



**BERLIN SCHOOL OF
BUSINESS & INNOVATION**

Essay / Assignment Title: Designing a Tableau Dashboard for Social media Data Analytics

Programme title: Visualization and Story Telling using Tableau

Name: Eniola Bashirah Uthman

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CHAPTER ONE

INTRODUCTION

The way that individuals consume and share information has changed as a result of social media, which has become a significant component of the lives of billions of people (Mirbabaie et al., 2021). Information systems (IS) research benefits greatly from theoretical frameworks and techniques for social media data analysis. The Social Media Analytics (SMA) approach represents a significant methodological stance (Stieglitz et al. 2018). SMA has been more well-liked among IS academics as a result of the extremely relevant phenomena centered around social media and the enormous volumes of data produced every day (Choi et al. 2020). The term refers to "an emerging interdisciplinary research field that aims on combining, extending, and adapting methods for analysis of social media data" (Stieglitz et al. 2014).

Numerous fields, including IS, have made significant contributions to SMA. According to Kurniawati et al. (2013), SMA uses structured, semi-structured, and unstructured social media data (such as text, images, time-series data, metadata, and network relationships) to interpret public social media data for determining people's attitudes and behaviors. SMA is therefore extremely pertinent in many circumstances, including as business, crisis management, and political communication . Application-driven research has identified dashboard interfaces as ideal solutions for managing social media data for this purpose (Avvenuti et al. 2018).

The main goal of this is to provide a dashboard for social media data analytics,using Tableau as a visualization tool.

CHAPTER TWO

This section will give brief explanation of social media, social media platforms, dashboard and discusses the objectives of this paper.

2.1 DASHBORAD

In Tableau, a dashboard is a visual user interface that enables synchronized interaction and exploration of data visualizations and reports. One of Tableau's primary features is the ability for users to combine many worksheets, charts, and other visual components into a single, dynamic display.

2.2 SOCIAL MEDIA

Social media is a term for computer-based technology that enables users to communicate through online groups and virtual networks. Users can post and share personal information, images, videos, and documents from a variety of devices, including desktop, laptop, tablet, and smartphone computers (investopedia.com).

2.3 SOCIAL MEDIA PLATFORMS

An online service or application known as a social media platform enables people, groups, and companies to publish, distribute, and engage with content and other users. Through a variety of material, including text, photographs, videos, and more, users can connect, interact, and connect with one another on these platforms. Social networking sites offer a wide range of services, including tools for interacting with friends, followers, and other users, user profiles, the ability to post content, like, remark, and share, and the option to like, follow, and comment on other users' content.

Facebook, Twitter, Instagram, LinkedIn, YouTube, TikTok, Pinterest, and Snapchat are just a few of the well-known social media sites. Users can select the platform that best suits their preferences and goals, whether they're looking to connect with friends and family, network

professionally, or share creative content with a larger audience. Each platform typically caters to different types of content, audiences, and communication styles.

2.4 THE OBJECTIVE OF THIS STUDY

The main goal is to provide a dashboard for social media data analytics, using Tableau as a visualization tool. Other sub-objectives include:

- To digitally analyze and depict the primary motivation for using the social media platform.
- To talk about the objectives of using social media for campaigns.
- To utilize Tableau to analyze the provided dataset to determine who the website visitors are.

CHAPTER THREE

METHODOLOGY

This section uses Tableau to visualize and analyse the objectives of this paper.

