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Proximate composition analysis of stingrays from local fish market in Kuching, Sarawak

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ABSTRACT

Stingrays are one of the marine fishes that inhabit the shallow part of the ocean. They are well known to the locals as cuisine and its parts as accessories for items such as handbags, belts, and decorations. Stingrays of species *Himantura undulata* and *Maculabatis gerrardi* are commonly caught by fishermen of Sarawak, but most of its nutritional and antinutritional factors both species are unknown. This study focused on the analysis of some proximate composition such as moisture, ash, and lipid content. Analysis of total organic matter was done as well. The stingrays were obtained from local fish market in Kuching, Sarawak. The method used for moisture (wet basis), ash, and total organic matter is of AOAC (method 930.15), while crude lipid content was based on the Chedoloh method of extraction. The study revealed that *H. undulata* and *M. gerrardi* are nutritious in terms of moisture, ash, and lipid content to be 78.44 and 80.74% (dry basis), 0.48 and 1.37%, 2.46 and 7.74% respectively.

Keywords: Stingrays, *Himantura undulata*, *Maculabatis gerrardi*, Proximate composition

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INTRODUCTION

Marine fish are sea creatures that inhabit the ocean, respire through gills and use fins to maneuver underwater. The majority of Southeast Asian people depend heavily on these marine fishes as it is a significant source of protein and income, particularly in the fishery industry. Currently, more than a thousand species of marine fishes have been identified in Malaysia, and some of them are near extinction. Some species are more common than others, such as Indian mackerel, tuna, and sardines, which contribute a large amount of income to the local industry. The marine fish sector contributed about 0.2 % of the country's GDP in the year 2019 (Department of Statistics Malaysia, 2019).

The nutritional value of a fish product can be measured by its constituents, such as water, protein, lipid, and mineral content (Unlusayin et al., 2015). Several studies proved that fishes have a rather significant amount of nutritional value, which are dependent on their species and factors such as age, sex, environment, feeding habit, and habitat. It is commonly understood that fish yield large amounts of protein and lipid-containing essential fatty acids (FAs) such as alpha linoleic acid (ALA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA). These essential FAs are extracted, refined, and sold as a supplement that provides many health benefits such as reducing harmful cholesterol levels, faster development of brain cells, and reducing cardiovascular diseases (Ahmad et al., 2016).

Stingrays can be described as a fish that has a large flat kite-shaped body with pectoral fins, which can be mistaken as wings and a thorny tail that can reach twice the length of its body (Unlusayin et al., 2015). Stingrays typically inhabit the shallow muddy or sandy oceanic floor and prey on small sea creatures. It is considered as one of the marine fishes commonly consumed by the locals due to it being primarily composed of meat. Most of the stingrays serving as cuisine are either smoked, steamed, and included as main ingredients in curries and stews.

Research published by Aziz et al. (2013) stated that 20 species of marine fish from the Malacca Straits have significant nutritional value, particularly protein and lipid. Another study on the nutritional content of marine fish from the West Coast of Malaysia presented similar results (Nurnadia et al., 2011). Both studies wanted to provide sufficient nutritional information about marine fish to raise awareness among the locals on choosing the best possible marine fish for consumption. Similarly, this study aimed to raise awareness on nutritional factors of marine fish especially stingrays in Sarawak. The objectives of this study was to determine some proximate

composition such as moisture, ash, lipid, and total organic content of two species of local stingrays, *H. undulata* and *M. gerrardi*.

MATERIALS & METHODS

Sampling and sample preparation

The two species of stingrays used in this study were *Himantura undulata* and *Maculabatis gerrardi*. They were obtained from local wet markets located at Kubah Ria and Kampung Bako, Kuching, Sarawak. These species were chosen because of their high availability within the region (Booth et al., 2021). One sample (1 kg) of each species were bought, stored inside a cool box, and transported to the Faculty of Resource Science and Technology (FRST), UNIMAS. Prior to analysis, the fishes were cleaned thoroughly with water to remove dirt stains from the fishes. The internal organs were removed, and meat was filleted. Food processor was used to shred the fillets. The shredded fish meats were stored inside a zipper bag and kept inside a freezer at temperature under $0 \pm 2^\circ\text{C}$.

Proximate analysis

A. Determination of moisture content

Moisture content (dry weight basis) was determined according to the method outlined by the Association of Official Analytical Chemists (AOAC, 2019; method 930.15). Initially, the empty crucible and lid were dried using a convection oven at 105°C for an hour and cooled down using a desiccator before analysis. The initial weight of crucible and lid were recorded after they have cooled to room temperature. About 5 g of filleted muscle tissue were placed and spread out uniformly inside the crucible to allow equal drying. The samples together with lid were placed inside an oven and heated up to 105°C for 3 hours. After 3 hours of drying, the sample was cooled down via desiccator to room temperature. After cooling, the weight of the samples was recorded until constant weight. The equation provided below was used to calculate the moisture content in terms of percentage.

$$\% \text{ Moisture content (wet weight basis)} = [(W_{\text{wet}} - W_{\text{dry}})/W_{\text{wet}}] \times 100$$

W_{wet} : weight (g) of wet samples
 W_{dry} : weight (g) of dry samples

B. Determination of ash content and total organic matter

The samples were charred at a temperature of 550°C in a muffle furnace for 12 hours to ensure proper impurities removal. After 12 hours, the sample was cooled inside a desiccator. The samples were then weighed and oven-dried at a temperature of 105°C until constant weight. The percentage of ash content and total organic matter were calculated from the two equations below:

$$\% \text{ Ash Content} = [W_s/W_c] \times 100$$

W_c : weight (g) charred samples.
 W_s : weight (g) sample used

$$\% \text{ Total organic matter} = (W_d - W_c/W_d) \times 100$$

W_d : weight (g) dried samples.
 W_c : weight (g) charred samples.

C. Extraction and determination of lipid content

Lipid content of the stingrays was extracted using Chedoloh et al. (2011) lipid extraction method. Thirty grammes of sample was used to extract more lipid. The samples were then mixed with 50 mL chloroform and 100 mL methanol until homogenized. Afterward, another 50 mL of chloroform is added and blended, and 50 mL ultra-pure water (Milipore) was added and blended for another 15 minutes to ensure total extraction. The homogenate solution was then filtered using suitable filter paper and vacuum pump for fast filtration. The filtrate was transferred to a round bottom flask and evaporated at 62°C using a rotary evaporator to remove organic solvent from the lipid yielded. Further drying was done to remove the residual solvent in an oven at temperature 105°C for an hour. The equation is used to calculate the percentage of lipid yield from this procedure.

$$\% \text{ Oil Yield} = (M_l/M_s) \times 100$$

M_l : weight of lipid extracted, g
 M_s : weight of sample, g

Statistical analysis

All results shown were the mean of ten measurements of each method and analyzed statistically using SPSS (Statistical Package for the Social Sciences) version 26 and Microsoft Excel. Mann-Whitney U test was used to

compare the mean of each data. All data were reported as percentages (%) of means and standard deviation of ten replicates. P-value of less than 0.05 was considered as statistically significant.

RESULTS & DISCUSSION

Proximate Analysis

The proximate composition of the muscle tissues of the stingrays were shown in Table 1. Comparison of proximate composition was done to prove that there are variations in the nutritional values of different species of fish. The average moisture content of both species is similar to other species of stingrays in prior studies such as *Telatrygon zugei* and *Himantura uarnacoides*, $76.31 \pm 3.15\%$ and $78.62 \pm 4.19\%$ respectively (Mukherjee, 2017). Baruah et al., 2007 also recorded the moisture content of the stingrays *Dasyatis pastinaca* (78.19 %) and *Dasyatis americana* (76.50 %). Akland et al. (2005) concluded that teleost and elasmobranchs usually show high variation of moisture content in the range of 79.9 % to 84.1 %. Previous literature suggested that these species contain high energy density but are low in crude lipid (Aberoumad & Pourshafi, 2010). In addition, the method of meat storage also affects the moisture content. Fish muscle tissue tend to absorb water when frozen and subsequently absorbed more when exposed to water during defrosting (James et al. 2006; Young & Smith, 2004). Fish containing high moisture content can degrade essential fatty acids and increases the risk of spoilage by microbes as well as reduction in quality when preserved for a longer period (Ayanda et al., 2019).

