

Ad Campaign TV Screens



JANUARY 11

Vijay Sales

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Executive Summary

The goal of this report is to give insights regarding the set-up of a fictional SEM marketing campaign for the course “Big Data and Artificial Intelligence in Marketing” at IE Business School in November 2022 to January 2023.

The aim was to show how an existing company could set-up such a campaign in a structured approach.

The starting point was a dataset found on the internet (Kaggle) that was applied to the Indian electronics retailer “Vijay Sales”. Based on there product portfolio Vijay Sales. The results were four different marketing campaign for four different customer groups resulting in a potential revenue stream of up to ₹ 147 mn, which is the equivalent to 1.82 mn dollar within four weeks.

1.Introduction

Vijay sales an electronics retail chain from India with 120 physical store all over India. Vijay Sales wants to increase the sales for TV screens through e-commerce during the next Diwali festival. Diwali also known as the Festival of Lights is the biggest national holiday in India and comparable to Christmas in many western countries or Chinese New Year in China. Same as its pendant from many other countries (most famously 'Black Friday before Thanksgiving') this holiday is used to promote products to potential customers as those days to exchange gifts. The next Diwali takes place from Sunday, 12th November till Thursday, 16th November.

To be prepared accordingly Vijay sales wants to set-up 3-4 search engine marketing campaign to attract most customers the month before Divali.

2.Approach

To address the topic, the following approach was chosen

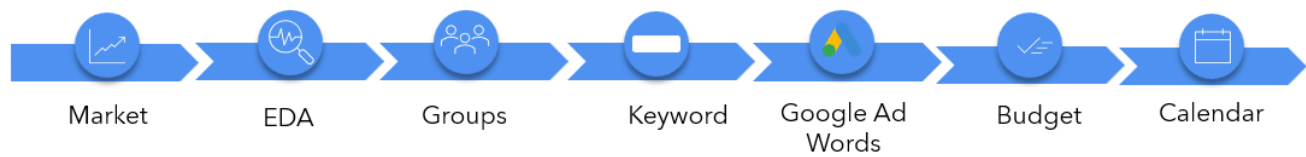
First the TV market in India and Vijay sales was analyzed to get a better understanding between the two and how a marketing campaign should be structured.

In the next step a exploratory data analysis was done on basis of current product portfolio of Vijay Sales and the existing TV market in India.

Based on those insights' customer groups were formed and assumptions were formulated that characterizes the groups.

Both of the previous points were combined to create a first set of keywords through Python.

Those keywords were introduced in the Google Ad Words campaign manager and checked for relevance.



3. Market

The India TV market size was valued at USD 1.42 billion/116 bn rupees in 2020 and is expected to expand at a compound annual growth rate (CAGR) of 16.8% from 2021 to 2028. The market is expected to benefit from rising disposable income and over-the-top content on a bigger screen.¹ The penetration of smart TV will grow up to 93% next year enabling a lot of opportunities for retailer.

Most common are screen sizes between 32-55 inches. But there is also a market for screens below and above. The most common sizes between 32-55 inches offer a good comprise between the fact that families in India tend to sit around the TV while eating, which requires a particular size at the same time affordable offers can be found for those ranges.

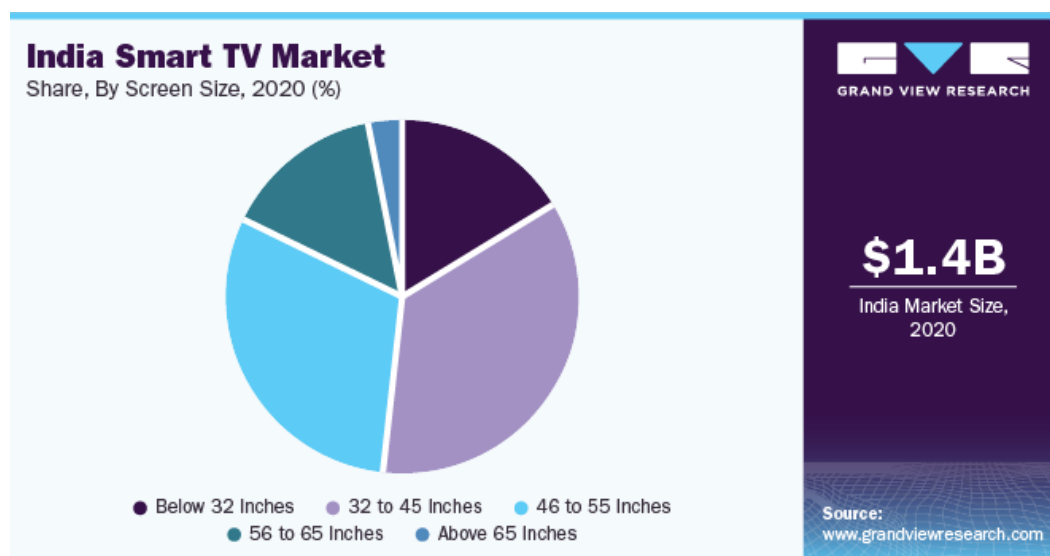


Figure 1 TV market in India

¹ <https://www.grandviewresearch.com/industry-analysis/india-smart-tv-market-report>

