

Using Business Intelligence To Automate And Get The Best Results On Facebook Advertisements

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Abstract

A multi-feature Facebook ads account manager that adheres to the needs of people who sell products and services online. It consists of a variety of features, which includes monitoring of metrics like ad spend, cost per result, cost per click, click-through rate on an hourly, daily, three-day, weekly and monthly basis and use the data to make business decisions which include scaling the ads or making changes depending on the results, etc. It can also provide suggestions on what changes can be done and generate reports of the ad account.

Keywords: Facebook Ads, Digital Marketing, Lead Generation, Business Intelligence, Online Marketing, Social Media Marketing, Audience Targeting, Ad budget.

1. Introduction

In 2019 the worldwide digital advertising budget was over 330 billion dollars of which \$67.37 billion was spent on Facebook alone.[1] Because of the coronavirus pandemic, the E-Commerce industry boomed even faster.[12] Facebook is one of the biggest and easiest ways a person can advertise their products and services online.[14] Many new businesses are starting to come online and social media advertising will play a very important role in their growth.[2] Setting up Facebook ads[13] is very easy but what is difficult is managing and adjusting the ads on a day-to-day basis.

To tackle the problem Facebook brought many features like CBO[4] and automatic bidding, but they are only able to solve some part of the problem as they are not very customizable. Social media provides marketers with a lot of data these days, which help them segregate, interact, and target customers. With the increase in the amount of data, the business use of social media has increased multiple folds. However, to arrive at a quantifiable, reliable, and justifiable, conclusion it is very important to capture this data to further analyze and visualize it. This is where Business Intelligence[15] comes to our rescue.[6] It helps in analyzing massive amounts of data and provides important insights into patterns that indicate the behavior of the customers.

2. Problem Definition

2.1. Statement of Problem

To analyze different metrics[7] of ongoing Facebook ad campaigns and managing and optimizing them on the basis of thresholds and data provided along with creating reports and providing suggestions to improve the ads and get even better results.

To provide a solution by setting up a business intelligence system that tackles the ads management by following the rules and different parameters set by the user and managing Facebook ads according to their needs.

The parameters will include CPR(Cost per result)[9], CPC(Cost per click), CTR(Click Through

Rate)[8], CPM(cost per 1,000 impressions)[5], ROAS(Return on ad spend)[10], Total Amount Spent, Time Range, Attribution Window, End Date, Add To Cart[11] to Purchase ratio and click to purchase ratio.

2.2. Existing System

Facebook has launched a feature called CBO i.e. campaign budget optimization which lets the user allocate a budget for the whole campaign and Facebook uses the budget according to the results of particular ad sets.

Facebook also has an automatic bidding option to help the user automate ad management to some level. As of now Facebook ads manager lets users get to see the ad results in terms of metrics designed to understand what volume of engagement a particular ad got. The ads are grouped in 2 parts- campaign level and ad set level, each campaign has ad sets of a similar kind and each ad set has ads to be used in that ad set. The metrics[3] which help the most for people who are advertising to get sales of their product or services are:

1. **CPR** indicates how cost-efficiently you achieved the objectives that you set in your ad campaign. This metric can help you determine your bid for the other ad sets where you use manual bidding.
2. **CPC** is how much money is spent to get one user to click on the call to action button of the ad.
3. **CTR** is a metric that measures the number of clicks the ad receives per number of impressions.
4. **CPM** is a common metric used to gauge the cost-effectiveness of an advertising campaign. It's often used to compare performances between different ad publishers and campaigns.
5. **Add to cart** and **Initiate checkouts** are two other metrics to track at what stage the user left, or did not purchase the product/service.

To be able to get the best results a user has to keep a track of each metric on an hourly or daily basis because the values keep fluctuating depending on how well they get optimized by Facebook. As of now, people either spend long hours to manage ads or hire people to do it.

3. Proposed System

The current system is inefficient because users either have to spend time or money to keep the ads optimized. This system will be a one time process where the user has to set

conditions and parameters for the metrics and the system will optimize the ads automatically, there will also be an update sent to the user and confirmation required before making any major change.

Advantages of the Proposed System:

1. Only enter parameters once and the ads are automated.
2. No worrying about constant data tracking.
3. Weekly and monthly reports.
4. Suggestions on changes to make which include ad copy, ad budget.
5. Set custom triggers/parameters.
6. Set a maximum budget and not go past that value.
7. Suggestions to switch to CBO etc.
8. Set parameters for campaigns individually.
9. Manage CBO and ABO campaigns without having to specify it.
10. Increase ad spend to drive more sales.
11. Stop unnecessary ad sets and utilize the budget in other ad sets or the overall campaign.
12. Comparison of different ad copies.

