance monitoring has drastically decreased, and, in their opinion, the data is much easier to see in the dashboard than in the Excel file that was previously used.

However, the team has complained about the accuracy of some ad server data which is arising from the fact that the native ad server API cannot handle the processing of many reports at the same time. So, in the future, there might be a need to change from the native API connection to a scheduled report directly sent from the platform, in a similar process to the one that is now set up for the DSP data.

This report highlights a project developed with GroupM. Hopefully, this study can contribute to business intelligence practitioners by a showing, step by step, how to create a performance dashboard that can be used as a tool for marketing campaign managing and monitoring. Such a tool can become an essential drive in campaign managing by making it possible to look at the data in a centralized view, in an effective and timely fashion.

This was my first professional experience, and initially the internship was quite the challenge for me. But, as the project progressed and I became more comfortable with the team and the technology used, I learned how to better communicate my ideas and the progress of the project, and I was able to become more independent and resourceful with respect to problem solving.

I consider this internship to be a great experience, especially since it was my first impression of the professional world. I was able to work with an incredible team, dive into the area of Business Intelligence and learn how to use Salesforce Datorama.

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# 7. APPENDIX

## Dashboard view for Xaxis Titanium

Titanium + Filters | Year to Yesterday (Jan 1, 2022 - Oct 27, 2022) |

X A X I S

Advertiser 
Status

Insertion Order 
Line Item

The data in this page was last updated on: 2022-10-28 11:44

### CAMPAIGN SUMMARY

#### Choose metrics to display additionally in the table

Xandr Impressions  
  Xandr Impressions (Yesterday)  
  Adserver Impressions  
  Adserver Impressions (Yesterday)  
  Xandr Clicks  
  Xandr Clicks (Yesterday)  
  Adserver Clicks  
  Adserver Clicks (Yesterday)  
  Xandr Viewable Impressions  
  Xandr Viewable Impressions (Yesterday)  
  Xandr Viewable Impressions (GroupM)  
  Xandr Viewable Impressions (GroupM) (Yesterday)

Line Item	KPI/Notes	Start Date	End Date ↑	Days Missing	Goal Type	Goal	Total Served	Daily Goal	Total Served Yesterday	Remaining from Goal	Daily Goal (Impressions)	% Served
WideSkyscraper_Advertiser...	--	04 Feb 2022	25 Feb 2022	-231	Viewable Im...	40,385	42,505	0	0	-2,120	0	105.25 %
Half Page_Advertiser1_Ca...	--	04 Feb 2022	25 Feb 2022	-231	Viewable Im...	161,538	246,918	0	0	-85,380	0	152.85 %
Leaderboard_Advertiser1_C...	--	04 Feb 2022	25 Feb 2022	-231	Viewable Im...	40,385	42,436	0	0	-2,051	0	105.08 %
MREC_Advertiser1_Campal...	--	04 Feb 2022	25 Feb 2022	-231	Viewable Im...	423,077	440,921	0	0	-17,844	0	104.22 %
Half Page_Advertiser3_Ca...	--	01 Oct 2022	08 Oct 2022	-20	Viewable Im...	111,779	11,877	0	0	99,902	0	10.63 %
MREC_Advertiser3_Campal...	--	01 Oct 2022	08 Oct 2022	-20	Viewable Im...	126,202	250,276	0	0	-124,074	0	198.31 %
300x50_Advertiser3_Camp...	--	01 Oct 2022	08 Oct 2022	-20	Viewable Im...	25,240	25,530	0	0	-290	0	101.15 %
320x50_Advertiser3_Camp...	--	01 Oct 2022	08 Oct 2022	-20	Viewable Im...	25,240	54,991	0	0	-29,751	0	217.87 %
Billboard_Advertiser3_Cam...	--	01 Oct 2022	08 Oct 2022	-20	Viewable Im...	72,115	3,482	0	0	68,633	0	4.83 %
320x480_Advertiser3_Cam...	--	01 Oct 2022	08 Oct 2022	-20	Viewable Im...	25,240	21,549	0	0	3,691	0	85.38 %
Leaderboard_Advertiser2_C...	--	19 Sep 2022	31 Oct 2022	3	Viewable Im...	36,058	32,841	804	566	3,217	1,164	91.08 %
HalfPage_Advertiser2_Cam...	--	19 Sep 2022	31 Oct 2022	3	Viewable Im...	234,375	193,825	10,138	1,450	40,550	18,836	82.70 %
WideSkyscraper_Advertiser...	--	19 Sep 2022	31 Oct 2022	3	Viewable Im...	36,058	40,558	0	836	-4,500	0	112.48 %
Billboard_Advertiser2_Cam...	--	19 Sep 2022	31 Oct 2022	3	Viewable Im...	162,260	153,972	2,072	570	8,288	6,310	94.89 %
<b>Total</b>						<b>1,747,116</b>	<b>1,852,923</b>	<b>13,014</b>	<b>4,957</b>	<b>-105,807</b>	<b>1,754</b>	<b>106.06 %</b>

1 - 15 of 15 items

### DAILY PERFORMANCE

#### Choose metrics to add to the table below

Xandr Viewability Rate  
  Xandr Viewability Rate (GroupM)

Day ↓	Adserver Impressions	Adserver Clicks	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)
27 Oct 2022	8,002	11	8,507	6	6,790	4,957
26 Oct 2022	8,901	7	8,657	10	6,555	5,025
25 Oct 2022	7,896	17	8,054	8	6,404	4,879
24 Oct 2022	6,516	8	8,602	8	6,621	5,112
23 Oct 2022	6,894	7	6,368	4	4,629	3,448
22 Oct 2022	6,387	4	7,216	4	5,478	4,039
21 Oct 2022	9,983	10	11,144	11	7,572	5,617
20 Oct 2022	12,537	17	13,445	14	10,085	7,640
19 Oct 2022	13,110	9	13,676	11	10,119	7,290
18 Oct 2022	12,722	18	15,015	10	10,486	7,874
17 Oct 2022	16,893	18	21,255	16	15,046	11,059
<b>Total</b>	<b>3,140,585</b>	<b>3,105</b>	<b>3,309,572</b>	<b>3,007</b>	<b>2,361,609</b>	<b>1,852,923</b>