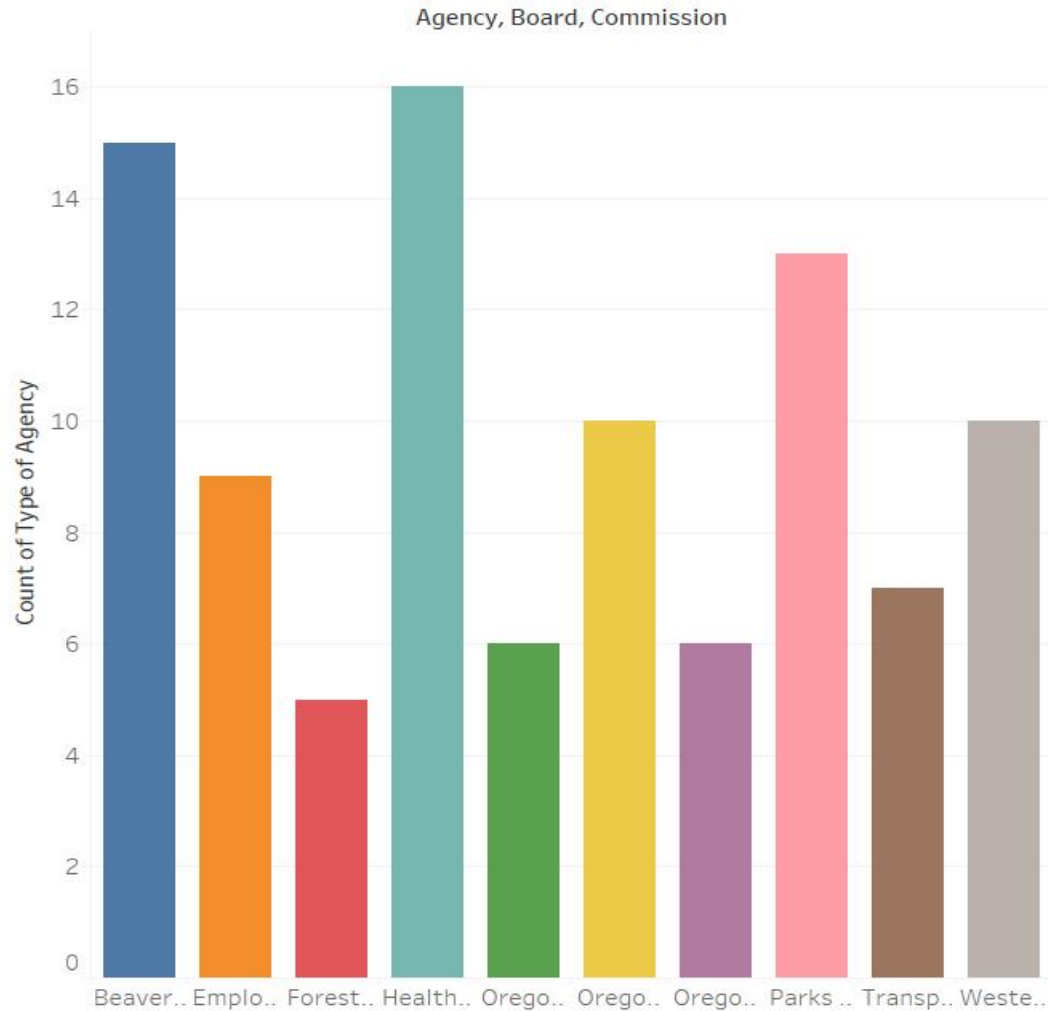
3.1 DATASET

The dataset used in this paper, is gotten from <https://catalog.data.gov/dataset/state-of-oregon-social-media-sites> . This dataset contains information about different social media platforms of users of state of Oregon websites, in respect to its different Agencies and board of commissions .

3.2 VISUALIZATION AND ANALYSES OF DATA

The main reason behind the usage of social media channel is visualized using Tableau. This is shown below:

REASON FOR SOCIAL MEDIA USAGE



Count of Type of Agency for each Agency, Board, Commission. Color shows details about Agency, Board, Commission. The view is filtered on Agency, Board, Commission, which keeps 10 of 65 members.

Agency, Board, Commission

- Beaverton, City of
- Employment
- Forestry
- Health Authority
- Oregon Institute of Technology
- Oregon State Library
- Oregon Youth Authority
- Parks & Recreation
- Transportation
- Western Oregon University

FIG 1

According to the data provided by the dataset, the health authority, represented by the 16 count type of agency, is the primary driver of social media usage, as shown in the above graph.