Given that the average monthly income in India is only around 21,000 rupees which translated to 200 USD, especially models under 20,000 rupees are attractive to the wider population. At the same time there is a big wage inequality in India and those earning more than 25,000 rupees ~ 250 USD already belong to the best earning 10% of India. This is a vastly growing group that needs to be considered for high-price TV screen offers.

4.Explorative Data Analysis

To start off with the best marketing strategies, the current product portfolio of Vijay sales for TV needs to be studied and product groups need to be identified that can be matched to customer groups. The EDA will help to identify those

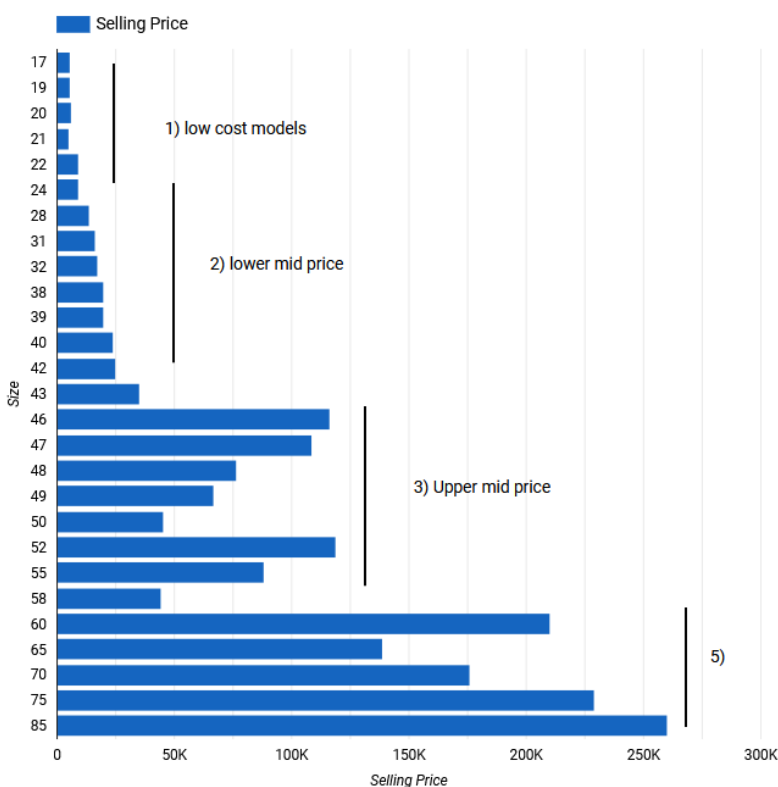
The following questions were addressed with regards to Vijay current product portfolio:

- 1) How are price and size of TV related?
- 2) How are price and brand related?
- 3) What role does the operating system of the television play?
- 4) What roles does the resolution of TV play?

Those were the outcomes of those questions:

- 1) Price and size are positive correlated. We were able to identify 5 groups: low cost (17-24 inch), lower mid price range (28-43 inch), upper mid price (46-58), screen mid sized (50,58), luxury (60 inch)

1) How are prize and size related?



In general Vijay sales has 27 different screens in product portfolio from 17 inch to 85 inch. With growing size also the selling and original price is increasing.

Based on the selling price the following groups are proposed:

1) low cost models with screen size 17-24 inch as prices are similar. or only increasing a bit

2) lower mid price range with screen size 28 and 43 inch, as there is a jump from 24 to 28.

