

# Data Acquisition via Virtual Advertising Operations (Vao) in Facebook

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The advent of social media usage has become a current global phenomenon, thus Asia's involvement in social media use has formed a vast network. The popularity of social media platforms such as Facebook has increasingly become the means for users to enter cyber space as one way to create their social network. Besides having a role as a communication platform that enables Facebook to collect much data to be used for certain research fields, the extensive data available via social medium is called mega data or big data. Considering this, the paper explores an alternative data gathering methodology for the needs of certain research areas termed as Virtual Advertising Operations (VAO), and the application of VAO in a language study to identify the themes of teenagers' language in Facebook. Considering Facebook's popularity compared to other types of social media, the raw data gathered enabled the researchers to achieve their research objectives. Four steps have been carried out to analyse the data, assisted by the Virtual Advertising Operations in the Facebook namely; i) development of advertising page, ii) advertising process, iii) data downloading process, and iv) data screening process. This research methodology is considered as a tremendous change and an alternative, novel method that allows creativity, innovative and relevance to current trends.

**Keywords:** *Data acquisition, Big data, Facebook, Virtual Advertising Operations (VAO).*

## **Introduction**

This decade has witnessed the development of increasingly advanced communication technology. This is not surprising as people in society worldwide have transformed their lifestyles to be more digital-based. The technology's ability to execute tasks or gather information quickly has boosted the communication phenomenon among society, particularly in Malaysia. According to the Ministry of Communication and Multimedia (2016), 89.3% of internet users commonly use social networks to communicate amongst one another. In fact, Chaffee and Metzger (2001) state that the internet forms the pillar to mediated communication nowadays, for example, through social media platforms.

Besides that, face-to-face communication has been gradually replaced and complemented with mediated communication, including social media, to exchange facts, fictions, emotions, and each other's understanding. Teenagers who commonly are the early recipients of the latest innovations begin to realise the functions of social media by widely utilising and advancing the virtual postings in cyber space to the other netizens (Siti Ezaleila, 2015). Besides teenagers, all levels of society have widely used social media. The popularity of social media throughout the days has been the factor for users to enter cyber space as one way to establish their social network.

## **Teenagers and Facebook**

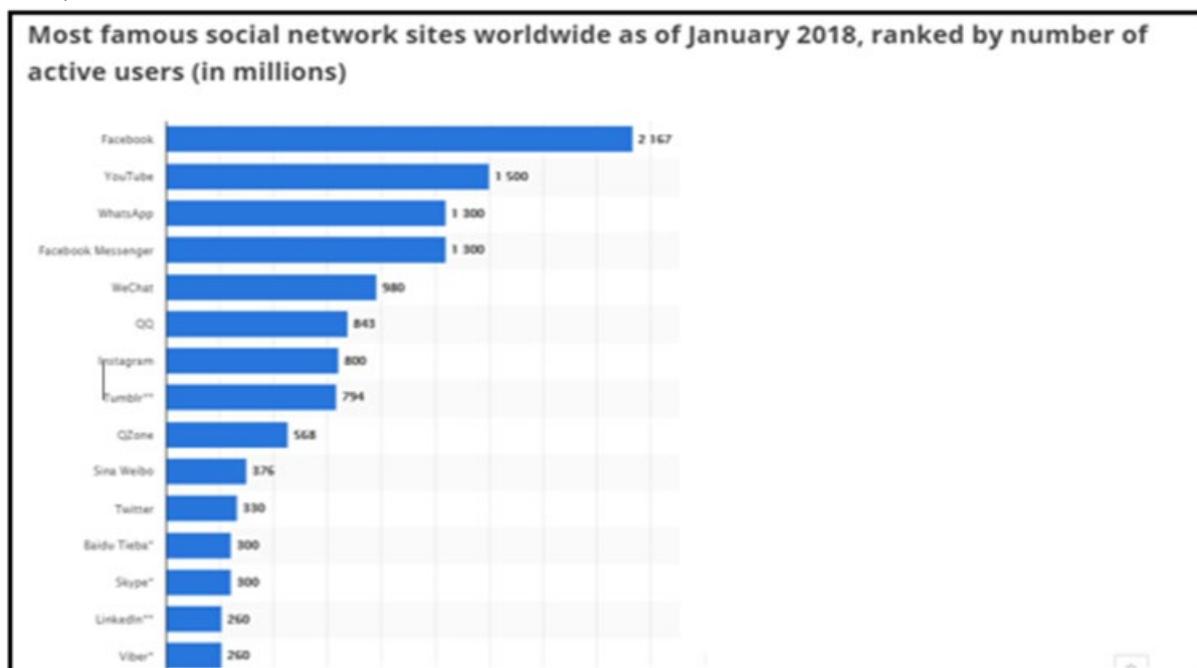
The presence of social media is seen as having the same status as face-to-face communication, especially when the degree of social abilities increases with the attempt to change interaction dimensions' roles in the virtual environment. Currently, there are media applications that enable face-to-face interactions using voice chats, web cameras and meeting conferences, among others.

Social media refers to any internet-based or web-based to conduct conversations between various parties that change communication forms from one to many (Breakenbridge, 2008). Social media has been referred to as an application or online platform to share content, interact, and as a meeting platform in the effort to encourage members to form relationships and initiate self-introductions.

The use of social media has become the current global phenomenon and Asia's involvement in social media usage within the massive network is evident from the 456 million users in Asia that comprises one third from the world's online population who are involved in social media interactions (Siti Ezaleila, 2015).

Social media openness has given the freedom space to teenagers or the well known Y and Z generations to use social media without boundaries, thus becoming a factor to these teenager's groups to enter cyber space to establish their social network (Madden, Lenhart, Duggan, Cortesi, & Gasser; 2005; Boase & Kobayashi, 2008; Lenhart, 2009a; Lenhart, 2009b; Lenhart, Madden, Smith, & Macgill, 2009; Lenhart, Purcell, Smith, & Zickuhr, 2010). Therefore, it is not surprising that Facebook has become a popular social media site as compared to the other social media that represents 2167 million world users as shown in the diagram below (*The Statistics Portal, 2018*).

**Diagram 1.** *The World's Most Influential Social Media (The Statistics Portal January, 2018).*



The emergence of social media such as Facebook has attracted the interest of individuals to interact with one another. Facebook use has become a culture and daily routine for the vast majority of worldwide internet users (Shahir & Fatin, 2011). Based on the study by Norsiah, Mohd Sobhi, Syamsul, and Siti Syamsul (2013), Facebook use among teenagers has advanced way ahead of the other social networks. In fact, Malaysia has occupied the fifth highest place in South East Asia for mobile social media penetration (*Hootsuite & We Are Social, 2019*).

## Social Media as Big Data Source

Besides social media's role as a communication platform, the platform also has massive data that could be utilised to fulfil the research needs of certain research areas. This massive volume of data gathered from social media is called *big data*. Big data, according to Manyika, Chui, Brown, Bughin, Dobbs, Roxburgh, and Byers (2011) refers to various data sets that are structured and stored where the sizes are beyond a normal database. Big data is also seen as an information explosion that is consistent with the rapid growth of cellular phone use and Internet Data during the current era. There are various structured and unstructured data from the social media such as *blog, Facebook, twitter* that has supported the *volume, variety, velocity and value* up to the *terabytes* and *petabyte data* (MAMPU, 2019). Thus, it is foreseeable that big data analysis has become a new method that gives an added value and advantage to any particular research or field (Md. Razib & Noraziah, 2017). Presently, in line with the rapid use of social media, multiple data sources and information have been included and gathered from the social media and are known as big data. Big data is not merely about the gathering of data, figures and facts but also includes processing, structuring, analysing and operating and with proper and precise handling could yield validity of the findings (Siti Hawa, 2017). These data are described as too massive and move rapidly and this phenomenon could not be stored in an ordinary database server. The characteristics of big data are well known as the four 'Vs' namely, *volume; velocity; value and variety*.

Any particular study conducted assisted by the big data may produce implicit results that may give an advantage in terms of competition, assisting in decision making, business or service business patterns, offering various more strategic options and many more (Krishnan, 2013; Zikopoulous et al., 2012). Considering all the above, this paper explains an alternative methodology of data acquisition to fulfil the needs of a particular research field. This is vital as the exploration of any field of study needs to be reviewed with more creative and innovative methodology.