SOCIAL MEDIA CAMPAIGN GOALS FOR HEALTH AUTHORITY

The particular aims and objectives of a social media campaign are those that a company, organization, or person wants to accomplish through the use of social media in marketing. The strategy, implementation, and assessment of social media initiatives must be guided by these objectives. The social media campaign goals for health authority includes:

- **Health Education and Awareness:** The objective is to raise public awareness of and educate the public on issues relating to health. Via social media forum. This can be accomplished by producing health-related material, posting it on various social media sites, engaging with it there, enjoying it, and commenting on it. Visits to websites with health resources, reach (the number of people who saw the content), engagement (likes, comments, and shares), and surveys on knowledge enhancement can all be used to gauge the success of this campaign.
- **Disease Prevention and Control :** The goal is to educate people about certain diseases, their symptoms, and ways to prevent and control them via social media platform. This can be done by creating Pre- and post-campaign surveys measuring awareness levels, adherence to advised procedures, and the number of people seeking screenings or tests.
- **Mental Health Awareness:**The objective is to promote open discussions about mental health, provide support services, and fight stigma towards mental illness. The Reach, membership in support groups for mental health, the number of calls or discussions to crisis hotlines, and engagement (likes, comments, shares, etc.) can all be used to gauge how effective this campaign is.
- **Healthy lifestyle promotion:** The goal is to persuade people by posting contents on social media, informing people to embrace healthier lifestyles through wellness practices, exercise, and proper nutrition. This effectiveness of this can be measured by engagement with the campaign's materials (likes, shares), behavioral shifts (like rates of quitting smoking or adopting healthy eating practices), and health outcomes related to the campaign's themes.

- **Safety and Injury prevention:**The objective of this campaign is to post contents online in order to increase public understanding of safe work procedures, accident prevention, and first aid.
- **Research promotion:**This campaign goal aims at promoting ongoing clinical trials, recruitment, and health research projects.

MEASURING SUCCESS WITH PLATFORM DATA

The success of the platform is measured by visualizing the number of Active/inactive users of each social platform from the dataset used for analysis. The visualization is displayed below.