1 - 50 of 61 items

## FORMAT PERFORMANCE

Choose metrics to add to the table below

Xandr Viewability Rate Xandr Viewability Rate (GroupM)

Format

Day ↓	Adserver Impressions	Adserver Clicks	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)	Booked Impressions (Lifetime)
27 Oct 2022	8,002	11	8,507	6	6,790	4,957	1,649,230
26 Oct 2022	8,901	7	8,657	10	6,555	5,025	1,649,230
25 Oct 2022	7,896	17	8,054	8	6,404	4,879	1,649,230
24 Oct 2022	6,516	8	8,602	8	6,621	5,112	1,649,230
23 Oct 2022	6,894	7	6,368	4	4,629	3,448	1,649,230
22 Oct 2022	6,387	4	7,216	4	5,478	4,039	1,649,230
21 Oct 2022	9,983	10	11,144	11	7,572	5,617	1,649,230
20 Oct 2022	12,537	17	13,445	14	10,085	7,640	1,649,230
19 Oct 2022	13,110	9	13,676	11	10,119	7,290	1,649,230
18 Oct 2022	12,722	18	15,015	10	10,486	7,874	1,649,230
17 Oct 2022	16,893	18	21,255	16	15,046	11,059	1,649,230
<b>Total</b>	<b>3,140,585</b>	<b>3,105</b>	<b>3,309,572</b>	<b>3,007</b>	<b>2,361,609</b>	<b>1,852,923</b>	<b>4,110,526</b>

## CREATIVE PERFORMANCE

Creative	Adserver Impressions ↑	Adserver Clicks	Xandr Impressions	Xandr Clicks	Xandr Viewable Impressions	Xandr Viewable Impressions (GroupM)	Booked Impressions (Lifetime)
Billboard_Advertiser3_Campaign 3_High Impact Viewability_Set22	26,772	13	27,228	5	5,222	3,482	139,423
Half Page_Advertiser3_Campaign 3_High Impact Viewability_Set22	26,861	19	28,025	11	19,811	11,877	216,106
300x50_Advertiser3_Campaign 3_High Impact Viewability_Set22	35,222	72	37,232	38	26,079	25,530	113,798
Leaderboard_Advertiser2_Campaign 2_Xaxis Broad Reach Titanium XL_Set22	45,446	53	47,536	32	38,128	32,841	69,712
320x480_Advertiser3_Campaign 3_High Impact Viewability_Set22	55,734	166	58,828	147	34,115	21,549	58,798
Leaderboard_Advertiser1_Campaign 1 Titanium XL_Jan22	63,202	9	65,854	5	47,844	42,436	83,653
Wideskyrscaper_Advertiser2_Campaign 2_Xaxis Broad Reach Titanium XL_Set22	63,388	41	64,974	20	54,316	40,558	69,712
320x50_Advertiser3_Campaign 3_High Impact Viewability_Set22	72,795	120	76,752	92	56,384	54,991	113,798
WideSkyrscaper_Advertiser1_Campaign 1 Titanium XL_Jan22	85,446	81	88,855	74	76,313	42,505	113,653
MREC_Advertiser3_Campaign 3_High Impact Viewability_Set22	325,627	195	368,847	199	283,603	250,276	373,990
HalfPage_Advertiser2_Campaign 2_Xaxis Broad Reach Titanium XL_Set22	342,606	207	360,132	162	297,193	193,825	453,125
<b>Total</b>	<b>3,144,073</b>	<b>3,200</b>	<b>3,309,572</b>	<b>3,007</b>	<b>2,361,609</b>	<b>1,852,923</b>	<b>4,110,526</b>

## Dashboard view for Xaxis Video

Video
Filters
Year to Yesterday (Jan 1, 2022 - Oct 27, 2022)

[Daily Performance](#)
[Creative Performance](#)
[Format Performance](#)
[Split Performance](#)

The data in this page was last updated on: 2022-10-28 11:44

**Advertiser**

**Status**

**Insertion Order**

**Line Item**



## CAMPAIGN SUMMARY

### Choose metrics to add to the table below

Xandr Impressions Xandr Impressions (Yesterday) Adserver Impressions Adserver Impressions (Yesterday) Xandr Clicks Xandr Clicks (Yesterday) Adserver Clicks Adserver Clicks (Yesterday) Adserver Video Starts Xandr Video Starts  
 Xandr Video Completes Xandr Video Completes (Yesterday) Adserver Video Completes Adserver Video Completes (Yesterday)

Line Item	KPI/Notes	Start Date	End Date ↑	Days Missing	Goal Type	Goal	Total Served	Daily Goal	Total Served Yesterday	Remaining from Goal	Xandr Video Completion Rate
Advertiser3_Campaign 3_Retargeting_Xaxis Intere...	--	20 Apr 2022	05 May 2022	-162	Video Compl...	12,500	12,843	0	0	-343	75.22 %
Advertiser3_Campaign 3_Broad Reach_Xaxis Inter...	--	20 Apr 2022	05 May 2022	-162	Video Compl...	87,500	88,823	0	0	-1,323	70.81 %
Advertiser3_Campaign 3_Healthy Living_Xaxis Inte...	--	20 Apr 2022	05 May 2022	-162	Video Compl...	25,000	25,663	0	0	-663	69.72 %
Advertiser1_Campaign 1_Xaxis Broad Reach Vide...	--	09 Jun 2022	19 Jun 2022	-117	Video Compl...	125,000	130,964	0	0	-5,964	78.77 %
Advertiser2_Campaign 2_Broad Reach Video_Out2...	--	07 Oct 2022	20 Oct 2022	-8	Video Compl...	125,000	127,240	0	0	-2,240	76.78 %
Advertiser4_Campaign 4 Xaxis Demo Video_Out22...	UU: 402985	07 Oct 2022	03 Nov 2022	6	Video Compl...	948,200	704,433	34,824	54,629	243,767	82.00 %
<b>Total</b>						<b>1,323,200</b>	<b>1,089,966</b>	<b>34,824</b>	<b>54,629</b>	<b>233,234</b>	<b>79.54 %</b>