3) upper mid price range with between 46 and 58

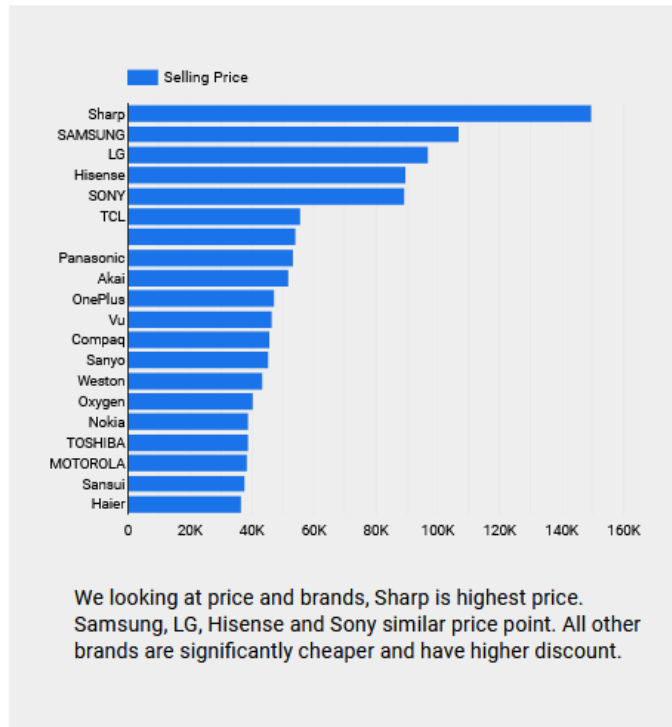
4) two exception can be noted in the upper mid price range which is A size 50 and 58 have a price cut around a half compared to other models with similar price segments. They are grouped in a separate of discount screen mid sized

5) all screens above 60 inch are considered luxury screens which have the highest selling price

Takeway: Price and size are related. We can differentiate between 5 different groups that can be used for keywords.

Figure 2 Dashboard outcome prize and size

2) For price and branding, we can see that Sharp is a high price brand, with only low discounts. Samsung, LG, Hisense and Sonly are upper mid price brands with more discount. Detel, Blaupunkt and TCL are low price brands with high discount.



	Brand	Discount in % ▾	Selling Price	Record ...
50.	Hisense	17.69	89,795.4	10
51.	Sansui	17.65	37,671.94	18
52.	Mi	16.67	30,787.05	19
53.	Sharp	15.92	149,672	8
54.	AISEN	14.39	35,462.5	8
55.	OnePlus	13.62	47,375.78	9

1 - 58 / 58 < >

When taking the discount we can see that Detel has the highest discount going as high as 60% of the original price. High end brands like Samsung, Sharp and LG have a discount price lower than 25%. Mid price brands are costing between 25-50k and have a discount between 25-35%. The rest is low cost

Takeaway keywords: Sharp Samsung, LG, Hisense and Sony should be promoted a a high price brand, as mid price brands. Brans like Detel, TCL and blaupunkt can be highlight for their discount programs.

Figure 3 Dashboard outcome impact of brand

- There is a variety of operating system in television. However the rating and price does not seem to play a major role when it comes to Operating systems. What should be considered is that upper mid price television from Samsung and LG use distinctive systems that could be use for key words.

3) Effect of operating system

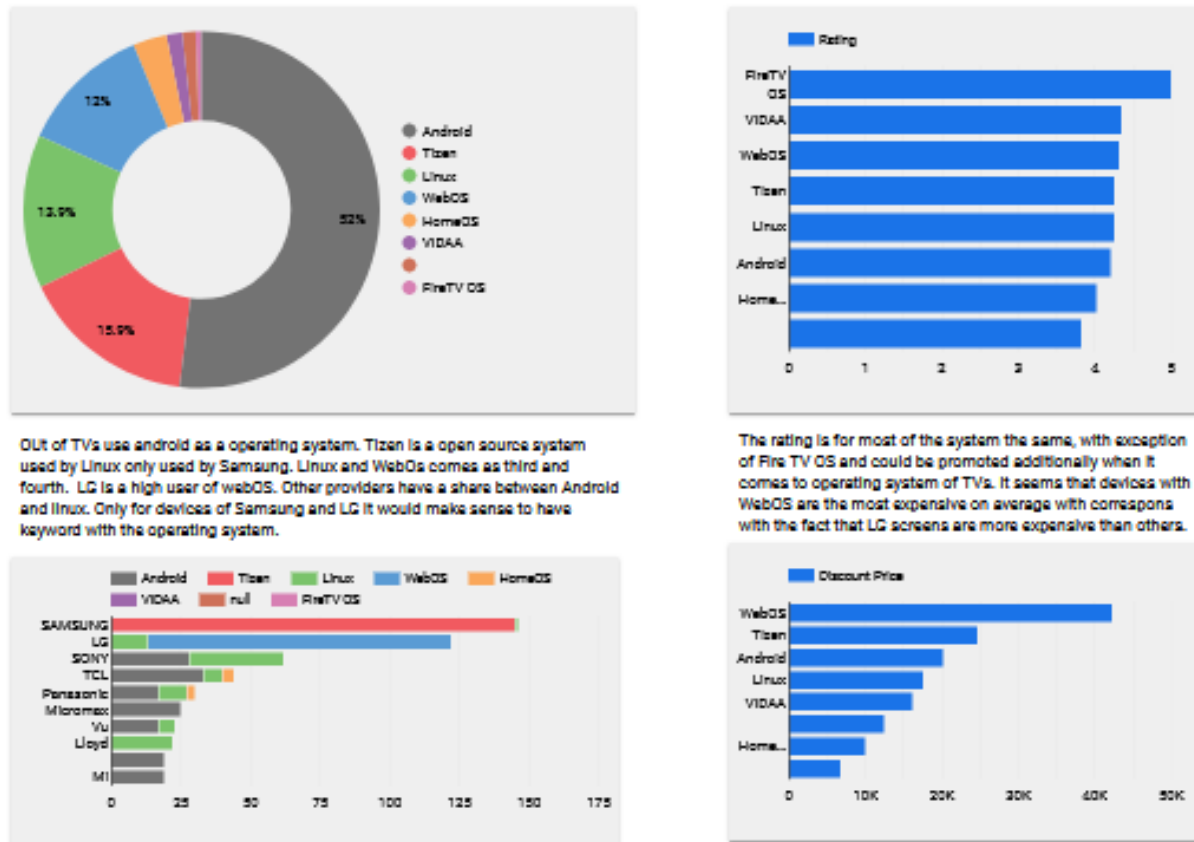
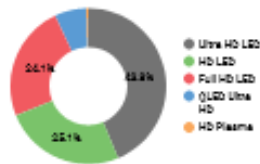