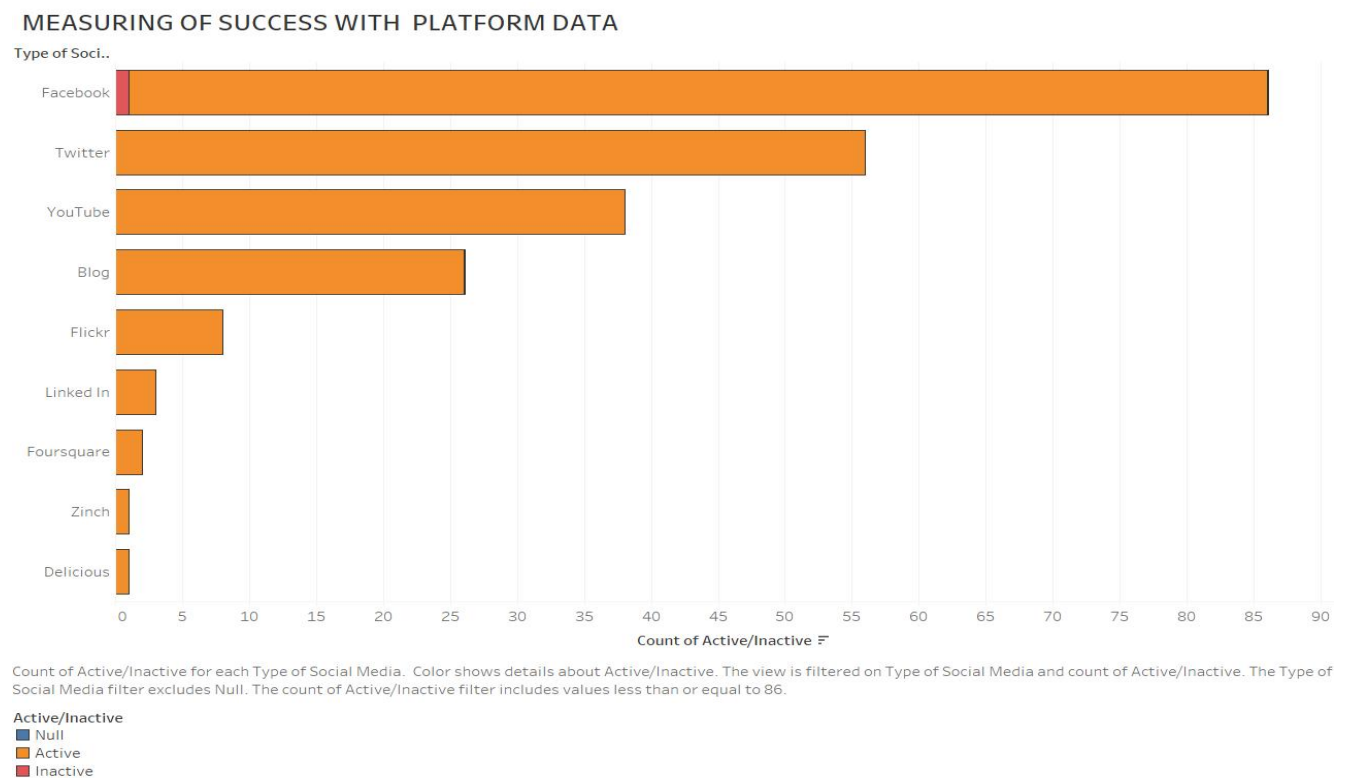
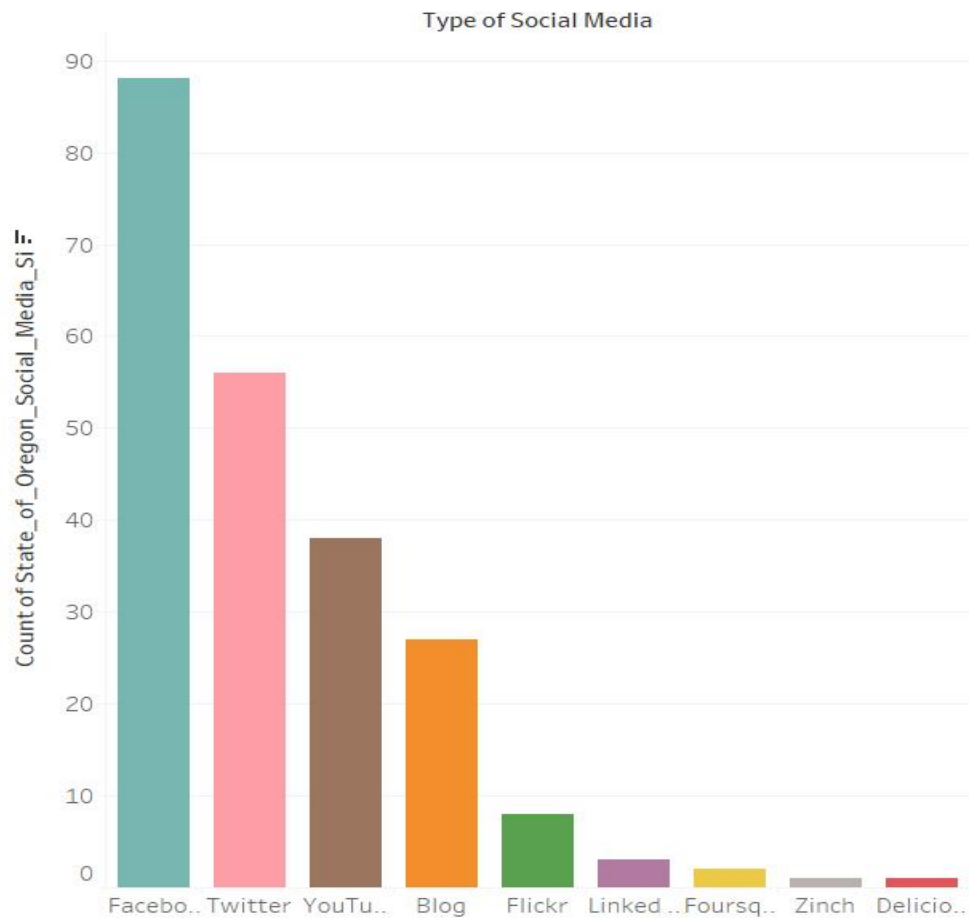


FIG 2

According to Fig. 2 above, Facebook has 85 active users, which is the biggest number of any social media network, and 1 inactive users. There are no dormant users because everyone is active on other platforms as well. We concluded from this analysis that the number of active Facebook users can be used to gauge the platform's success.