1 - 6 of 6 items

## DAILY PERFORMANCE

Day ↓	Adserver Impressions	Adserver Video Starts	Adserver Video Completion Rate	Adserver Video Completes	Xandr Impressions	Xandr Video Starts	Xandr Video Completion Rate	Xandr Video Completes	Booked Impressions (Lifetime)
27 Oct 2022	66,171	65,844	82.56 %	54,629	65,624	65,609	83.27 %	54,632	1,185,000
26 Oct 2022	55,038	54,997	83.67 %	46,053	55,510	55,496	83.79 %	46,498	1,185,000
25 Oct 2022	36,583	36,558	83.04 %	30,378	36,794	36,783	83.65 %	30,768	1,185,000
24 Oct 2022	62,366	62,333	83.83 %	52,283	62,294	62,273	83.79 %	52,178	1,185,000
23 Oct 2022	40,224	40,210	82.09 %	33,019	40,519	40,505	82.39 %	33,374	1,185,000
22 Oct 2022	29,054	29,039	82.84 %	24,069	29,859	29,849	82.77 %	24,706	1,185,000
21 Oct 2022	16,939	16,936	83.90 %	14,211	18,652	18,646	83.94 %	15,652	1,185,000
20 Oct 2022	24,763	24,747	82.18 %	20,350	24,113	24,100	82.05 %	19,774	1,352,000
19 Oct 2022	35,450	35,433	83.90 %	29,743	31,733	31,718	84.32 %	26,746	1,352,000
18 Oct 2022	77,386	77,353	81.93 %	63,399	76,818	76,783	82.13 %	63,060	1,352,000
17 Oct 2022	116,798	116,762	81.75 %	95,487	117,163	117,120	81.90 %	95,920	1,352,000
16 Oct 2022	131,217	131,124	77.67 %	101,914	127,073	127,019	78.25 %	99,392	1,352,000
15 Oct 2022	96,708	96,631	73.79 %	71,361	103,467	103,438	73.85 %	76,385	1,352,000
14 Oct 2022	71,189	71,160	81.93 %	58,328	70,622	70,584	82.07 %	57,927	1,352,000
<b>Total</b>	<b>1,367,329</b>	<b>1,366,485</b>	<b>79.27 %</b>	<b>1,083,903</b>	<b>1,379,172</b>	<b>1,378,686</b>	<b>79.54 %</b>	<b>1,096,632</b>	<b>2,888,250</b>

1 - 48 of 48 items

## CREATIVE PERFORMANCE

Creative	Adserver Impressions ↓	Adserver Video Starts	Adserver Video Completion Rate	Adserver Video Completes	Xandr Impressions	Xandr Video Starts	Xandr Video Completion Rate	Xandr Video Completes	Booked Impressions (Lifetime)
Pre-Roll Advertiser4_Camp...	860,948	860,138	81.82 %	704,433	856,992	856,635	81.99 %	702,349	1,185,000
Pre-Roll Advertiser1_Camp...	166,958	166,938	78.44 %	130,964	167,256	167,193	78.77 %	131,703	167,256
Pre-Roll Advertiser2_Camp...	166,650	166,634	76.35 %	127,240	167,011	166,990	76.78 %	128,218	167,000
Video Advertiser3_Campal...	126,046	126,049	70.47 %	88,823	125,618	125,592	70.81 %	88,930	126,871
Video Advertiser3_Campal...	36,994	36,985	69.37 %	25,663	36,851	36,839	69.72 %	25,683	39,000
Video Advertiser3_Campal...	17,127	17,129	74.99 %	12,843	17,079	17,073	75.22 %	12,842	18,121
Pre-Roll Advertiser4_Camp...	--	--	--	--	8,365	8,364	82.58 %	6,907	1,185,000
<b>Total</b>	<b>1,374,723</b>	<b>1,373,873</b>	<b>79.29 %</b>	<b>1,089,966</b>	<b>1,379,172</b>	<b>1,378,686</b>	<b>79.54 %</b>	<b>1,096,632</b>	<b>2,888,250</b>

1 - 7 of 7 items

# Dashboard view for Xaxis Audio

Audio

Filters | Year to Yesterday (Jan 1, 2022 - Oct 27, 2022)

Daily Performance | Creative Performance | Format Performance | Split Performance

The data in this page was last updated on: 2022-10-28 11:44

**Advertiser** ▼

**Status** ▼

Ended
Ended < 15 days
Live

**Insertion Order** ▼

**Line Item** ▼

## CAMPAIGN SUMMARY

Choose metrics to add to the table below

- Xandr Impressions Xandr Impressions (Yesterday) Adserver Impressions Adserver Impressions (Yesterday) Xandr Clicks Xandr Clicks (Yesterday) Adserver Clicks Adserver Clicks (Yesterday) Adserver Video Completes Adserver Video Completes (Yesterday) Xandr Video Completes Xandr Video Completes (Yesterday)

