



**Investigating Instagram's Functions On Big Data
Analytics Towards Business Performances Of
UniMAP's Student Entrepreneurs**

by

**Uthman Affan Putra bin Adnan
(2033433072)**

A research project submitted in partial fulfillment of the requirements for
the degree of
Master of Business Administration (Engineering Management)

**Faculty of Applied and Human Sciences
UNIVERSITI MALAYSIA PERLIS**

2022

INVESTIGATING INSTAGRAM'S FUNCTIONS ON BIG DATA
ANALYTICS TOWARDS BUSINESS PERFORMANCES OF
UNIMAP'S STUDENT ENTREPRENEURS

@This item is protected by original copyright

ACKNOWLEDGEMENT

First of all, I would like to acknowledge and give my warmest thanks to my supervisor, Assoc. Prof. Ts. Dr. Syed Zulkarnain bin Syed Idrus Al-Saggof who made this work possible. His guidance and advice carried me through all the stages of my project.

I would also like to thank my subject coordinator, Dr. Wan Nor Munirah Ariffin and Dr. Wan Suhana for providing necessary information regarding this research subject.

I am also extremely grateful to my research subject, Dr. Muhammad Shahar bin Jusoh for held a seminar and sharing his knowledges.

I would like to express my gratitude towards my father Mr Adnan bin Othman for the encouragement which helped me in completion of this paper. I would also like to thank my fellow classmates in Universiti Malaysia Perlis: Bishmun Thanabalan and Siti Hamidah for the stimulating discussions.

Finally, I would like to thank God, for letting me through all the difficulties. I have experiences your guidance day by day. You are the one who let me finish my degree. I will keep on trusting you for my future.

TABLE OF CONTENTS

	PAGE
DECLARATION OF THESIS	i
ACKNOWLEDGEMENT	ii
TABLE OF CONTENTS	iii
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRAK	ix
ABSTRACT	x
CHAPTER 1 : INTRODUCTION	1
1.1 Introduction	1
1.2 Problem Statement	4
1.3 Objective of the Study	6
1.4 Research Questions	7
1.5 Research Hypothesis	7
1.6 Significance of the Study	8
1.7 Scope of the Study	10
1.8 Definition of Terms	11
CHAPTER 2 : LITERATURE REVIEW	13
2.1 Introduction	13

2.2	Conceptual Framework	14
2.3	Instagram Application	15
2.4	Instagram's functions on Big Data Analytics	18
2.4.1	Predictive Analytics	18
2.4.2	Personalized	19
2.4.3	Insight Section	21
2.5	Business Performances	22
2.5.1	Customer Reachability	23
2.5.2	Customer Engagement	24
2.5.3	Total Number of Followers	25
CHAPTER 3 : METHODOLOGY		27
3.1	Introduction	27
3.2	Research Design	27
3.3	Research Process	28
3.4	Sampling Method	29
3.5	Research Sample	29
3.6	Survey Process	30
3.7	Research Instrument	31
3.8	Pilot Test	33
3.9	Summary	34
CHAPTER 4 : RESULTS AND DISCUSSION		36
4.1	Introduction	36
4.2	Analysis of Respondent Questionnaire	36
4.2.1	Information about Respondent Demographic Background	37
4.2.2	Analysis of Respondent's Social Network	42
4.2.3	Analysis on Instagram Account Management	44

4.2.4	Analysis on Customer's Engagement in Instagram Account	47
4.2.5	Analysis on Respondent's Instagram Marketing	51
4.2.6	Analysis on the effect of Instagram's function on BDA	55
4.3	Validity Test	58
4.4	Hypothesis Analysis	60
4.5	Summary	63
CHAPTER 5 : CONCLUSION		64
5.1	Introduction	64
5.2	Research Summary	64
5.3	Research Conclusion	65
5.4	Research Implication	65
5.5	Research Limitations	66
5.6	Research Suggestions	67
5.6.1	Suggestion to UniMAP's Student Entrepreneurs	67
5.6.2	Suggestion to Lecturer / Entrepreneurship Department in University	68
5.6.3	Suggestion to Government	68
5.6.4	Suggestion to Further Studies	69
REFERENCES		71
APPENDIX		76

LIST OF TABLES

		PAGE
Table 3.1	The value of Cronbach Alpha for Reliability Test (n=30)	34
Table 4.1	Respondent Distribution based on Gender Type	37
Table 4.2	Respondent Distribution based on Race	38
Table 4.3	Respondent Distribution based on Marital Status	39
Table 4.4	Respondent Distribution based on Study Level	40
Table 4.5	Respondent Distribution based on Business Experiences	41
Table 4.6	The frequencies and percentage of respondents based on use of Instagram towards Social Network	42
Table 4.7	The frequencies and percentage of respondents based on the Management of Instagram Account	44
Table 4.8	The frequencies and percentage of respondents based on Customer Engagement in Instagram Account	47
Table 4.9	The frequencies and percentage of respondents based on their way of marketing in Instagram platform	51
Table 4.10	The frequencies and percentage of respondents based on the result of Instagram's functions on Big Data Analytics	55