Figure 4 Dashboard outcome effect of OS

- 4) Regarding the resolution we can see 5 different technologies in use. Ultra HD being the most modern one and therefore more expensive and has a high resolution. QLED is a proprietary technology of Samsung that is a USP in the high price sector. Screens with an older technology like HD Led or Full HD are also smaller in size and price.

4) What Role does the resolution play

4.1. Connection Brand/Resolution



The most common resolution is Ultra HD LED, making almost half of the TV screen,

Followed by HD LED and Full HD LED.

QLED and HD Plasma have a market share around 7%.

QLED is a newer technology compared to Ultra HD and only available for Samsung devices.

Ultra HD is an advancement of HD LED and FULL HD.

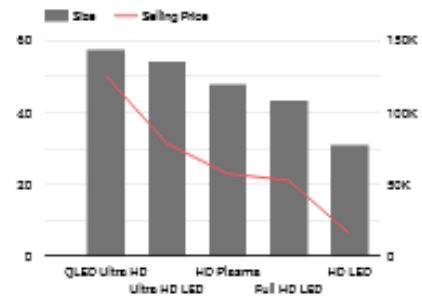


When looking at the resolutions in comparison to the brand:

a) Samsung uses a mix of Ultra HD LED and FULL HD, but also has 25% share of QLED screens (their proprietary technology).

b) LG and Sony focuses mainly on Ultra HD and then with around 20-25% on Full HD.

4.2. Connection size and resolution



Comparing resolution and size, we can see that the newer resolution technologies like QLED and Ultra HD also have a higher average screen size of 50-60 inch, while older technologies like HD have smaller screens. Here also the price goes down the older the technology of the resolution is.

Take away:

- 1) We can promote brands like Samsung especially for bigger screens and their QLED technology.
- 2) For LG and Sony a promotion of Ultra HD makes sense.
- 3) All other brands can be promoted without having a specific keyword of screen resolution.

Figure 5 Dashboard Outcome role of resolution

5. Groups

Based on the EDA and spending behavior we derive four groups. Each group will receive later on a dedicated campaign. Even though there are customers for devices in between those four groups help to simplify a mutual exclusive approach.

Group	Brand	Price	Discount	Resolution	OS	Size
High end price/ High tech	Sharp, LG, Sony	More than 100k	<25%	Ultra HD LED,	WebOS, Android	>58 inch
Samsung fans	Samsung	More than 100k	<20%	QLED	Tizen	>58 inch
Casual user	Haier, Llyod and Philips	25-60k	25-40%	HD, Full HD	-	28-46
Low price	Detel, Cooca, G-Ten	<25k	>40%	HD, Full HD	-	17-24

Table 1 TV attributes per group

5.1. Group 1: High end price/High tech group

This group has more budget than the average Indian customer and likes to spend it on technology. He or she is likely to work in the technology industry in which India has itself made a name in the last decade. Given the income and the employment the typical customer of this group can afford living in an urban area like Mumbai or Delhi and is likely to have a university degree. The typical customer in this group is interested in technical details like resolution, the OS or the size rather than prices or a particular discount.