## Facebook and its Special Features

Facebook, originally called *TheFacebook* was established in 2004 by Mark Zuckerberg, who has more than 500 million registered users and has become the most popular social network (Siti Ezaleila, 2015). It is not surprising that Facebook has become one of the most received social media forms in the global society, especially among teenagers (Steinfeld & Lampe, 2007; Hargittai, 2007; Subrahmanyam, Reich, Waechter & Espinoza, 2008; Agung, Margaretha & Roestamadji, 2011; O'Keeffe, Clarke-Pearson & Council on Communications and Media, 2011; Lenhart, Madden, Smith, Purcell, Zickuhr, & Lee, 2011; Normah, Wan



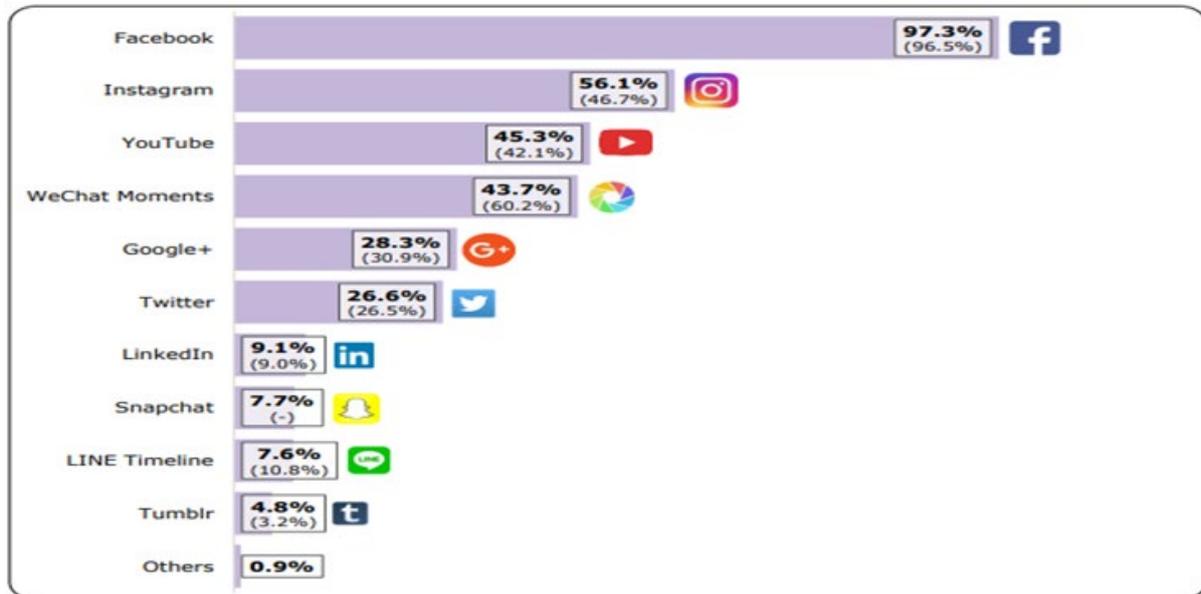
Amizah, Fauziah, Maizatul Haizan & Helmi, 2013; American Academy of Pediatrics, 2013; Sri, 2017; Twenge, Joiner, Rogers & Martin, 2018).

Facebook has several features that enable the users to interact with each other. Among others are the *wall* space that is the main part of the user's profile that allow friends or other users to broadcast *postings* in the form of public messages, uploading photos and videos or to update status to notify the public viewers (Mohammad Rakibul, Radzuwan, Md. Hasan, Mahmamadun Nuby, & Md Rabiul, 2019). The Facebook users are creative in applying the facility provided as an effort to communicate with the mass public.

Besides having an advantage of being a popular page, the raw data obtained from the Facebook is authentic and un-fabricated since all the data are written by the respective users in the page as their status (*Posts*) on the personal Facebook *Wall*. The posts written by Facebook users are information that are being updated by the users and therefore considered the latest and captured in current time at the moment it is being displayed to the public (Diaconu & Prelipceanu, 2017). Considering this factor, Facebook data is capable of providing the most recent information to fulfil research needs, thus able to provide actual data on Facebook users' communication. Therefore, this paper discusses a change concerning data gathering methodology in a new and innovative form to cater to the research needs of relevant fields of study.

The selection of Facebook as the research data coincides with its feature that is user-friendly, as each postings on the wall are easily accessed, downloadable and easy to edit, which has generally made it the most influential social media platform in Malaysia. The bar graph below further illustrates the influence of Facebook social media in Malaysia.

**Diagram 2.** Facebook as the Most influential Social Media Network in Malaysia (Suruhanjaya Komunikasi dan Multimedia Malaysia, December, 2017).



Based on Diagram 2 above, Facebook is depicted as the most utilised page with an increase of percentage from 96.5% in 2015 to 97.3% in the year 2017. This diagram evidently shows that the frequency of Facebook users assessing the page is much higher than the other social media pages (Instagram, Twitter, YouTube, Snapchat, Tumblr). Through Facebook social media, the activities of sending, uploading and updating of personal status in the *Posts* page has become a daily activity and considered as a routine by individuals to communicate with their social network (Awl, 2011; Maslida & Karim, 2015).

More interestingly, Facebook is a social media page that can be translated to more than 70 world languages that become one of the major factors contributing to widespread use of Facebook worldwide and across language boundaries. Because of that, Facebook does not act merely as an online social network, but the role of Facebook can now be utilised as a resource to gather data for particular research needs.

### Data Acquisition through Virtual Advertising Operations (Vao)

Data gathering and the analysis process are conducted using proper procedures and thus become evidence that the research conducted is scientific and empirical in nature. In general, data acquisition via Facebook is conducted manually by studying the *Posts* or *News* as conducted by Carr, Schrock, and Dauterman (2012), Sanaa and Qamar (2012) and Scott, Erica, and Rudolph (2013). With the influence brought by Facebook, therefore, the data gathered via this page enables the research to be relevant, authentic and recent. The new characteristics of social media such as providing communication space enables the users to

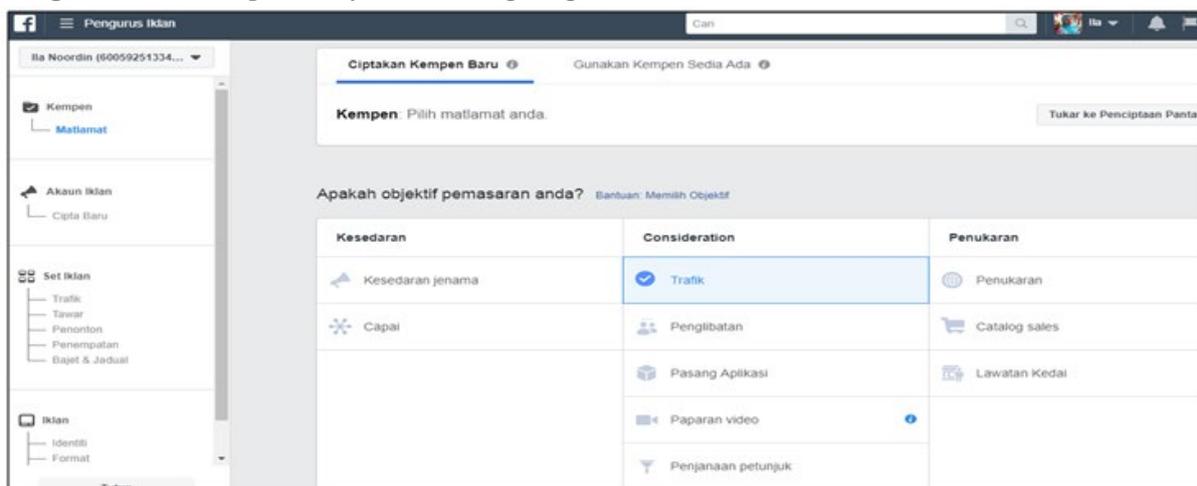
update their status, send messages and produce avatars or animated figures (Mohd Zaidi & Bahiyah, 2013) and this has made it a form of social media that provides reliable, authoritative data.