The ash content of both species was lower when compared to other species stingrays such as *Raja clavata* (1.38 %), *Dasyatis Americana* (9.43 %), *Dasyatis zugei* (6.71 %) (Baruah et al., 2007). But within a normal range of ash content of fish meat (1.2% and 1.5%). The variation of ash content of marine fishes can be ascribed to health requirements and accessibility of nutrition of fish in their feeding ecosystem (Shabir et al., 2018). The major contributing factors are also the age of the fish, feeding habits and rate of metabolism (Jafri & Khawaja, 1968). High ash content could indicate a high presence of bioavailable minerals present in the fish such as Fe, Ca, Se and Mg, which are essential minerals in hormone regulation, metabolism, and absorption of vitamins (Pal et al., 2018). However, further analysis is needed to identify these minerals as well as their abundancy.

Both species have higher crude lipid content when compared to other rays' species such as *D. pastinaca* (0.75 %), *Raja miraletus* (0.25 %), *R. clavata* (0.47 %), *Gymnura altavela* (0.77 %) (Unlusayin et al., 2015). Generally, fish can be categorized based on their fat or lipid content. Lean fish are fish with less than 2 % crude lipid, low fat between 2-4%, medium fat from 4 % to 8 %, and high fat with equal or more than 8 % crude lipid. Hence, *H. undulata* with crude lipid of $7.74 \pm 0.16\%$ can be considered as a medium fat fish while *M. gerrardi* can be considered as a low-fat fish with $2.46 \pm 0.15\%$ crude lipid. The distinction in crude lipid content between the species can be traced to their general feeding habits and their bodily metabolic processes (Mukherjee, 2017). High moisture content could indicate low crude lipid content as well due to their inverse relationship. Lipid content also decreased when feeding became intermittent (Boran & Karacam, 2011). The decrease in lipid content can also be attributed to the process of skinning and trimming the fish (Manthey-Karl et al., 2016). In conclusion, fish with high-fat content is more nutritious due to high composition of essential fatty acids such as EPA and DHA. However, further analysis is needed to confirm the presence of these essential fatty acids.

Table 1. Analysis of stingrays

Analysis (%)	<i>Himantura undulata</i>	<i>Maculabatis gerrardi</i>
Moisture content	80.74 ± 0.76^a	78.44 ± 1.73^b
Ash content	1.37 ± 0.27^a	0.48 ± 0.66^b
Total organic Matter	98.63 ± 0.27^a	99.52 ± 0.66^b
Crude lipid	7.74 ± 0.16^a	2.46 ± 0.15^b

Notes: Means \pm standard deviation of ten replicates, means with different superscript in the same row are statistically significant ($p < 0.05$). All analysis done based on wet weight basis.

CONCLUSION

This study has reported some proximate composition of *H. undulata* and *M. gerrardi*. However, further nutritional analyses such as protein and fatty acid profile are recommended to discover more benefits that could be provided by these species.

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Integrated Speed Bump Detector to notify road users using Internet of Things

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ABSTRACT

Every year all over the world, many lives are lost due to accidents on the roads. Different factors have contributed to this tragic death, such as the poor condition of roads and bad weather such as rain. To solve this problem, an Integrated Speed Bump Detector to notify road users using the Internet of Things (IoT) has been proposed to help road users to detect speed bumps earlier by getting notified through sound from the buzzer and red light from an LED. This also increases the safety of road users during their trips and provides information if a speed bump is approaching. The ultimate goal of this project is to prevent an accident from occurring during road trips and to promote a careful attitude among road users.

Keywords: Internet of Things (IoT), speed bump detector, safety, road users

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INTRODUCTION

Technology is now part of human life and human nowadays sometimes cannot live without it. Society also has been changed with the evolution of powerful technology. Before the advent of advanced technology, the majority of people must meet face to face but with smartphones, they just have to call or message the other person. Thanks to technology, human life has been drastically upgraded and time, money, and energy can be saved for other things. Technology in cars is also more powerful now, which enables humans to travel safely to their destination in a short time. However, road hazards such as careless drivers, driving distractions and unsafe roads contribute to the increasing number of accidents. Road abnormalities such as manholes, potholes, and speed bumps also contribute towards unsafe and dangerous roads. Technological means have been utilized to prevent, eliminate, or lessen threats to life and the environment and to fulfill social needs (Sueb, 2013). The purpose of this project is to create a system to detect speed bumps and give early notification to road users so that the road users can take precautions and avoid unexpected events.

According to Patel and Gundaliya (2017), a speed bump is a raised pavement surface that provides a physical reminder for motorists to slow down while traveling over it. The role of speed bumps is to force drivers and motorcyclists to reduce their vehicle speed to avoid the occurrence of accidents. The first speed bump was implemented in Chatham, New Jersey in 1906; it was designed by Arthur Holly Compton after he noticed the speed of motorists passing Brookings Hall at Washington University in St. Louis, Missouri when he was a chancellor (ACPLM, 2019).

Many countries randomly place speed bumps on roads and they can be found near schools, playgrounds and hospitals for the safety of both drivers and pedestrians. Sometimes, a traffic sign that shows there is a bump ahead may not exist and the driving pattern is disturbed, and road users may hit the bumps at a high speed causing accidents and damage to their vehicles. A 2014 road accident report from India showed that a total of 4726 lives were lost due to crashes at speed breakers on National Highways (Patel & Gundaliya, 2017). According to World Health Organization, approximately 1.35 million people die each year as a result of road traffic crashes (WHO, 2018). Other than driver carelessness, road abnormalities such as manholes, potholes, and speed bumps are also reasons why accidents occur. As a result, drivers, pedestrians, and motorcyclists suffer injuries not due to their own fault.

Besides, when the environment is dark, at night, or when it is raining, road users tend not to see the road clearly. Moreover, the streetlights near the speed bump may also not be bright enough, and the yellow and black line at the speed bump may become faded due to rain. Road signs alerting users to the presence of speed bumps

may also be missing or broken. Therefore, obstacles on the road such as speed bumps may not be visible to the users; if road users drive vehicles at the maximum speed without being aware of such obstacles, serious accidents and damage to vehicles may occur. These problems can be solved by early detection of speed bumps ahead and notification of road users so they have enough time to slow down their vehicle before hitting the bump. A prototype to solve these problems has been developed which is an Integrated Speed Bump Detector to notify road users using the Internet of Things (IoT).

LITERATURE REVIEW

Three existing systems have been selected to be discussed in this paper: Development of Digital Vehicle Distance Monitoring System, Automatic Road Accident Detection using Ultrasonic Sensor and Vehicle Safety Distance Alarming System. All these systems have their own characteristic, advantages, and disadvantages.

Muhaiyiddin, Sanudin, Wahab and Johari (2019) designed a system to help the driver to estimate the distance between the car and an object, whether it is in front of or behind the car, can contribute to reducing the number of incidents. A PIC16F84A microcontroller which has been programmed using MPLAB software is used to analyze and send commands to measure the distance between the car and objects within the focused range which is between 1 m to 5m. The ultrasonic sensor will detect objects in front or behind the car and a signal will be sent to the microcontroller. After that, the analog to digital converter will receive the data to measure and convert it into the digital signal. Then, the distance between the car and the object will be displayed on the LCD.

Khalil, Nasir, Khan, Javid, Raza and Siddiqui (2018) designed a system that could detect road accidents and immediately inform the emergency department accordingly. It used an ultrasonic sensor module HCSR04 to measure the distance. Two ultrasonic sensors are placed on the front and back windscreens of the car and the distance between the ultrasonic sensors and respective bumpers is measured. These distances are named threshold distance 1 and threshold distance 2. The threshold distance is breached when an object collides with the car and the processing system is turned on immediately. Once the incidents occur, GPS will send the location of the car to the emergency department immediately through GSM.

