Project Dissertation

An Analysis of Various Sources of Website Traffic for Online Startups to Device a Growth Strategy

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Certificate

This is to certify that the Project Report titled "An analysis of various sources of website traffic for online startups to device a growth strategy", is a bonafide work carried out by Mr. Ankit Jain of MBA 2014-16 and submitted to Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 in partial fulfillment of the requirement for the award of the Degree of Masters of Business Administration.

| Signature of Guide | Signature of Head (DSM) |
|--------------------|-------------------------|
| | |
| Place: | Seal of the Head |
| Date: | |

Declaration

I Ankit Jain, student of MBA 2014-16 of Delhi School of Management, Delhi Technological University, Bawana Road, Delhi-42 declare that Research Project on "An analysis of various sources of website traffic for online startups to device a growth strategy" submitted in fulfilment of Degree of Masters of Business Administration is the original work conducted by me.

The information and data given in the report is authentic to the best of my knowledge.

This Report is not being submitted to any other University for award of any other Degree, Diploma and Fellowship.

| Date: | Signature: |
|-------|------------|
|-------|------------|

Acknowledgement

I would like to express my profound gratitude and indebtedness to those who have assisted me

towards the successful execution and completion of my project report. The project wouldn't

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I would like to thank my parents and friends who have been with me and offered emotional

strength and moral support.

Sincerely,

Ankit Jain

iii

Abstract

India's e-commerce market was worth about \$3.9 billion in 2009, it went up to \$12.6 billion in 2013. In 2013, the e-retail segment was worth US\$2.3 billion. About 70% of India's e-commerce market is traveling related (Evolution of e commerce in India, 2014). According to Google India, there were 35 million online shoppers in India in 2014 Q1 and is expected to cross 100 million mark by end of year 2016. With the increase in the number of online shoppers, the real challenge lies in driving traffic to a specific web site because there are billions of websites in the world (MailOnline, 2014). The study addresses the issue of web site traffic generation for Startups which have limited resources.

The purpose of the study is to identify visitor (New Visitor/Returning Visitor) responsible for generating more number of page views for a website and to find out the traffic source responsible for generating more number of return visits.

To achieve this goal, the study would require monitoring the website traffic data for which there are various tools available in market such as Google Analytics, Yahoo Analytics, AWStats. The study will use Google Analytics as it is a freemium and most widely used software for capturing website traffic data. Some statistical matters with regard to the use of Google Analytics data in combination with time series methodology are fine-tuned.

Return visits are the main engine for nurturing session length, but which type of traffic source nurtures these return visits? In order to answer this question, an important distinction must be made between "total return visits" and "marginal return visits". Site entries stay longer to the extent their "marginal return effectiveness" is higher. For our particular web site direct visits are the most effective ones, followed by search engine visits and only thirdly link-entries.

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1.1. Introduction of the project

Around 40% of the world population has an internet connection and there are 3,361,574,255 internet users (Internetlivestats website, 2016). With the growing number of internet users in the world there lies a potential for website owner to capture the internet users to increase their business. But as the number of internet users is increasing, the number of websites is also increasing.

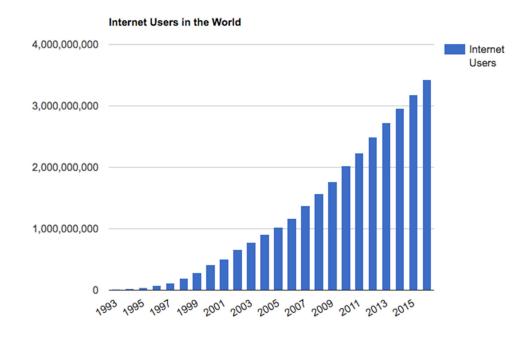


Fig 1: Internet users in the world

Source: Internetlivestats website, 2016

There are billions of websites in the world and all are trying to capture as many users as they can. Small websites face issue in capturing traffic as they have fewer resources than the market leaders. The study will focus on determining the traffic source which can generate more number of returning visitors. The study will also determine the fruitful visitor for the website i.e. the study will determine which visitor (new or returning) goes deeper to view the pages.