5.2. Group 2: Samsung fans

The second group, the “Samsung fans” are a sub-group of group 1 and share all of their attributes. What separates them from group 1 is their brand affinity for the South-Korean technology company. A typical Samsung fan is likely to own more than 1 device from Samsung and directly searches for this brand when adding a new electronic to their portfolio. This customer is familiar with all of the product details and the proprietary technology attributes like Tizen and QLED of Samsung and search straight for them.

The choice of separating Samsung from other high-tech brands in the first group was made consciously due to the fact that Samsung is the highest-rated company in India.²

5.3. Group 3: Casual users

The third group, the “Casual users” is a conglomerate of different users that can be further broken down in further studies. A typical representative of the casual users are families. Typically, more than one family member would contribute for the acquisition of a TV screen as it is used in the group for family gathering or during dinner. Studies show that 82% of the population watches TV together.³ For this group technical details like resolution is not as important as an average size, but also the TV being affordable.

² <https://www.sammobile.com/news/samsung-electronics-gets-highest-index-score-among-indian-residents/>

³ <https://bestmediainfo.com/2018/10/82-of-population-watches-tv-together-impacting-choice-of-content-barco-india>

When it comes to the brand in general there is no strong affinity like in group 1 or 2, but Indian brands are favored due the patriotism and national pride of the customers of this group.

5.4. Group 4: Low price

A typical customer of this group earns below average and earns barely enough money to cover existential needs. Buying a TV screen is a luxury and should cost as less as possible Main characteristics this group is interested in is the low price point as well as big discounts. There is no affinity in terms of brand. The customer is likely to have no or a basic education. A TV might be the sole medium in the household.

6.Keywords

To find the best keywords based on the attributes of TV screen given so far, Python is used with the library “advertools”. Each of the 4 groups receives an own table of keywords including the following elements.

1. Products (list of product)
2. Words that indicate if someone wants to buy or learn
3. Maximum lens tells if words should be combined
4. Campaign name as name of the campaign
5. Match of keyword and entry of customer (phrase, match, build)
6. Keywords as a combination of products and words

The keywords of the table are introduced in the next step within Google Ad Words to have a first match and iterate on the suggestion of Google Ad Words itself.

7.Google Ad Words

After keywords have been created Google Ad words was used to create the respective campaigns. For all the campaigns the goal was to increase the website traffic first. Potential other actions like sales, leads or brand awareness, other functions of Google Ad Words, were not realized in this stage due to the inexperience of Vijay Sales with Ad words and the need to test it out first.

Furthermore it was also decide to limit the campaign type to “Search” for the same reasons.

All campaigns were set between 16th Oct and 16th November which is the month before Divali, where most of the user are likely to shop. The display time for group 1 and 2 was limited to the evening 6pm and midnight as they are likely to work longer than customers from group 3 and 4, who would already receive ads starting at 3 pm.

7.1. High tech/end TVS

The first group of high price user or high tech users received will receive the following campaign.

Location

As location only bigger cities were chosen, as the five biggest cities in India also inherit the wealthiest people able to afford the respective products

Language

Language set to only English

Personal details

Affinity groups for this group center around technology, media and entertainment. Furthermore singles and people with advanced degree were targeted

Targeted locations (5)	Reach ⓘ ⊗
Bengaluru, Karnataka, India city	35,500,000 ⊗
Chennai, Tamil Nadu, India city	12,200,000 ⊗
Delhi, India union territory	38,600,000 ⊗
Hyderabad, Telangana, India city	34,800,000 ⊗
Mumbai, Maharashtra, India city	25,300,000 ⊗

Figure 6 Google Ads words location for campaign 1

Ad · www.vijaysales.com/ ⓘ

Huge Range Of Products | Large Selection | Smart TVs

Online Electronics Shopping Store in India | Vijay Sales. Get exciting deals & offers. Shop now.

<p>Home Theater Kit</p> <p>Accessoire Home Cinema</p>	<p>Sony TV</p> <p>High resolution and quality 4k bluetooth smart TV</p>
<p>Sharp TV 4k</p> <p>Best resolution Smart TV</p>	<p>LG TV QLED</p> <p>High resolution above 66 inch</p>

Figure 7 Ad for group 1: High end/high tech TVs

The ad itself center around the selection of smart TV. Sitelinks were added to lead to respective brands between which the customers can choose. Furthermore accessories like a home theater kit is advertised to promoted cross-selling as the customer of this group is likely to invest even more in a complete home cinema experience.

7.2. Samsung fans

The second group was designed as the first group as it is basically a subgroup. What was adapted was the affinity for the Samsung brand in particular.