The third system was proposed for disabled drivers who need a clear visual and/or audible alarm (Attia, Ismail and Alia (2017). The function of this system is to monitor the actual speed of the host vehicle and the actual distance between the host vehicle and the vehicle in front. Furthermore, this design system is based on general electronic discrete components without using any specific controller or digital processing unit. The speed sensor is used to sense the actual speed of the host vehicle. Meanwhile, a distance sensor is used to measure the actual distance between the host and front vehicles. In this system, the actual data state of the vehicle and the road has been collected to come up with them suitable audio-able and visual alarms for three different situations. Firstly, when the distance between the host vehicle and the front vehicle is less than a certain minimum distance limit. Secondly, when a vehicle running at a low speed and the distance between two cars is further than a certain maximum distance limit and lastly, the system will trigger the host car if the distance is perfectly suitable in distance range conditions.

MATERIALS & METHODS

Requirement Analysis

Rapid Application Development (RAD) as shown in Figure 1 was used to develop this system. RAD is a software development process which targets to reach system completion within 60 – 90 days (Walter, 1997); this was considered suitable for the proposed system as it is a small and embedded system that requires around 90 days to develop. There are four phases in the RAD methodology, as follows:

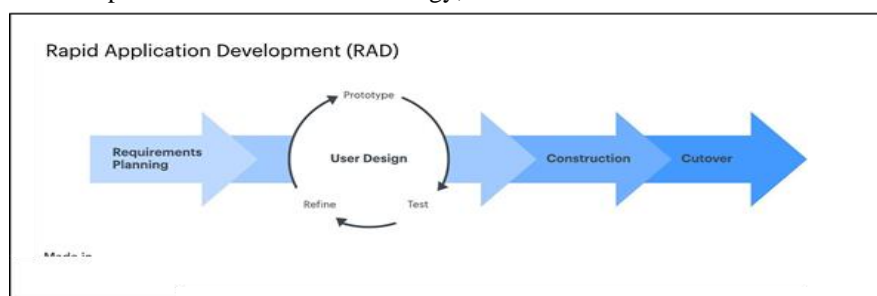


Figure 1. RAD phases (Rapid Application Development (RAD): Changing How Developers Work, 2021)

System Design

This section details the process flow in the proposed system, as well as each functionality. In the proposed system, there are several functions providing a mechanism to alert road users about speed bumps through sounds from a buzzer and red lights from the LED. The flowchart can be viewed in Figure 2.

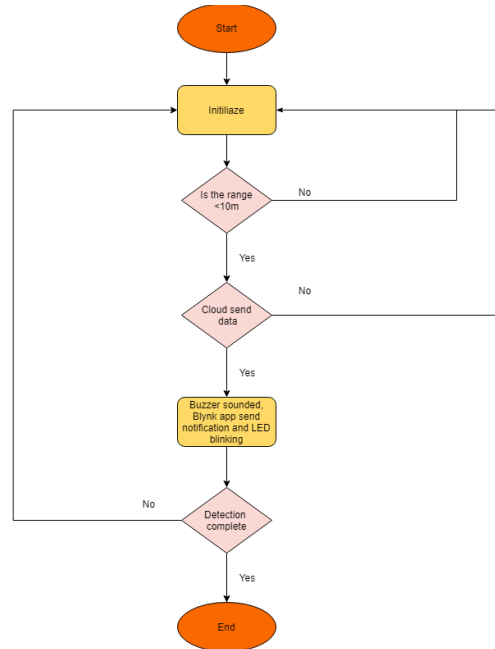


Figure 2: Process of the System Design

A. Use Case Diagram

The general overview of the system is shown in Figure 3. The user needs to turn the speed bump detector system on to use the system. The user can also receive notification alerts and view the camera to detect any incoming speed bumps. The ultrasonic sensors will trigger the buzzer which will release a sound if it detects a speed bump within a distance of less than 10m. Figure 3 shows the use case diagram for Integrated Speed Bump Detector to notify road users using Internet of Things (IoT).

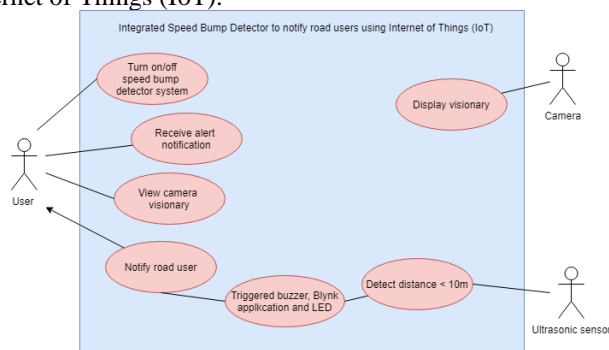


Figure 3: Use case diagram of the proposed system

RESULTS

Methods to capture the interface layouts are used to illustrate the details and structure of the prototype. The implementation of the proposed system is divided into two parts: software and hardware. Testing was performed to check whether those functions are working as predicted and meet the requirements. Several tools were used to establish the system, as listed below.

a) Arduino Nodemcu ESP32

Arduino Nodemcu ESP32 is a successor to the ESP8266 microcontroller. It has more advanced features than the ESP8266, with more CPU cores, faster Wi-Fi speed, more GPIOs, and support for both Bluetooth 4.2 and Bluetooth low energy. Other than that, it also has interesting features such as sensitive pins which are used to wake up the ESP32 if it fell asleep. In addition, the Arduino also has a built-in hall effect sensor and temperature sensor. ESP32 has 32 GPIO pins and each can be decided upon to be a UART, I2C, and SPI. This is possible due to the ESP32 chips having an advanced multiplexing feature that allows the setting of various functions on the same pin. Arduino IDE needs installation from any online resources to upload the microcontroller.

b) Ultrasonic Sensor HC-SR04

For the ultrasonic sensor HC-SR04, it needs to be coded first in the Arduino IDE before it can function successfully. This ultrasonic sensor measures the distance between a car and the speed bump. Once the distance between a car and the speed bump reaches below 10m, the ultrasonic sensor will send a signal to the microcontroller, and the microcontroller will send a signal to the buzzer, red LED, and Blynk application to alert the road user on the upcoming speed bump. If the distance is more than 10m, the ultrasonic sensor will not trigger the alert.

c) ESP32 Camera

ESP32 Camera function needs to be coded first in the Arduino IDE before it can be functional. The camera module serves to detect the image of the speed bump and send a signal to the microcontroller accordingly. From that, the road users will get an alert signal from the buzzer, red LED, and the Blynk application.

d) Arduino Mega 2560

The Arduino Mega 2560 is a microcontroller board based on the ATmega2560. It is designed for projects that need more I/O, sketch memory, and RAM. It contains everything required to support the microcontroller such as 54 digital input/output pins (of which 14 can be used as PWM output), 16 analog input, 4 UARTs (hardware serial ports), a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. A larger space available to fulfil the recommended board for any 3D printers and robotics projects. The microcontroller is connected to the laptop with a USB cable to get it started. Lastly, this microcontroller is compatible with all the shields that are designed for the Arduino Duemilanove or Diecimilia. Arduino IDE needs to be installed to upload the code into the microcontroller.

e) Blynk Application

An application is used to alert the road users through the mobile phone which is the Blynk application. In this application, when the microcontroller gets a signal from the hardware component about the approaching speed bump, it will produce a sound to alert the road users.

DISCUSSION

To show how this Integrated Speed Bump Detector to Notify Road users using Internet of Things (IoT) system functions, a small model prototype was developed (Figure 4). In this proposed system, cardboard was used to make a road and a speed bump, while a toy car is used as a prototype of the actual car. Ultrasonic sensors and a camera module was placed on the front of the car. This is the simulation of the real-life scenario where the ultrasonic sensor will sense the speed bump within a distance of less than 10m, and the camera will display the visionary. However, in this proposed system, the threshold is 23cm. The notification used to notify road users via the Blynk application is shown below.

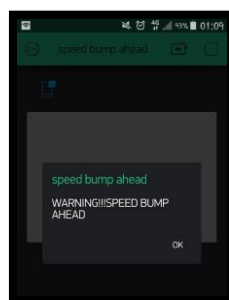


Figure 4: Notification in the Blynk application

Prototype Testing

The two types of testing that need to be performed are component testing and complete circuit testing.