Web traffic is the amount of data sent and received by visitors to a web site. This necessarily does not include the traffic generated by bots. Since the mid-1990s, web

traffic has been the largest portion of Internet traffic. This is determined by the number of visitors and the number of pages they visit. To analyze the website traffic data, the study will use Google Analytics Tool which captures the website data, processes it and displays the data in the form useful charts, graphs etc. Google Analytics also provide option to export data into Excel. The study will use this extracted time series data for analyzing the traffic sources data and visitor sessions.

1.2. Website Profile

1.2.1. Industry Profile:

India holds an important place in the global education industry. The country has more than 1.4 million schools with over 227 million students enrolled and more than 36,000 higher education institutes. India has one of the largest higher education systems in the world. However, there is still a lot of potential for further development in the education system.

India has become the second largest market for e-learning after the US. The sector is currently pegged at US\$ 2-3 billion, and is expected to touch US\$ 40 billion by 2017. The distance education market in India is expected to grow at a Compound Annual Growth Rate (CAGR) of around 34 per cent! during 2013-14 to 2017-18^[5]. Moreover, the aim of the government to raise its current gross enrolment ratio to 30 per cent by 2020 will also boost the growth of the distance education in India.

The education sector in India is poised to witness major growth in the years to come as India will have world's largest tertiary-age population and second largest graduate talent pipeline globally by the end of 2020. As of now the education market is worth US\$ 100 billion. Currently, higher education contributes 59.7 per cent of the market size, school education 38.1 per cent, pre-school segment 1.6 per cent, and technology and multi-media the remaining 0.6 per cent.

Higher education system in India has undergone rapid expansion. Currently, India's higher education system is the largest in the world enrolling over 70 million students while in less than two decades, India has managed to create additional capacity for over 40 million students. At present, higher education sector witnesses spending of over Rs 46,200 crore (US\$ 6.78 billion), and it is expected to grow at an average annual rate of over 18 per cent to reach Rs 232,500 crore (US\$ 34.12 billion) in next 10 years.

1.2.2 Studplex.com

Studplex.com is an educational startup based in New Delhi and was founded in 2014. Studplex.com is a creation that will connect schools, students, tuitions and parents. It will provide an online platform to communicate views, opinions, and reviews of various schools, tuitions, competitions. It provides a platform to discuss on various topics and disseminate knowledge. It provides users the opportunity to compete amongst themselves through various inter-school competitions and online quizzes. Studplex.com helps the students to learn more by clarifying their doubts. Studplex.com focuses on competitive exams such as AIPMT, AIIMS, IIT JEE, CAT, GATE, UPSC, SSC and many others. Studplex.com has thousands of registered students. It offers free online weekly test series for students preparing for competitive examinations.



Fig 2: Services of Studplex.com

Source: http://www.studplex.com

Studplex.com is getting traffic from various resources such as google.com, google.co.in, facebook.com, Quora.com, Direct traffic etc. The Google Analytics traffic overview (Figure 1.2) shows that all traffic sources sent a total of 48,599 visits from 1 December 2015 to 31 March 2016. Of these visits 14,606 came directly to this site, referring sites sent 664 visits via 53 sources, and search engines sent a total of 3,371 visits and Social Sites sent 29,958 visits. Social site traffic is, by far, the main source of entries for www.studplex.com: 60 per cent of the total incoming visits.

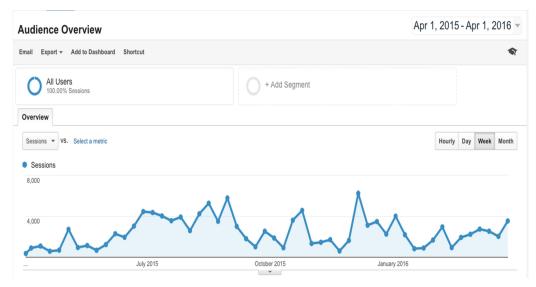


Fig 3: Google Analytics traffic overview

Source: https://analytics.google.com

1.3. Objective of the study

As there are billions of websites in the world, the real challenge lies in driving traffic to a specific web site. The study addresses the issue of website traffic generation for Startups which have limited resources. To increase the website traffic, traffic has to be analyzed. The Website traffic can be analyzed using Google Analytics. Google Analytics is a tool that generates detailed statistics about the visits to a web site, and which is a user friendly application with the guarantee of Google technology.

The objective of the study focuses upon to increase the website traffic. The study will answer the following questions in the end:

- To identify traffic sources responsible for more number of visits from returning users.
- To identify visitor responsible for more number of page views.
- To suggest the strategy for generating traffic to the website.