Same as the first group, the ad for this group is putting more emphasis on quality and resolution than price. For example, was also the product characteristic of QLED highlighted in a sub advertisement. Furthermore, the accessories of a soundbar was highlighted as a customer from this group would try to complement his/her equipment.

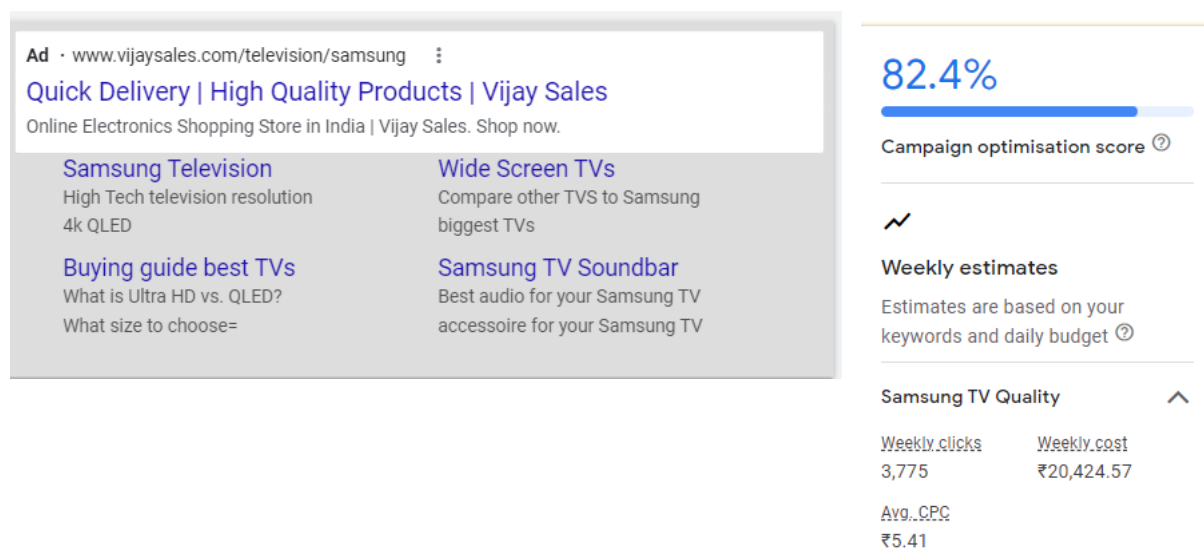
Ad · www.vijaysales.com/television/samsung ⓘ

smart tv | High Quality Products | Vijay Sales

Online Electronics Shopping Store in India | Vijay Sales. Shop now.

<p>Samsung Television</p> <p>High Tech television resolution 4k QLED</p>	<p>Wide Screen TVs</p> <p>Compare other TVs to Samsung biggest TVs</p>
<p>Buying guide best TVs</p> <p>What is Ultra HD vs. QLED? What size to choose=</p>	<p>Samsung TV Soundbar</p> <p>Best audio for your Samsung TV accessoire for your Samsung TV</p>

Figure 8 Ad for group 2: Samsung fans



7.3. Casual user

Location and language

In contrast to group 1 and 2, this group is not limited to cities, but the entire country. Main language is English.

Affinity and interest

However, when it comes to interest this group is rather centered around amily activities and also interested in seasonal shopping rather than television or electronics specifically. Technical details are rather secondary, most important is a fair price and the size that allows several persons, normally a family to use the device.

