XYZ Ads Airing Report Analysis

Project Description:

In this Project, we were provided with a dataset having different TV Airing Brands, their product, their category. Dataset includes the network through which Ads are airing, types of network like Cable/ Broadcast and the show name also on which Ads got aired. You can also see the data of Dayparts, Time zone and the time & date at which Ads got aired. IT also includes other data like Pod Position (the lesser the valuable), duration for which Ads aired on screen, Equivalent sales &, total amount spent on the Ads aired.

As a Data Analyst in XYZ Ads Airing Company we need to analyze the brands and their advertisement strategies and most favorable brand of ads and highest share of brands.

Approach:

For this project first I go through the dataset to understand all the columns then I check for the missing or duplicate values and decide whether to drop the column or keep it. Secondly I read the problem statement and try to answer it using EDA in Excel using formulae and pivot table.

Tech-Stack Used:

In this project I used MS Excel 2016 for both analysis and manipulating the data.

Insights:

During this project I learned new formulae and function (i.e. if function) I also learned how to do competitive analysis and using both pivot table as well as function to do my job. I learned proper use of bar graph and stack graph and how to use graph if there are so many variables.

Tasks:

A. **What is Pod Position? Does the Pod position number affect the amount spent on Ads for a specific period of time by a company? (Explain in Details with examples from the dataset provided)**
   An ad pod is a group of ads that are sequenced together to be played back-to-back within a single ad break/placement, similar to ad breaks in traditional linear TV. Ad pods give publishers the opportunity to maximize revenue from each ad break and give advertisers more control over ad positioning.
   They allow publishers to return multiple ads from a single ad request, and then those ads are played in sequence.
   Yes, Pod position number affect the amount spent on Ads for a specific period of time by a company, As we see in below fig the amount spend on initial pod position were higher than the amount spend on later pod position.

Example: If we see amount spend in Honda Cars according to pod position we see initially up to 10 position amount spend increase but after that it decreases.

Brand	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Honda Cars	$ 512	$ 535	$ 564	$ 603	$ 556	$ 599	$ 618	$ 595	$ 635	$ 669	$ 643	$ 614	$ 617	$ 514	$ 516	$ 418	$ 331	$ 279
Maruti Suzuki	$ 1,730	$ 1,776	$ 2,163	$ 2,334	$ 2,252	$ 2,226	$ 2,082	$ 1,924	$ 1,892	$ 1,988	$ 2,083	$ 2,311	$ 2,213	$ 2,400	$ 2,372	$ 2,603	$ 2,453	$ 2,449
Hyundai Motors India	$ 2,888	$ 1,811	$ 2,467	$ 3,359	$ 2,518	$ 2,621	$ 2,324	$ 2,611	$ 2,477	$ 2,110	$ 2,139	$ 2,446	$ 2,551	$ 2,170	$ 2,015	$ 1,891	$ 1,971	$ 1,469
Toyota	$ 2,155	$ 1,691	$ 1,758	$ 1,656	$ 1,478	$ 1,415	$ 1,362	$ 1,424	$ 1,665	$ 1,822	$ 1,730	$ 1,835	$ 1,499	$ 1,976	$ 1,350	$ 1,412	$ 1,528	$ 2,261
Tata Motors	$ 1,209	$ 1,124	$ 1,202	$ 1,210	$ 1,190	$ 1,202	$ 1,183	$ 1,049	$ 1,091	$ 1,005	$ 1,090	$ 1,234	$ 1,149	$ 1,100	$ 991	$ 1,057	$ 653	$ 681
Mahindra and Mahindra	$ 3,723	$ 2,394	$ 2,543	$ 2,734	$ 2,632	$ 2,490	$ 2,228	$ 2,229	$ 2,140	$ 2,094	$ 2,192	$ 2,277	$ 2,329	$ 2,929	$ 2,720	$ 1,965	$ 2,528	$ 3,204

Fig 1: Amount Spend vs Pod Positon

B. **What is the share of various brands in TV airings and how has it changed from Q1 to Q4 in 2021?**
   For this Problem statement first I created a new column name Quarters in which there are 4 quarters based on month of Ad Airing. After that I used pivot table and find out percentage share of various brands in TV airings both in case of sum of Amount Spending and Ads Count quarter wise from Q1 to Q4.