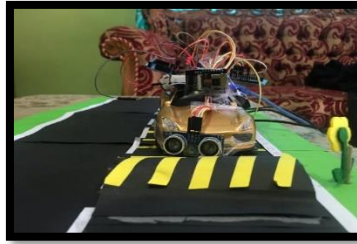


Figure 5: Ultrasonic sensor and Camera module been tested to detect the speed bump

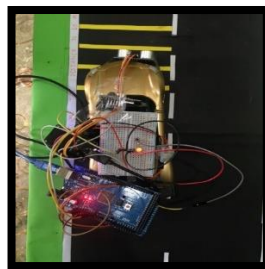


Figure 6: Ultrasonic and Camera module with red LED and a buzzer

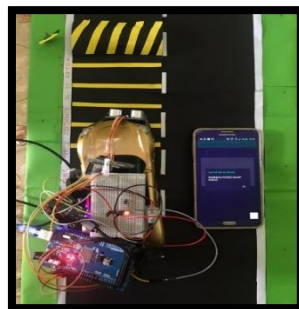


Figure 7: Complete testing of the prototype

For the ultrasonic sensor testing, the sensor was first connected to the ESP32 microcontroller. In this testing, the ultrasonic sensor acted as the input, while the output was the sound from the buzzer and red light from the LED. Once the ultrasonic sensor detected that the distance between the car and the speed bump was below 10m, a buzzer produced a sound and red light from the LED switched on to alarm the road users about the approaching speed bump.

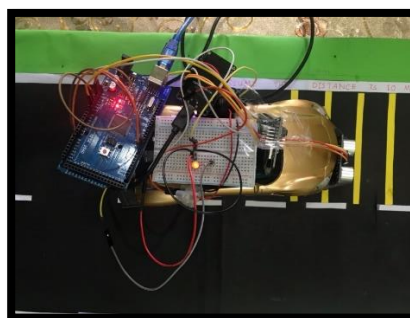


Figure 8: Ultrasonic sensor testing

Table 2: A test case for the Camera Module

Test Case Name	Camera Module		
Test Case Description	<ol style="list-style-type: none"> To test that the camera module can display a view in front of it. To ensure that the camera module will give a display visionary to the road user. 		
Pre- Condition	<ol style="list-style-type: none"> The camera module will be connected properly to the Arduino Mega 2560 board using a jumper wire. 		
Step	Test Description	Expected Result	Result
1.	The camera module pin will be connected to the Arduino Mega 2560 board pin by using a jumper wire.	The camera module will activate.	Pass
2.	Place an object in front of the camera module	The camera module will show an object image in front of the camera.	Pass

CONCLUSION

The Integrated Speed Bump Detector is a detector that can help road users to detect speed bumps before approaching them. By using this detector, road users can detect speed bumps earlier through sound coming from the buzzer and blinking red light from the LED; this assists them to drive safely to their destination. This proposed prototype can be further enhanced in future designs. For example, an LCD screen can be utilised to visually project the distance between the vehicle and the speed bump. A high-resolution camera can also be considered to provide a clearer view of the road ahead, as well as any object detection sensors to detect any obstacles ahead of the vehicle.

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PERTEKMA Financial Reporting Tool

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ABSTRACT

A financial management system is essential for any organization to manage its cash flow and keep track of its spending and earnings. Currently, our faculty-student organization, Persatuan Teknologi Maklumat (PERTEKMA), still uses multiple Excel spreadsheets to log in financial records and depend on physical ledgers printed from the Excel sheet to keep track of its accounts. This project aims to develop a web-based system that keeps track of the PERTEKMA association's revenue and spending and prevents inconsistencies between different ledgers such as activity and kiosk ledgers maintained by various executive committees (Exco) members of PERTEKMA. The system's targeted users are PERTEKMA Exco members and the lecturers responsible for supervising PERTEKMA. The methodology used to develop the proposed project is the Rapid Application Development (RAD) model. An interview was carried out with two treasurers in PERTEKMA to obtain the requirements, and their suggestions were used to develop and design the proposed system. In addition, an interview session was carried out with two PERTEKMA advisors to collect the system requirements to design the system. The system developed aims to replace the current approach to managing financial records through a centralized online platform.

Keywords: PERTEKMA, Financial report, Web-based system

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INTRODUCTION

PERTEKMA (Persatuan Teknologi Maklumat) is a student association established and registered under the Centre of Students Development UNIMAS on 1st November 1997. The objective of PERTEKMA is to build an intermediate platform for proactive and effective interaction and communication between the faculty and its students. To finance student activities, PERTEKMA has several sources of income to keep the association running smoothly. One of the primary sources of income for PERTEKMA is from the food kiosk. The kiosk earns revenues by selling various food and beverages for the university staff and students on weekdays. ExcOs from PERTEKMA are appointed to manage the kiosk by selling products obtained from suppliers, collecting revenues earned from daily sales at the kiosk, and preparing a financial report for the kiosk revenue. Another source of revenue for PERTEKMA is payment collected from faculty events that generate income, such as FCSIT Annual Dinner, sports events, and contributions from other organizations. Account-related information is stored in an Excel spreadsheet system maintained by different Exco members. A problem arising from this system is the difficulty of searching of financial data entering and exiting the system.

This project developed a web-based system that keeps track of the PERTEKMA association's spending and revenue and prevents inconsistencies between different ledgers such as activity and kiosk ledgers maintained by various Exco members in PERTEKMA. The system would also be used as a financial reporting tool for PERTEKMA to better manage their flow of revenue and spending within a centralized platform. The financial reporting tool can only be accessible by authorized PERTEKMA ExcOs and supervisors. The system will allow users to carry out different tasks, including finding discrepancies between other ledgers maintained by different Exco members and balancing the ledgers depending on their user role. In addition, users will utilize the financial reporting website to record spending and revenue earned for every financial transaction that involves PERTEKMA.

PROBLEM STATEMENT

A financial reporting tool is essential for an association to manage its cash flow and keep track of the spending on various events. Some benefits of a financial reporting tool include the improved accessibility of information, the ability to provide data interactively and the ability to provide specific information to the user based on their needs and in a timely manner (Fisher *et al.*, 1999; Dolinšek & Lutar-Skerbinjek, 1999). The use of the internet in financial reporting is on the increase among firms in the world (Mokhtar-E. S, 2017).

A sound financial management system reduces the hassle of keeping track of the expenditure while ensuring that the account is balanced. Such a system also ensures that the account can be audited and money spent by the organization can be accounted for. However, currently, PERTEKMA lacks a dedicated system to keep track of the association's spending, as every event has a separate spreadsheet to log its financial record. The way the data is being entered into the file in the spreadsheets is inconsistent. As a result, there are a lot of duplicated attributes, which is, unfortunately, one of the downsides of recording financial data manually. As the financial data grows, auditing the financial record increases in complexity due to spreadsheet data inconsistency, as the activity and kiosk ledgers are separated and managed by different ExcOs. All monthly or quarterly reports have to be manually prepared and calculated. Therefore, there is a need for a mechanism that highlights problems found in the ledger caused by external factors. In response to this problem, this project proposed a financial reporting tool for PERTEKMA to manage its resources on a centralized platform, thus simplifying logging financial records and balancing accounts of different ledgers, namely the activity and kiosk ledgers.

OBJECTIVES

In this paper, we proposed the PERTEKMA Financial Reporting Tool that allows a centralized platform to enter financial data with supporting tools to analyze and visualize the financial data. The system's requirements were obtained through interview sessions and question and answers via Google form with the PERTEKMA ExCo and advisors. The system can keep track of the PERTEKMA association's revenue and spending. It prevents inconsistencies between ledgers maintained by different parties such as the activity ledger, kiosk ledger, and advisors' ledgers. In order to view the summarize the data, the system would be able to periodically generate detailed financial reports.

MATERIALS & METHODS

The system was developed based on the software development life cycle using Rapid Application Development (RAD) methodology. The following Table 1 show the four main phases, each phase's activities, and the activities performed based on the methodology.