Steps to build the proposed model:

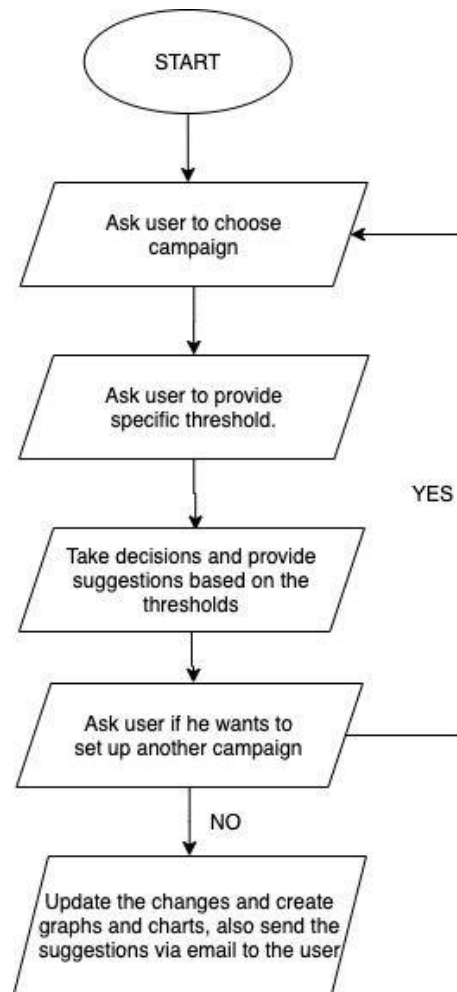
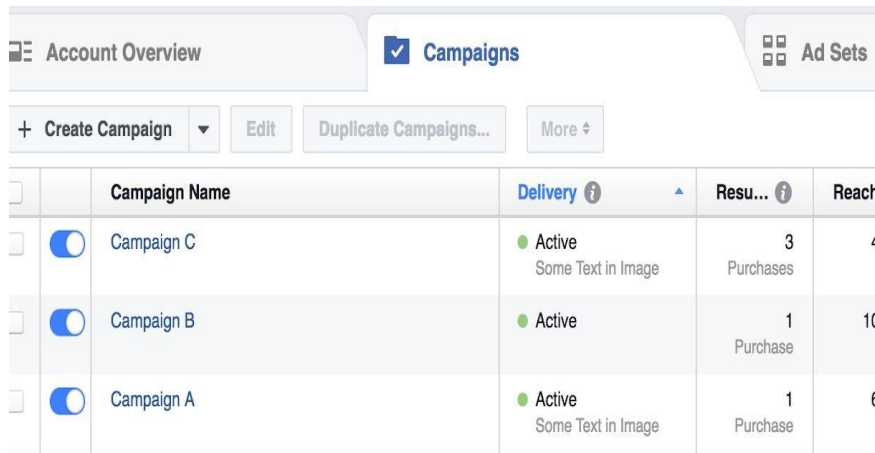


Figure 1.1

Steps for building the proposed model:

Step 1. Ask the user to choose the campaign.

Asking the user to login to his Facebook account is the first step. In this step, the user also has to select the business manager and ad account which he wants to automate. Once all the required data is provided the user has to select one of the many campaigns he wants to automate.



The screenshot shows a user interface for managing campaigns. At the top, there are tabs for 'Account Overview', 'Campaigns' (which is selected), and 'Ad Sets'. Below the tabs, there are buttons for '+ Create Campaign', 'Edit', 'Duplicate Campaigns...', and 'More'. The main content is a table with the following columns: 'Campaign Name', 'Delivery', 'Resu...', and 'React'. The table contains three rows of data:

	Campaign Name	Delivery	Resu...	React
<input type="checkbox"/>	Campaign C	Active Some Text in Image	3 Purchases	4
<input type="checkbox"/>	Campaign B	Active	1 Purchase	10
<input type="checkbox"/>	Campaign A	Active Some Text in Image	1 Purchase	6

Figure 1.2

The above figure 1.2 shows the list of campaigns from which the user can choose his desired campaign.

Step 2. Ask the user to provide threshold values.

This is the most important step because the user has to provide the threshold values of the campaigns. The user can choose between how many thresholds he wants to provide the minimum number being one.

The threshold values for Maximum CPR, Minimum CTR, Minimum ROAS, Maximum daily budget, Minimum ATC to Purchase ratio, and Minimum Initiated Checkours to Purchase Ratio have to be provided here.

Step 3. Make decisions and give suggestions based on the thresholds provided in step 2.

The primary task to be done in this step is to fetch campaign data of the campaign selected by the user. Data should include details about hourly, daily, 3 day, and 7 days data of the campaign chosen.

After this, the threshold values have to be matched with the data. For example, if the maximum CPR threshold is 100 then the data which shows the CPR of different durations has to be compared. Once the data is compared all the campaigns with a CPR lower than the threshold have to be separated from the ones with a CPR higher than the provided threshold.