Sum of Spend ($)	Column Labels				
Row Labels	Q1	Q2	Q3	Q4	Grand Total
Honda Cars	3.80%	2.82%	3.90%	3.18%	3.47%
Hyundai Motors India	13.62%	12.51%	12.55%	12.97%	12.98%
Mahindra and Mahindra	27.63%	30.84%	30.18%	25.57%	28.53%
Maruti Suzuki	40.39%	39.71%	39.53%	40.80%	40.12%
Tata Motors	5.92%	5.01%	4.72%	12.60%	6.81%
Toyota	8.64%	9.12%	9.13%	4.89%	8.09%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%

Fig 2: Percentage Share of Amount spend on ads for different brands quarters wise

Count of Id	Column Labels				
Row Labels	Q1	Q2	Q3	Q4	Grand Total
Honda Cars	12.44%	9.77%	12.99%	11.29%	11.65%
Hyundai Motors India	10.48%	9.84%	9.17%	9.23%	9.74%
Mahindra and Mahindra	19.71%	24.01%	22.05%	13.57%	20.21%
Maruti Suzuki	38.78%	37.31%	36.55%	41.10%	38.30%
Tata Motors	10.12%	7.62%	8.03%	20.93%	11.07%
Toyota	8.46%	11.45%	11.21%	3.87%	9.02%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%

Count of Id

Ads Count Share

Percentage Share — 50.00%, 40.00%, 30.00%, 20.00%, 10.00%, 0.00%

Brands: Honda Cars, Hyundai Motors India, Mahindra and Mahindra, Maruti Suzuki, Tata Motors, Toyota

Quarters: ■ Q1 ■ Q2 ■ Q3 ■ Q4

Brand ▼

Fig 3: Percentage share of ads count for various brands quarters wise

C. Conduct a competitive analysis for the brands and define advertisement strategy of different brands and how it differs across the brands.

In this analysis, I considered columns, Dayparts, Spend, Brand, Ads count, and network type.