WEBSITE VISITORS

SOCIAL MEDIA VISTORS



Count of State_of_Oregon_Social_Media_Si for each Type of Social Media. Color shows details about Type of Social Media. The view is filtered on Type of Social Media, which excludes Null.

Type of Social Media

- Blog
- Delicious
- Facebook
- Flickr
- Foursquare
- Linked In
- Twitter
- YouTube
- Zinch

FIG 3

It is evident from the fig above that Facebook is the social media network used by website visitors.

3.3 DASHBOARD FOR DATA ANALYTICS

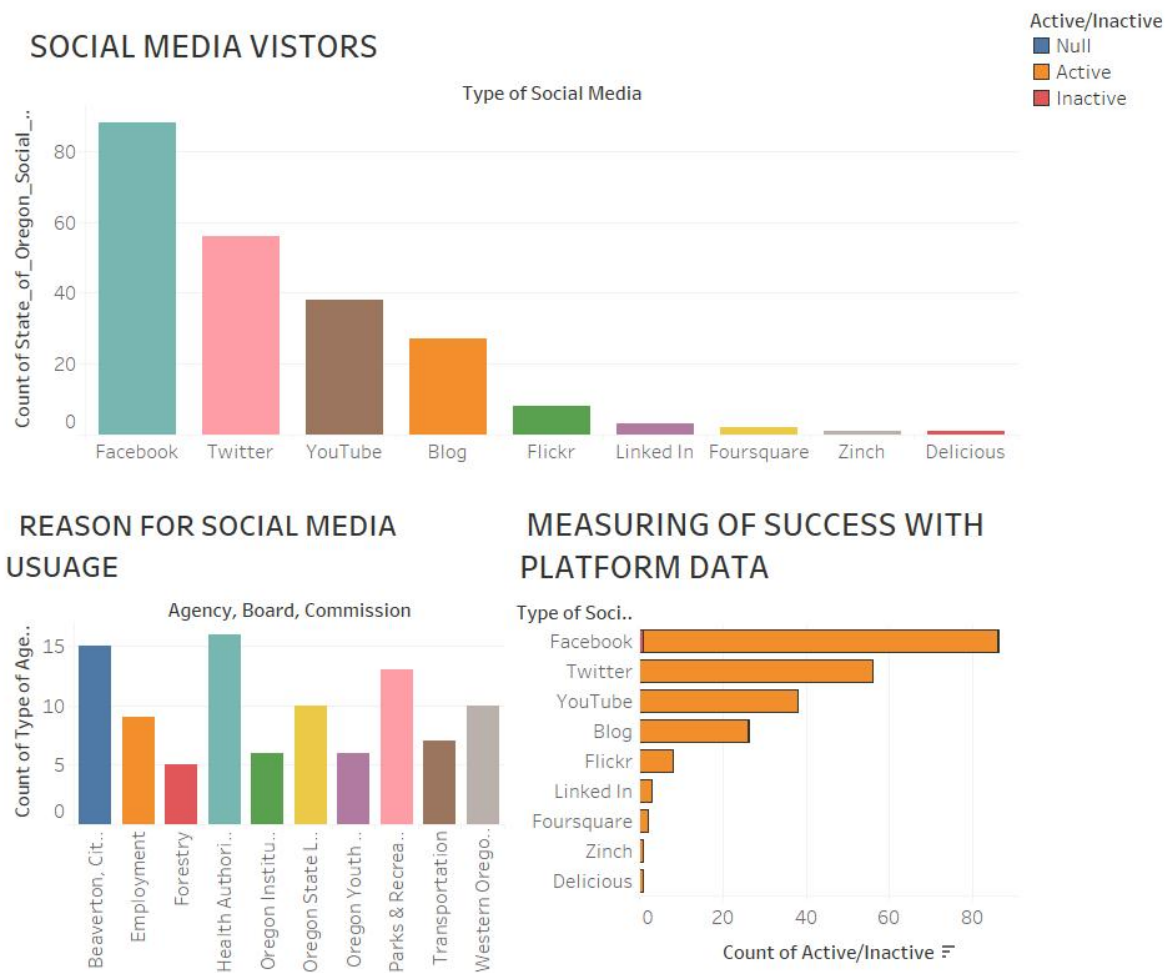


FIG 4

FIG 4 above is the dashboard showing different sheets of the social media analysis of the state of Oregon dataset.