All questions will ensure investing in the right traffic source to prevent the marketing expense in various non-performing sources as the cost involved in acquiring new visitors is more as compared to the existing visitors.

CHAPTER 2: LITERATURE REVIEW

With the increase in the number of online shoppers, the real challenge lies in driving traffic to a specific website because there are billions of websites in the world (MailOnline, 2014). India's e-commerce market was worth about \$3.9 billion in 2009, it went up to \$12.6 billion in 2013. In 2013, the e-retail segment was worth US\$2.3 billion. About 70% of India's e-commerce market is traveling related (Evolution of e commerce in India, 2014). With the rise in the number of websites, Google Analytics helps to understand which digital marketing strategies perform best for the websites. This tool can only be installed by the website owners, Webmasters or Web-Admins of a particular website. Google Analytics helps to analyze visitor traffic and paint a complete picture of the audience and their needs. It helps to track the routes people take to reach the website and the devices they use to reach there with reporting tools like traffic sources.

The research paper is published on Emerald Insights "The Monitoring web traffic source effectiveness with Google Analytics: An experiment with time series" by Beatriz Plaza, 2008. The study was performed on a college website www.scholars-on-bilbao.info to analyze the effectiveness of visits (return visit behavior and length of sessions) depending on their traffic source: direct visits, referring site entries and search engine visits. It discovered that for a particular web site direct visits are the most effective ones, followed by search engine visits and only thirdly link-entries. The limitation of this study was that it considered only organic, direct and referral traffic sources and it excluded social traffic sources as at that point of time social networking websites were in the emerging stage. But with the growing internet penetration, Facebook has expanded its user base in India to 112 million users (112 million Facebook users in India, second largest user base after US, 2016). So this study tried to include the social traffic sources as well but was unable to capture sufficient data for it.

Another research paper published on Emerald Insights "Generating web site traffic: a new model for SMEs" by Sarah Quinton and Mohammed Ali Khan in 2009 addresses the issue of web site traffic generation for SMEs which have limited resources to determine how SMEs might make more effective use of search engine

marketing (SEM) tools to increase web site traffic. The paper demonstrates the synergy that can be created from two easily accessible and low cost SEM tools for SMEs in order to improve web site traffic generation. The findings indicate that a combined use of both press release distribution and directory submission does increase traffic generation to a web site.

Another study published on Emerald Insights "A web analytics tool selection method: an analytical hierarchy process approach" by Kazuo Nakatani and Ta-Tao Chuang, 2011 was conducted to develop an analytical hierarchy process based selection model for choosing a web analytics product/service that meets organizational needs. The study founded an approach to choose a web analytics product/service. The limitation of the study is that the development of web analytics products/service is still evolving. Thus, as the use of web analytics increases, more criteria might be identified and added to the approach. The approach is validated by groups for different sectors.

Another research paper published on Emerald Insights "Search Engine Optimization" by Aashna Parikh and Sanjay Deshmukh in 2013 highlighted different factors to be taken into consideration while performing SEO for a particular website. Websites can improve their page rankings and consequents increase their sales by employing search engine optimization techniques. Various techniques proposed in the paper to perform the search engine optimization were cost-effective. The limitation of the paper is it only considers the organic traffic whereas other traffic sources such as Direct, Social are also important to generate traffic. Search Engine Optimization will only trap the traffic that are looking for the services offered by the website but this will not help in converting new potential customers. This limitation will be covered in this study as potential customers can be generated with the help of social and direct traffic sources.

Another study by Bih-Yaw Shih, Chen-Yuan Chen and Zih-Siang Chen on "An Empirical Study of an Internet Marketing Strategy for Search Engine Optimization" to develop a search engine optimization mechanism that can be used by an enterprise to improve the ranking of its website in the search engine results. The study focuses only on organic traffic as it considers a single parameter of SEO

i.e. backlinks. The more the number of backlinks the more is the traffic but the paper does not discuss about other parameters which can also be helpful for generating business for the website. SEO itself contains many parameters but the paper focuses on a single a parameter that is the number of backlinks.