Line Item	KPI/Notes	Start Date	End Date ↑	Days Missing	Goal Type	Goal	Total Served	Daily Goal	Total Served Yesterday	Remaining from Goal	Daily Goal (Impressions)
Radio_Advertiser 3_Campaign 4_Jan22	--	24 Jan 2022	30 Jan 2022	-257	Audio Compl...	1.000	50.250	0	0	-49.250	--
Advertiser 2_Campaign 2_Campanha Interest ...	--	07 Feb 2022	28 Feb 2022	-228	Audio Compl...	325.000	326.190	0	0	-1.190	--
Advertiser 3_Campaign 3_Xaxis Digital Audio...	--	28 Sep 2022	25 Oct 2022	-3	Audio Compl...	125.000	133.462	0	0	-8.462	--
Advertiser 1_Campaign 1_Digital Audio_Out22	--	07 Oct 2022	31 Oct 2022	3	Audio Compl...	250.000	220.369	7.408	7.784	<span style="color: red;">29.631</span>	--
Advertiser 3_Campaign 3_Xaxis Digital Audio...	--	20 Oct 2022	08 Nov 2022	11	Audio Compl...	125.000	61.603	5.283	9.553	<span style="color: red;">63.397</span>	--
<b>Total</b>						<b>826.000</b>	<b>791.874</b>	<b>12.691</b>	<b>17.337</b>	<span style="color: red;"><b>34.126</b></span>	--

1 - 5 of 5 items

## DAILY PERFORMANCE

Day ↓	Adserver Impressions	Adserver Clicks	Adserver Video Starts	Adserver Video Completion Rate	Adserver Video Completes	Xandr Impressions	Xandr Clicks	Xandr Video Starts	Xandr Video Completion Rate	Xandr Video Completes	Booked Impressions (Lifetime)
27 Oct 2022	9.823	5	0	0,00 %	0	17.870	9	17.842	97,17 %	17.337	412.500
26 Oct 2022	6.432	6	0	0,00 %	0	14.748	7	14.721	97,32 %	14.326	412.500
25 Oct 2022	10.008	8	0	0,00 %	0	18.006	10	18.773	97,28 %	18.262	412.500
24 Oct 2022	7.741	2	0	0,00 %	0	18.061	5	18.031	97,67 %	17.611	412.500
23 Oct 2022	12.354	4	0	0,00 %	0	22.793	14	22.761	96,70 %	22.010	550.000
22 Oct 2022	12.010	6	0	0,00 %	0	23.472	10	23.438	96,83 %	22.695	550.000
21 Oct 2022	11.687	5	0	0,00 %	0	11.787	3	11.742	98,25 %	11.537	275.000
20 Oct 2022	9.863	17	0	0,00 %	0	27.106	9	27.045	97,53 %	26.376	550.000
19 Oct 2022	8.536	4	0	0,00 %	0	25.827	7	25.776	98,01 %	25.263	412.500
18 Oct 2022	7.135	0	0	0,00 %	0	24.730	0	24.695	98,28 %	24.270	412.500
17 Oct 2022	6.885	2	0	0,00 %	0	24.247	16	24.195	97,68 %	23.634	412.500
16 Oct 2022	7.287	5	0	0,00 %	0	24.690	23	24.640	96,56 %	23.793	412.500
15 Oct 2022	6.864	4	0	0,00 %	0	24.085	13	24.042	96,53 %	23.207	412.500
14 Oct 2022	8.463	4	0	0,00 %	0	25.810	6	25.756	97,52 %	25.118	412.500
<b>Total</b>	<b>645.577</b>	<b>173</b>	<b>0</b>	<b>0,00 %</b>	<b>0</b>	<b>808.945</b>	<b>229</b>	<b>804.569</b>	<b>98,42 %</b>	<b>791.874</b>	<b>962.500</b>

1 - 50 of 58 items

## CREATIVE PERFORMANCE

Creative	Adserver Impressions ↓	Adserver Clicks	Adserver Video Starts	Adserver Video Completion Rate	Adserver Video Completes	Xandr Impressions	Xandr Clicks	Xandr Video Starts	Xandr Video Completion Rate	Xandr Video Completes	Booked Impressions (Lifetime)
Audio_Advertiser_2_Campai...	399.212	6	0	0,00 %	0	329.568	0	326.199	100,00 %	326.190	357.500
Audio_Advertiser_3_Campai...	135.268	101	0	0,00 %	0	137.832	64	137.427	97,11 %	133.462	137.500
Audio_Advertiser_3_Campai...	62.938	49	0	0,00 %	0	63.610	26	63.511	97,00 %	61.603	137.500
Audio_Radio_Advertiser_3...	48.176	44	0	0,00 %	0	51.289	43	51.242	98,06 %	50.250	55.000
Audio_Advertiser1_Campai...	--	--	--	--	--	92.393	33	92.185	97,45 %	89.833	275.000
Audio_Advertiser1_Campai...	--	--	--	--	--	77.586	32	77.445	97,48 %	75.497	275.000
Audio_Advertiser1_Campai...	--	--	--	--	--	56.667	31	56.560	97,31 %	55.039	275.000
<b>Total</b>	<b>645.594</b>	<b>200</b>	<b>0</b>	<b>0,00 %</b>	<b>0</b>	<b>808.945</b>	<b>229</b>	<b>804.569</b>	<b>98,42 %</b>	<b>791.874</b>	<b>962.500</b>

1 - 7 of 7 items

## SPLIT PERFORMANCE

Split ↓	Xandr Impressions	Xandr Clicks	Xandr Video Completes	Xandr Video Starts	Xandr Video Completion Rate
Targetspot Streaming	86.750	0	82.522	86.286	95,45 %
Targetspot Podcast	76.944	0	76.109	76.844	98,93 %
Spotify	199.951	229	193.641	199.755	96,92 %
RTP	12.345	0	10.646	12.325	87,27 %
RCOM	339.763	0	336.351	336.355	100,00 %
Observador	77.603	0	77.448	77.449	100,00 %
Deezer	15.589	0	15.157	15.555	97,32 %
<b>Total</b>	<b>808.945</b>	<b>229</b>	<b>791.874</b>	<b>804.569</b>	<b>97,12 %</b>