Since Facebook has a massive volume of big data that is complex and diverse, therefore the Virtual Advertising Operations (VAO) will be used as one of the methods to access important data for specified purposes. Thus, this paper proposes the term Virtual Advertising Operations (VAO) as one of the methods to gather data for certain research. The following are the four (4) steps to conduct data analysis, assisted by the Virtual Advertising Operations (VAO). All four steps are applicable in language-based studies to elicit the themes of teenagers' conversations in Malaysia through their communications on Facebook.

### ***Development of Advertising Page***

The first step in the data gathering process begins with developing a page with the purpose of creating the researcher's profile. Among the procedures to undergo before any development of a web page, certain information required by facebook.com will be keyed in, such as name of page, purpose for page and profile of the web manager to process the advertising registration. Once the page is developed, the advertising page is created and shown to the public using *public* mode. The *public* mode is used to ensure that the developed page can be reached and accessed by other users. At the same time, setting the public mode increases the accessibility of the page to users and thus the web managers can reach as many respondents as possible for the study.

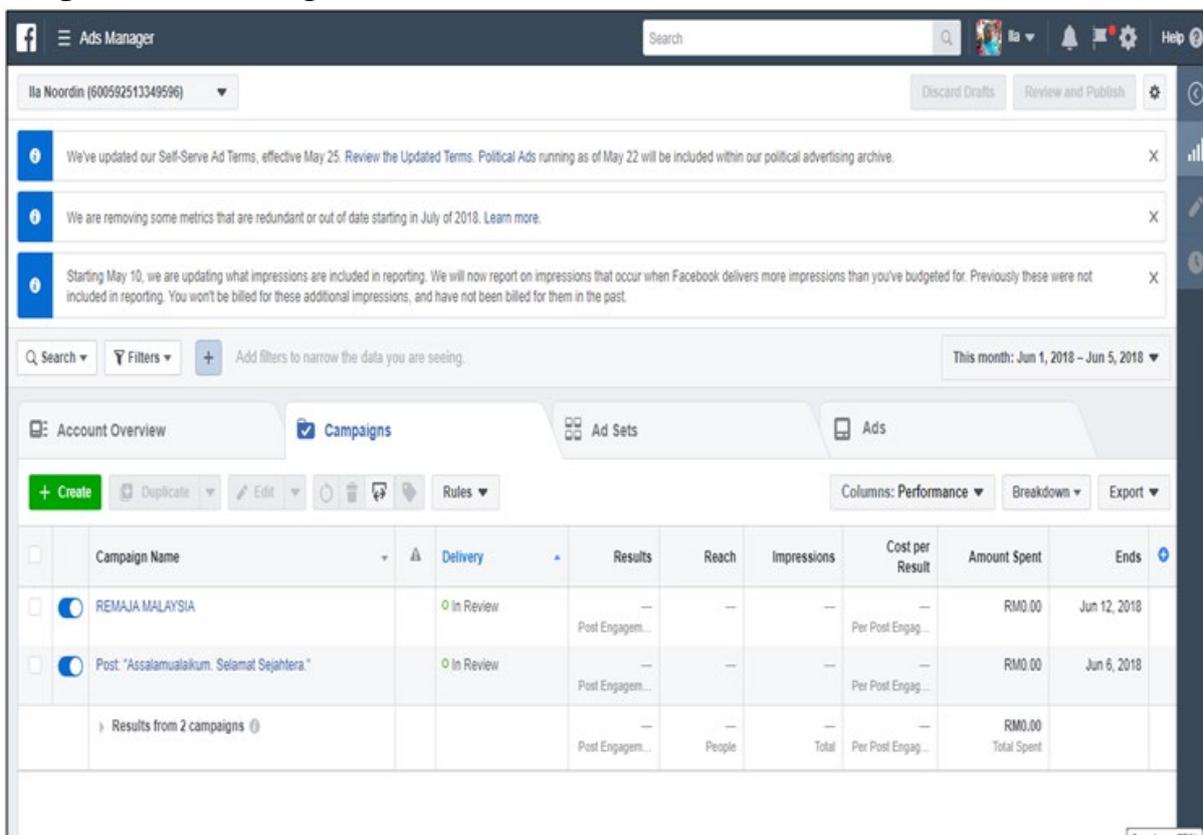
**Diagram 1.** *Development of Advertising Page.*



### Advertising Process

The page developed is advertised to Facebook users to get as many samples for research as required. The advertising process is effective in the efforts to find the targeted and required public based on the requirements set by the advertisement page developer (Awl, 2011; Tuten & Solomon, 2017). Page managers deserve to determine the amount to charge, advertisement duration, or the target public required. The charges imposed by the page managers will influence the limit or respondents' total access to the page advertised.

**Diagram 2.** Advertising Process.



Account Overview	Campaigns	Ad Sets	Ads
<div style="display: flex; justify-content: space-between;"> <span>Q Search</span> <span>Filters</span> <span>+ Add filters to narrow the data you are seeing.</span> <span>This month: Jun 1, 2018 - Jun 5, 2018</span> </div>			
<div style="display: flex; justify-content: space-between;"> <span>+ Create</span> <span>Duplicate</span> <span>Edit</span> <span>Rules</span> </div>			
Campaign Name	Delivery	Results	Reach
REMAJA MALAYSIA	In Review	Post Engagem...	—
Post "Assalamualaikum. Selamat Sejahtera."	In Review	Post Engagem...	—
Results from 2 campaigns		Post Engagem...	People
Impressions	Cost per Result	Amount Spent	Ends
—	Per Post Engag...	RM0.00	Jun 12, 2018
—	Per Post Engag...	RM0.00	Jun 6, 2018
Total	Per Post Engag...	RM0.00 Total Spent	

The advertising process takes place according to the requirement set by the respective page manager that is within a certain duration until the target respondents set is achieved. The public who are successful in reaching and accessing the page will respond with the icon *like*. The page manager will consider that Facebook users who clicked on the icon *like* on the advertised page show interest in the advertised product.

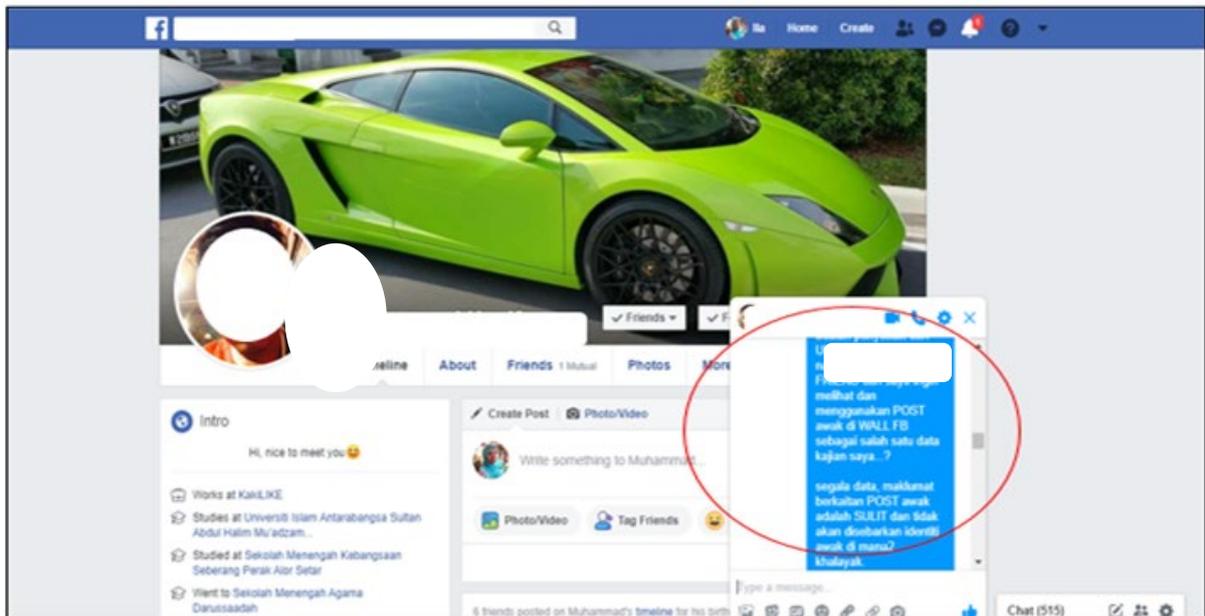
**Diagram 3.** Sample Page That Uses Virtual Advertising Operations (VAO) and Display of Respondents.



