



## **Project Proposal**

1

**ALY6980 21078 Capstone SEC 05 Winter 2020 CPS [VTL-1-OL] ALY6980.21078.202025**

**Assignment Title: ALY-6980 Week 12 Project**

**Project Proposal**

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## Project Proposal

2

### Introduction

Viacom is an entertainment company and creates media content. The content created by Viacom is delivered in Television channels. Viacom planned to increase the business. Viacom also uses content for promoting in social media like Facebook and twitter. Based on the user history and demographic information Viacom targets content to those user groups, by this way targeted audience enjoy the content.

Viacom wants to understand if they are reaching the right audience on their social media channels by analyzing the performance of various ad campaigns that target various audiences. Provide analysis using real-world data to understand what drives success in reaching the right audience for the right objective.

Viacom want analyze data and build a model to predict the cpm, cpc, and ctr for a given custom audience.

### Purpose of the study

Viacom want to understand what drives success in reaching the right audience for the right objective.

### Research questions or hypotheses or goal or further experiments to be run

- What are the attributes of custom audience that result in large reach for minimum cost ?
- What are the attributes of custom audience that result in high engagement ?
- What are the attributes of custom audience that result in high efficiency for determined by click through rate?
- Are lookalike audiences cheaper to target, do they have lower cpms and cps?
- Can we summarize the difference between lookalike audiences and other audiences?

### Review of the literature

Anatomy of Designing the Project(Creswell, J. W. (2017).)

Project design should consider research problem and researcher experience and the audience. In general project design is three types.

- Qualitative
- Quantitative
- Mixed methods

Qualitative : In this type of step Data collection, interpretations data research , analysis and reporting of the data is done.

Quantitative: in this type of step variable measuring and data can be analyzed using statistical procedures.

Mixed Methods in this type both qualitative and quantitative steps are performed.

### Anatomy of effect of data to the Project:

After design next scope should be decided scope and timelines based on the resources like time ,skilled labor and money etc. The above details can be decided by asking few questions on the data available. Knowing the business questions : Objective of the business, how to get success, how to gain attention from vendors ,shareholders.



## Project Proposal

3

**Communication Questions:** Do you have people who work specifically on sponsorships, or will I be working with someone in your marketing department? How often needs to be updated? who should be updated ?

**Value Management question:** What key metrics and key performance indicators? .How would you like to measure ?

**Ethics related Question**(Fisher, L. (2018, December 26).): Any projects success depends on Ethics and trust. So, ethics should be defined to be followed in each step. To build relationship and trust.

Out of the box questions: delightful result of sponsoring our event ? What would your ideal partnership look like ?

### Methods

Experimental subjects, Data collection instruments, variables, and materials

#### Experimental subjects

**Data provide by Viacom.**

- custom\_audience\_ads.xls
- lookalike\_data.xls
- NEU\_project\_outline\_data\_dict\_custom\_audiences.doc