1 - 7 of 7 items

## Dashboard view for Xaxis Performance

Performance Filters | Year to date (Jan 1, 2022 - Oct 28, 2022)

Daily Performance | **Line Item Performance** | Creative Performance | Split Performance

The data in this page was last updated on: 2022-10-28 03:28

Advertiser

Status

Ended Live

Insertion Order

Line Item

## CAMPAIGN SUMMARY

Choose metrics to add to the table below

Adserver Impressions Adserver Impressions (Yesterday) AdServer Clicks Adserver Clicks (Yesterday) Xandr Impressions Xandr Impressions (Yesterday) Xandr Clicks Xandr Clicks (Yesterday) Xandr Viewable Impressions Xandr Viewable Impressions (Yesterday) Xandr Viewable Impressions (GroupM) Xandr Viewable Impressions (GroupM) (Yesterday) Xandr Viewability Rate Xandr Viewability Rate (GroupM)

Insertion Order	KPI/Notes	Start Date	End Date ↑	Days Missing	Goal Type	Goal	Revenue Value	Total Served	Daily Goal	Total Served Yesterday	Remaining from Goal	Daily Budget
LR_Advertiser_3_Campaign...	--	--	--	0	--	0	0,00€	0	0	0	0	0,00€
LR_Advertiser_1_Campaign...	--	--	--	0	--	0	0,00€	0	0	0	0	0,00€
LR_Advertiser_2_Campaign...	--	--	--	0	--	0	0,00€	0	0	0	0	0,00€
LR_Advertiser_3_Campaign...	--	--	--	--	--	0	--	0	0	0	0	0,00€
XP_01014_Advertiser_4_Ca...	--	22 Jul 2022	24 Jul 2022	-96	Clicks	6.154	--	6.280	0	0	-126	0,00€
XP_01014_Advertiser_4_Ca...	--	22 Jul 2022	24 Jul 2022	-81	Clicks	6.154	0,65€	6.280	0	0	-126	0,00€
<b>Total</b>						<b>6.154</b>	<b>0,01€</b>	<b>12.560</b>	<b>0</b>	<b>0</b>	<b>-6.406</b>	<b>0,00€</b>

1 - 6 of 6 items

## DAILY PERFORMANCE

Choose metrics to add to the table below

Xandr Viewability Rate

Day ↓	Adserver Impressions	Adserver Clicks	Adserver CTR	Xandr Impressions	Xandr Clicks	Xandr CTR	Xandr CPC	Xandr Total Conversions	Xandr Conversion Rate	Xandr CPA (Rev)	Xandr Revenue	Xandr CPA (Media)	Xandr Media
27 Oct 2022	920.914	993	0,11 %	1.012.847	911	0,07 %	0,38€	140	0,01 %	0,00€	0,00€	1,48€	20
26 Oct 2022	1.038.275	1.142	0,11 %	1.173.751	1.099	0,08 %	0,39€	188	0,02 %	0,00€	0,00€	1,20€	22
25 Oct 2022	1.003.242	955	0,10 %	1.125.313	893	0,08 %	0,35€	209	0,01 %	0,00€	0,00€	1,11€	24
24 Oct 2022	483.031	578	0,12 %	524.155	521	0,11 %	0,84€	123	0,02 %	0,00€	0,00€	1,97€	25
23 Oct 2022	477.552	488	0,10 %	529.245	450	0,09 %	0,12€	95	0,01 %	0,00€	0,00€	0,42€	26
22 Oct 2022	349.184	383	0,11 %	407.589	353	0,08 %	0,14€	57	0,01 %	0,00€	0,00€	0,43€	27
21 Oct 2022	429.590	465	0,11 %	487.638	455	0,08 %	0,19€	95	0,01 %	0,00€	0,00€	0,27€	28
20 Oct 2022	421.687	423	0,10 %	479.954	398	0,05 %	0,18€	99	0,01 %	0,00€	0,00€	0,29€	29
19 Oct 2022	667.850	744	0,11 %	723.888	701	0,08 %	0,19€	167	0,02 %	0,00€	0,00€	0,38€	30
18 Oct 2022	1.140.665	1.267	0,11 %	1.255.223	1.218	0,08 %	0,26€	350	0,04 %	0,00€	0,00€	0,43€	31
17 Oct 2022	1.135.704	1.219	0,11 %	1.245.734	1.159	0,10 %	0,25€	318	0,02 %	0,00€	0,00€	0,47€	32
16 Oct 2022	1.216.774	1.287	0,11 %	1.368.715	1.212	0,10 %	0,24€	341	0,02 %	0,00€	0,00€	0,51€	33
<b>Total</b>	<b>25.412.159</b>	<b>44.060</b>	<b>0,17 %</b>	<b>40.446.204</b>	<b>71.470</b>	<b>0,13 %</b>	<b>0,72€</b>	<b>5.369</b>	<b>0,00 %</b>	<b>0,00€</b>	<b>4.080,70€</b>	<b>5,42€</b>	<b>29.075</b>