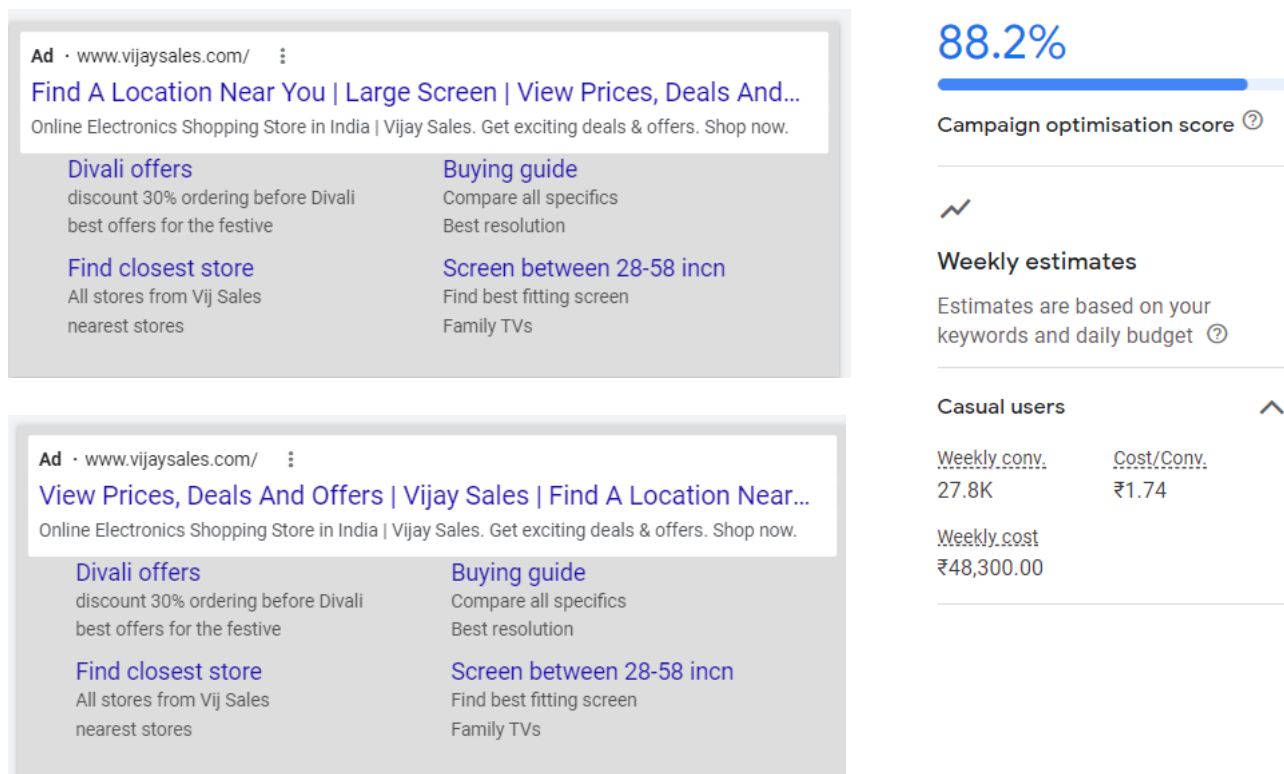


Figure 9 Ad for group 3 casual users

Description and text are centered around good delivery possibilities or availability. Furthermore this group searches for special offers during the time of Divali to use the budget for the device wisely.

Given that many members of the family will participate in the decision to buy a TV, the buying guide will enable a comparison between different devices and technicalities, which group 1 or group 2 are more educated about.

7.4. Cost sensitive

Location and language

Same as the third group, this group is not limited to cities. In this group also members are more focused around being cost effective and saving costs. English is not the only language the member of this group speak, but they might be only fluent in their mother tongue Hindi, Bengali or Marati.

Affinity and interest

This group has a bigger emphasis on discounts and price than all of the other three groups and they are looking for the best deals overall. Compared to the other groups they spend more time finding the best offer and are less likely to convert directly which results also in a lower conversation rate (see financial planning). As group 3 there are less keywords with regards to technical details, but rather to price or even availability.

One side link also offers the possibility of buying a firestick, which is an external extension in the device and less cost intensive then an entire TV Smart TV.