LIST OF FIGURES

	PAGE	
Figure 2.1	Conceptual Framework	14
Figure 2.2	Statistic of social media users in 10 years	17
Figure 2.3	Explore section in Instagram platform	19
Figure 2.4	Advertisement on Explore section based on four signals	20
Figure 2.5	Insight Section	22
Figure 2.6	Customer Rechability statistic shown in Insight section	24
Figure 2.7	Customer Engagement statistic shown in Insight section	25
Figure 2.8	Information about user's followers in Insight section	26
Figure 3.1	Process Flow	28
Figure 4.1	The table of validity test	59
Figure 4.2	The table of validity test	59
Figure 4.3	Table of H1 analysis	60
Figure 4.4	Table of H2 analysis	61
Figure 4.5	Table of H3 analysis	61
Figure 4.6	Table of H4 analysis	62

LIST OF ABBREVIATIONS

BDA	Big Data Analytics
GDP	Gross Domestic Product
IR	Industrial Revolution
MCO	Movement Control Order
MCMC	Malaysian Communications and Multimedia Commission
A	Agree
SA	Strongly Agree
N	Neutral
DA	Disagree
SDA	Strongly Disagree
UniMAP	Universiti Malaysia Perlis

@This item is protected by original copyright

Mengkaji Fungsi-Fungsi Instagram Mengenai Analisis Data Raya Terhadap Prestasi Perniagaan Usahawan Pelajar UniMAP

ABSTRAK

Data Raya adalah salah satu daripada lapan elemen yang terdapat dalam Industri Revolusi 4.0. Data Raya adalah satu set data yang saiznya melebihi kemampuan alat perisian pangkalan data khas untuk mengumpulkan, menyimpan, mengurus dan menganalisis data. Pada awal tahun 2020, dunia dilanda masalah besar dilanda wabak pandemik Covid 19. Statistik dari kerajaan Malaysia menunjukkan terdapat 37,414 perniagaan yang mengalami kerugian dan terpaksa berhenti disebabkan oleh Perintah Kawalan Pergerakan 3.0. Namun, statistik lain menunjukkan perkembangan positif terhadap transaksi jualan di platform digital. Fungsi-fungsi Instagram pada Analisis Data Raya dijangka dapat membantu para usahawan pelajar dalam perniagaan mereka. Namun, sejauhmanakah fungsi-fungsi Instagram pada Analisis Data Raya ini dapat digunakan dan apakah kepentingan fungsi-fungsi Instagram ini terhadap prestasi perniagaan usahawan pelajar UniMAP. Apakah kesan penggunaan fungsi-fungsi Instagram ini terhadap perkembangan perniagaan usahawan pelajar UniMAP. Objektif kajian ini adalah untuk mengetahui bagaimana fungsi-fungsi Instagram pada Analisis Data Raya iaitu Analisis Ramalan, *Personalized* dan Bahagian Insight mempengaruhi prestasi perniagaan. Kajian ini berbentuk kuantitatif bagi mengumpul data dengan menggunakan kaedah soal selidik bersama usahawan pelajar di Universiti Malaysia Perlis. Hasil kajian mendapati, fungsi-fungsi Instagram dalam Analisis Data Raya ini telah digunakan secara maksimum dan ia membantu dalam mendapatkan lebih ramai pelanggan dengan cepat dan berkesan. Fungsi-fungsi Instagram dalam Analisis Data Raya ini juga mampu untuk membantu usahawan pelajar dalam mengetahui prestasi sebelum dan semasa perniagaan digital mereka dari segi penambahan kebolehcapaian dan penglibatan pelanggan serta penambahan bilangan pengikut.

Investigating Instagram's Functions On Big Data Analytics Towards Business Performances Of UniMAP's Student Entrepreneurs

ABSTRACT

Big Data is one of the eight elements in Industrial Revolution 4.0. Big Data is a set of data that size exceeds the ability of special database software tools to collect, store, manage and analyze data. In early 2020, the world was hit by the Covid-19 pandemic. Statistics from the Malaysian government showed that there were 37,414 businesses suffering losses and had to stop their operation due to the Movement Control Order 3.0. However, other statistics show there is a positive increase on sales transactions on digital platforms. The Instagram's functions on Big Data Analytics are expected to help student entrepreneurs in their business. However, how far these Instagram's functions on Big Data Analytics can be used and what are the importance of these Instagram functions towards business performances of UniMAP student entrepreneurs. What is the importance of using these Instagram functions on the development of UniMAP student entrepreneur business. The objective of this study is to find out how Instagram functions on Big Data analysis which are Predictive Analytics, Personalized and Insight section. This study is quantitative to collect data using questionnaire with student entrepreneurs at Universiti Malaysia Perlis. The findings show that Instagram's functions in Big Data Analytics have been used at maximumly and it helps in getting more customers quickly and effectively. The Instagram functions in Big Data Analytics are also able to assist student entrepreneurs in evaluating the previous and current business performances such as increasing customer reachability and customer engagement as well as number of followers.