Table 1: The six phases and activities of RAD (Singh, 2020)

Phases	Activities
Analysis and Quick Design	a) Interview and Q&A session with PERTEKMA authorities. b) Define functional requirement c) Logical Design <ul style="list-style-type: none"> ▪ Use Case Diagram ▪ Sequence Diagram ▪ Activity Diagram ▪ Class Diagram d) Physical Design <ul style="list-style-type: none"> ▪ Graphical User Interface Design
Build	a) Front-end website development b) Back-end website development
Demonstrate	a) Demonstrate the prototype to the supervisor and user b) Gather feedback and comments from supervisor and user c) Record and analysis any change in requirements
Refine	a) Refine the prototype based on the feedback and comments b) Rebuild the prototype c) Repeat phases two and three until all requirements are met
Testing	a) Perform overall testing on the final prototype b) Record the testing results
Implementation	Implement the proposed system

Requirement Analysis

Requirement Analysis is performed in the analysis and quick design phase of RAD; several parts will be covered, such as interview sessions with stakeholders, listing of functional requirements, logical and physical design. First, an interview session is carried out with PERTEKMA's treasurers to determine the feasibility of the proposed system. Second, a question and answer session is also carried out with PERTEKMA's advisors to gather their requirements to determine the scope of the system. Functional requirements include the main functions of the system. The logical design consists of use case diagram, sequence diagram, activity diagram and class diagram. The physical design consists of the graphical user interface design of the proposed system.

Functional requirements were created to provide an overview of requirements of every stakeholder involved in this project. Six types of users were identified for this proposed system: super administrator, PERTEKMA Advisor, PERTEKMA Treasurer, PERTEKMA Exco Supplier, PERTEKMA Exco Staff, Entrepreneurship Representative FSKTM and Faculty Dean. In this design, all the users are focused on managing and keeping track of PERTEKMA's financials. Table 2 details the functional requirements identified from the discussion with PERTEKMA's treasurer.

Table 2: Functional Requirements

	User: PERTEKMA Treasurer	
FR.PT01	Login to the proposed system.	High
FR.PT02	View dashboard in the proposed system which is including view the balance, revenue and expense in visualisation.	Medium
FR.PT03	Manage revenue in the proposed system, which is including search, add, delete, edit, view, export and import revenue details.	Medium
FR.PT04	Manage expense in the proposed system, which is including search, add, delete, edit, view, export and import expense details.	Medium
FR.PT05	Manage event financial in the proposed system which is including search, add, delete, edit, view and print event details.	Medium
FR.PT06	Manage change log in the proposed system which is including resolve and view log details.	Medium
FR.PT07	Generate report in the proposed system which is including filter report details, export and print report.	Medium

Use Case Design

Figure 1 is a use case diagram of this system. There are 6 actors that represent users of the system which are the Super Administrator, PERTEKMA treasurer, PERTEKMA Exco that is in charge of suppliers, PERTEKMA Exco that is in charge of managing kiosk staff, PERTEKMA advisor, Entrepreneurship Representative FSKTM and the Faculty Dean. The use case diagram consists of eleven use cases. Each use case will have a description that describes how the task is performed through the system. Due to the complexity of recording financial data workflow and the many stakeholders involved, an activity diagram was designed to aid understanding and to validate the requirements. The activity diagram describes the workflow of the system and the flow of messages from one activity to another.

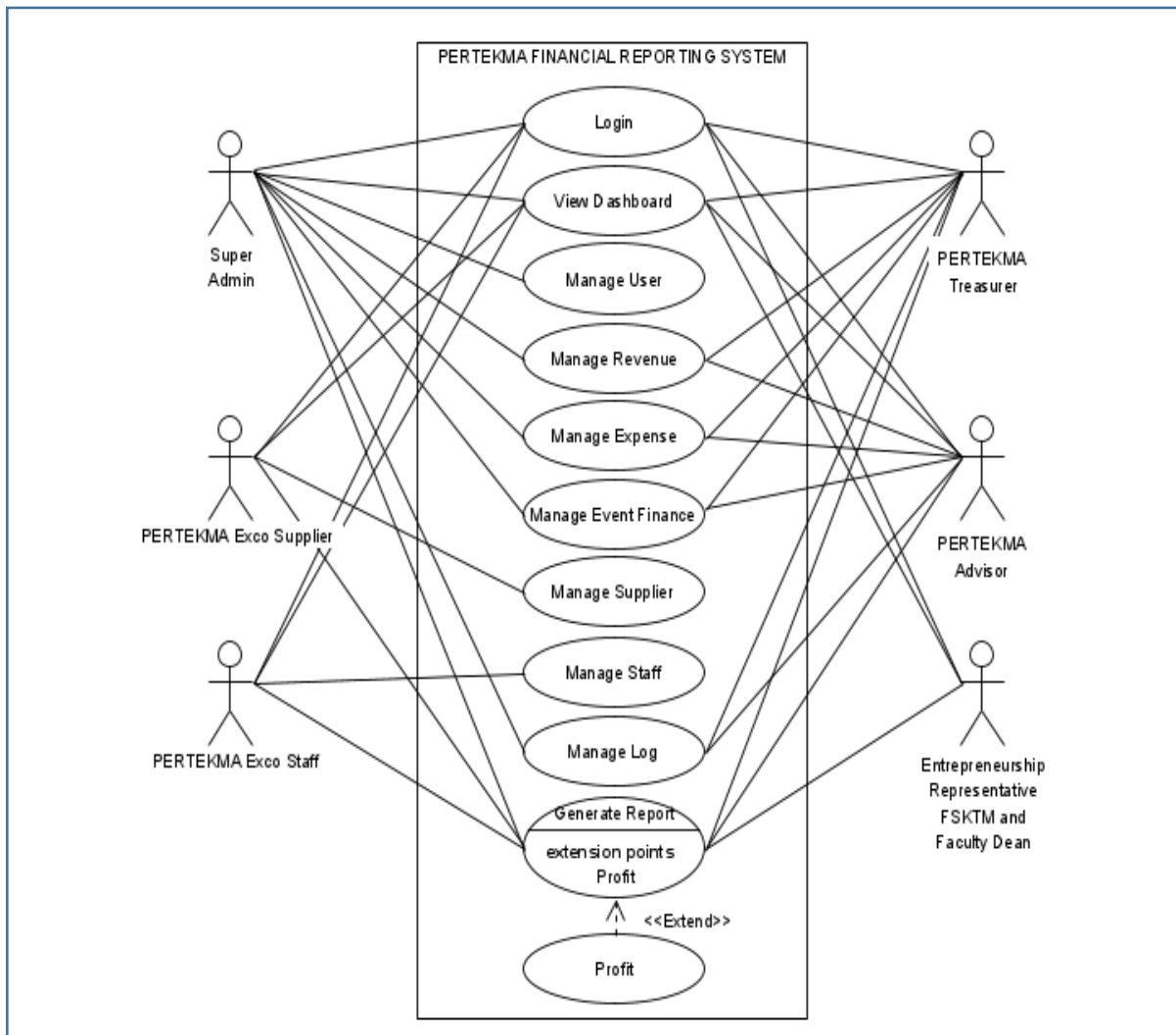


Figure 1: Use Case Diagram

Activity Diagram

Figure 2 shows an activity diagram for a user to manage suppliers. At the start of the activity, the system will display the supplier page to the user. The supplier page consists of a list of all suppliers. Next, users can select an action such as adding a new supplier, viewing the supplier's detail, searching the supplier, editing the supplier, altering the supplier, and exporting the supplier list. After completing the action, the activity is ended.