CHAPTER FOUR

ANALYSIS AND REPORT

In this project, the main goal was to create a thorough dashboard for social media data analytics using Tableau as the visualization platform. The research is supported by the realization that social media has significantly changed how people receive and exchange information, becoming a crucial aspect of billions of lives. The use of Social Media Analytics (SMA) as a key methodological strategy enables researchers to traverse the enormous amounts of social media data created every day. Business, crisis management, and political communication are just a few of the scenarios where SMA is particularly pertinent.

The multidisciplinary nature of SMA, which seeks to combine, extend, and adapt methodologies for evaluating social media data, is in line with this study. It addresses the main aims of addressing the objectives of social media campaigns, digitally assessing the main drivers behind social media usage, and utilizing Tableau to examine a given dataset to gain insights into website visitors.

As shown by the data from the state of Oregon's social media sites, the study's conclusions highlight the crucial role that health authorities play in social media usage. A sizable part of social media interaction was from health officials, indicating their importance in public discourse. The analysis also showed that health authorities use social media to promote a variety of goals, including disease prevention and control, mental health advocacy, disease education and awareness, and the promotion of healthy lifestyles. These campaigns use surveys, crisis hotlines, and educational materials to engage the public, and the effectiveness of these efforts may be gauged by looking at engagement, awareness, and behavior change indicators. The popularity of the social media platform itself was also represented visually, with Facebook becoming as a significant platform for website visits, as assessed by the number of active users. These results highlight the value of social media analytics for health authorities and show how Tableau can be used to visualize and analyze such data to help decision-makers make well-informed choices.

CONCLUSION

In conclusion, this project's core goal of creating a thorough dashboard for social media data analytics utilizing Tableau as the selected visualization platform has been accomplished. The study confirms social media's tremendous influence on contemporary communication and highlights its central place in the lives of billions of people around the world. The use of Social Media Analytics (SMA) is a strategic method for navigating the enormous amounts of data generated every day, with an emphasis on a variety of fields such as business, crisis management, and political communication.

The study's results highlight the important role that health authorities play in social media, highlighting their presence there and their considerable impact over the public dialogue. It is obvious that health authorities use social media to accomplish a variety of goals, from disease prevention to mental health support, with a focus on public education and awareness. Evaluation of these programs' performance heavily relies on engagement, awareness measurements, and signs of behavior change. It is further illustrated how social media analytics and Tableau may help health authorities make data-driven decisions by visualizing the prevalence of social media platforms, with Facebook being the most common platform for website visitors.

In conclusion, this research work highlights the significance of social media analytics for health authorities and provides insightful information about their prominence and the many goals they seek. Organizations may better understand social media trends and user behavior by utilizing Tableau and SMA's capabilities, allowing them to modify plans and rules to fit the ever changing digital environment.

RECOMMENDATION

Investing in Social Media Analytics (SMA) and data visualization tools like Tableau is first and foremost strongly advised for organizations, especially health authorities. SMA is essential to understanding the broad and complex social media ecosystem because it enables businesses to gather insightful data and identify trends that may guide business decisions. To facilitate the efficient application of data-driven strategies, health authorities should create specialized teams or roles focused on SMA. To fully utilize social media data, staff members must receive regular training and professional development opportunities on SMA techniques and tools. Organizations should also keep up with the newest SMA developments and continuously modify their processes to reflect shifting social media trends and user behavior.

Second, when using user privacy, ethical data processing, and openness are priorities for health authorities and organizations, social media data must be given priority. To earn and keep the public's trust, it is essential to adhere to data privacy laws and industry best practices. This calls for open communication with users regarding data gathering and use as well as the provision of opt-in and opt-out mechanisms for data sharing. To ensure compliance with data protection regulations and standards, such as GDPR or HIPAA in the healthcare industry, firms need also work with data privacy specialists and lawyers. Organizations can reduce potential dangers by adhering to these ethical and privacy norms, as well as promote a reputable and positive reputation in the field of social media analytics.

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