CHAPTER 1: INTRODUCTION

1.1 Introduction

Digital business exists in the world since the early of 90's but in Malaysia, it started as early in 20's. With the existence of this digital business, the number of entrepreneurs will continue increasing. According to a study by Associate Professor Dr. Noor Azuan Hashim (2020) from the Honorable Value and Wellbeing Center Universiti Kebangsaan Malaysia, this is because the digital business able to provide convenience toward a new entrepreneur to start their venture.

Entrepreneur is one of the most important factors in driving the national economy. The existence of many entrepreneurs in various sectors of industry can provide many benefits in society. They are considered to be those who are willing to take risks and are always striving to innovate (Nor Aini, 2003).

By exploring this digital medium, it can reduce operating costs, increases traffic rates and unlimited operating times. According to Kim et al (2015), digital entrepreneurship can gain popularity as a way of creating wealth and property acquisition in various aspects of the world today. These advantages not only create an innovation in the national industries but it also can be used as a business transformation where the entrepreneurs can diversify and shift their business from traditional to modern digital platform. Based on the statistic from Gross Domestic Product (2021), this development is expected to increase continuously as it creates a great opportunity especially to Small Medium Enterprise (SME) businesses.

The government has launched various plans where it can give an injection for them to operate their business consistently. The National Economic Restricted Plan (PENJANA), cooperation with the world's largest e-commerce company Alibaba Group capable to enhance the skills and the abilities of student entrepreneurs.

In the business world, the entrepreneurs should be prepared to adapt their businesses when there are any changes occurred. It includes the changes in culture, market demand, regulations or technology. Technological changes are very closely related to business world. The relationship between these two variables is directly proportional. According to Klaus (2016), the founder of the World Economic Forum in his book (The Fourth Industrial Revolution) stated that the technology changes from 300 years ago from Industrial Revolution (IR) 1.0 to 4.0. He explained the changes in the manufacturing sector that uses the transformer into the steam (IR1.0) then to electrical energy (IR2.0) then to (IR3.0) and change to the use of cyber system (IR4.0). Big Data Analytics is one of the elements in current Industrial Revolution.

Big Data Analytics is a technology that examines big data to uncover information such as people, machines or sensors (The European Commission, 2016). It is very important for every related business to make data-driven decisions that may include more effective marketing, new opportunities, customer personalization and improve operational efficiency (Wesley, 2021). According to former Malaysia Prime Minister Tan Sri Mahiaddin Md Yassin in Mei 2021, he stated that the technology is the key to driving force for the global economic transformation and it can help to boost the development of industry during endemic Covid-19. The government has also

implement Jalanan Digital Negara (JENDELA) amounting US\$12.7 billion (RM52.5 million) to accelerate the country's economic growth.

Many companies have changed their strategies from operating through physical stores to digital method by opening business shop in social media such as Facebook, Twitter and Instagram (Durmaz & Efendiolu, 2016). It is because these platforms have a large number of users thus it provides an advantage for digital entrepreneurs to attract more audiences.

According to the statistic of Internet Users Survey 2020 by Malaysian Communications and Multimedia Commission (MCMC), it stated that Facebook has the highest users in Malaysia (91.7%), Youtube (80.6%) and Instagram (63.1%). Throughout this survey, we can know that the rate of social media usage is high at this time and it able to attract more people to visit their business digital store.

The Big Data was used to describe the explosion in the quantity of available and potentially relevant data, largely the result of recent and unprecedented advancements in data recording and storage technology (Diebold, 2003). The attributed characteristics of Big Data were huge amounts, high-speed processing, and heterogeneous data that called 3Vs of Big Data. This technology is widely adapted by social media platforms. Big Data has changed the way of social media marketing by increasing the advantages and developing a wider scope. Leung (2010) explained that technology is a portal that allows users to interact with information and findings show that literacy information and internet networks have a significant relationship with the quality of life of the community. Unlike old social media marketing, the existence of Big Data Analytics

enabled to give benefits where it is capable to make the customers increase their preferences to make a purchase.

The first Instagram's function on Big Data Analytics is Predictive Analytic. It means that algorithm technology is able to detect a customer's taste based on their account behavior. There will be many advertisements appear related to their previous click and search. The next Instagram's function on Big Data Analytics is Personalized. It can identify the user's taste through their choice at a certain level. Before signing up as a user, the platform will ask questions about their preferences on a few sections. The third Instagram's function on Big Data Analytics is Insight section. This section shows many statistics that can help an entrepreneur reach higher customers. The Instagram's functions on Big Data Analytics expected to facilitate and expedite the process of meeting between two parties under the same categories.