Brand	Count of Ads									Sum of Spend ($)									Total Count of Ads	Total Sum of Spend ($)
	DAYTIME	EARLY FRINGE	EARLY MORNING	EVENING NEWS	LATE FRINGE	OVERNIGHT	PRIME ACCESS	PRIME TIME	WEEKEND	DAYTIME	EARLY FRINGE	EARLY MORNING	EVENING NEWS	LATE FRINGE	OVERNIGHT	PRIME ACCESS	PRIME TIME	WEEKEND		
Honda Cars	17.63%	14.75%	16.50%	12.01%	5.88%	10.33%	8.01%	6.95%	9.62%	8.61%	8.16%	7.38%	3.79%	2.24%	6.64%	2.14%	1.37%	2.18%	11.65%	3.47%
broadcast	14.81%	11.54%	7.88%	10.89%	8.74%	18.27%	12.51%	9.77%	14.89%	32.75%	41.08%	21.55%	21.72%	31.41%	60.01%	34.05%	11.49%	34.79%	12.44%	30.74%
cable	85.19%	88.46%	92.12%	89.11%	91.26%	81.73%	87.49%	90.23%	85.11%	67.25%	58.92%	78.45%	78.28%	68.59%	39.99%	65.95%	88.51%	65.21%	87.56%	69.26%
Hyundai Motors India	7.85%	9.13%	9.04%	9.44%	9.73%	11.97%	12.50%	11.19%	10.11%	7.05%	10.13%	12.38%	9.66%	8.92%	7.49%	12.21%	17.01%	14.26%	9.74%	12.98%
broadcast	2.47%	1.14%	5.62%	1.20%	3.60%	5.35%	5.79%	13.18%	12.08%	20.69%	5.45%	64.99%	2.98%	24.65%	17.61%	10.59%	58.61%	62.21%	6.73%	47.95%
cable	97.53%	98.86%	94.38%	98.80%	96.40%	94.65%	94.21%	86.82%	87.92%	79.31%	94.55%	35.01%	97.02%	75.35%	82.39%	89.41%	41.39%	37.79%	93.27%	52.05%
Mahindra and Mahindra	21.10%	19.51%	15.53%	17.81%	23.32%	11.71%	16.99%	23.45%	22.16%	36.58%	27.17%	17.23%	28.86%	27.32%	20.24%	16.31%	29.95%	28.72%	20.21%	28.53%
broadcast	11.20%	2.07%	4.34%	6.07%	9.40%	28.49%	2.82%	9.59%	8.65%	43.77%	2.60%	55.36%	43.14%	42.63%	39.15%	10.09%	52.52%	50.47%	9.34%	45.60%
cable	88.80%	97.93%	95.66%	93.93%	90.60%	71.51%	97.18%	90.41%	91.35%	56.23%	97.40%	44.64%	56.86%	57.37%	60.85%	89.91%	47.48%	49.53%	90.66%	54.40%
Maruti Suzuki	31.32%	35.80%	38.92%	39.03%	43.10%	49.22%	39.86%	39.55%	36.95%	27.76%	32.18%	41.11%	37.43%	48.43%	55.59%	45.95%	41.90%	38.56%	38.30%	40.12%
broadcast	3.82%	1.92%	4.61%	5.56%	11.84%	14.27%	9.18%	8.88%	11.41%	13.93%	6.14%	26.94%	30.34%	45.33%	43.65%	40.65%	51.17%	53.42%	8.26%	42.82%
cable	96.18%	98.08%	95.39%	94.44%	88.16%	85.73%	90.82%	91.12%	88.59%	86.07%	93.86%	73.06%	69.66%	54.67%	56.35%	59.35%	48.83%	46.58%	91.74%	57.18%
Tata Motors	11.16%	11.17%	10.24%	11.78%	10.61%	10.52%	12.75%	11.23%	11.65%	9.42%	8.57%	10.11%	10.50%	7.30%	6.01%	9.18%	5.03%	5.60%	11.07%	6.81%
broadcast	9.23%	4.00%	7.53%	7.15%	10.88%	6.51%	5.25%	5.91%	6.69%	32.23%	9.21%	17.76%	46.93%	38.57%	29.11%	30.54%	31.34%	32.37%	7.56%	30.91%
cable	90.77%	96.00%	92.47%	92.85%	89.12%	93.49%	94.75%	94.09%	93.31%	67.77%	90.79%	82.24%	53.07%	61.43%	70.89%	69.46%	68.66%	67.63%	92.44%	69.09%
Toyota	10.94%	9.64%	9.77%	9.93%	7.35%	6.25%	9.90%	7.63%	9.51%	10.58%	13.79%	11.79%	9.75%	5.80%	4.04%	14.22%	4.74%	10.68%	9.02%	8.09%
broadcast	4.67%	4.58%	0.76%	4.62%	4.55%	8.99%	7.39%	4.16%	7.84%	14.88%	9.24%	3.05%	5.68%	20.48%	31.06%	41.69%	28.06%	45.44%	4.85%	26.04%
cable	95.33%	95.42%	99.24%	95.38%	95.45%	91.01%	92.61%	95.84%	92.16%	85.12%	90.76%	96.95%	94.32%	79.52%	68.94%	58.31%	71.94%	54.56%	95.15%	73.96%
Grand Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