Users who are interested in participating in the study must fulfil certain requirements and set conditions. Therefore, before any page is advertised to the public, several requirements are displayed on the *Pinned Post* page.

To validate the identity and get respondents' consent, the chosen respondents went through a screening process done via Messenger to monitor the validity of the profiles and content of the users' *news feeds* postings. Only users who fulfilled all the study requirements were accepted to be the study respondents.

**Figure 4.** Sample Facebook Messenger Agreement Consent to be a Study Respondent.



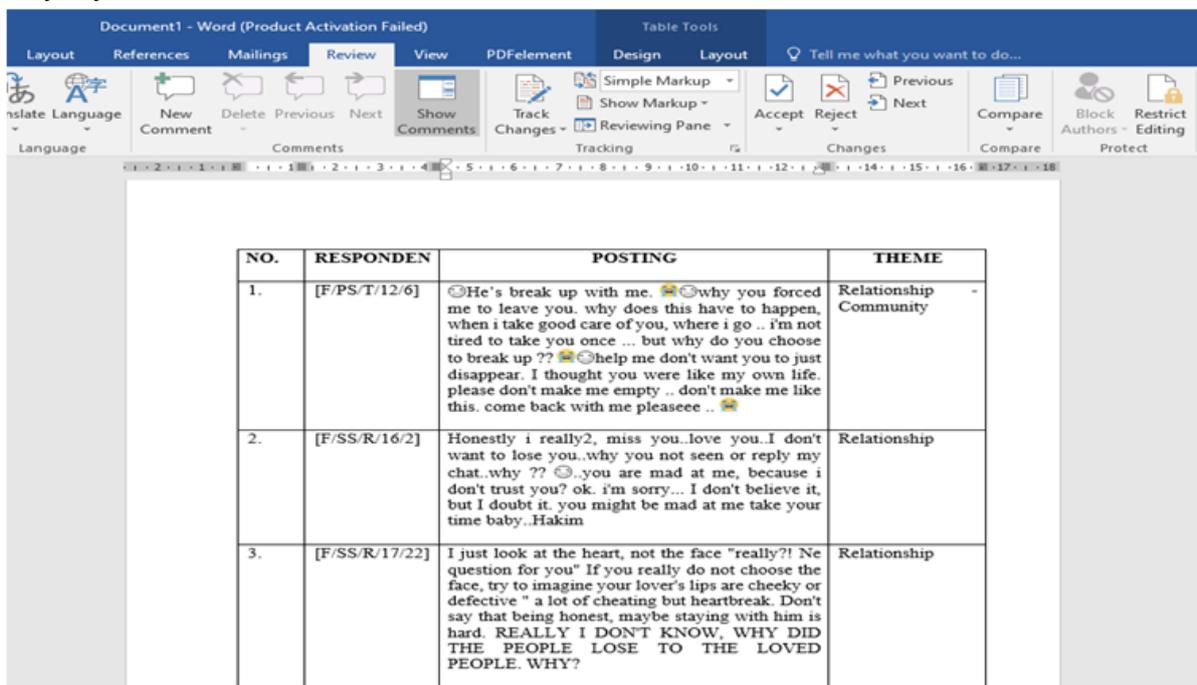
**Figure 5.** Sample Facebook Messenger to Obtain Validity of the Respondent's Profile in Malay Language



### Data Download

The data collection process began with downloading the data displayed on the respondent's Facebook *Wall* within a certain duration. The downloading process took place after considering several criteria specified by the web manager. The downloaded data was copied in the Microsoft Word format, and later saved in the researcher's master folder to be used for data analysis. The data downloaded is as listed in Figure 6 below.

**Figure 6.** Sample Facebook Messenger to Obtain Consent and Validity of the Respondent's Profile for Research Needs.



NO.	RESPONDEN	POSTING	THEME
1.	[F/PS/T/12/6]	☹️He's break up with me. 🙄☹️why you forced me to leave you. why does this have to happen, when i take good care of you, where i go .. i'm not tired to take you once ... but why do you choose to break up ?? 🙄☹️help me don't want you to just disappear. I thought you were like my own life. please don't make me empty .. don't make me like this. come back with me pleaseee .. 🙄	Relationship - Community
2.	[F/SS/R/16/2]	Honestly i really2, miss you..love you..I dont want to lose you..why you not seen or reply my chat..why ?? ☹️..you are mad at me, because i don't trust you? ok. i'm sorry... I don't believe it, but I doubt it. you might be mad at me take your time baby..Hakim	Relationship
3.	[F/SS/R/17/22]	I just look at the heart, not the face "really?! Ne question for you" If you really do not choose the face, try to imagine your lover's lips are cheezy or defective " a lot of cheating but heartbreak. Don't say that being honest, maybe staying with him is hard. REALLY I DONT KNOW, WHY DID THE PEOPLE LOSE TO THE LOVED PEOPLE. WHY?	Relationship

The data listed in Figure 6 was given a tagging that represents the respondent's profile, for example F/SS/R16/1. The marking F/SS/R16/1 represents the respondent's gender (F-Female or M-male), education level (whether SS-secondary school, PS–primary school, IHL-Institute of Higher Learning, W-working). Next, the respondent's postings were tagged as B or LB, representing the respective locations, being U for urban or R for rural. The respondent's age was also noted on the *tagging* and finally ended with the postings number set by the researcher. The representation used for the respective tagging varies depending on the suitability of the study. The data downloading process and listing was done to facilitate the postings search for the study. Besides that, the data listing also enabled the web manager to do screening for the required data.

### Data Screening Process

Once the data downloading process was completed, the data screening task for all the collected data was carried out to ensure the requirements and conditions of the study were fulfilled. The data screening process enabled the research to achieve the validity and reliability of the data or postings gathered. It is through this process that the data is later analysed based on certain theories.

This process is the final step to establish whether any data has achieved its reliability. The downloaded data that has been collected and listed is scrutinised and screened according to certain categories and needs. The screening was carried out to make it easy for the researchers to identify the criteria and distinguishing features between a posting broadcast.

### Data Analysis of the Study

Once the data was downloaded via VAO, the data analysis was manually carried out based on content analysis. This qualitative study is based on *Social Identity Theory* (SIT) that will further explain and introduce the concept of social identity as a means to explain inter-group behaviours. The study conducted involved the examination of 200 postings among 60 teenagers in Malaysia (that comprises 30 teenage boys and 30 teenage girls) based on certain criteria set namely,

- i) Facebook Postings selected for the study must be from teenagers between the age of 13 to 21. The age range is set based on the considerations by Anuar (2001) and Giedd (2018).
- ii) Facebook Postings selected for the study must be by respondents who have a friends' list that exceeds 2000.
- iii) The main Facebook postings must be the respondents' own writings (teenagers who are active and update their posts regularly that exceeds 30 times daily).
- iv) Respondents who use 85% non-standard Malay Language (oral/spoken language) as their main communication language when updating their postings in Facebook.
- v) Facebook postings selected for the study have received 650 *likes* and *comments* that exceeds 300 from the public. The number of *likes* and *comments* can be considered as active communication has taken place among the users.

The matter that is being scrutinised and the focus in the study is to gather the themes of teenagers' conversations. The data analysed have shown that the main themes of teenagers' Facebook conversations are relationship-oriented (social) compared to the themes of economy and politics. In practice, it can be deduced that relationship is the bonding between individuals and society that involve the questions on values, norms, culture between one individual and the whole group members (Anayet & Md. Korban Ali, 2014). Norris (2002) provides two terms related to relationship, namely, *bonding and bridging*, which purposes

are to connect individual's differences in a social group. This *bonding and bridging* can be classified as a union that can become a moderator between one individual and another, whether family members, spouse, or members in a community. Thus, based on the concept and terms stated by previous researchers, the teenagers' postings collected encompasses the themes of relationships as illustrated in the table below.