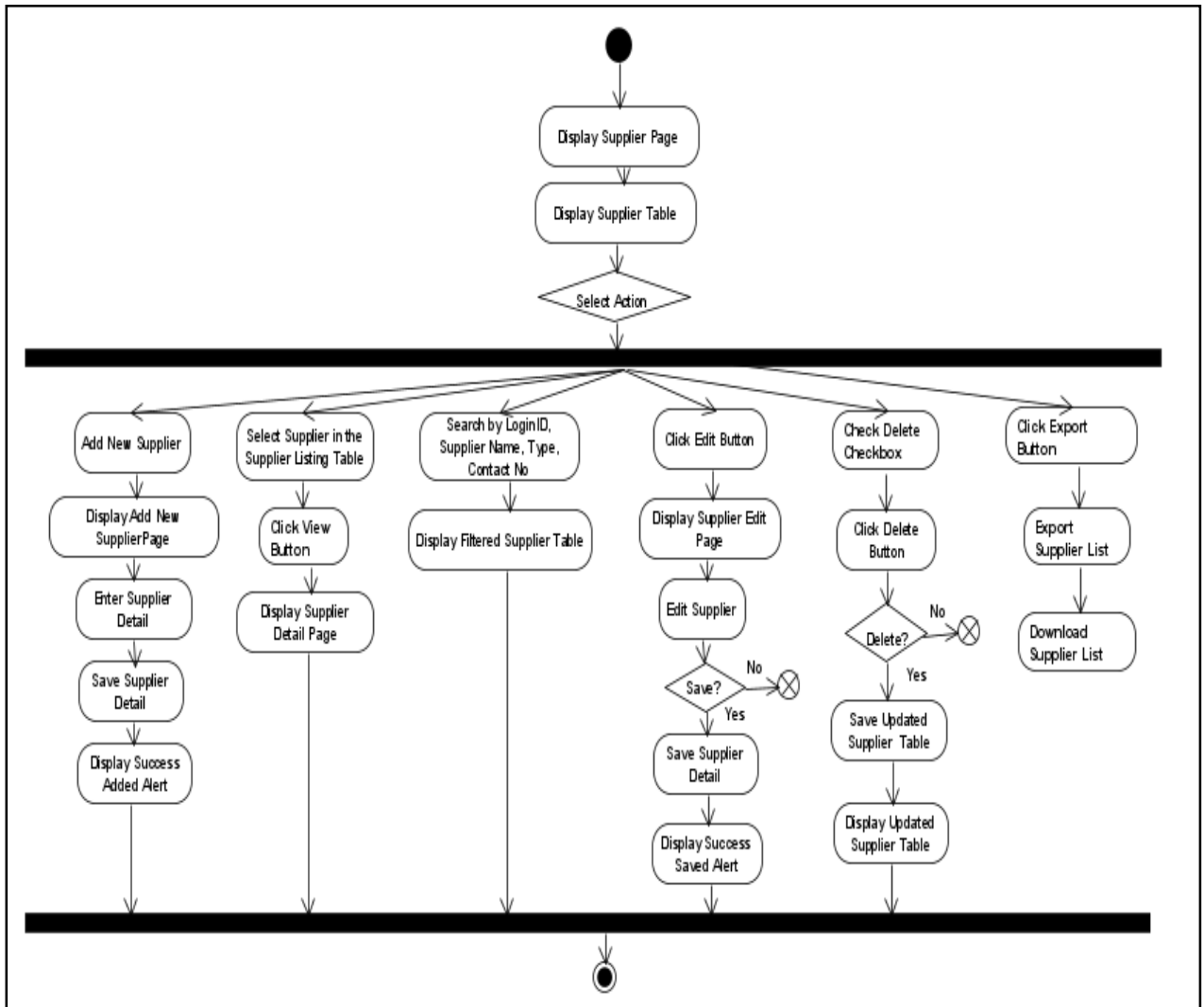


Figure 2: Activity Diagram for Manage Supplier

Physical Design

Figure 3 shows the users' graphical user interface design to view the dashboard. Users can view the revenue amount, expense amount, balance amount, and graph representation of the sale performance on the dashboard page. In addition, the dropdown box allows the user to choose the graph representation for the current year or any year before that.

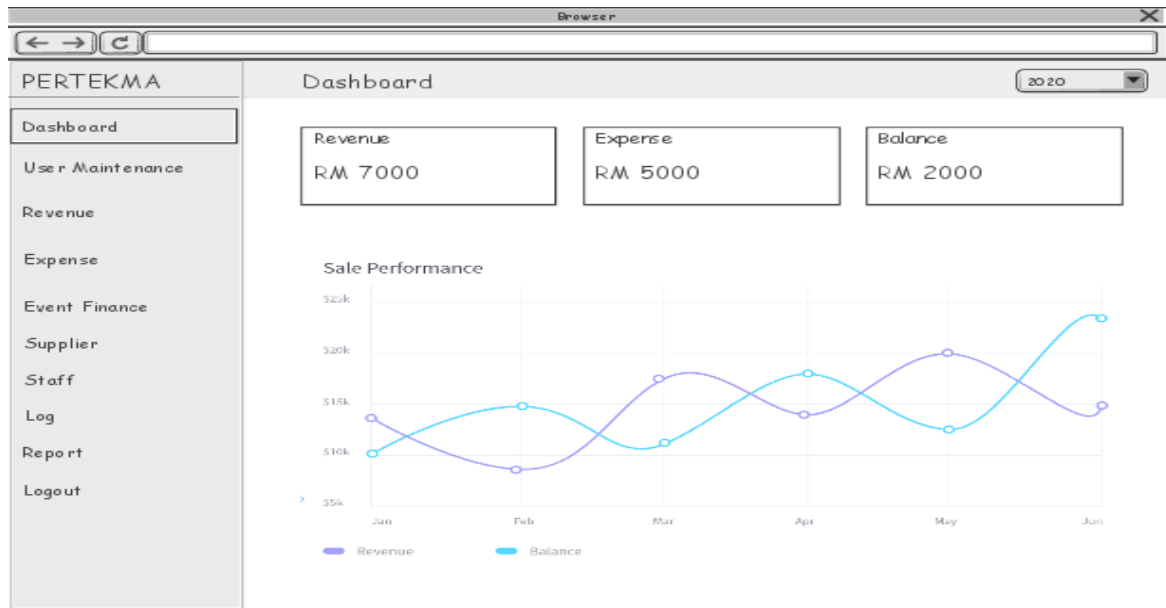


Figure 3: Graphical User Interface Design for Dashboard

Figure 4 shows the graphical user interface design for users to manage revenue. Users can perform add, search, view, delete, edit, and export the revenue details on the revenue page.

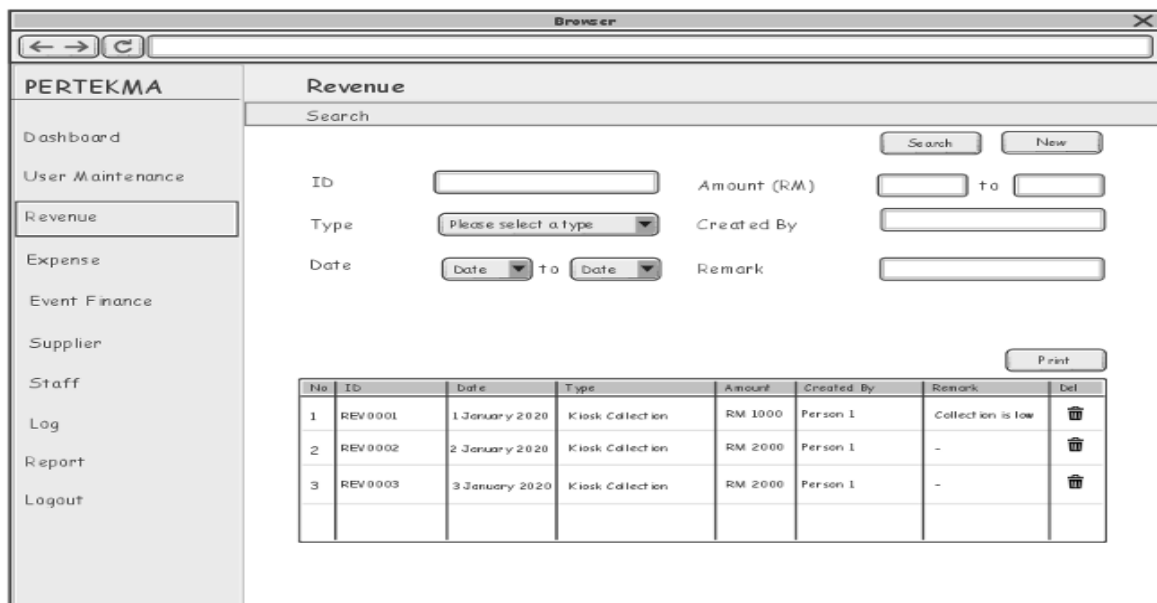


Figure 4: Graphical User Interface Design for Revenue

Implementation

The system was developed using Visual Studio 2019 as the primary IDE of the project. Microsoft Visual Studio 2019 is chosen as it offers a wide variety of extensions and template for ASP.NET development. Microsoft Visual Studio also provides a simple and clear user interface and guide to connect the project to Microsoft Azure, which is the project's server. ASP.NET will be the primary programming language used to develop the system, and SQL Server 2014 Management Studio is used as the project's database. MSSQL provides an easy integration alongside with Microsoft Visual Studio and Microsoft Azure. To deploy MSSQL database tables to Microsoft Azure SQL, the user would only have to export the database into a ".bacpac" file and import it using Microsoft Azure graphical user interface. Finally Microsoft Azure is chosen as the primary server to host the website, database, and images.