#### Data collection instruments, variables, and materials

##### Variables:

**account\_id:** the id of the account that owns the custom audience

**approximate\_count:** the approximate count of the custom audience

**custom\_audience\_id:** the unique id for the custom audience

**name:** the name of the custom audience that provides reference on how the custom audience was created

**time\_created:** the time the custom audience was created

**customer\_file\_source:** describes how the custom audience was created

**description:** a description of the custom audience

**data\_source\_type:** indicate by which method the custom audience was created

**data\_source\_sub\_type:** indicate by which method the custom audience was created

**data\_source\_creation\_params:** indicate creation parameters by which method the custom audience was created

**ad\_id:** id of the ad associated with the

**clicks:** number of clicks on the ad



## Project Proposal

4

**cpc:** cost per click in \$

**impressions:** Number of impressions of the ad

**cpm:** cost per 1000 impressions in \$

**ctr:** click through rate, clicks per impressions in % (0-100)

**Tools:** Tableau, Anaconda, Jupyter and python.

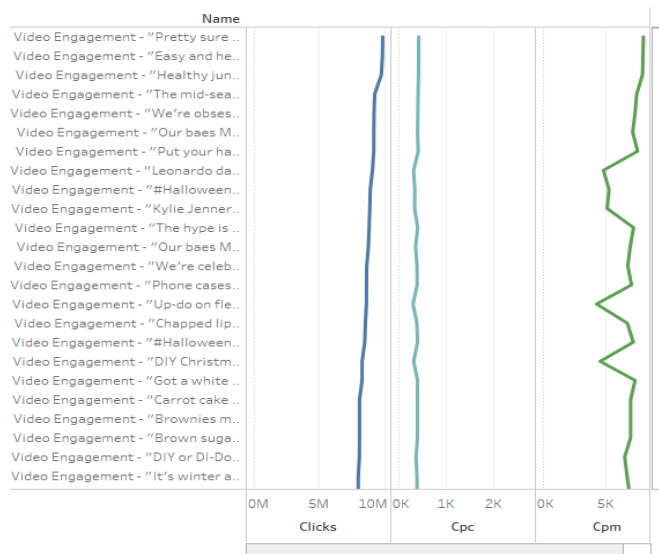
### Data analysis procedures

Mixed Methods in this type both qualitative and quantitative steps are performed (Frye, C. (2015, 9 9)).

**In the data analysis procedure displayed charts for determining the variation of the impressions, cpm ,crt and clicks.**

This dashboard provides variation of CPC ,CPM, clicks and impression with time and name of the telecast program and data source type.

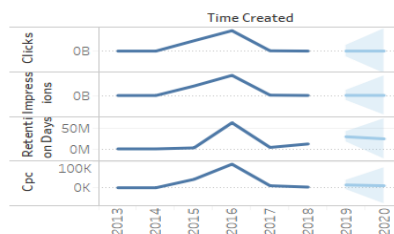
Name VS clicks,CPC,CPM



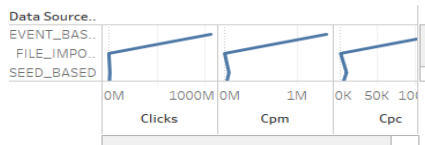
Measure Names

Clicks  
Cpc  
Cpm

Time Created VS clicks,CPC,CPM and Fore Cast



Data Source Type VS clicks,CPC,CPM

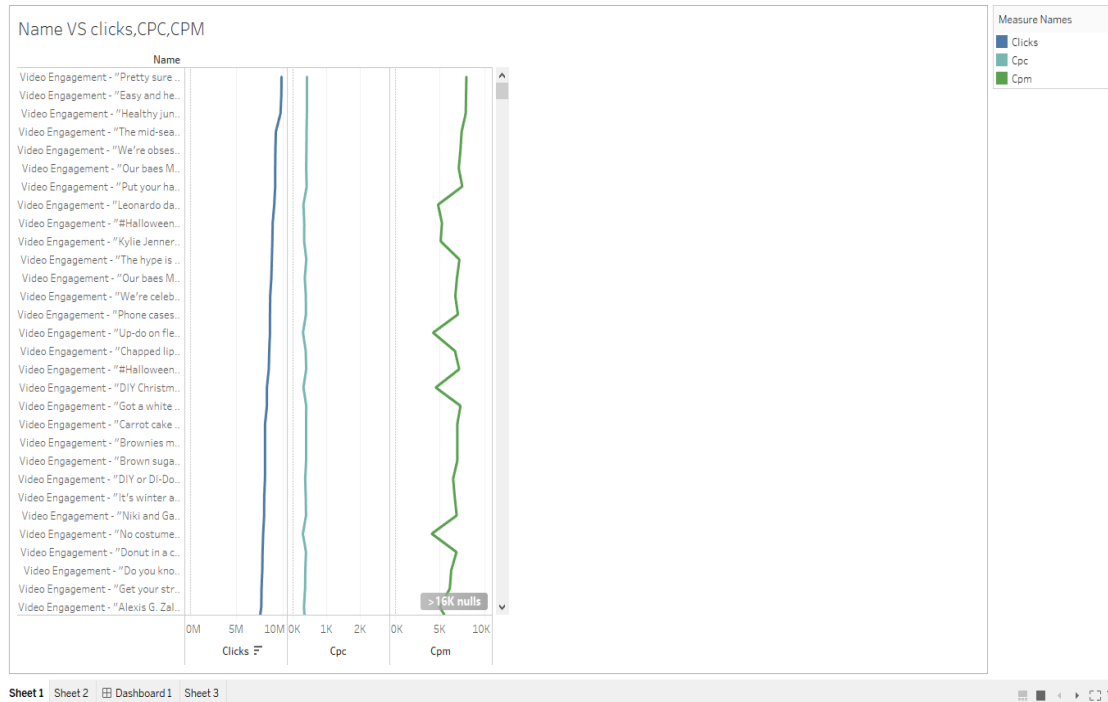


This graph shows the variation of the clicks,Cpc,Cpm with dimension name. With name there is no much variation for three types.