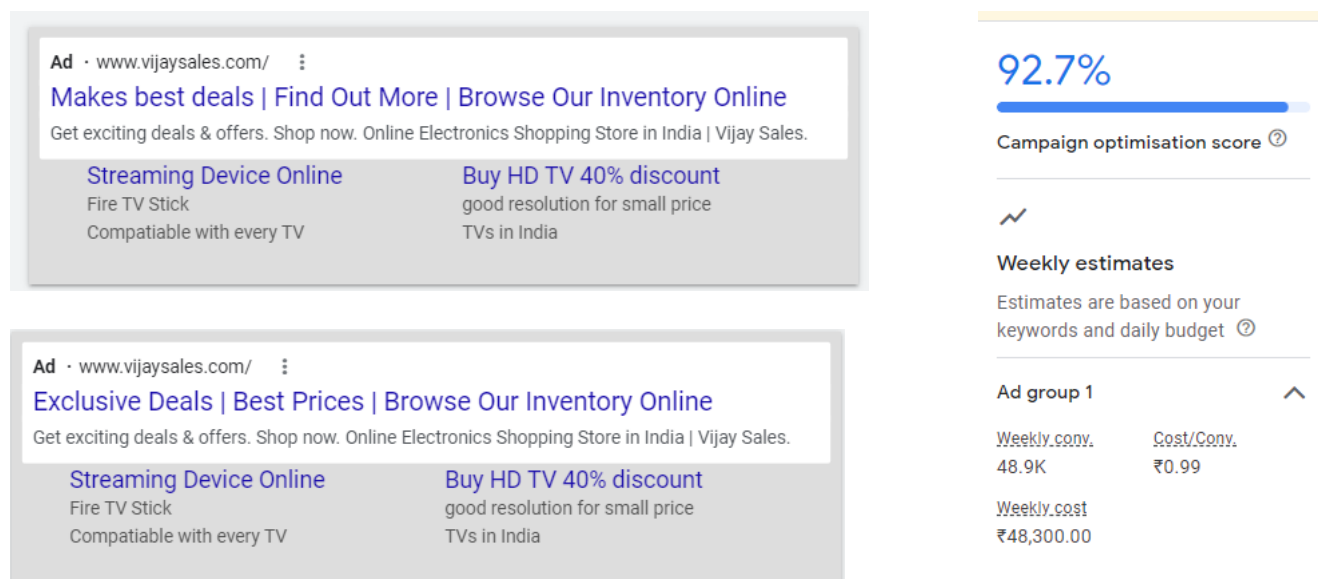


Figure 10 Ad for group 4: Cost sensitive users

8. Budget

The click per cost was calculated by Google Ads individually based on the parameter set. As group 1 and 2 were more exclusive and lucrative the budget for cost-for-click was set around 5X higher than the other two. At the same time the expected amounts of clicks were also 5 times lower. You have to bid higher for the target customer of group 1 and 2 as their willingness to spend money is in general higher and therefore more ads from other companies are directed at them.

To calculate the outcome two scenarios: worst and best case scenarios were chosen with different conversion rates (conversion from click-to-buy) showing that a change of 0.5% or 1% of conversion rate can already have an impact of ₹ 30mn

The overall costs for the campaigns is actually higher for group 3 and 4 by ₹ 50000. At the same time campaign 1-3 are eagerly lucrative bringing a revenue of around

Potential follow-up actions would be to rearrange campaign 4 for cost sensitive user due to the worst ratio of costs vs. revenue.

The details of the budget can be found in the attached table. In general the marketing cost only to Google would make only 1% of the total returns done through. This calculation does not consider fees given to a potential marketing company now.

9. Calendar

To implement and redefine the respective steps in real life, it is also important to have a timeline which steps should happen when. For the entire campaign management three months were planned.

Starting with customer interviews in September 2023. The customer interviews should help to understand the perspective of the customer and already brainstorm about potential keyword.

In the next step those keywords are created and tested with customers if they find them appealing. Possibilities here would be A/B testing between two different ads to see which ads reflects better the needs of the customer.

In October the campaign should be prepared and set up in google ads manager.

Mid October to mid-November the campaign is then set live and monitored. Eventual adjustments are performed in the Google ad directly

After the festival mid-November, there will be retrospective workshop to make that marketing teams conducts the right learnings.

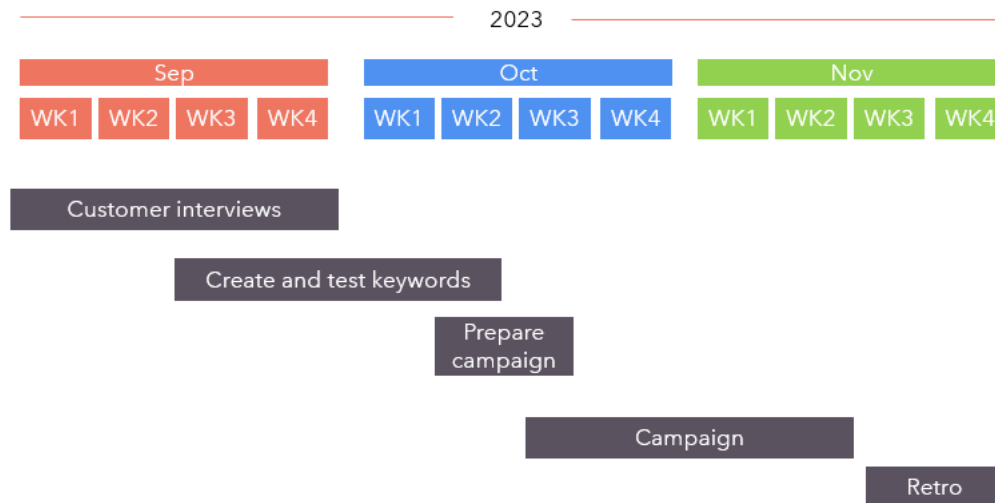


Figure 11 Calendar Outlook

10. Appendix

Dataset: <https://www.kaggle.com/code/devsubhash/tv-brands-market-analysis-eda>

Dashboard: <https://datastudio.google.com/reporting/9f18025a-6d2a-4078-b0d2-c198d9bfe864>