If the daily ad spend of the ad sets with CPR lower than maximum CPR is less than the maximum budget the ad spend a budget of each ad set can be increased by 10% daily in case of ABO campaigns and the overall CBO budget can be increased by 20% once the non-performing ad sets of the CBO are paused.

After another 24 hour duration, the ad sets with lower CPR have to be shut down or paused. If the daily budget is the same as the current budget then a notification can be sent to the user stating to increase the budget if the user wants more results.

All the changes performed in the above example should be properly noted in a document and sent to the user at the end of the day. Inspection of individual ad copies can also be done to compare their difference in ATC to Purchase ratio.

Step 4. Ask the user if another campaign is to be automated.

If multiple campaigns are to be automated, the user can repeat the steps 1 and 2 for every campaign.

Step 5. Repeat the process every 24 hours.

The process has to be repeated with each campaign every day until the user requests to stop the automation. Graphs, reports, and suggestions can be sent daily and a weekly summary can also be generated for a better perspective.

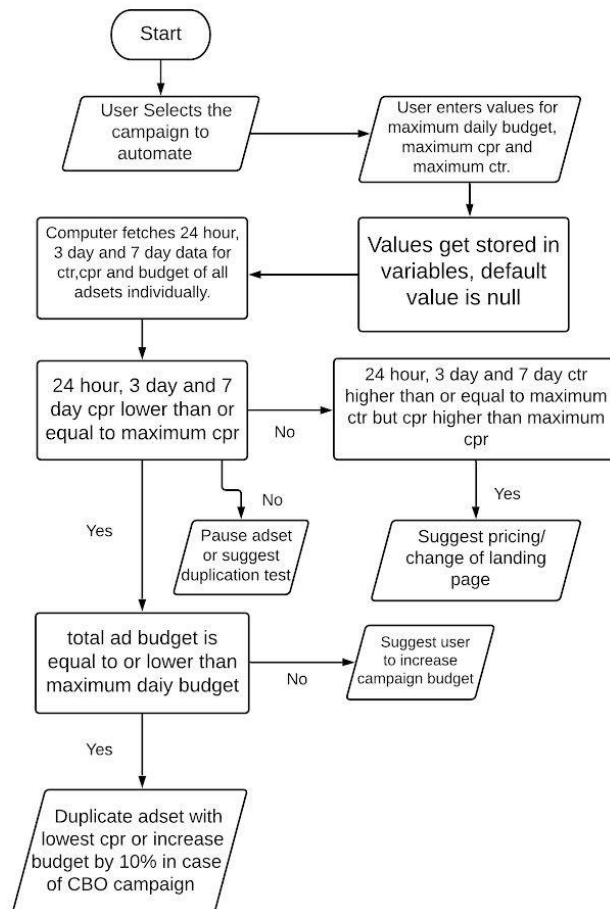


Figure 2.1

The above flowchart (Figure 2.1) shows how the algorithm behind decision making works.

4. Conclusion

The main goal of this project is to solve the problem of eCommerce and business owners who are unable to give their time to manage and optimize their ads on Facebook. The research provides a way to automate Facebook ad campaigns and optimize them at the same time. By the reference of our project, anyone can successfully build an ad manager Automator. So I believe this research will stand helpful and add value to your work. This research will be helpful for eCommerce business owners, small business owners, freelancers, and everyone who wants to sell goods and services online.

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Glossary:

1. CBO - Campaign budget optimization (CBO) makes the most efficient use of your budget spending to get you the overall best results, and ensure that the cost of those results align with your bid strategy.
2. ABO - Adset Budget Optimization allows you to set a budget for each adset individually.
3. CTR - Click-through rate is a metric that measures the number of clicks advertisers receive on their ads per number of impressions.
4. ROAS - Return on ad spend.
5. CPM - Cost per 1000 impressions.
6. CPC - Cost Per Click refers to the actual price you pay for each click in your pay-per-click marketing campaigns.
7. CPR - Cost per result is the end goal of your entire advertising campaign.
8. Ad set - Ad sets are groups of ads that share settings for how, when, and where to run. When you create an ad set, the choices you make at the ad set level automatically apply to all of the ads in the set.
9. Campaign - Ad campaigns are made up of ad sets.
10. Ad copy - When creating ads for a Facebook Page, the content which is to be advertised is uploaded. It can be either an image, a carousel or a video. Along with the media, a call to action, url links and other text is also provided. All this combined is an ad copy.
11. Adspend - A budget is applied to the ad set as a whole. It is not determined per ad. The total amount you spend on a campaign depends on how much money you allocate to each ad set.
12. ATC - Add to cart
13. IC - Initiated checkout

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