Another research paper on "What's in a name? Measuring prominence and its impact on organic traffic from search engines" by Michael R. Bayea, Babur De los Santos and Matthijs R. Wildenbeesta in 2016 was conducted to highlight that retailer's organic traffic is driven by the prominence of its position in the list of search results on Google and Bing. The paper measures the effect of name prominence on traffic that online retailers receive from organic product searches. This paper only considers organic traffic and importance of name but did not considers other traffic sources which are also responsible for generating traffic to a particular website.

Google Analytics

Google Analytics is a freemium web analytics service offered by Google that tracks and reports website traffic. Google launched the service in November 2005 after acquiring Urchin. Google Analytics is now the most widely used web analytics service on the Internet. Google Analytics is now in use on 51% of Fortune 500 websites. This is an increase from previously reported data showing a 45% market share. More than half of Fortune 500 companies are now using Google Analytics or Google Analytics Premium and 30 new enterprises have switched to or added Google Analytics.

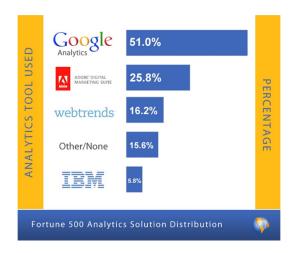


Fig 4: 51 of 500 companies use Google Analytics

Source: 51 of fortune 500 companies use google analytics, e-nor website, 2015

The above image illustrates that Google Analytics is on the rise within Fortune 500 Enterprise. Google Analytics is showing continued signs of growth with the ever increasing need for smart people to transform the data into actionable insights.

3.1. Research Design

The research aims to understand the significance of our independent variables in affecting total return visits and help us understand how we can use traffic sources to enhance more return visitors. Hence, we will examine the effect of organic, referral, and direct traffic on the number of return visitor sessions.

To perform the study, Google Analytics data is required. The Google Analytics data is sensitive information and it is hard for any company to share their personal data. So in order to get the permissions of Google analytics data, the researchers consulted faculty members of Delhi School of Management. As per their guidance researchers reached out to twenty startups from different domain over mail, call and through social networking sites such as Facebook. Fortunately, one company responded to it and was ready to share their data for research purposes in exchange of findings, results and recommendations from the research which they could incorporate in their startup to increase website traffic.

To conduct this study, Quantitative approach was followed. The research used website traffic data from Google Analytics. The data for independent variable is exported from the Google Analytics to excel sheets. The data is taken for 53 days and regression is applied on the fetched data.

3.1.1. Quantitative Study

Quantitative research uses numbers to test hypotheses and make predictions by using measured amounts, and ultimately describe an event by using figures. By using numbers the researcher has the opportunity to use advanced and powerful statistical tests to ensure that the results have a statistical relationship, and are not just a fluke observation.

The study considers pricereview.in data for 1 year that is from 1st April 2015 to 1st April 2016. The study considers data for 53 days and performs statistical operations on it to come out with the findings, results and recommendation.

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3.2. Significance of the study

The project will look at various factors which can help in increasing the website's traffic. At the end of the project the following questions will be answered:

- To identify which traffic source is responsible for more number of visits from existing users
- To find out the importance of visitor (new/returning) for a website

3.3. Scope of the study

The Study analyzes the factors which assist in increasing the website traffic. The study is carried out on a single website; future research requests the repetition of the experiment with different websites, to delimit more accurately the influence of each traffic source. It will not include the financial cost involved in generating traffic.

3.4. Secondary Research

Secondary Research which is also known as desk research involves the summary, collation and / or synthesis of existing research rather than primary research, where data is collected from, research subjects or experiments. It is also defined as an analysis and interpretation of primary research. It involves gathering existing data that has already been used.

3.4.1. Research Tools

CASE STUDIES:

This method of study is especially useful for trying to test theoretical models by using them in real world situations. For example, if an anthropologist were to live amongst a remote tribe, whilst their observations might produce no quantitative data, they are still useful to science. **INTERNET RESEARCH:**

There are billions of pages of information on the World Wide Web, and finding relevant

and reliable information can be a challenge. Search engines are powerful tools that index

millions of web sites. When entering a keyword into a search engine, you will receive a

list with the number of hits or results and links to the related sites. The number of hits

you receive may vary a great deal among different search engines. Some engines search

only the titles of the web sites, and others search the full text.