1 - 50 of 75 Items

## LINE ITEM PERFORMANCE

Choose metrics to add to the table below

Xandr Viewability Rate

Line Item	Adserver Impressions	Adserver Clicks	Adserver CTR	Xandr Impressions	Xandr Clicks	Xandr CTR	Xandr CPC	Xandr Total Conversions	Xandr Conversion Rate
LR_Advertiser_3_Campaign_4_Mar22_LAL_Novidades	280.587	294	0,10 %	576.510	520	0,09 %	0,95€	4	0,00 %
Advertiser_1_Campaign_1_Dynamic CPC-CostPlus...	19.210.671	19.720	0,10 %	14.717.032	12.708	0,09 %	0,28€	3.123	0,02 %
LR_Advertiser_3_Campaign_4_Mar22_LAL_Basket	1.275.417	2.637	0,21 %	2.630.750	4.964	0,15 %	0,88€	6	0,00 %
LR - Advertiser_1_Campaign_2_Helios CPC - Mai22	3.393.841	15.099	0,44 %	7.407.764	29.158	0,46 %	0,41€	2.302	0,03 %
LR - Advertiser_2_Campaign_3 - Mai22	2.614.496	4.246	0,16 %	5.438.100	8.334	0,14 %	0,76€	0	0,00 %
LR_Advertiser_3_Campaign_4_Mar22_RMK	1.395.831	1.833	0,13 %	2.882.082	3.452	0,09 %	0,78€	0	0,00 %
XP_01014_Advertiser_4_Campaign_5_2vaga_Julho...	3.241.559	6.280	0,19 %	6.793.966	12.334	0,27 %	0,36€	0	0,00 %
<b>Total</b>	<b>25.412.402</b>	<b>44.109</b>	<b>0,17 %</b>	<b>40.446.204</b>	<b>71.470</b>	<b>0,16 %</b>	<b>0,66€</b>	<b>5.435</b>	<b>0,00 %</b>

1 - 7 of 7 Items

## CREATIVE PERFORMANCE

Choose metrics to add to the table below

Xandr Viewability Rate

Creative	Adserver Impressions	Adserver Clicks	Adserver CTR	Xandr Impressions	Xandr Clicks	Xandr CTR	Xandr CPC	Xandr Total Conversions	Xandr Conversion Rate	Xandr CPA (Rev)	Xandr Revenue
Leaderboard_Xaxis_Performance_Advertiser 1...	994.784	393	0,04 %	1.148.560	253	0,02 %	0,59€	108	0,01 %	0,00€	0,00€
Leaderboard_LR_Advertiser_3_Campaign 4...	82.619	74	0,09 %	171.346	106	0,06 %	1,18€	2	0,00 %	0,00€	0,00€
Leaderboard_LR_Advertiser_3_Campaign 4_M...	189.881	204	0,11 %	393.020	388	0,10 %	0,85€	4	0,00 %	0,00€	0,00€
Half Page_LR - Advertiser_1_Campaign 2 - Mai...	1.315.909	9.698	0,74 %	2.800.584	19.004	0,69 %	0,35€	1.518	0,05 %	0,00€	0,00€
300x50_Xaxis_Performance_Advertiser 1_Ca...	904.325	514	0,06 %	1.002.528	404	0,04 %	0,36€	155	0,01 %	0,00€	0,00€
MREC_LR - Advertiser_1_Campaign 2 - Mai22	2.077.932	5.401	0,26 %	4.607.180	10.154	0,22 %	0,47€	784	0,02 %	0,00€	0,00€
Mrec_Xaxis_Performance_Advertiser 1_Camp...	8.697.707	10.410	0,12 %	9.678.620	9.989	0,10 %	0,13€	2.411	0,02 %	0,00€	0,00€
320x50_Xaxis_Performance_Advertiser 1_Ca...	1.877.326	1.293	0,07 %	2.101.024	1.091	0,05 %	0,28€	289	0,01 %	0,00€	0,00€
320x480_Xaxis_Performance_Advertiser 1_Ca...	82.343	213	0,26 %	89.167	168	0,19 %	0,20€	29	0,03 %	0,00€	0,00€
HalfPage_LR_Advertiser_2_Campaign 3_Mai22	331.800	1.173	0,35 %	686.448	2.258	0,33 %	0,48€	0	0,00 %	-	-
MobileBanner_LR_Advertiser_2_Campaign 3...	962.066	1.568	0,16 %	2.020.270	3.078	0,15 %	0,81€	0	0,00 %	-	-
Half Page_LR_Advertiser_3_Campaign 4_Mar2...	170.014	288	0,17 %	358.760	552	0,15 %	0,55€	0	0,00 %	-	-
<b>Total</b>	<b>25.412.402</b>	<b>44.109</b>	<b>0,17 %</b>	<b>40.446.204</b>	<b>71.470</b>	<b>0,16 %</b>	<b>0,66€</b>	<b>5.435</b>	<b>0,00 %</b>	<b>0,00€</b>	<b>4,08</b>

1 - 25 of 25 Items

## Dashboard view for Plista RecAd

Daily Performance
Line Item Performance
Creative Performance

The data in this page was last updated on:

**Advertiser**

Select...

**Status**

Select...

End
Live

**Insertion Order**

Select...

**Line Item**

Select...

**Creative Name**

Select...

## CAMPAIGN SUMMARY

Choose metrics to add to the table below

Adserver Impressions Adserver Impressions (Yesterday) Adserver Clicks Adserver Clicks (Yesterday) Xandr Impressions Xandr Impressions (Yesterday) Xandr Clicks Xandr Clicks (Yesterday)

Insertion Order	KPI/Notes	Bid Multiplier	Start Date ↑	End Date	Days Missing	Goal Type	Goal	Total Served	Daily Goal	Total Served Yesterday	Remaining from
PT_GRM_Advertiser 1_Cam...	TOS	0.0	14 Jan 2022	11 Feb 2022	-245	Clicks	6.250	6.380	0	0	
PT_MCM_RET_Advertiser 2...	Pr14   Pausa...	0.0	06 Jun 2022	10 Jul 2022	-96	Clicks	680	6.100	0	0	-5
PT_MCM_RET_Advertiser 2...	Pr15   Adicio...	0.0	06 Jun 2022	10 Jul 2022	-110	Clicks	7.009	6.100	0	0	
PT_WAVEMAKER_Advertise...	RTB Taboola	--	21 Oct 2022	30 Oct 2022	2	Clicks	2.000	5.206	0	1.269	-5
PT_WAVEMAKER_Advertise...	Pr15	--	21 Oct 2022	30 Oct 2022	2	Clicks	6.545	5.206	670	1.269	1
PT_WAVEMAKER_Advertise...	Deal AdVouL...	--	21 Oct 2022	30 Oct 2022	2	Clicks	1.100	5.206	0	1.269	-4
<b>Total</b>							<b>23.584</b>	<b>34.198</b>	<b>670</b>	<b>1.269</b>	<b>5</b>