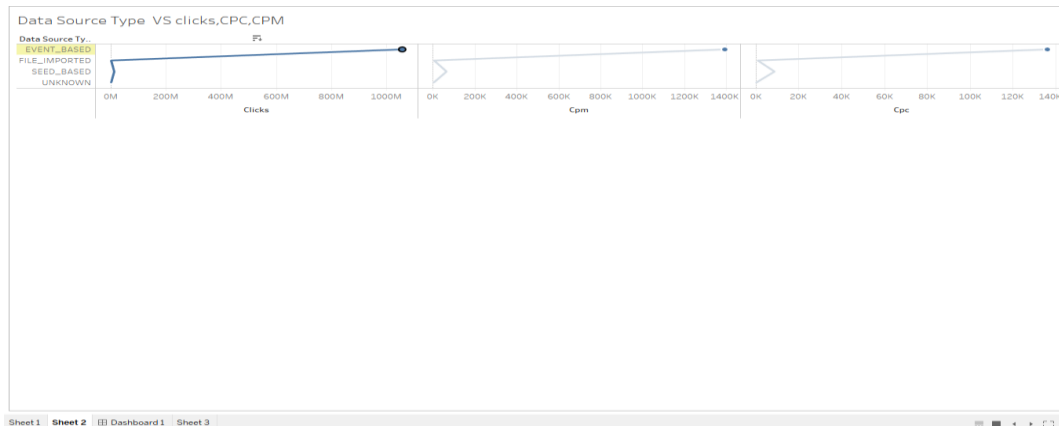


## Project Proposal

5



The following graph shows variation of clicks , cpm, cpc along with dimension data source. Event based data source has maximum effect on the KPI's.



This graph shows relation between time and KPI. These graphs also show forecast of KPI with time.