GOOGLE ANALYTICS:

There are numerous of websites present in the world. Each website is getting a lot of

traffic every day. A website owner needs to analyze the traffic to improve the efficiency

of the website and to generate high customer value. For instance, how the users are

interacting with their website, when users find it difficult to use the website, which user

completes a goal (shopping, downloading, subscribing etc.), how they can increase the

organic traffic, which source of traffic brings more number of conversion and many

other things that would be fruitful for completing business goals. To analyze the traffic,

they need a tool that can track and record each and every interaction of user with the

website. There are more than 31 web analytics tools available in the market (Castledine

and Kogan, 2009). According to a study done by Gartner Group (Gassman, 2009), the

three main web analytics selection criteria are:

(1) Data collection methods: log file or content tagging

(2) Location: on-premises or SaaS and

(3) The price: free, subscription fee or build.

Features of Google Analytics

Data Collection & Management

Data collection and management with Google Analytics provides a single, accurate view

of the customer that can be customized to business needs and shared across the

organization.

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Data Consolidation

Google delivers integrated solutions that preserve data integrity, reduce friction, and seamlessly connect disparate data sources.

Data Analytics & Reporting

Reports can be segmented and filtered to reflect the needs of the business. Real-time views let site owners know which new content is popular, how much traffic today's new promotion is driving to the site, and which tweets and blog posts draw the best results.

Data Activation

Google Analytics allows the site owner to seamlessly activate the data to improve marketing campaigns and experiment with new channels and content.

EVIEWS 9:

Eviews is a statistical package used mainly for time-series oriented analysis. It is developed by Quantitative Micro Software (QMS). Version 1.0 was released in March 1994, and replaced MicroTSP. The TSPsoftware and programming language had been originally developed by Robert Hall in 1965. The current version of EViews is 9.0, released in March 2015. EViews can be used for general statistical analysis and econometric analyses, such as cross-section and panel data analysis and time series estimation and forecasting. EViews relies heavily on a proprietary and undocumented file format for data storage. However, for input and output it supports numerous formats, including databank format, Excel formats, SPSS and SAS.

SPSS:

Statistical Package for the Social Sciences (SPSS) is used by market researchers, health researchers, survey companies, government, education researchers, marketing organizations, data miners and others. In addition to statistical analysis, data management which includes case selection, file reshaping, creating derived data and data documentation stored in the data file are features of the base software.

CHAPTER 4: DATA ANALYSIS

4.1. Introduction to Case

The study will answer to major questions:

- 1. To identify traffic sources responsible for more number of visits from returning users.
- 2. To find visitors (new/returning) responsible for generating more number of page views for a website.

4.2. Data Analysis

Google Analytics allows users to export data in MS Excel format, which when transformed can be analyzed with time series statistical programs.

1. To identify traffic sources responsible for more number of visits from returning users.

Step 1: Test for normality using SPSS

Inference: As per table 1 attached in the annexure, the data can be taken as normal as the significance value for Shapiro-Wilk test is less than 0.05.

Step 2: Test for Correlation Using SPSS

Inference: As per table 2 attached in annexure, all independent variables (Traffic Source such as Social, Referral, Organic Search, Direct) are not correlated. So the next step is to perform regression on the model.

Step 3: Regression using SPSS

$$Y = \beta_1 * X_1 + \beta_2 * + \beta_2 * X_2 + \beta_3 * X_3 + \beta_4 * X_4 C$$

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Here,

Y (Dependent Variable) = Returning Visitors from Source

 X_1, X_2, X_3, X_4 (Independent Variable) = Traffic Source such as Organic Search,

Direct, Referral and Social

 β = Coefficient

C = Constant

Inferences:

1. As per table 3 attached in the annexure, the ANOVA Table shows that the overall

model is statistically significant with p-value less than 0.05 and the regression model

is Good Fit of the data.

2. As per table 4 attached in the annexure, the "R Square" (coefficient of

determination) value of 0.898 indicates that our independent variables explain

89.8% of the variability of our dependent variable.

Variables mentioned below are significant as per table 5 attached in the

annexure:

Direct

• Referral

Social

Step 4: Removing the variables which are highly insignificant i.e. Organic Source

(OS) and performing regression on the remaining independent variables that is

sessions from direct source, referral source and social source.

$$Y = \beta_1 * X_1 + \beta_2 * + \beta_2 * X_2 + \beta_3 * X_3 + C$$

Here,

Y (Dependent Variable) = Returning Visitors from Source

X₁, X₂, X₃(Independent Variable) = Traffic Source such as Direct, Referral and

Social

 β = Coefficient

C = Constant

Inferences:

1. As per table 6 attached in the annexure, the ANOVA Table shows that the overall

model is statistically significant with p-value less than 0.05 and the regression model

is Good Fit of the data.