**Table 1:** *Theme Categorisation Statistics.*

THEME	TOPIC	PS		SS		IHL		W		A								
		M	F	M	F	M	F	M	F									
		U	R	U	R	U	R	U	R									
Relationship	Value, Norms and Culture	0	1	0	0	2	1	2	1	0	0	1	0	0	0	1	0	61
	Action Together	0	0	0	0	1	2	0	1	1	1	0	0	2	1	2	1	
	Bonding and Bridging	1	1	1	2	5	4	4	3	2	3	3	2	3	3	2	1	
Economy	Financial	0	0	0	0	0	0	0	0	3	2	1	2	7	2	3	2	48
	Living Standard	0	0	0	0	0	0	0	0	2	2	0	0	7	2	1	1	
	Knowledge	0	0	0	0	0	0	0	0	3	1	0	0	2	3	2	0	
Politic	Politic Crisis	0	0	0	0	0	0	0	0	2	1	1	1	6	2	1	2	44
	Leader	0	0	0	0	0	0	0	0	1	0	0	1	3	1	2	1	
	Current Issue	0	0	0	0	0	0	0	0	1	1	1	0	2	3	2	2	
	Patriotisme	0	0	0	0	0	0	0	0	1	0	0	0	1	3	1	1	

Indicator:	
M	: Male
F	: Female
PS	: Primary School
SS	: Secondary School
IHL	: Institute of Higher Learning
W	: Working
U	: Urban
R	: Rural
A	: Amount

Based on the categorisation of themes in Table 1, the relationship theme is found to be most frequently used compared to the other themes. The following indicate examinations of 20 postings by the teenagers in Facebook, the findings indicated several details for each sub-theme found.

**Table 2:** List of Postings About Relationship Themes (Facebook Postings were Translated from the Malay Language to English in this Table).

<p>1.</p>	<p>👤 Dia dh ptus 🗨️👤 knpe kw pkse sya untk tnggalkn kau .. knpe hrus ini yg brlaku .. pdhal sye dh jga kau baik2 sye dh bgi prhatian spnuhnya ngan kau .. dmne sye prgi .. sye x lupa untk bwah kau skali .. tpi mngapa mmilih untk putus ?? 🗨️👤 tlong lh sye x nk kau hlang bgtu jee .. sye x nk buang kau .. sye syg kau mem nyawa sye sndri .. tlong jngn buat sye hampa .. jngn buat sye mcm ni .. kmbali lah .. 😞 #🔴🔴 pernah🔴🔴 sayang</p> <p>👤 He's broken up with me. 🗨️👤 why have you forced me to leave you. why does this have to happen, when i take good care of you, where i go .. i'm not tired to take you once ... but why do you choose to break up ?? 🗨️👤 help me don't want you to just disappear. I thought you were like my own life. please don't make me empty .. don't make me like this. come back with me pleasE .. 🗨️ [F/PS/U/12/6]</p>
<p>2.</p>	<p>Jujur i ckp..i rindu you..i syg you..i xnk kehilangan you..why you not seen or reply my chat..why?? 🗨️..you mrh kat i ke pasal i xcaye you tu??..ok i minta maaf..i bkn xcaye you..tp i ragu2 je..caye tu caye..xpela..mungkin you mrh sgt kat i..its ok..take your time baby..Hakim</p> <p>Honestly i really2, miss you..love you..I don't want to lose you..why have you not seen or replied to my chat..why ?? 🗨️..you are mad at me, because i don't trust you? ok. i'm sorry... I don't believe it, but I doubt it. you might be mad at me take your time baby..Hakim [F/SS/R/16/2]</p>
<p>3.</p>	<p>Aku hanya tengok hati,bukan paras rupa" really?!ne question for you" Kalau betulkau jenis tidak memilih paras rupa,cuba bayangkan kekasih kau bibirnya sumbing atau cacat " masihkah kau setia kepadanya?! Jawab pakai hati! bukan dengan mulut,kerna mulut banyak menipu melainkan hati.Jangan kata nak setia ,maybe nak stay bersama si dia itu pun susah. 🍌🍌 Sebenarnya Aku Tak Faham Knp Ad Org Yg Curang Dkt Org Yg Dah Setia Knp Ekkj?</p> <p>I just look at the heart, not the face "really?! Ne question for you" If you really do not choose the face, try to imagine your lover's lips are cheeky or defective " a lot of cheating but heartbreak. Don't say that being honest, maybe staying with him is hard. REALLY I DON'T KNOW, WHY DID THE PEOPLE LOSE TO THE LOVED PEOPLE. WHY? [F/SS/R/17/22]</p>

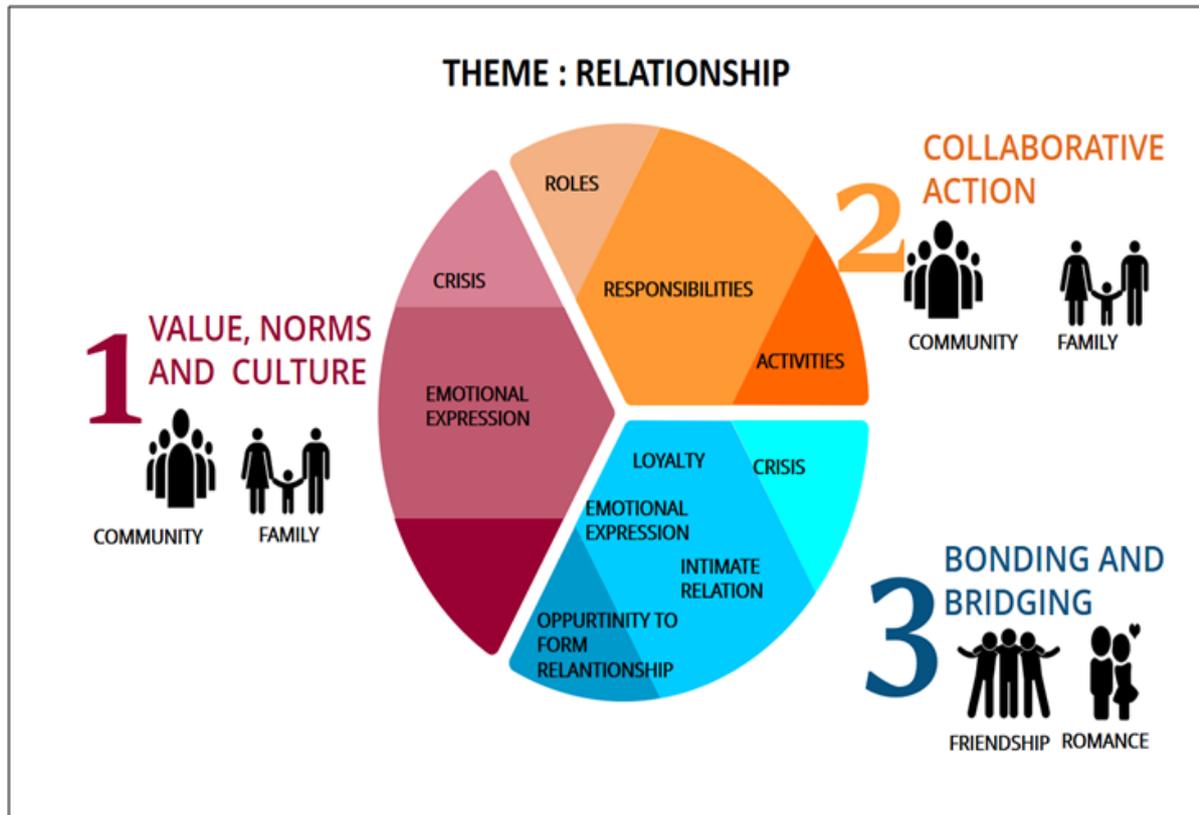
<p>4.</p>	<p><i>Saya cbr awak..klau awak bgi pickup-line dkt saya..and saya cair..saya cpl dgn awak..hahaha..gurau ii..saya bkn golong</i></p> <p>I'll challenge you .. if you give me a pickup-line ... and make my heart melt .. I'll be with you .. hehee .. ok2. sorry. just kidding. Its not my type! [F/IHL/U/18/22]</p>
<p>5.</p>	<p><i>Ni knpa bru form 2 ,dh minta bkn ii dkt gf org ?? Murahnya diri ko, offer 'brg hot' kau, Hati ii Yg girl lain bleh block awal ii Caption this ..sorry tag</i></p> <p>are you just in secondary school .. have you asked for 'something'? how cheap you're!! ochhh. offer your 'crown purity'! bullshit. Take note the other girls outside there, sorry im tag you.. [M/SS/R/17/1]</p>
<p>6.</p>	<p><i>Hai boys👤 minat xdgn adk mnje, adk mnje nk ofer abg2 d luar sne... klu prlu khidmt mnje, pm ae.</i></p> <p>Hi boys👤 interested in me? 'little sister' ?? i want to 'offer' to my brother out there. if you need a 'kind service', let me know yeah..! call me. [F/SS/U/16/2]</p>
<p>7.</p>	<p><i>Wtf👤 Budk tu tayang pepekat dia kat aku..👤</i></p> <p>Wtf👤 That girl show me their cunt..👤 [F/PS/U/17/3]</p>
<p>8.</p>	<p><i>Come larh.. Lepak2, mkn2 dgn abg! abg blnje' adk pulk, sm2 puas, win!</i></p> <p>Come onnn.. come along with me girl... hang out. eat with me, I'm 'your brother' right?. I pay all for you, then, u should 'pay me', so that we can be satisfied [M/IHL/U/18/7]</p>
<p>9.</p>	<p><i>Bgoncang tlg rusuk abg, tgk sygg... bgetah, marila jmp abg, abg bg 'gift'. jgn mlu jgn segn, pm..</i></p> <p>Wow! U'r really make me crazy! When I look at you, ummmp, u'r always great! Come dear. I come to see me, I can give u 'special gift'. don't be shy yeahh... [M/W/U/18/8]</p>
<p>10.</p>	<p><i>Ap nk jd l bdk melyu zmn skrg, muka lw hensem, prgai maciam syaitonn.. pmpn taraf pelacur.. keluar masuk hotel murh.. puihh.. aku peratii jerr👤👤</i></p>