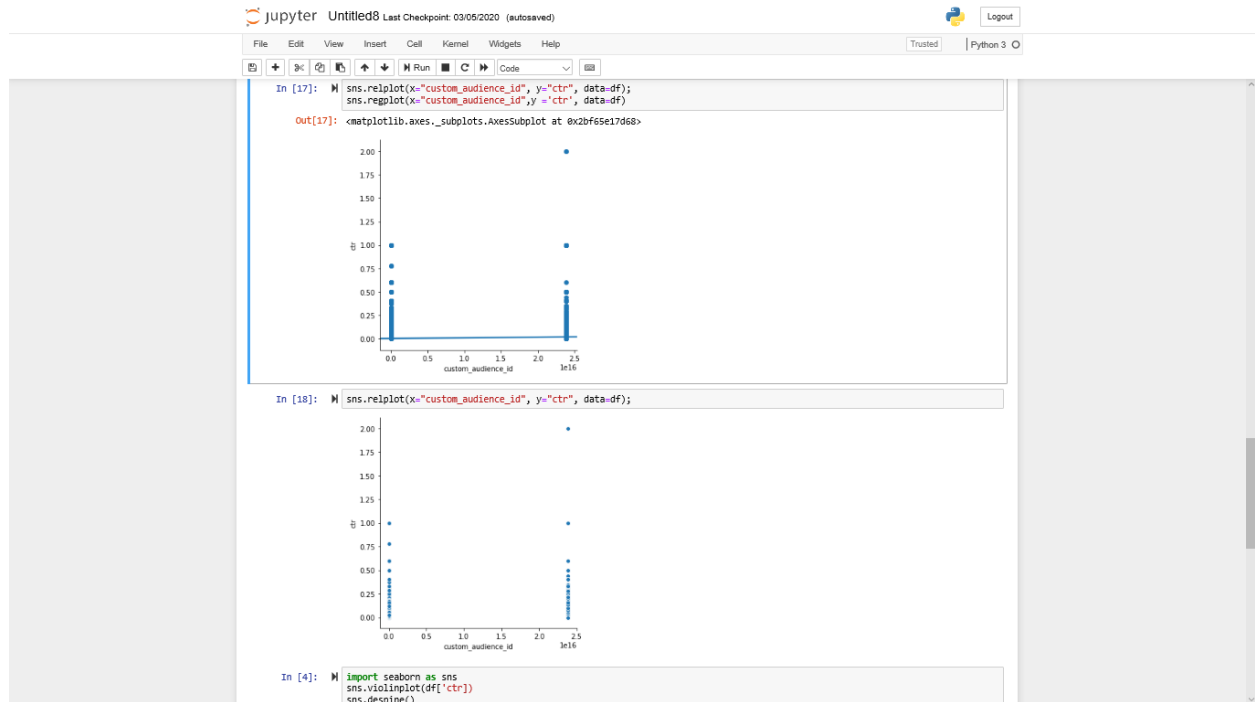




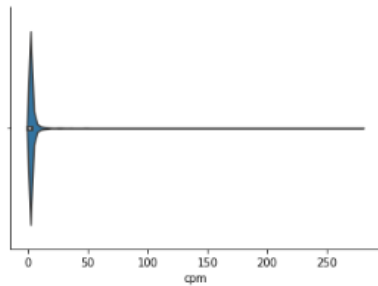


## Project Proposal

8



```
In [4]: import seaborn as sns  
sns.violinplot(df['ctr'])  
sns.despine()
```