2. As per table 7 attached in the annexure, the "R Square" (coefficient of

determination) value of 0.896 indicates that our independent variables explain

89.6% of the variability of our dependent variable.

As per table 8 attached in the annexure variables mentioned below are

significant and should be targeted by this website for generating returning

visits:

Direct

Referral

Social

2. To find visitors (new/returning) responsible for generating more number of page

views for a website.

Step1: Test for normality using SPSS

Inference: As per table 9 attached in the annexure, the data can be taken as normal

as the significance value for Shapiro-Wilk test is less than 0.05.

Step2: Dickey-Fuller stationarity test using EViews 9

Consider testing the null hypothesis:

H0: Unit root exists or the data is not stationary,

Against the alternative hypothesis

H1: Unit root does not exist or the data is stationary

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For Organic traffic

Inference: As per table 10 attached in the annexure, the computed ADF test-statistic

(-2.004) is smaller than the critical value - "tau" (-1.612 at 10 significant level,

respectively), therefore Ho is rejected.

For Direct traffic

Inference: As per table 11 attached in the annexure, the computed ADF test-statistic

(-3.522) is smaller than the critical value - "tau" (-3.225 at 10 significant level,

respectively), therefore Ho is rejected.

For Referral traffic

Inference: As per table 12 attached in the annexure, the computed ADF test-statistic

(-3.1919) is smaller than the critical value - "tau" (-3.1796 at 10 significant level,

respectively), therefore Ho is rejected.

For Social traffic

Inference: As per table 13 attached in the annexure, the computed ADF test-statistic

(-1.7160) is smaller than the critical value - "tau" (-1.612 at 10 significant level,

respectively), therefore Ho is rejected.

Step 3: Regression Using SPSS

 $\mathbf{Y} = \mathbf{\beta} * \mathbf{X} + \mathbf{C}$

Here,

X (Independent Varaible) = Page views for a particular visitor

Y (Dependent Variable) = New/Returning Visitor

 β = Coefficient

C = Constant

For New Visitor

Inference: As per table 14 attached in the annexure, the number of pages views

grows by 2.682 out of every extra new visit.

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For Returning Visitor

Inference: As per table 15 attached in the annexure, the number of pages views grows by 3.966 out of every extra returning visit.

4.3. Findings and Recommendations

The study presents an experiment done with the time series that Google Analytics offers for a web site. A new methodology is developed to analyze the effectiveness of visits depending on their traffic source: direct visits, referring site entries, organic visits and social visits.

- 1. Referral traffic source is responsible for more number of visits from returning users.
- 2. Returning visitors are more important for a website than a new visitor as page views increases by returning users.

If a strategic plan has to be made to expand www.studplex.com web site's traffic effectiveness, then the study recommends that first try to promote the number of referral visits. Because for this particular case, referring site visits are the more productive in terms of visit depth, and the types of visit that bounce the most. Secondly, try to improve the Direct visits. And lastly focus on to improve the web site's social visibility.

4.4 Limitations of the study

- 1. The research does not consider the bounce visits i.e. visitor viewing only 1 page and exiting from the website.
- 2. The research only look at single website.
- 3. Financial cost for generating traffic is not taken in to consideration.

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ADHERENCE SHEET

| Particulars | Last Date | Signature of Mentors |
|---|-----------|----------------------|
| | | |
| Title of the Project/Area of Topic Finalization | 21-Jan-16 | |
| Literature | | |
| Review/Objectives of the study | 02-Feb-16 | |
| | | |
| Methodology | 18-Feb-16 | |
| | | |
| Questionnaire/Data Collection tools | 03-Mar-16 | |
| | | |
| Data Collection | 17-Mar-16 | |
| | | |
| Analysis | 24-Mar-16 | |
| | | |
| Conclusion and Recommendations | 01-Apr-16 | |
| | | |
| First Draft | 15-Apr-16 | |
| | | |
| Final Report/Binding and Submission | 03-May-16 | |