	<p>what wants to be a Malay pupil nowadays. Handsome! Good looking. but their attitude.. like the demon, stupid. prostitute. going in and out of cheap hotels, I just noticed [M/SS/U/17/4]</p>
11.	<p><i>Memang dasar tak puas nafsu, ak kalau tak up stst ni, org xtau, Please hati2 gaiss, anak dra org sebat ikut sk nfsu dia. Jgn smpai adk2 dn drikau tjual sudhla!</i></p> <p>It's very unsatisfying, if I don't post on facebook, people don't know, so today I want to tell you. Please be careful, there are people who rob women to satisfy their lust. Don't get in touch with our little ones! [M / SS/U/17/5]</p>
12.	<p><i>perOsak bangsa engkaulah b*nat*ng,tak dapat awex ak, spp aku aku kau test drive. puas nafsu macam kau sy**tan. &gt;banyak kerja lain b0leh dibuat, perosk ank2 dra org, celaka!</i></p> <p>Pest the nation! you beast, you can't get my girlfriend, so you find another girlfriend for a “test drive”, you satisfy your appetite, someone else's daughter's pests. Stupid!, wretch..! [M/SS/U/17/6]</p>
13.	<p><i>Kalau sye tidur dgn org, awak susah ape? Sye nak ciuman nk pelukan nak kongkek awk peduli awak, badan sye. sye bkn hak spe" sye hak smua laki" yg blh puaskn sye, itu sje</i></p> <p>If I sleep with other people around me, how hard can you be? I want to kiss or hug, or make love. what is your problem. do not mind me. my body, my right. I can be the right of any man, understand ??? that can satisfy me. [F/SS/U/17/9]</p>
14.	<p><i>Dia kantai curang! Me tdk dgn mta kepala me sdri kot, bf dgn ntah dtg mne bulshit girl dlm blk hotel, hye2 bye2 !</i></p> <p>Busted.. how dare you?! cheating on me. I saw myself, my boyfriend, get along with the young lady, came into the hotel room. so, I can say him,, bye2.. [F/W/U/18/10]</p>
15.	<p><i>Jahat an pakwe dia 😏👉❤️, main tarik girl masuk hotel, wtf! Adoi, nk bgtau gf dia, kwn baik aku doh.. ap blh ku buat fren??</i></p> <p>It's really bad for her boyfriend. Always with their bad attitude! Get along with other girl and drag them into the hotel. wtf! should I tell his girlfriend, bcoz she is my best friend? I'm dead. Friend, help me plz .. .. [F/SS/U/17/11]</p>

<p><b>16.</b></p>	<p><i>Gerak dulu beb! Join org2 kampung, cuci2, tebas2 hutan, clearkn logkg tsumbat, alkisahnyaa,, 2h lps, kg ku diserang denggi lorh...</i></p> <p>I go first. join the villagers, helping the others, wash, clearing the jungle behind mosque, dump trash in the clogged drain. Its just bcoz our village confirmed the dengue outbreak two days ago. [M/W/R/20/2]</p>
<p><b>17.</b></p>	<p><i>Lepak2 kedai kopi, smbil mmbwang, ko igt xde ke pakcik bwg?! Ap korank expek?? Hhhaa</i></p> <p>Hang out at a coffee shop, chatting with friends. do you think, women just like to tell stories, cursing here and there? Hahaha [M/W/R/10/5]</p>
<p><b>18.</b></p>	<p><i>Alahai,, jiran km ni, demam denggi bdarah. Takut la pulak.last week, india baris blkg ni suspek denggi, msh admit. Kena jaga2 guest!</i></p> <p>Ohh no...! our neighbours have been diagnosed with dengue fever. Scared...err... last week, the aunty, back home, shes still admitted in the ward. so. we have to be careful. [M/HIE/U/19/2]</p>
<p><b>19.</b></p>	<p><i>Ya Allah, kesiannya.. sana sini kisah buang baby.. ermm apa nk jd, msyrkt muda skrg. Bukan anjg, mnusia kot, ank kcil, xbdosa .. sedihh btl</i></p> <p>Ooh my God, soo, so pity .. here's the story of the baby dump .. ermm WHAT ARE THE SOCIETY NOW, THIS BABY, NOT A DOG, im vry sad. Sad.. n very sad [F/SS/U/17/21]</p>
<p><b>20.</b></p>	<p><i>Klu kt xjaga, sapa lg, sma2 bantu, tlg. Masyrkat kt aman, brsih. Jgn la selfish boodh! Xmau tlg xpe, mulut tu jgn bunyi ikut sdp ja.. ermm. #parohh</i></p> <p>If we don't appreciate it, who else? let's help each other. people will be safe, clean. Don't be selfish.. stupid. If you don't want to help, be quiet, keep your mouth shut or insult others.. ermmm.. [M/SS/R/16/2]</p>

Figure 1 below shows the overall picture of the theme of relationships, sub-themes for relationships and details for each sub-theme.

**Figure 1.** Theme and Sub-themes for Relationships and Sub-themes Details.



All the subthemes and details identified have been verified through the Lexical Unit Index validation process through the FrameNet lexical database. Through this database, cross referencing checking can be carried out between lexical evidence and the existing information in the database. Simulataneously, this database can retrieve information or lexical concepts immediately, quickly and accurately to accommodate research needs.

Based on Figure 1, detailed explanations for the three themes identified are, i) values, norms and culture, ii) collaborative actions, and iii) bonding and bridging. Besides these sub-themes, the findings also indicate four spectrums that encompass the relationship theme, namely: relationships among groups of friends (friendship); between the spouse (love); family relationship and relationship within the local community.

### Conclusion

This paper has specifically discussed the procedures to conduct research using Virtual Advertising Operations (VAO) that began with data justifications concerns (Facebook) used in virtual advertising operations, and followed by four processes of applying the virtual advertising operations in the research to gather systematic findings. At the end of the study, the application of VAO has enabled the researchers to gather the main theme, namely the



relationship theme in teenagers' communications in Malaysia. This research methodology can be considered as a new alternative method that is more creative, innovative and suitable with the current trend as compared to other data acquisition methods.

### **Appreciation**

The writing of this paper is part of the writing of the Doctor of Philosophy thesis currently underway by the author, Nor Fazilah Noor Din, with the supervisor, Dr. Hishamudin Isam at the School of Languages, Civilization and Philosophy of the University Utara Malaysia (UUM).