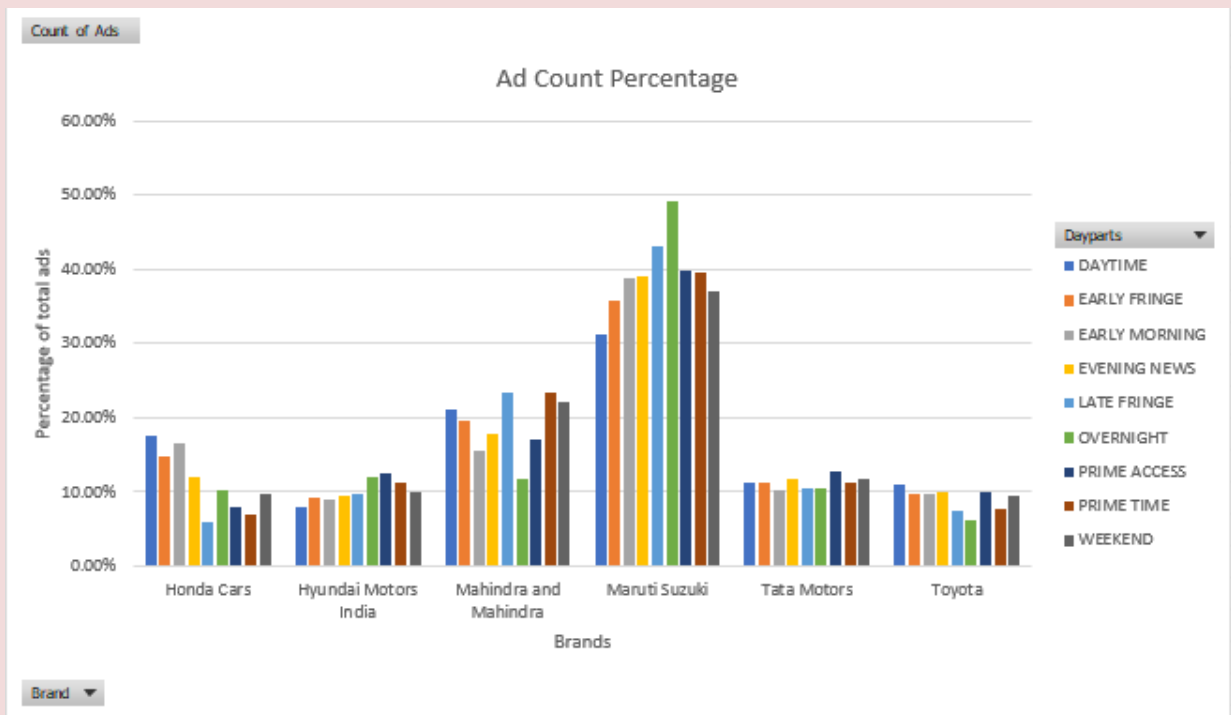*Fig 4: Competitive analysis of brand*
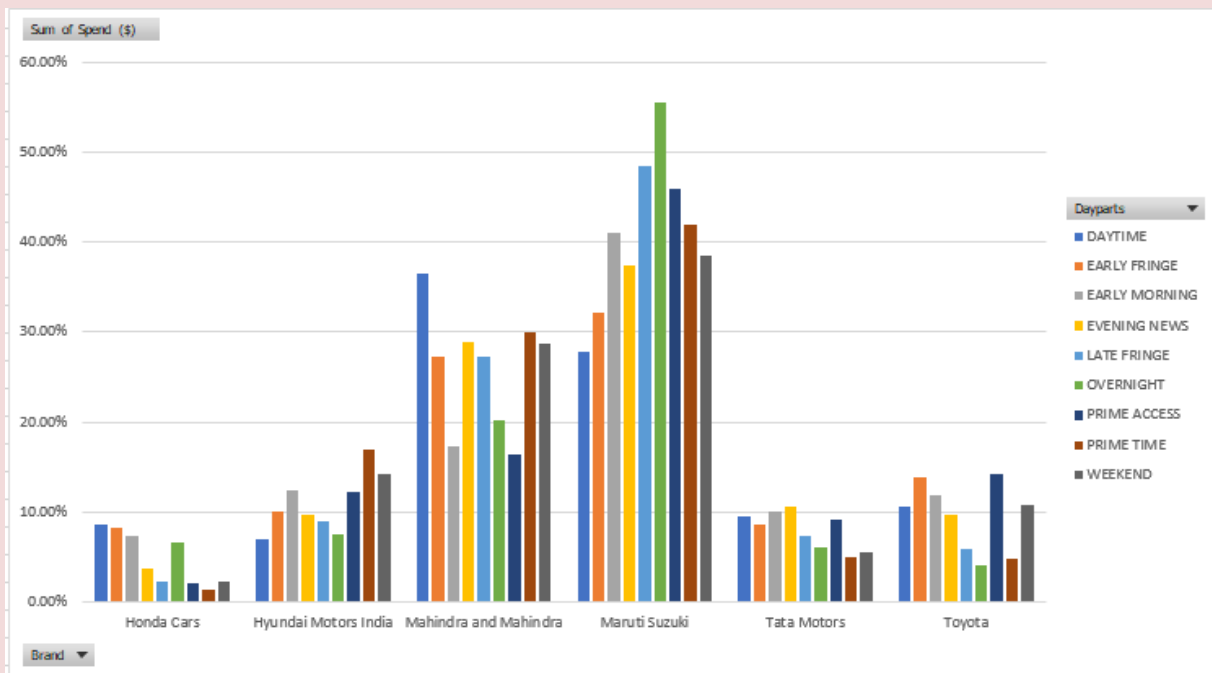
Fig 5: Ad counts for different brand