1 - 6 of 6 items

## DAILY PERFORMANCE

Day ↓	Adserver Impressions	Adserver Clicks	Adserver CTR	Xandr Impressions	Xandr Clicks	Xandr CTR	Xandr CPC	Xandr Conversions	Xandr Conversion Rate	Xandr CPA (Rev)	Xandr Revenue	Xandr Media Cost	Xandr Profit
27 Oct 2022	836.194	1.269	0,15 %	587.943	767	0,38 %	0,32€	41	0,01 %	0,00€	0,00€	211,61€	-2
26 Oct 2022	586.690	734	0,13 %	585.864	674	0,33 %	0,34€	24	0,01 %	0,00€	0,00€	195,18€	-16
25 Oct 2022	637.439	862	0,14 %	655.157	810	0,36 %	0,33€	28	0,01 %	0,00€	0,00€	230,53€	-22
24 Oct 2022	634.498	726	0,11 %	661.539	707	0,40 %	0,32€	26	0,02 %	0,00€	0,00€	202,60€	-20
23 Oct 2022	640.482	778	0,12 %	667.652	766	0,23 %	0,39€	26	0,00 %	0,00€	0,00€	234,06€	-22
22 Oct 2022	501.504	584	0,12 %	529.762	583	0,10 %	0,32€	11	0,00 %	0,00€	0,00€	156,17€	-15
21 Oct 2022	166.896	249	0,15 %	180.008	229	0,18 %	0,46€	7	0,00 %	0,00€	0,00€	68,10€	-4
09 Jul 2022	--	--	--	0	0	0,00 %	--	4	--	0,00€	0,00€	0,00€	0,00€
08 Jul 2022	--	--	--	0	0	0,00 %	--	4	--	0,00€	0,00€	0,00€	0,00€
07 Jul 2022	34.323	74	0,22 %	35.373	70	0,20 %	0,40€	20	0,06 %	0,00€	0,00€	28,01€	-5
<b>Total</b>	<b>10.044.864</b>	<b>17.651</b>	<b>0,18 %</b>	<b>10.117.895</b>	<b>16.120</b>	<b>0,21 %</b>	<b>0,40€</b>	<b>4.080</b>	<b>0,05 %</b>	<b>0,00€</b>	<b>0,00€</b>	<b>6.239,40€</b>	<b>-6.235</b>

1 - 50 of 74 items

## LINE ITEM PERFORMANCE

Line Item ↓	Adserver Impressions	Adserver Clicks	Adserver CTR	Xandr Impressions	Xandr Clicks	Xandr CTR	Xandr CPC	Xandr Conversions	Xandr Revenue	Xandr Media Cost	Xandr Profit
PT_WAVEMAKER_Advertise...	4.003.703	5.206	0,13 %	3.867.925	4.536	0,33 %	0,33€	163	0,00€	1.298,25€	
PT_MCM_RET_Advertiser 2...	2.827.830	6.100	0,22 %	2.950.831	5.487	0,19 %	0,41€	1.607	0,00€	2.247,87€	
PT_GRM_Advertiser 1_Cam...	3.213.354	6.380	0,20 %	3.299.139	6.097	0,18 %	0,44€	2.310	0,00€	2.693,29€	
<b>Total</b>	<b>10.044.887</b>	<b>17.686</b>	<b>0,18 %</b>	<b>10.117.895</b>	<b>16.120</b>	<b>0,27 %</b>	<b>0,37€</b>	<b>4.080</b>	<b>0,00€</b>	<b>6.239,40€</b>	

1 - 3 of 3 items

## CREATIVE PERFORMANCE

Creative	Adserver Impressions	Adserver Clicks	Adserver CTR	Xandr Impressions	Xandr Clicks	Xandr CTR	Xandr CPC	Xandr Conversions	Xandr Revenue	Xandr Media Cost	Xandr Profit
RecAd_4_Vaga2_Mercearia/...	1.120.155	1.397	0,12 %	1.095.942	1.206	0,30 %	0,33€	41	0,00€	348,57€	-341
TIC_RecAd_Plista_2_Jan22...	1.075.803	2.211	0,21 %	1.104.431	2.125	0,19 %	0,44€	843	0,00€	938,39€	-931
TIC_RecAd_Plista_3_Jan22...	1.075.692	2.262	0,21 %	1.104.331	2.142	0,19 %	0,44€	810	0,00€	946,12€	-941
TIC_RecAd_Plista_1_Jan22...	1.061.859	1.907	0,18 %	1.090.377	1.830	0,17 %	0,44€	657	0,00€	808,77€	-801
RecAd_3_Vaga2_Industria T...	1.008.959	1.441	0,14 %	990.894	1.278	0,39 %	0,30€	54	0,00€	348,17€	-341
RecAd_2_Vaga2_Industria T...	972.443	1.222	0,13 %	928.883	1.064	0,32 %	0,33€	36	0,00€	307,34€	-307
TIC_RecAd3_Homesolar-W...	960.914	2.129	0,22 %	983.976	1.933	0,21 %	0,41€	707	0,00€	792,46€	-795
TIC_RecAd2_Homesolar-W...	960.673	2.504	0,26 %	984.388	2.238	0,24 %	0,41€	504	0,00€	916,66€	-911
TIC_RecAd1_Homesolar-W...	906.243	1.467	0,16 %	982.467	1.316	0,13 %	0,41€	396	0,00€	538,75€	-531
RecAd_1_Vaga2_Chef Cozin...	902.146	1.146	0,13 %	852.206	988	0,29 %	0,34€	32	0,00€	294,17€	-294
<b>Total</b>	<b>10.044.887</b>	<b>17.686</b>	<b>0,18 %</b>	<b>10.117.895</b>	<b>16.120</b>	<b>0,27 %</b>	<b>0,37€</b>	<b>4.080</b>	<b>0,00€</b>	<b>6.239,40€</b>	<b>-6.235</b>