1.2 Problem Statement

Minister of Entrepreneur and Cooperative Development, Tan Sri Noh Omar in an oral interview session at Dewan Rakyat 7 September 2021 reported that Malaysia has recorded at least 37,415 businesses that have been stopped operations due to pandemic Covid-19. Based on the impact study, this issue occurred due to the Movement Control Order 3.0 on the landscape of entrepreneurs in Malaysia since 15 to 28 June 2021.

Based on the website of Ministry of Health in 31 Mei 2021, the MCO procedure affects operations of business enterprises which only the basic product-based businesses

are allowed to operate such as food and daily necessities. Business operations also limited to 12 hour per day (8.00 am – 8.00 pm). Besides, customers also have a limited time to choose the goods with only 2 hours maximum. These procedures clearly being a problem for a business that operates physically. Their revenue does not exceed the operating costs.

Meanwhile digital businesses are increasing and growing rapidly at this time. This statement was supported by statistic from Bank Negara Malaysia (BNM) 12 June 2021 stating that local digital payments and transactions increased to RM23 billion and RM302 million in April 2021. Based on this sight, it is clear that the issue of the stop operation of the physical store occurred due to the lack of awareness on technology development. According to Seo et al. (2010), factors such as workplace management, ICT and knowledge are very important in the modern world economy.

The next aspect is the use rate of Instagram's functions on Big Data Analytics in social media. The lack of knowledge on the use of Instagram's functions on Big Data Analytics can affect the failure in business marketing. It is also supported by Van Dijk (2005) said that the three dimensions of the efficient use of Internet is accessibility, skills and motivation.

Previous studies were conducted by Thuabah et al. (2007), Syed Shah Alam et al. (2011), and Azmi et al. (2012) about the factor of success and failure among entrepreneur in Malaysia in terms of motivational aspects, entrepreneur networking, interest and innovation. In that research, the researchers do not explain technically the importance of the latest digital technology innovation in helping entrepreneurs.

Previous studies also have been carried out by Faradillah Iqmar Omar, Husna Ahmad Dimiyati, Norazirawati Ahmad, and Sheikh Khairuddin (2018) that examines the practice of digital inclusion in SME businesses. The previous study (Lim & Rashad, 2020) described the function of Instagram as a tool in social network marketing.

In this study, researcher wants to know how student entrepreneurs in UniMAP use Instagram's function on Big Data Analytics in order to improve their business performances. Furthermore, the researcher also wants to show how Instagram's function on Big Data Analytics which is Insight section that can be applied by student entrepreneurs to evaluate their business performances. Compared to previous studies, most of them do not discussed about Insight section. It is because this Instagram's function is a new technology started to be introduced in September 2020 (Jasiek, 2021).

1.3 Objectives of the Study

The general purpose of this study is to evaluate and document the level of Instagram's functions uses towards UniMAP student entrepreneurs on Big Data Analytics (BDA) based on the purposive sampling. Based on the issues mentioned in the problem statement, this study is associated with several personal characteristics of Instagram's functions consumption on BDA.

The ancillary purposes were addressed as below:

- i) To study on how Instagram's functions on Big Data Analytics (Predictive Analytics) is effective in improving customer's reachability and engagement.

- ii) To measure on how Instagram's functions on Big Data Analytics (Personalized) is effective in increasing the number of account followers.
- iii) To measure on how Instagram's functions on Big Data Analytics (Insight Section) is effective in measuring the statistic of current and previous business performances.
- iv) To find out the importance of Instagram's functions on Big Data Analytics (BDA) towards UniMAP's student entrepreneurs.

1.4 Research Questions

The purposes of the research were addressed by answering these questions below:

- i) How do student entrepreneurs realize the importance of BDA in Instagram?
- ii) How can Instagram's functions on BDA help entrepreneurs achieve the right customer prospects?
- iii) How can the effectiveness of Instagram's functions on BDA can helps entrepreneurs grow the businesses?
- iv) How can Instagram's function on BDA can helps entrepreneurs continue to operate and manage their business during critical times?

1.5 Research Hypothesis

The main objective of the research is evaluating the level of Instagram's functions uses on Big Data Analytics towards UniMAP student entrepreneurs. Firstly, this study wants to evaluate the relationship between two variables, the Instagram's

Functions on Big Data Analytics and Business Performances. Thus, there are three hypotheses to be tested in this study. It is as follows:

H1) There is a significant effect of Predictive Analytics toward the improvement of customer's reachability.

H2) There is a significant effect of Predictive Analytics toward the improvement of customer's engagement.

H3) There is a significant effect of Personalized algorithm toward the improvement of account followers.

H4) There is a significant effect Insight Section toward the measurement of current and previous business performances.

1.6 Significance of the Study

The Statistic from the Minister of Entrepreneur and Cooperative Development in 2021 showed that the number of businesses that need to stop and close their operations were 37,415 during the year. This issue should not be underestimated and the responsible entities especially related organizations and ministries in assisting the entrepreneurs. The role of the Ministry and related organizations is indispensable in facing the problem of declining number of businesses since the Movement Control Order was announced since 2020.