Fig 6: Percentage of sum of spending for different brand

D. **Mahindra and Mahindra wants to run a digital ad campaign to complement its existing TV ads in Q1 of 2022. Based on the data from 2021, suggest a media plan to the CMO of Mahindra and Mahindra. Which audience should they target?**
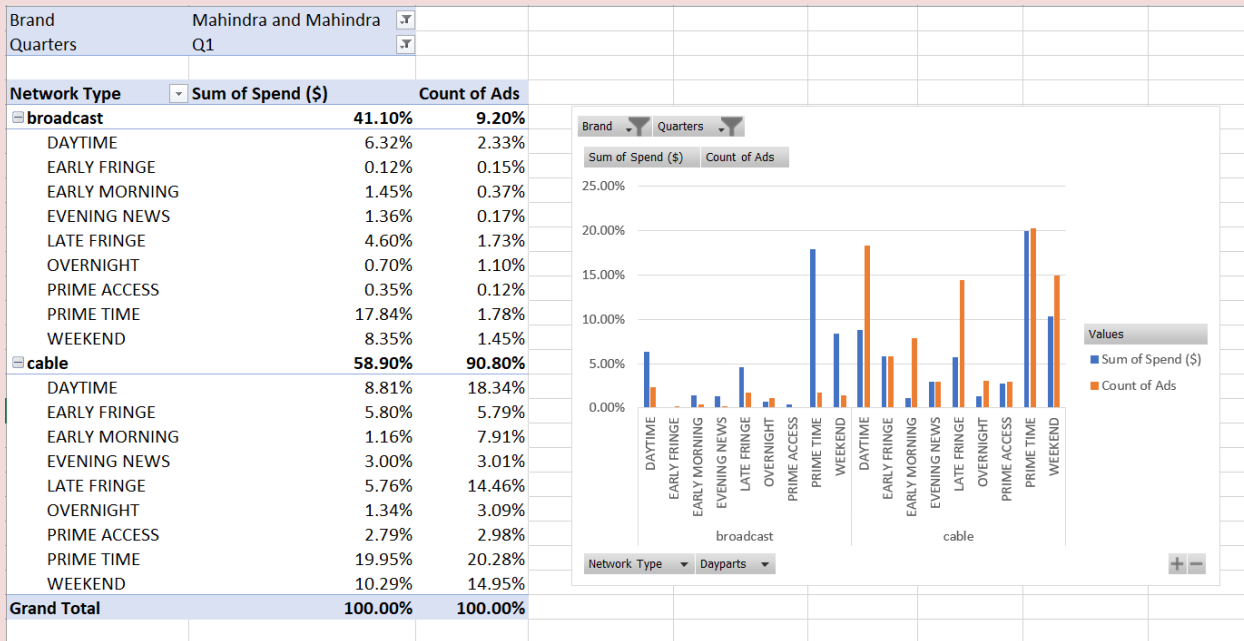
Brand	Mahindra and Mahindra
Quarters	Q1