## REFERENCES

- Abdullah, H. (2009). Bahasa melayu di persimpangan: Antara jati diri dengan
- Rempuhan, G. (2009). The malay language at the crossroads: Between identity and the onslaught of globalization). *Jurnal Kemanusiaan*, 16 59-81.
- Pribadi, A. S., Pratiwi, M. M. S., & Brotowidagdo, R. (2020). Motif Afiliasi Pengguna Aktif Facebook. *Proyeksi: Jurnal Psikologi*, 6(2), 50-57.
- Ahn, J. (2011). Digital divides and social network sites: Which students participate in social media. *Journal of Educational Computing Research*, 45(2), 147-163.
- American Academy of Pediatrics. (2013). Children, adolescents, and the media. *Journal of American Academy of Pediatrics Clinical Report*, 132(5), 958-961.
- Anayet H. F. M. & Md. Korban, A. (2014). Relation between individual and society. *Open Journal of Social Sciences*, 2(8), 130-137.
- Androutsopoulos, J. (2014). Beyond 'media influence. *Journal of Sociolinguistics*, 18(2), 242-249.
- Antheunis, M. L. & Schouten, A. P. (2011). The effects of other-generated and system-generated cues on adolescents' perceived attractiveness on social network sites. *Journal of Computer-Mediated Communication*, 16(3), 391-406.
- Anuar Puteh. (2001). Perkembangan dan pembentukan remaja menurut perspektif Islam (Development and formation of adolescents in the Islam's perspective). *Kajian Malaysia*, 19(2), 79-101.
- Arnett, J. (1992). Reckless behaviour in adolescence: A developmental perspective. *Developmental review*, 12(4), 339-373.
- Awl, D. (2011). *Facebook me: A guide to socializing and promoting on Facebook*. California: Peachpit Press
- Breakenridge, D. K. (2008). *PR 2.0: New media, new tools, new audiences*. FT Press.
- Brody, J. E. (2013). Effective addiction treatment. *New York Times*, 2, 17. 124-136.
- Carr, C. T., Schrock, D. B., & Dauterman, P. (2012). Speech acts within facebook status messages. *Journal of Language and Social Psychology*, 31(2), 176-196



- Chaffee, S. H., & Metzger, M. J. (2001). The end of mass communication. *Mass Communication & Society*, 4(4), 365-379.
- Charoensukmongkol, P. (2018). The impact of social media on social comparison and envy in teenagers: The moderating role of the parent comparing children and in-group competition among friends. *Journal of Child and Family Studies*, 27(1), 69-79.
- Chee, L. K., & Kamilia Ghazali. (2012). “Saya suka tapi tak bangga”–Satu kajian sikap Bahasa (“I like it but I’m not proud of it”- A study on language attitude). *GEMA Online® Journal of Language Studies*, 12(1), 275-291.
- Colman, A. M. (2015). *A dictionary of psychology*. Oxford University Press, USA.
- Crystal, D. (2001). *Language and the Internet*. Cambridge: Cambridge University Press.
- Diaconu, M., & Prelipceanu, C. M. (2017). E-Marketing and New Media. *Dialogos*, 18(34), 171.
- Dictionary, O. E. (2017). *Oxford living dictionaries*. Oxford University Press.
- Eastman, C. M. (1985). Establishing social identity through language use. *Journal of Language and Social Psychology*, 4(1), 1-20.
- Elkind, D. (1967). Egocentrism in adolescence. *Child development*, 1025-1034.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends:” Social capital and college students’ use of online social network sites. *Journal Of Computer-Mediated Communication*, 12(4), 1143-1168.
- Gea, A.A. (2010). Pengembangan culture, self, and personaliti dalam diri manusia. *Jurnal Humaniora*, 1(1). 37-48.
- Giedd, J. N. (2018). A ripe time for adolescent research. *Journal of Research on Adolescence*, 28(1), 157-159.
- Haiyan, K. (2004). A study on parent-adolescent conflicts. *Psychological Science-Shanghai*, 27(30), 696-700.
- Hargittai, E. (2007) Whose space? Differences among users and non-users of social network sites, *Journal of Computer-Mediated Communication*, 13(1), 276–297.
- Hashim, M. Rozita Che Rodi & Halimah Pondo. (2013). Bahasa Melayu dan konsep kebenaran ilmu berdasarkan pandangan Syed Muhammad Naquib al-Attas (Malay



language and the concept of true knowledge from the perspective of Syed Muhammad Naquib al-Attas). *Kemanusiaan*, 20(1), 1–22.

Hasmidar Hassan. (2013). Ucapan selamat, ungkapan anomali namun dimengerti dalam komunikasi: penjelasan dari perspektif pragmatik (Greeting, anomalous but well-understood expressions communication: an explanation from a pragmatic perspective). *Jurnal Bahasa*, 13(2), 22-40.

Holden, C. (2001). 'Behavioral'addictions: do they exist? *Science*, 294(5544), 980-982.

Huffaker, D. (2004). *Gender similarities and differences in online identity and language use among teenage bloggers* (Doctoral dissertation, Georgetown University).

Huffaker, D. A., & Calvert, S. L. (2005). Gender, identity, and language use in teenage blogs. *Journal of Computer-Mediated Communication*, 10(2), JCMC10211, 1-20.

Krippendorff, K. (2004). *Content analysis: An introduction to its methodology* (2nd Ed.). Thousand Oaks, CA: Sage.

Krishnan, K. (2013). *Data warehousing in the age of big data*. Newnes. Elsevier: Amsterdam.

Lee, S. Y. (2014). How do people compare themselves with others on social network sites?: The case of facebook. *Computers in Human Behavior*, 32(1), 253-260.

Lenhart, A., Duggan, M., Perrin, A., Stepler, R., Rainie, H., & Parker, K. (2015). *Teens, social media & technology overview 2015*. Pew Research Center [Internet & American Life Project]. Diakses <http://www.pewinternet.org>

Lenhart, A., Madden, M., Smith, A., Purcell, K., Zickuhr, K., & Rainie, L. (2011). Teens, Kindness and Cruelty on Social Network Sites: How American Teens Navigate the New World of " Digital Citizenship". *Pew Internet & American Life Project*. 14, 32, 158-165.

Livingstone, S. (2008). Taking risky opportunities in youthful content creation: teenagers' use of social networking sites for intimacy, privacy and self-expression. *New Media & Society*, 10(3), 393-411.

MAMPU. (2019). *Analisis Data Raya Sektor Awam (Public sector data analysis)*. Unit Pemodenan Tadbiran dan Perancangan Pengurusan Malaysia. Retrieved from <https://www.mampu.gov.my/ms/data-roya-sektor-awam-drda>



- Manyika, J., Chui, M., Brown, B., Bughin, J., Dobbs, R., Roxburgh, C., & Byers, A. H. (2011). *Big data: The next frontier for innovation, competition, and productivity*. McKinsey Global Institute.
- Maslida Yusof & Karim Harun (2015). Analisis lakuan tutur dalam ruangan status Facebook (Analysia of speech acts in facebook status). *Malaysian Journal of Communication*, 31(2), 151-168.
- Marshelina Fatin (2014). The differences between men and women language styles in writing twitter updates. *Jurnal Ilmiah Mahasiswa FIB*, 4(1), 24-35.
- Mashaei Naffise, Asadpour Mohammad, Pourrashidi Boshrabadi Ahmad, Reza Hosseini Omid, Ayatollahi A, Bidaki Reza, & Arab Bani Asad Fatemah. (2013). The prevalence of Internet addiction among the students of Rafsanjan University of Medical Sciences. *ASEAN Journal of Psychiatry*, 14(2), 109-116.
- Md. Razib Karno. & Noraziah Sharuddin. (2017). Ulasan penerbitan berilmiah secara sistematik: Cabaran dalam melaksana analisis data raya (ADR) data bibliografik perpustakaan (Review of scholarly publications Systematic: Challenges in performing bibliographic data analysis (ADR) library). *Jurnal PPM: Journal of Malaysian Librarians*, 11(1), 1-7.
- Mohammad Rakibul Hasan, Radzuwan Ab Rashid, Md. Hasan, Mahmudun Nuby, & Md Rabiul Alam. (2019). Learning English informally through educational facebook pages. *International Journal of Innovation, Creativity and Change*, 7(7), 277-290.
- Mohd, I. Hashim, K. dan Ng. (2016). Internet addiction among adolescents in Malaysia: The prevalence and its association with Attention Deficit Hyperactivity Disorder (ADHD) symptoms. *Malaysian Journal of Psychiatry*, 25(1), 3-18.
- Murphie, A., & Potts, J. (2017). *Culture and technology*. New York: Macmillan International Higher Education.
- Ngantcha, M., Janssen, E., Godeau, E., Ehlinger, V., Le-Nezet, O., Beck, F., & Spilka, S. (2018). Revisiting factors associated with screen time media use: A structural study among school-aged adolescents. *Journal of Physical Activity and Health*, 15(6), 448-456.
- Norazah, N. Helmi, N. Hafiz, Z. Fairus, H. Melor M. Y. & Nor, H. A. (2019). Online innovation of business start-up training for marginalised communities via MOOCS. *International Journal of Innovation, Creativity and Change*, 7(1), 80-88.