It is very important for student entrepreneurs to know the latest technologies in business world to ensure their business operations can be continued even in critical period. The findings of this study are expected to assist UniMAP student entrepreneurs in recognizing the importance of technology elements in Industrial Revolution 4.0

especially the pillars of Big Data Analytics. They can choose the right pillars to be applied and compatible with their business type.

This study is also expected that the UniMAP student entrepreneurs can diversify their business digitally and physically. It cannot be denied that physical stores also have its own advantages but it is better for UniMAP student entrepreneurs if they operate digitally to facilitate customers for looking and visiting their shop without limitations.

This study is expected to be able to help related parties especially ministries and organizations in teaching the knowledge of latest technology to student entrepreneurs. With this method, they will be easier to get more right customers because of many choices provided for customers to explore their stores. The Ministry can also organize and certain plans or strategies in providing knowledge about current technologies. They can work together with established companies that have adapted the latest technology in their business. Indirectly, student entrepreneurs can practice the uses of Instagram's functions in ensuring their business life.

This study also is expected to be able to assist in providing useful information and evidence of research on the Ministry of Entrepreneur and Cooperative Development on the level of implementation among student entrepreneurs on the importance of the use of Instagram's functions on Big Data Analytics. They need to learn effective marketing technique due to a very fast circulation of business environment. The data and results from this study are expected to be used as a guide to take an appropriate action continuously in way to produce a competitive student

entrepreneur community and have higher skills knowledge in tandem with other modern countries.

1.7 Scope of the Study

The scope of this study is focusing on the use of Instagram's function on Big Data Analytics and the significance of this technology in helping student entrepreneurs to increase their sales by looking at the ability to reach a right prospect. It refers to UniMAP student entrepreneurs in various study courses either they operating digitally or physically.

This study involves UniMAP student entrepreneurs from different courses in the range of 18 until 30 years old. The statistic of social media users in Malaysia shown that more than half (64%) of them is youth (MCMC, 2018). From this statistic, we estimate that the youth entrepreneurs have higher level of knowledge about current technologies compare to other ages. This proves that the youth entrepreneurs have a higher interest in implement and venturing into a new in technologies. There is also a result from previous studies showing that most of old citizen unable to accept or use social media based on several factors including education and income level (Faisal Ashaari, Nurul Aini & Rosmawati, 2021).

The respondent consisted of 134 numbers of entrepreneurs. These entrepreneurs or respondents are randomly selected through purposive sampling method. It is selected based on the characteristics that have been stated above.

1.8 Definition of Terms

This study used several terms to Instagram's function on Big Data Analytics towards business performance of student entrepreneurs. These terms are defined below:

- i. Instagram is a name of a social media service for taking, changing and sharing photographs and video (Cambridge Dictionary). Instagram has two types of account profile which are personal profile and business profile. In business profile, the Instagram's function can be observed more details when it can show the statistics of business performance.
- ii. Big Data Analytics refers to a process in which a computer examines information using mathematical methods in order to find useful patterns of a very large sets of data that are produced by people using the internet, and that can only be stored, understood, and used with the help of special tools and methods (Cambridge Dictionary):

Supermarkets make use of big data to track user behavior and target consumers with things they like.

- iii. Student entrepreneur is a student who is engaged in preparing a business plan for a new or existing growth-oriented business (Katz, Harshman, & Dean, 2000). Student entrepreneurs also defined as individuals who are actively pursuing academic coursework and are running a company (alone or with others) at the same time (Ridder & Sijde, 2006). In this study, they refer to the UniMAP student in various study level such as diploma, degree, master of PhD that operate their start-up businesses.

- iv. Customer engagement is an arrangement to meet someone or do something at a particular time (Cambridge Dictionary). In this study, it refers on how the audiences interact with our business posting or advertisement. For digital business, the audience may come from the followers or stranger. They make an engagement activity such as comment, like, repost, and viewing. For physical business, the interaction may be such as asking, survey, visiting or negotiate.
- v. Customer reachability is a behavior that indicates a trend towards an item. This behavior is influenced by several factors such as a positive experience with a brand, affordability, attractiveness package of product, quality and type of product (Dewan Bahasa dan Pustaka). In the context of customer reachability in Instagram, it means the number of audiences that can be reached in a time. For example, there are 2000 people have saw picture of this product within a day.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter, it discusses about the approaches, the findings that have been derived from previous related studies either domestically or abroad. This study also discussed the use of social media (Instagram) on the entrepreneurship areas that have been discussed by previous researchers (John, 2015; Mohd Hafizie Suhaimi & Norshuhada Shiratuddin, 2013; Helmy Emyrul Mohd Nor Efendee & Norasmah Othman, 2019; Siti Masayu Rosliah & Fatimah, 2020; Sabrina, 2019). This is because the social media is a very important and suitable platform for business medium as it has several important elements such as a set of websites, services and activities that carry out some of the processes involved including collaborative process, sharing and advertising of Internet users (Junco, 2010).