Network Type	Sum of Spend ($)	Count of Ads
broadcast	41.10%	9.20%
DAYTIME	6.32%	2.33%
EARLY FRINGE	0.12%	0.15%
EARLY MORNING	1.45%	0.37%
EVENING NEWS	1.36%	0.17%
LATE FRINGE	4.60%	1.73%
OVERNIGHT	0.70%	1.10%
PRIME ACCESS	0.35%	0.12%
PRIME TIME	17.84%	1.78%
WEEKEND	8.35%	1.45%
cable	58.90%	90.80%
DAYTIME	8.81%	18.34%
EARLY FRINGE	5.80%	5.79%
EARLY MORNING	1.16%	7.91%
EVENING NEWS	3.00%	3.01%
LATE FRINGE	5.76%	14.46%
OVERNIGHT	1.34%	3.09%
PRIME ACCESS	2.79%	2.98%
PRIME TIME	19.95%	20.28%
WEEKEND	10.29%	14.95%
Grand Total	100.00%	100.00%

Fig 7: Mahindra and Mahindra Quarter 1 Spending and Ads count Percentage

Brand	(All)
Quarters	(All)

Network Type	Sum of Spend ($)	Count of Ads
broadcast	41.69%	8.43%
DAYTIME	3.62%	1.72%
EARLY FRINGE	0.44%	0.25%
EARLY MORNING	1.64%	0.63%
EVENING NEWS	1.21%	0.21%
LATE FRINGE	4.45%	1.38%
OVERNIGHT	1.24%	1.07%
PRIME ACCESS	1.41%	0.24%
PRIME TIME	18.38%	1.47%
WEEKEND	9.30%	1.47%
cable	58.31%	91.57%
DAYTIME	8.97%	20.01%
EARLY FRINGE	4.64%	6.29%
EARLY MORNING	3.41%	11.69%
EVENING NEWS	2.77%	3.28%
LATE FRINGE	6.53%	12.95%
OVERNIGHT	1.82%	6.49%
PRIME ACCESS	3.13%	3.01%
PRIME TIME	18.23%	15.03%
WEEKEND	8.80%	12.81%
Grand Total	100.00%	100.00%

Fig 7: All Brand All Quarters Spending and Ads count Percentage

Summary:

➢ *From Above Figure we can see that most company invest more in Cable network ads as the ad count is also very high.*

➢ *If we look at fig 6 we can see even though we are spending much in prime time and weekend in broadcasting we are not getting that much ads.*