RESULTS & DISCUSSION

Interface

A. Dashboard

Figure 5 shows the dashboard page presented to the user after logging in. The dashboard page shows the yearly or monthly revenue sales chart. In addition, the dashboard page displays the total revenue, total expense, and total balance for the year. The bar graph shows the year's monthly revenue, expense, and profit. Yearly data can be viewed by selecting the year using the dropdown box on the top right corner of the page.



Figure 5: Dashboard Page

B. Add New Revenue

Figure 6 is the new revenue page. This page automatically generates a revenue ID and allows the user to store the type, date, and amount of the revenue to enter a remark. In addition, users can add revenue by using an already provided CSV template.

The screenshot shows the 'Add New Revenue' form. On the left is a navigation menu with options like Dashboard, Data, User Maintenance, Revenue, Expense, Event Finance, Supplier, Staff, and Log Changes. The main content area is titled 'Revenue Details' and contains the following fields:

- Revenue ID: REV20200615000015
- *Type: Please Select a Type (dropdown menu)
- *Amount(RM): (text input field)
- *Revenue Date: (calendar icon)
- Remark: (text input field)
- Error

Buttons for 'Back', 'Save', and 'Import CSV' are located in the top right corner.

Figure 6: Add New Revenue

C. Revenue Listing

Figure 7 lists out the revenue that is saved by the user. The list can be filtered only to display revenue based on a range of dates. If there is a mistake, a user can delete the revenue on that particular date.

The screenshot shows the 'Revenue Listing' page with a table of revenue records. The table has the following columns: View, Revenue Date, Revenue ID, Type, Amount (RM), Created By, Remark, and Delete. The first row is highlighted in yellow.

View	Revenue Date	Revenue ID	Type	Amount (RM)	Created By	Remark	Delete
View	01-January-2020	REV2020061400001	Kiosk Collection	310.00	admin	No remark	<input type="checkbox"/>
View	02-January-2020	REV20200614000013	Collection from Pert...	1,000.90	admin	No remark	<input type="checkbox"/>
View	02-January-2020	REV20200628000021	Kiosk Collection	100.86	admin	No remark	<input type="checkbox"/>
View	06-January-2020	REV20200629000023	Kiosk Collection	500.00	admin	No remark	<input type="checkbox"/>
View	13-January-2020	REV20200629000024	Kiosk Collection	200.00	admin	Remark 1	<input type="checkbox"/>
View	20-January-2020	REV20200629000025	Kiosk Collection	550.00	admin	No remark	<input type="checkbox"/>
View	01-February-2020	REV20200614000014	Other	300.00	admin	No remark	<input type="checkbox"/>
View	01-February-2020	REV2020061400002	Kiosk Collection	100.00	admin	No remark	<input type="checkbox"/>
View	08-February-2020	REV20200617000016	Kiosk Collection	600.00	admin	No remark	<input type="checkbox"/>

The table includes a 'Select Filter' dropdown and a 'Delete' button for each row. The page number '1-10 of 27' is visible at the bottom right.

Figure 7: Revenue Listing Page

D. Generate Revenue Report

Figure 8 is the revenue report page where a user can select the report type, which is either a Daily Report, Monthly Report, or Yearly Report. The user also can filter the report by revenue type, range of amount, and content of revenue date. Finally, the Generate button will generate a report based on the options selected. Figure 9 shows the daily revenue viewer report page.

Figure 8: Revenue Report Query Page

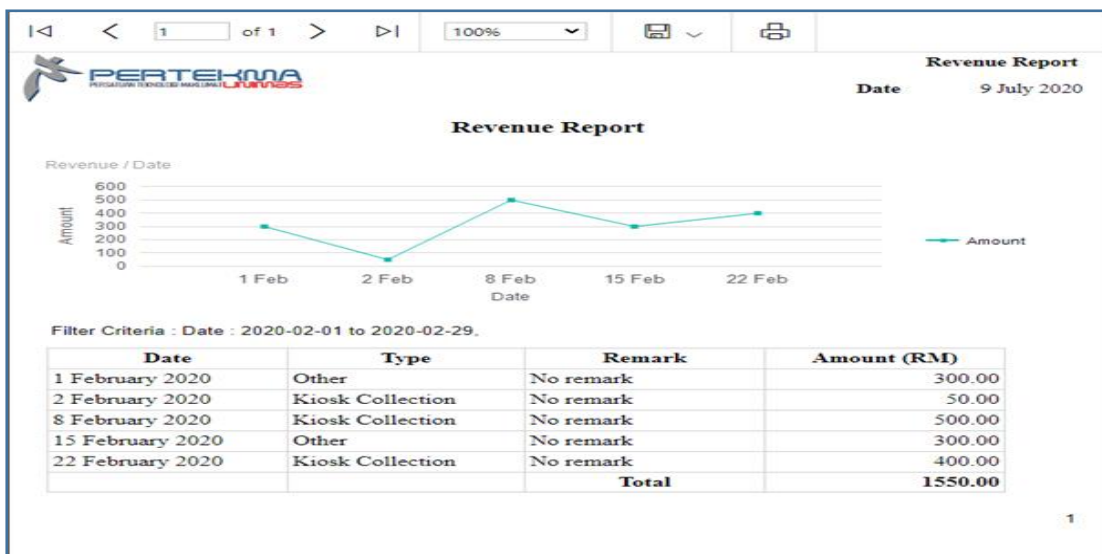


Figure 9: Daily Revenue Viewer Report Page

E. Generate Monthly Report

Figure 10 shows the monthly report page. The monthly report page is designed based on the format requested by the university. The system generates the report in PDF format and can be downloaded into a device or printed out.

Figure 10: PERTEKMA Monthly Report

Functionality testing and user testing were carried out; the user provided feedback and suggestions from their usage of the system, which were taken into account to further improve the system. The user testing is done by appropriate users who are 1) 2 PERTEKMA advisors, 2) 2 PERTEKMA Treasurer, and the faculty student affairs deputy dean. The user testing method applied is by testing the system in the real world, after which users were required to answer a few survey questions as displayed in Figure 11. In summary, all users agreed that the functionality provided met their requirements and the user interface design was well understood.

Section A: Questions regarding functionality of the PERTEKMA Financial Reporting Tools.

No.	Questions	Yes	No	Comments
1.	I can login as an advisor with the username “advisor” and password “advisors123”.			
2.	I able to view dashboard page.			
3.	I able to add new revenue.			
4.	I able to review revenue details.			
5.	I able to update revenue details.			

Figure 11: Survey questionnaire for advisor

CONCLUSION

In conclusion, the project has met its objectives. The PERTEKMA Financial Reporting Tool allows PERTEKMA ExcOs to manage their finances on a centralized platform. Financial data are categorized and labelled by date, and financial graphs can be automatically generated for ease of understanding. In addition, the laborious and error-prone method of preparing monthly data reports has been automated, where reports are automatically generated based on the user criteria selected by the user.

In order to further improve the system, some of the following improvements could be made:

- a. The system can be extended to support file formats other than CSV format.
- b. The system could also be implemented into a mobile version where data can be entered and displayed using mobile devices.