1 - 10 of 10 items

## Formulas for the main KPIs

### Total Served

**General**

Measurement Name: Total Served

Type: Numeric

Decimal Places: 0 (123)

Color: #3BC5FF

Description: Total que já foi servido por line item de acordo com o seu objetivo

**Advanced**

**Expression**

Aggregation Function: Auto

\* When setting a granularity or using Dimensions in your formula, you must select an aggregation Function.

```
1 * IF([AppNexus_Goal_Type] == 'Impressions', [Impressions],
2 *   IF([AppNexus_Goal_Type] == 'Clicks', [Clicks],
3 *     IF([AppNexus_Goal_Type] == 'Viewable Impressions', [AppNexus_Viewable_Impressions_(GroupM)],
4 *       IF([AppNexus_Goal_Type] == 'Video Completes', [Video_Fully_Played],
5 *         IF([AppNexus_Goal_Type] == 'Video 50% Complete', [Video_Completions_50%],
6 *           IF([AppNexus_Goal_Type] == 'Audio Completes', [AppNexus_Video_Fully_Played],
7 *             0))))))
```

### Total Served Yesterday

**General**

Measurement Name: Total Served D-1

Type: Numeric

Decimal Places: 0 (123)

Color: #FFF05D

Description: Total que já foi servido por line item de acordo com o seu objetivo até ao dia de ontem

**Advanced**

Total Aggregation Function: Same as Aggregation Function

Granularity: AppNexus Creative Code

Treat Nulls As Zeros

Invisible Measurement

**Expression**

Aggregation Function: SUM

\* When setting a granularity or using Dimensions in your formula, you must select an aggregation Function.

```
1 * IF([AppNexus_Goal_Type] == 'Impressions', [Impressions_(Yesterday)],
2 *   IF([AppNexus_Goal_Type] == 'Clicks', [Clicks_(Yesterday)],
3 *     IF([AppNexus_Goal_Type] == 'Viewable Impressions', [AppNexus_Viewable_Impressions_(GroupM)_(Yesterday)],
4 *       IF([AppNexus_Goal_Type] == 'Video Completes', [Video_Fully_Played_(Yesterday)],
5 *         IF([AppNexus_Goal_Type] == 'Video 50% Complete', [Video_Completions_50%_(Yesterday)],
6 *           IF([AppNexus_Goal_Type] == 'Audio Completes', [AppNexus_Video_Fully_Played_(Yesterday)],
7 *             0))))))
```

## Remaining from goal

**General**

Measurement Name: Remaining from Goal

Type: Numeric

Decimal Places: 0 (123)

Color: #FFA6A1

Description: Enter measurement description...

**Advanced**

**Expression**

Aggregation Function: Auto

\* When setting a granularity or using Dimensions in your formula, you must select an aggregation Function.

1 \* [[Goal]]-[[Total\_Served]]

Search...

Dimension (366)    Functions (125)    Measurement (335)

- Account Id [daa\_1645188873]
- Account Name (User Details)
- Account Name [daa\_1645188873]
- Action [daa\_1645188873]
- Advertiser

## Daily goal

**General**

Measurement Name: Daily Goal

Type: Numeric

Decimal Places: 0 (123)

Color: #FFA6A1

Description: diária a fazer = (objetivo - total servido)(data final - ontem)

**Advanced**

**Expression**

Aggregation Function: Auto

\* When setting a granularity or using Dimensions in your formula, you must select an aggregation Function.

```
1 * IF(NUMBER([AppNexus_Days_Missing])<0 && [Remaining_from_Goal]>0,0,  
2 * IF(NUMBER([AppNexus_Days_Missing])>0 && [Remaining_from_Goal]<0,0,  
3 * IF(NUMBER([AppNexus_Days_Missing])<0 && [Remaining_from_Goal]<0,0,  
4 * IF(NUMBER([AppNexus_Days_Missing])>0 && [Remaining_from_Goal]>0,[Remaining_from_Goal],  
5 * [Remaining_from_Goal]/(NUMBER([AppNexus_Days_Missing])+1))))
```

## % Served

**General**

Measurement Name: % Served

Type: Percent

Decimal Places: 2 (123.99)

Color: #5AC47E

Description: =total servido / goal

---

**Advanced**

---

**Expression**

Aggregation Function: Auto

\* When setting a granularity or using Dimensions in your formula, you must select an aggregation Function.

1 \* `[[Total_Served]]/[Goal]`

Search:

Dimension (366)	Functions (125)	Measurement (335)
Account Id (daa_1645188873)		
Account Name (User Details)		
Account Name (daa_1645188873)		

## % Progress

**General**

Measurement Name: % Progress

Type: Percent

Decimal Places: 2 (123.99)

Color: #FFBABC

Description: =(hoje - data inicial +1) / (data final - data inicial +1)  
porcentagem de tempo que já passou

---

**Advanced**

---

**Expression**

Aggregation Function: AVG

\* When setting a granularity or using Dimensions in your formula, you must select an aggregation Function.

```
1 * var days_missing = IF([AppNexus_Product] contains 'Performance' || [AppNexus_Product]='RecAd', [Days_Missing_Campaign_Leve  
2 * var progress = IF(NUMBER(days_missing)>0,NUMBER(days_missing)/[Total_Days],0);  
3 IF(progress<0, 1, 1 - progress)
```





**NOVA Information Management School**  
**Instituto Superior de Estatística e Gestão de Informação**

Universidade Nova de Lisboa