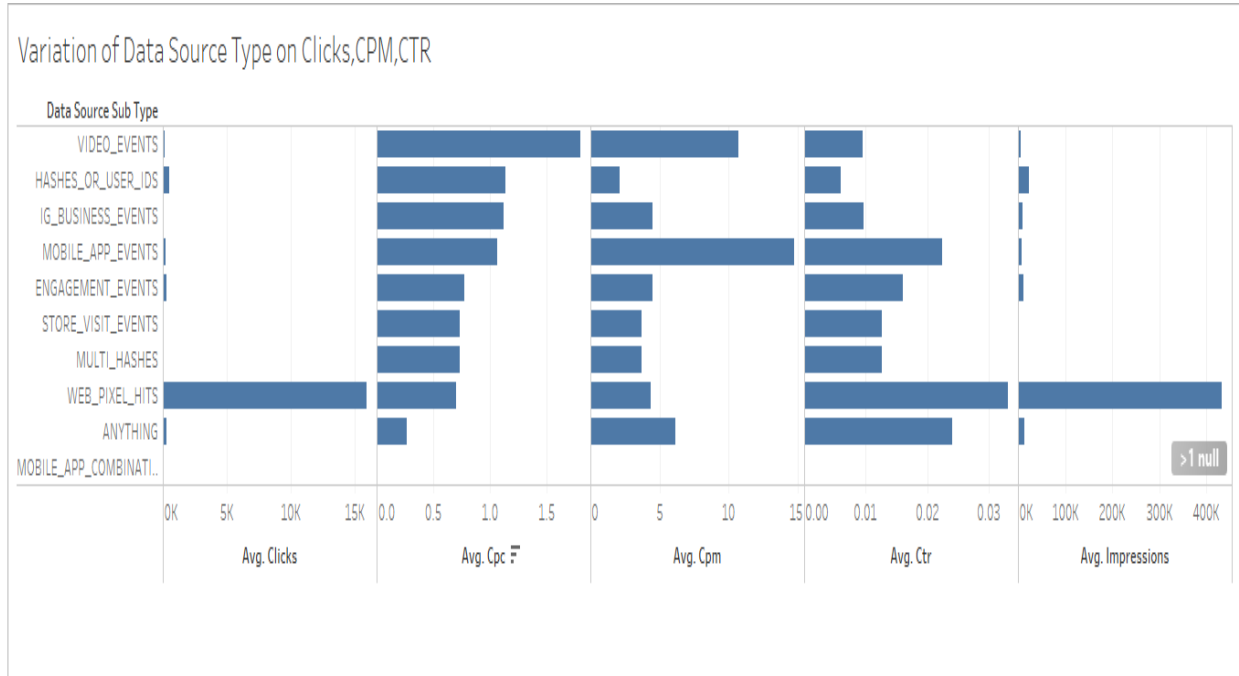




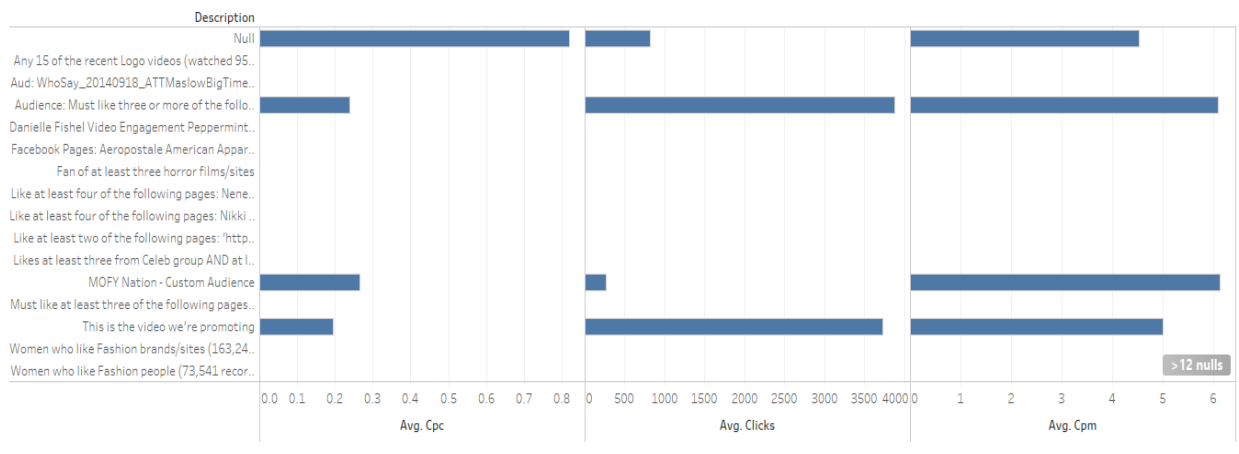
## Project Proposal

9

### Variation of Data Source Type on Clicks , CPM, CTR



### CPC,Clicks,Cpm variation with Description.

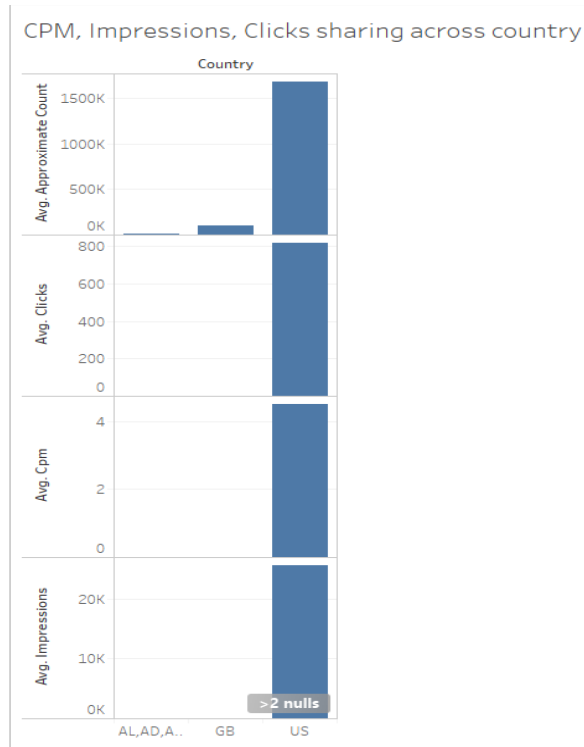




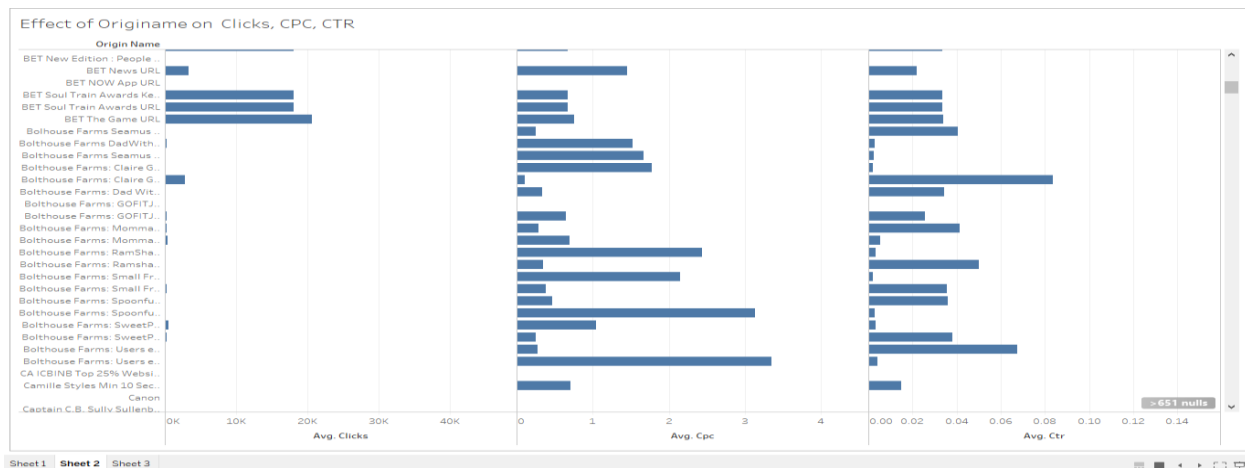
## Project Proposal

10

### CPM, Impressions, Clicks sharing across country



US is the Origin country is for many programs. GB is origin for few programs Viacom is not receiving any clicks or impressions. GB has little effect on approximate account.