- Normah, M. Wan, A. Wan, M. Fauziah, A. Maizatul, H. M. & Helmi, A. R. (2013). Kebergantungan internet dan aktiviti online remaja di Lembah Kelang (Internet dependency and youth online activities in Klang Valley). *Malaysian Journal of Communication, 1(29)*, 199-218.
- Norris, P. (2002). The bridging and bonding role of online communities. *Politics, 7(3)*, 3-13.
- Hamid, N. A., Ishak, M. S., Ismail, S. A., & Yazam, S. S. N. M. (2013). Social media usage among university students in Malaysia. In *Social Media and the New Academic Environment: Pedagogical Challenges*, 15, pp. 244-255.
- O'Keeffe, G.S., Clarke-Pearson, K., & Council on Communications and Media. (2011). The impact of social media on children, adolescents, and families. *Journal of American Academy of Pediatrics Clinical Report, 127(7)*, 800-804.
- Omwake, L. (1937). A study of sense of humor: Its relation to sex, age, and personal characteristics. *Journal of Applied Psychology, 21(6)*, 688-704.
- Paulus, F. W., Ohmann, S., von Gontard, A., & Popow, C. (2018). Internet gaming disorder in children and adolescents: a systematic review. *Developmental Medicine & Child Neurology, 60(1)*, 645-660.
- Pempek, T. A., Yermolayeva, Y. A., & Calvert, S. L. (2009). College students' social networking experiences on Facebook. *Journal of Applied Developmental Psychology, 30(3)*, 227-238.
- Rahmat Shodiqin (2014). Termonologi Salam dalam Islam (Greeting Thermonology in Islam). *Jurnal Al Maqayis, 2(1)*, 17-26.
- Remond, J. J., & Romo, L. (2018). Analysis of gambling in the media related to screens: Immersion as a predictor of excessive use. *International Journal of Environmental Research and Public Health, 15(1)*, 58-59.
- Sanaa Ilyas, & Qamar Kushi. (2012). Facebook status updates: A speech act analysis. *Academic Research International, 3(2)*, 501-507
- Scott, A. D., Erica, J. B., & Rudolph, L.M. (2013). *Towards automated personality identification*. [http://clic.cimec.unitn.it/fabio/wcpr13/appling\\_wcpr13.pdf](http://clic.cimec.unitn.it/fabio/wcpr13/appling_wcpr13.pdf). (diakses pada 5 Januari 2015)
- Shapira, N. A., Goldsmith, T. D., Keck Jr, P. E., Khosla, U. M., & McElroy, S. L. (2000). Psychiatric features of individuals with problematic internet use. *Journal of Affective Disorders, 57(1-3)*, 267-272.



- Siti Ezaleila Mustafa. (2015). *Media jaringan sosial: Penggunaan dan pengaruhnya (Social media: Its use and impact)*. Kuala Lumpur: Penerbit Universiti Malaya.
- Siti Hamin Stapa, & Azianura Hani Shaari. (2012). Understanding online communicative language features in social networking environment. *GEMA Online® Journal of Language Studies*, 12(3), 817-830.
- Siti Hawa Radin Eksan. (2017). Data raya: Takrifan, dimensi, dan apakah kaitannya dengan PKS? (Big data: Definitions, dimensions, and their relevance to MCC?). Seminar Antarabangsa Pengajian Lepas Ijazah 2017 Ke-4 (SAPLI 2017ke-4), hah Alam
- Smith-Hefner, N. J. (2018). *Language, Youth and identity in the 21st century: Linguistic practices across urban spaces*. In J. Nortier & B. A. Svendsen (Eds.). Cambridge: Cambridge University Press.
- Soh, P. C. H., Chew, K. W., Koay, K. Y., & Ang, P. H. (2018). Parents vs peers' influence on teenagers' Internet addiction and risky online activities. *Telematics and Informatics*, 35(1), 225-236.
- Spielberger, C. D., Johnson, E. H., Russell, S. F, Crane, R. J., Jacobs, G. A., & Worden, T. J. (1985). *The experience and expression of anger: Construction and validation of an anger expression scale*. In M. A. Chesney & R. H. Rosenman (Eds.), *Anger and hostility in cardiovascular and behavioral disorders* (pp. 5-30). New York: Hemisphere.
- Sri Narti. (2017). Pemanfaatan "whatsapp" sebagai media komunikasi dosen (The benefit of using "whatsapp" as a media communication medium). *Jurnal Professional FIS UNIVED*, 4(1), 26-44.
- Subrahmanyam, K., Reich, S. M., Waechter, N., & Espinoza, G. (2008). Online and offline social networks: Use of social networking sites by emerging adults. *Journal of Applied Developmental Psychology*, 6(29), 420-433.
- Tabotabo, L. M. B. (2017). Factors contributing to excessive use of screen gadgets and its effect to social and emotional functioning. *Asian Journal of Mathematical Sciences (AJMS)*, 1(02), 75-101.
- Tuten, T. L., & Solomon, M. R. (2017). *Social media marketing*. SAGE Publishing.
- Twenge, J. M., Joiner, T.E., Rogers, M. L.M, & Martin, G.N. (2018). Increases in depressive symptoms, suicide-related outcomes, and suicide rates among u.s.



- adolescents after 2010 and links to increased new media screen time. *SAGE Journal*, 6(1), 3–7.
- Uddin, M. S., & Mamun, A. A. (2018). Facebook Addiction Disorder: Is Facebook Really Addictive. *Abnorm Behav Psychol*, 4(135), 2472-0496.
- Ungku Aziz. (2005, 15 May). "Hidup bukan Que Sera, Sera" - Usaha capai keperibadian unggul bergantung kepada diri sendiri (Life is not Que Sera, Sera " - Business is personal superior to oneself). *Mingguan Malaysia*. Retrieved from <http://www.utusan.com.my/utusan>
- Valkenburg, P. M., Peter, J., & Schouten, A. P. (2006). Friend networking sites and their relationship to adolescents' well-being and social self-esteem. *CyberPsychology & Behavior*, 9(5), 584-590.
- Van Oosten, J. M., De Vries, D. A., & Peter, J. (2018). The importance of adolescents' sexually outgoing self-concept: Differential roles of self-and other-generated sexy self-presentations in social media. *Cyberpsychology, Behavior, and Social Networking*, 21(1), 5-10.
- Wan Hamzari, Ahmad Fauzi, dan Mokhtar (2011). Masalah ketagihan Internet dalam kalangan pelajar aliran Sains dari perspektif gender (Internet addiction problems in among Science students from a gender perspective). *Masalah Pendidikan*, 34(1), 25-36.
- Yang, C., Holden, S. M. & Carter, M.D.K. *J Youth Adolescence* (2018). Social media social comparison of ability (but not opinion) predicts lower identity clarity: Identity processing style as a mediator. *Journal of Youth and Adolescence*, 1 (12), 1-15.
- Young, K. S. (1998). Internet addiction: The emergence of a new clinical disorder. *Cyberpsychology & Behavior*, 1(3), 237-244.
- Zikopoulos, P. C., Eaton, C., Deroos, D., Deutsch, T., Lapis, G. (2012). *Understanding Big Data, Analytics for Enterprise Class Hadoop and Streaming Data*. The McGraw-Hill Companies