ANNEXURES

| | Kolmogorov-Smirnov ^a | | | | napiro-Wilk | |
|-----|---------------------------------|----|------|-----------|-------------|------|
| | Statistic | df | Sig. | Statistic | df | Sig. |
| rvs | .154 | 53 | .003 | .926 | 53 | .003 |
| rvd | .159 | 53 | .002 | .846 | 53 | .000 |
| rvo | .115 | 53 | .077 | .939 | 53 | .010 |
| rvr | .114 | 53 | .084 | .943 | 53 | .013 |

Table 1

Correlations

| | | OS | Direct | Referral | social |
|----------|---------------------|--------|--------|----------|--------|
| os | Pearson Correlation | 1 | .351** | .367** | .268 |
| | Sig. (2-tailed) | | .010 | .007 | .052 |
| | N | 53 | 53 | 53 | 53 |
| Direct | Pearson Correlation | .351** | 1 | .358** | .476 |
| | Sig. (2-tailed) | .010 | | .009 | .000 |
| | N | 53 | 53 | 53 | 53 |
| Referral | Pearson Correlation | .367** | .358** | 1 | .391** |
| | Sig. (2-tailed) | .007 | .009 | | .004 |
| | N | 53 | 53 | 53 | 53 |
| social | Pearson Correlation | .268 | .476** | .391** | 1 |
| | Sig. (2-tailed) | .052 | .000 | .004 | |
| | N | 53 | 53 | 53 | 53 |

^{**.} Correlation is significant at the 0.01 level (2-tailed).

Table 2

Model Summary^b

| | | | | | | Change Statistics | | | | |
|-------|-------|----------|----------------------|-------------------------------|--------------------|-------------------|-----|-----|------------------|-------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change | Durbin- Watson |
| 1 | .947ª | .898 | .889 | 100.306 | .898 | 105.181 | 4 | 48 | .000 | 1.220 |

a. Predictors: (Constant), social, OS, Referral, Direct

Table 3

b. Dependent Variable: RV

ANOVA^a

| Mode | el | Sum of Squares | df | Mean Square | F | Sig. |
|------|------------|-------------------|----|--------------------------|---------|-------------------|
| 1 | Regression | 4232999.020 | 4 | 1058249.755 | 105.181 | .000 ^b |
| | Residual | 482937.773 | 48 | 10061.204 | | |
| | Total | 4715936.792 | 52 | P3502.794/3.0913.045.494 | | |

a. Dependent Variable: RV

b. Predictors: (Constant), social, OS, Referral, Direct

Table 4

Coefficients^a

| | | Unstandardize | d Coefficients | Standardized Coefficients | | | 95.0% Confidence Interval fo | |
|------|------------|---------------|----------------|------------------------------|--------|------|------------------------------|-------------|
| Mode | el | B Std. Error | | Beta | t | Sig. | Lower Bound | Upper Bound |
| 1 | (Constant) | -21.521 | 30.973 | | 695 | .491 | -83.797 | 40.756 |
| | os | .125 | .150 | .043 | .833 | .409 | 177 | .428 |
| | Direct | .237 | .022 | .592 | 10.757 | .000 | .192 | .281 |
| | Referral | 1.374 | .584 | .125 | 2.354 | .023 | .200 | 2.548 |
| | social | .149 | .020 | .414 | 7.579 | .000 | .109 | .188 |

a. Dependent Variable: RV

Table 5

Model Summary

| | | | | | Change Statistics | | | | |
|-------|-------|----------|----------------------|-------------------------------|--------------------|----------|-----|-----|------------------|
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | R Square Change | F Change | df1 | df2 | Sig. F Change |
| 1 | .947ª | .896 | .890 | 99.992 | .896 | 140.888 | 3 | 49 | .000 |

a. Predictors: (Constant), social, Referral, Direct

Table 6

ANOVA^a

| | Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|-------|------------|-------------------|----|-------------|---------|-------|
| ſ | 1 | Regression | 4226010.613 | 3 | 1408670.204 | 140.888 | .000b |
| I | | Residual | 489926.179 | 49 | 9998.493 | | |
| l | | Total | 4715936.792 | 52 | | | |