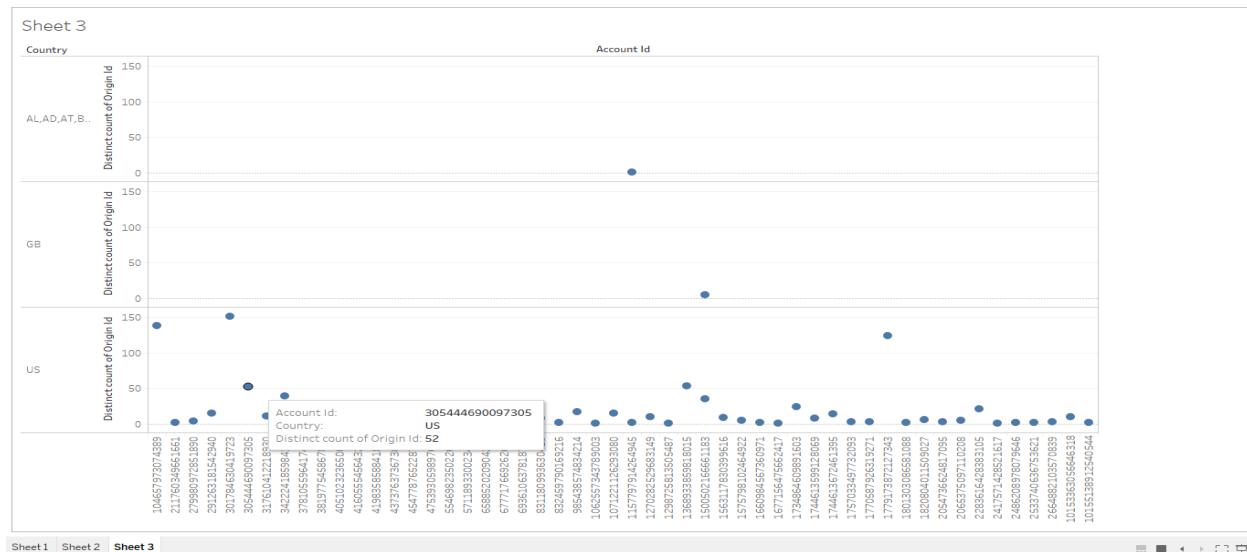




## Project Proposal

11

### Country, Account and Origin Id count relation



### Data Analysis Observations

The Time on different factors like CPI,CPM has the same effect on the time created. Viacom has better performance during the year 2016. From 2017 and it performed quite steadily. Forecast for CPM, CRT, Impressions, clicks shows steadiness of their effect on performance. Retention days effect decreased till 2017 and increasing steadily in the immediate past. In all Data Source Types Event based Source type is most effective. Seed based has minor impact on the Clicks, CPM, CPC. The Effect of Event type is almost same on the clicks ,CPM and CPC. There is linear relation between account id and Ctr. Name of the video on the clicks and CPC is not much. Name of video on CPM is changing as per name. Viacom has more business in USA. Viacom has presence in Great Brittan and little presence in another countries.

### Data Suggestions to Viacom for improvement of business

Continue focusing on the same way will help to improve business. Viacom forecast curves are increasing sturdily. Viacom doing better business with web pixel hits ,mobile app events and video events. Viacom can Increase on even based type shows. Viacom doing good business in USA they need to focus on other countries.



### Conclusion

This document provides overview to the client regarding awareness and knowledge for getting the business. This document listed the approaches and literature considered for coming conclusions on analysis and choosing the approach for the analysis. This document has different sections for explaining like data analysis method followed, tools used and sample analysis screens. This document has explained the screens present in them. But some one need basic knowledge of reading graphs and about modelling techniques.

### Appendixes

1. Introduction
2. Statement of the problem
3. Purpose of the study
4. Research questions or hypotheses or goal or further experiments to be run
5. Review of the literature
6. Methods
7. Experimental subjects
8. Data collection instruments, variables, and materials
9. Data analysis procedures
10. Conclusion



### References

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