The use of social media platform is very important for student entrepreneurs by maximizing the use of Instagram's functions on Big Data Analytics as many companies have used this method to adapt to the market changes (Durmaz & Efendiolu, 2016). They can create brands and increase their brand awareness with the information gained through Instagram (Growthgurus, 2018). After that, the Instagram's functions on BDA can trigger the interaction between the company and the potential customers (Evan & Mckee, 2010). In addition, people enable to evaluate the business reputation by getting from the user's evaluations can benefits the entrepreneur in order to improve their product or service (Ovsyannykov, n.d.). Lastly, shifting from traditional business to

Instagram business can offer greater opportunity to reach more people (Agresta & Bough, 2011).

2.2 Conceptual Framework

This study focuses on the conceptual framework used to measure the impact of Instagram's functions on Big Data Analytics on the business performance of UniMAP student entrepreneurs. The conceptual framework is more tentative and has not been fully developed than the theory framework (Norwood, 2000). Which means the concept framework is a framework that shows the relationship and effect between independent variables and dependent variables which are usually being shown in a diagram.

Instagram's Functions on Big Data Analytics

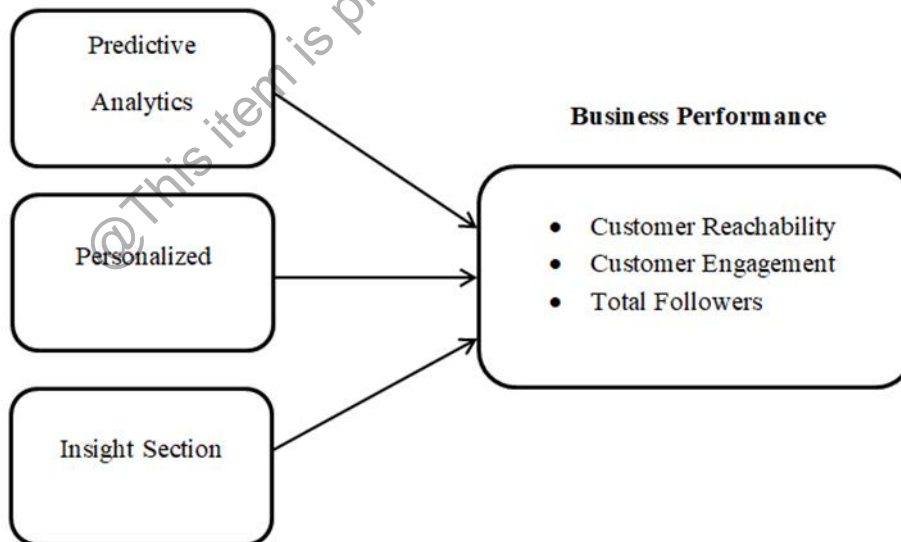


Figure 2.1: Conceptual Framework

This section describes the framework that have been developed and allowed to consider the Instagram's functions on Big Data Analytics (independent variables) that can influence the business performances (dependent variables). Figure 2.1 shows the conceptual framework used in this study.

This study focus on two aspects which are the Instagram's function on BDA and business performance. The Instagram's functions on BDA such as Personalized, Predictive Analytics and Insight Section. Furthermore, in terms of business performances, the study will measure the level of customer reachability, engagement and total number of followers.

The study want to investigate on how Predictive Analytics on BDA can increase the number of customer reachability and engagement in every post. Secondly, on how Personalized on BDA can increase the number of followers in Instagram platform. Thirdly, on how Insight section in Instagram can help UniMAP student entrepreneurs in evaluate the statistic of business performance such as customer reachability, engagement and total followers.

2.3 Instagram Application

Social media is a group of Internet-based applications that build on the ideologies and technological foundations of web 2.0, and that allow the creation and exchange of user-generated content (Kaplan & Haenlein, 2010). The existence of various types of social media such as Instagram has its own functions. Instagram is an online photo-sharing application and social network platform which is free to use for

everyone. Users can interact with different content posted in various ways. Since 2012 Instagram is owned by Facebook (Rouse, n.d.).

Instagram is one of the social media types that exist for many purposes. Throughout the application of Instagram an entrepreneur is able to make an effective marketing by aiming to build a brand's vision and to create a unified unique appearance of a brand (Sanchez, 2018). By creating more effective Instagram ads, it can increase the identification of the company for which the customers are most likely to prefer the products over competitive products (McCartney, 2012). The entrepreneurs can create ads depends on their creativity or invest some money to paid advertisement. There are parts of Instagram marketing. It includes motivating customer communications on the company's social media accounts (Chaffey & Ellis-Chadwick, 2012).