a. Dependent Variable: RV

b. Predictors: (Constant), social, Referral, Direct

Table 7

Coefficients^a

| | Unstandardized Coefficients | | Standardized Coefficients | | | 95.0% Confiden | ice Interval for B | |
|-------|-----------------------------|--------|------------------------------|------|--------|----------------|--------------------|-------------|
| Model | | В | Std. Error | Beta | t | Sig. | Lower Bound | Upper Bound |
| 1 | (Constant) | -9.991 | 27.626 | | 362 | .719 | -65.508 | 45.525 |
| | Direct | .241 | .021 | .602 | 11.236 | .000 | .198 | .284 |
| | Referral | 1.498 | .563 | .136 | 2.662 | .010 | .367 | 2.629 |
| | social | .150 | .020 | .416 | 7.656 | .000 | .110 | .189 |

a. Dependent Variable: RV

Table 8

| | | Test | s of Norma | lity | | | |
|----------|-----------|-------------|------------------|--------------|----|------|--|
| | Kolmo | gorov-Smirr | nov ^a | Shapiro-Wilk | | | |
| 50 S | Statistic | df | Sig. | Statistic | df | Sig. | |
| os | .179 | 53 | .000 | .830 | 53 | .000 | |
| Direct | .136 | 53 | .016 | .879 | 53 | .000 | |
| Referral | .202 | 53 | .000 | .874 | 53 | .000 | |
| RV | .098 | 53 | .200 | .943 | 53 | .014 | |
| NV | .086 | 53 | .200 | .939 | 53 | .009 | |
| social | .129 | 53 | .029 | .937 | 53 | .008 | |

Table 9

| Null Hypothesis: ORG Exogenous: None Lag Length: 0 (Fixed) | ANIC has a unit root | | |
|--|----------------------|-------------|--------|
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fu | Iller test statistic | -2.004720 | 0.0440 |
| Test critical values: | 1% level | -2.610192 | |
| | 5% level | -1.947248 | |
| | 10% level | -1.612797 | |

Table 10

| Null Hypothesis: DIRECT has a unit root Exogenous: Constant, Linear Trend Lag Length: 1 (Fixed) | | |
|---|--|--------|
| | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test statistic Test critical values: 1% level 5% level 10% level | -3.522257 -4.323979 -3.580623 -3.225334 | 0.0563 |

Table 11

a. Lilliefors Significance Correction

| Null Hypothesis: REFE Exogenous: Constant, Lag Length: 1 (Fixed) | | | |
|--|---------------------|-------------|--------|
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fu | ller test statistic | -3.191966 | 0.1079 |
| Test critical values: | 1% level | -4.148465 | |
| | 5% level | -3.500495 | |
| | 10% level | -3.179617 | |

Table 12

| Null Hypothesis: SOCIAL has a Exogenous: None Lag Length: 0 (Fixed) | unit root | | |
|---|-----------|-------------|--------|
| | | t-Statistic | Prob.* |
| Augmented Dickey-Fuller test st | atistic | -1.716088 | 0.0815 |
| Test critical values: 1% lev | | -2.610192 | |
| 5% lev | /el | -1.947248 | |
| 10% le | vel | -1.612797 | |

Table 13

| | | Coefficients ^a | | | | | | | | | | | | |
|---|--------|---------------------------|-------------------------|------------|------------------------------|--------|------|------------|--------------|------|-----------|-------------------------|--|--|
| | | | Unstandardized Coeffici | | Standardized Coefficients | | | | Correlations | | | Collinearity Statistics | | |
| - | Model | 0 | В | Std. Error | Beta | t | Sig. | Zero-order | Partial | Part | Tolerance | VIF | | |
| | 1 | (Constant) | -137.308 | 232.366 | | 591 | .557 | | | | | | | |
| | | NVs | 2.682 | .114 | .957 | 23.563 | .000 | .957 | .957 | .957 | 1.000 | 1.000 | | |
| | a. Dep | endent Variab | le: pvn | | | | | | | | | | | |

Table 14

| | | | | Coefficients ^a | | | | |
|----|------------|-----------------------------|------------|------------------------------|--------|------|---------------------------------|-------------|
| 17 | | Unstandardized Coefficients | | Standardized Coefficients | | | 95.0% Confidence Interval for B | |
| Mo | odel | В | Std. Error | Beta | t | Sig. | Lower Bound | Upper Bound |
| 1 | (Constant) | 235.089 | 158.583 | 1 | 1.482 | .144 | -83.280 | 553.458 |
| | RV | 3.966 | .290 | .887 | 13.686 | .000 | 3.384 | 4.547 |

Table 15