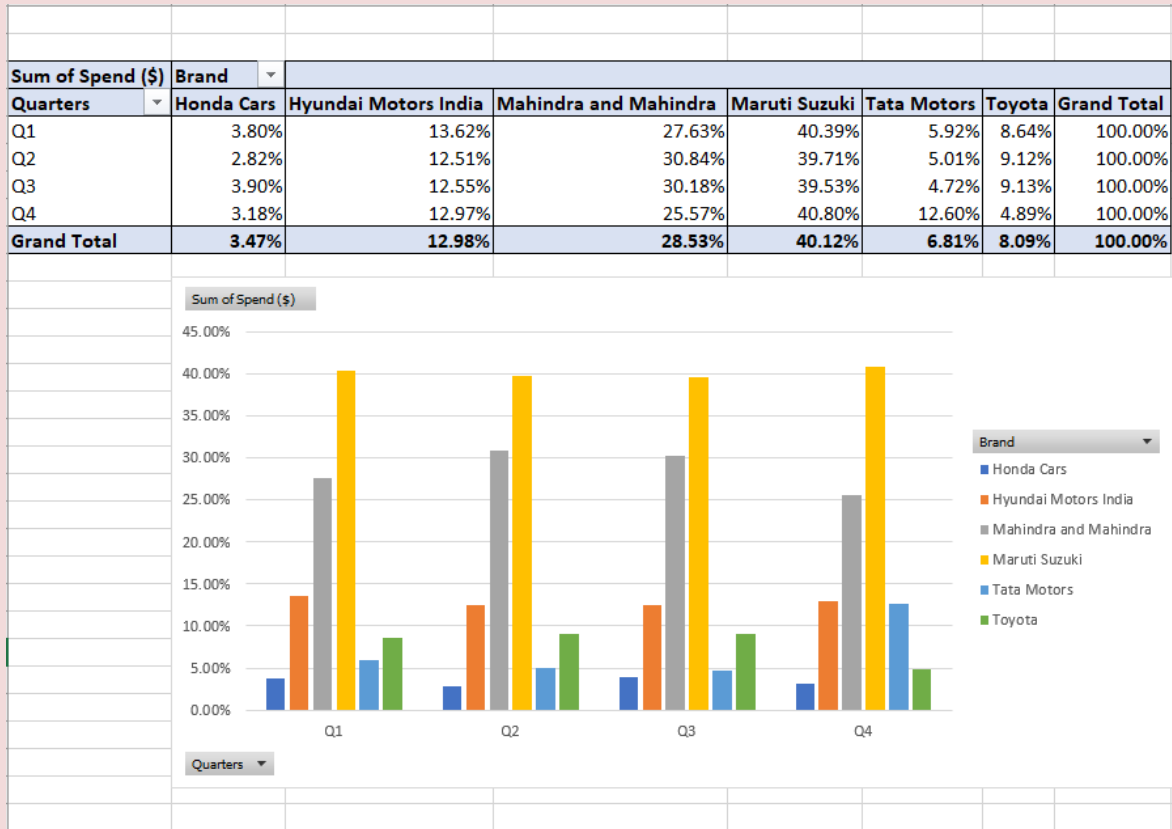➢ *If we invest more in cable network to improve the business.*

Additional Insight:

Sum of Spend ($)	Brand						
Quarters	Honda Cars	Hyundai Motors India	Mahindra and Mahindra	Maruti Suzuki	Tata Motors	Toyota	Grand Total
Q1	3.80%	13.62%	27.63%	40.39%	5.92%	8.64%	100.00%
Q2	2.82%	12.51%	30.84%	39.71%	5.01%	9.12%	100.00%
Q3	3.90%	12.55%	30.18%	39.53%	4.72%	9.13%	100.00%
Q4	3.18%	12.97%	25.57%	40.80%	12.60%	4.89%	100.00%
Grand Total	3.47%	12.98%	28.53%	40.12%	6.81%	8.09%	100.00%

Fig 8: Quarter wise Spending of various car brand

Results:

- Ad Pod position varies with the amount spending, i.e. initially the amount spend increases for first 10 pod position after that it get decreases.
- Maruti Suzuki has the highest share in TV airing followed by Mahindra and Mahindra.
- Companies spend more on Cable network ads as it is cheaper compared to broadcasting and has more reach.
- Company choose to invest more in prime time and weekends ads airing.

Dataset:
https://docs.google.com/spreadsheets/d/122nn1uCNCm2FjIJ1qE65hD_ohFA0a6Ch/edit?usp=sharing&ouid=115977276322304781744&rtpof=true&sd=true