Instagram is one of the most popular online platforms where users can share content with each other. Not only are private users interacting with each other on Instagram, but brands heavily use the platform to gain new customers. The concept of Instagram is to set a focus on visuals such as pictures. Whereas other social media platforms also give opportunities to only upload texts, the idea of Instagram is to spotlight the visuals (Sanchez 2018, p.4.) Based on the previous research (Monica Khoirunnisa, 2019), Instagram has highest percentage of reliability social media for future. It is because most of the Instagram users are come from Z-generation. Based on (Monica Khairunnisa, 2019) the Z-generation is the people that age around 15 until 24 years old.

However, not all people are able to access and own a social media account. There is also a result from previous studies showing that most of old citizen unable to accept or use social media based on several factors including education and income level (Faisal Ashaari, Nurul Aini & Rosmawati, 2021). As a conclusion, Instagram is the best platform for social networking site for business purposes as a planning for future use.

As an evident, nowadays companies are often using social media platforms for marketing purposes (Durmaz & Efendioglu, 2016). The student entrepreneurs are able to use the advantages on Instagram platform where these functions on BDA that make it easier for them to find more customer prospects without invest more capital and efforts. According to the statistic (Statista, 2019), it shows that the number of social media users is increasing for 10 years as shown in Figure 2.2.

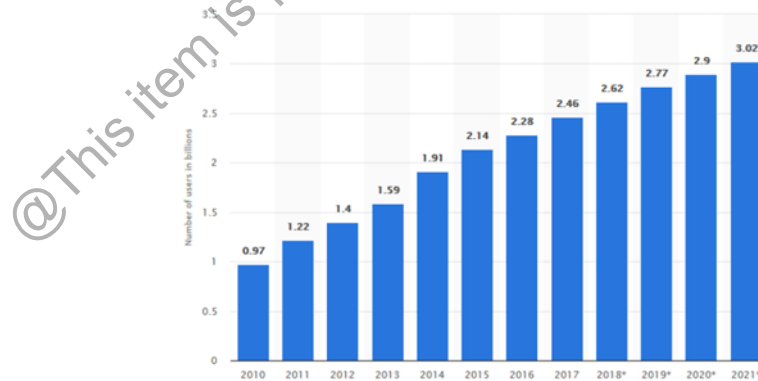


Figure 2.2: Statistic of social media users in 10 years

2.4 Instagram's functions on Big Data Analytics

There are three main Instagram's functions on Big Data Analytics that being listed by researcher which are Predictive Analytics, Personalized and Insight section.

2.4.1 Predictive Analytics

An algorithms work on the Explore section where Big Data Analytics will runs to display any posting or issue that relate with the behavior of the account (Ryan, 2018). Specifically, the algorithms work on the Explore section where Big Data Analytics will run to display any posting or issue that relate with the behavior of the account (Ryan, 2018).

Figure 2.3 shows that 10 out of 14 pictures are related to football issues. It is because the account was a business type of accounts that selling football attires. Explore section also shows any recommended issues that related to our followers or following.



Figure 2.3: Explore section in Instagram platform.

2.4.2 Personalized

This concept of Instagram's function on Big Data Analytics refers on what an individual is likely to prefer and make the purchases for (Yash, 2017). According to article from Marketing Dive (Robert, 2019), Instagram will shows any advertisement in Explore section based on the user's interests. This can give chance for mobile marketers to reach highly targeted audiences. Instagram introduced Explore advertisement by giving the users to control over what advertisement that they preferred and want based on their actionos in the application.

Landing a spot on Explore section is the best marketing strategy users can get on Instagram. It is a discovery engine that make user to find a new content, and getting feature there is instrumental to grow an audience in Instagram (Matt, 2021). According to this article stated that Instagram personalized algorithm uses four signals to rank the content. First is information about the post includes caption, location tag and comments. Second is user's activity on Instagram which is the advertisement will shown based on what they engage with Instagram. Third is user's history on content creator which is an advertisement is more likely to appear in Explore if the uers has interact with other similar advertisement with before. The last signal is information about the content creator where it includes criteria such as content, engagement and number of followers.

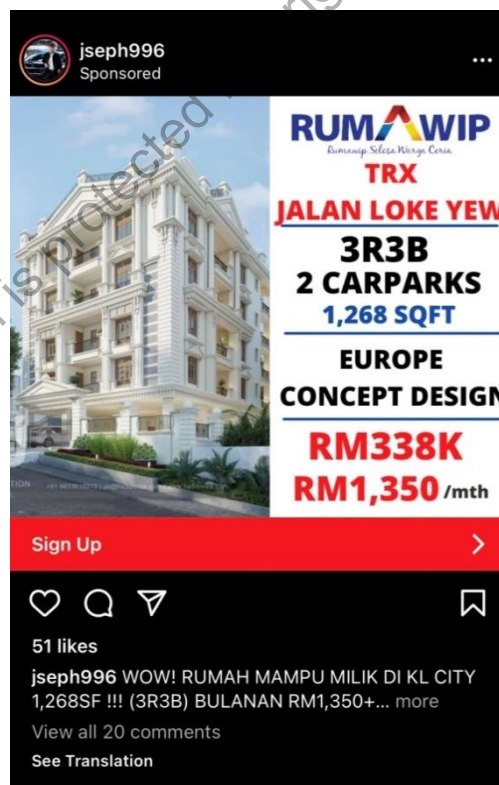


Figure 2.4: Advertisement on Explore section based on four signals.

2.4.3 Insight Section

A feature that allows Instagram Business Account users to see analytics related to their profile and posts (Amanda, 2022). Instagram Insights is a tool for business profiles that gives the user information about the followers and the performance of the content that is published on the account and in the stories (Instagram, 2019).

This Insight section is very helpful to student entrepreneurs as it can be adjusted to look on specific details such as location, time, type of reaction (reachability and engagement) and type of posting (Photo, Video, Reels, IGTV and Story). It can be adjusted according to our preference. The entrepreneur can also develop effective marketing strategies to attract more customers by targeting a right audience based on this Insight feature that shows the statistic of audiences such as age, countries location, states, and gender. The most powerful function in Insight section is capable to display the statistic of audience traffic or audience usage rates every hour. This can help student entrepreneurs to schedule their time to get more customer reactions on their posting.

The Insight section is provided by Instagram for the business account type only. Meanwhile for the personal type of account, they do not have the Insight section and unable to access this feature. However, an entrepreneur that run their business through personal account can still able to get to know the engagement of audience roughly through the number of comments and likes per posting. This Insight section is accessible for business type of account by pressing the Insight button under the biographical section. They also can access the Insight section on each photo / posting to know the statistic of audience engagement for each posting.



Figure 2.5: Insight section

2.5 Business Performances

In this study, the researcher want to know three dimension of business performances which are customer reachability, engagement and total number of followers. Interacting with audience in order to grow the engagement rate is growing importance. In this study, the customer reactions are divided into two categories which are reachability and engagement. Customer engagement is an elusive construct, and marketers needed to better define, conceptualize, and operationalize this measure of

relationship strength. While, Hollebeek (2014) defined customer engagement as a consumer's positively valenced brand-related cognitive, emotional and behavioral activity during or related to focal consumer.

2.5.1 Customer Reachability

Reachability can be defined as the actual number of people who have seen the company's post. A reach rate can be calculated by dividing the number of people who have seen the post by the number of followers the company has. In contrast, the term impression defines the number of times the content has actually been viewed. This implies that the reach is always lower than the impressions, as impressions are adding up the number of visits on a profile or certain posts (Sanchez, 2018).

@This item is protected by original copyright

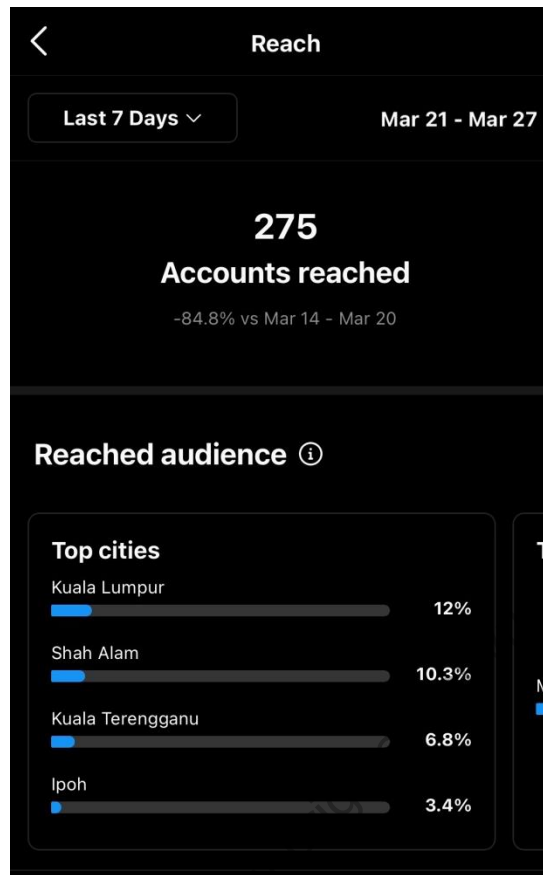


Figure 2.6: Customer Reachability statistic shown in Insight section

2.5.2 Customer Engagement

Engagement is defined as the number of likes, comments, saves, and messages a post gets. The engagement rate is calculated by dividing the number of the mentioned actions by the total number of followers (Sanchez, 2018).

In the context of Instagram engagement, the customers have an interaction and co-creative nature of social media, antecedents and consequences of brand engagement may be viewed in light of key social media usage metrics such as expressions of agreement, ratings, comments, and shares (Barges & Labreeque, 2013). Potential of