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Exploring 3D Playblast-To-2D Animation Rotoscoping Techniques

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ABSTRACT

Rotoscoping can produce believable 2D animation and movements when the process is done correctly. However, not all live-action footage can be easily rotoscoped due to scenes or fictional designs that are impossible to shoot. To overcome this technical challenge, 3D playblast can be used as footage for an alternative source for rotoscoping. This research aims to explore and evaluate two rotoscoping techniques of transforming 3D playblast into 2D animation. Two different animation software (Adobe Animate CC and Toon Boom Harmony) were used to explore those rotoscoping techniques. The method began by designing a storyboard with dynamic camera angles. Then, animated 3D models were developed based on the storyboard as footage for rotoscoping. Then, those animated 3D models were rotoscoped frame by frame using 'Toon Boom Harmony' and 'Adobe Animate CC'. The rotoscope outputs were evaluated for their effectiveness and weaknesses. Findings show that rotoscoping frame by frame is viable for both software with some nuances. Nevertheless, the proposed rotoscope techniques can maintain consistency between frames without losing the proportion of anatomy and style when animating in an extreme and distorted scene.

Keywords: animation; 2D animation; 3D playblast; rotoscope; Adobe Animate CC; Toon Boom Harmony

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INTRODUCTION

The origin of the rotoscope can be traced back to 1917 when a studio named Fleischer Studios from New York officially patent their machine 'Rotoscope'. For several years, the machine was a success and created the Out of the Inkwell (1918-1929) series. Hence, a few famous cartoons and characters such as Koko the Clown, Betty Boop, and Popeye became iconic characters from the series (Bratt, 2011). Moreover, the Rotoscope machine consists of a camera that is mounting behind the desk while the film footage is projecting onto a slate of frosted glass. Next, the animator will trace it onto a paper before retracing it onto a clear animation cell to create the key drawing. As time progresses, the Rotoscope machine begins to evolve towards a new modern look and technique.

Currently, animators can view the footage while animating it. It helps establish and identify easier keyframes as well as isolating and separating layers of selected footage. Despite the digital change of the machine, the workflow and concept remain the same (Bratt, 2011). However, the issue arises when specific complex or dynamic scenes are not easily captured using live-action footage. These dynamic scenes can be critical for the animation's narrative, but they may be too costly or dangerous to capture in live-action in which will be used as the footage for the rotoscoping process. Therefore, this study suggests an alternative approach which is by using 3D playblast instead.

This research aims to explore two approaches of rotoscoping techniques from 3D playblast into 2D animation. The project development starts by creating the rough layout of the animation, such as the scripts, storyboard and animatics. Once the rough outline is acquired, several scenes are selected and turn into 3D playblast, consisting of moving and static models. Moreover, the chosen scene is composed around the element of dynamic: focal lengths, horizontal and vertical film aperture, and camera movement with various angles and speeds. Furthermore, the scene will be exported into the separate subject matter, consist of background and character models, before rotoscoping it in two separate software with a different approaches of rotoscoping. It is hoped that by exploring the rotoscoping from the 3D playblast approach, more dynamic scenes and interesting movements can be created for 2D animation.

LITERATURE REVIEW

Element of Dynamic Camera Scenes

Camera angles can direct the audience to see and affect how they perceive it. Dynamic camera scenes are added to the project to test further the limitation of a fictional scene that is extremely hard to record. One of the

cinematographer's greatest weapons is positioning the view related to the subject or scenery. As a result, each camera angle focuses on the shot have its own each emphasises and affects the overall mood (Gabe, 2014). Heiderich (2012) provides an excellent explanation about the meaning behind the type of shot used in the filmmaking industry. He states that an extreme long shot is typically used to display large-scale subjects and express how insignificance the character struggles against its surroundings. A long shot can reflect an emotional distance base on the camera distance. The audience would not get as emotionally involved if they were closer, making the character feel detached from their surroundings. Moreover, a medium shot is used to engage with the characters personally, like how we casually have a conversation. An extension from the previous shot, the close-up is more intimate than the medium shot. The character expresses more visible emotions, which can relate when engaging in a direct personal manner. Additionally, an extreme close-up is often used as an amplifier for emotional intensity and expressions.

Modern Rotoscope Technique

Rotoscoping is an animated technique in which the footage of either a digitised or animated subject is traced over (Jaran, 2015). A few authors have described methods of automatic rotoscoping as an estimation of simultaneous tracking motion over the entire sequence. One of the methods is using Optical flow by tracking the pattern of the apparent movement of the objects in an image (Irani, 2002). Another method is Point Tracking which its purpose is to track a new procedure that can track flexible motion by integrating space-time constraints (Torresani & Bregler, 2002). Both methods are designed to operate automatically. Furthermore, modern tracking techniques enable the creator to 'artificially intelligently' track multiple scenes without manually rotoscope them. However, it certainly would not work for every scene inside the footage. The problem lies in the elements in the scene, background parts that are similar to the foreground subject; hence, it is covered or cluttered due to its similarity of the object (Blake & Isard, 1998). Compared with the old industrial rotoscoping tool like Pinnacle Commotion: it uses hand positioning the contour manually for each curve in every frame (Agarwala, Hertzmann, Salesin, & Seitz, 2004). However, a hybrid concept of manual and automatic tracking also exists, such as the roto-curve; calculated tracking by manually drawing roto-curve (outline) and automatically generating roto-curve for the follow-up frame to follow the deformation of the motion closely with the corresponding roto-curve (Agarwala et al., 2004).

Rotoscoping from 3D Computer-Generated Imagery (CGI)

Rotoscoping from live footage was common knowledge as the first-ever rotoscoping technique. However, the growing media, especially the 3D, have developed more potential references to trace over. For example, Ufotable Studio is famous for its digital composite by producing fascinating moments using 3D backgrounds, sophisticated VFX, 2D animation, and rotoscoping CGI (Callum May & Kim Morrissy, 2018). For instance, 2013 demo reel from the digital team composite their work process using the niche rotoscoping CGI technique (Ufotable, 2013). However, rotoscoping live-action material for animation has its limits. For example, the footage of extreme dynamic shots and unusual movement from unreal character concepts are difficult to record via live-action. For instance, Riverman Media (n.d.) created a game entitled 'Pizza vs Skeletons' in which the skeleton's movement is impossible to shoot in actual live-action footage.

Existing Techniques of Rotoscoping using 3D Playblast Animation and Live Action Footage

Tracing from actual live-action footage was the first rotoscope technique. Several films or animations have risen in popularity throughout the years based on their creative approach using modern rotoscope. For instance, Spot Ceres has created a commercial using a rotoscope by tracing over the footage with cartoon's colour scheme, bold outline, less jittery motion, and surrealism effect, creating this cell shade visual (Spot Ceres, 2012). Moreover, special software like Rotoshop developed by Bob Sabiston interpolated automatically in-between keyframes to visualise dreamlike aesthetic and could be considered a painterly type of animation (Sabiston, 2017). This rotoscope technique visualises the figure through a mesh of shapes and lines that allow a unique aesthetic between live-action and animation (Ruddell, 2012). Swarbrick Richard also has a traditional painterly approach to rotoscoping that focuses on painting and nostalgic sensibility. He first painted individual frames on a computer tablet in Photoshop, animating them in After Effects and then synchronising in original commentary from the original video (Swarbrick, 2021). Other than that, Patterson utilised a rotoscope technique combining live-action with sketches of gesture drawing in A-Ha's music video "Take on Me" (1985) with a 2010 remaster (A-ha, 2010). Rather than stiff outline tracing, the technique focuses more on motion and the feeling of energy (Karpathyova, 2017).

Several similar methods in the past explore the opportunity on rotoscoping 3D animation. For example, the most famous studio that pushes this method is Studio Ufotable. Ufotable's method of rotoscoping 3D sequence into 2D animation significantly improves the scene with over-the-top character fight choreography and extremely complicated tracking shot is part of the studio (Callum May & Kim Morrissy, 2018; Ufotable, 2013). Another example is rotoscoping an animated 3D model in Blender using the 'Grease Pencil' tool (Coulthard, 2020; Team Miracles, 2020). Moreover, with 3D references, stylised design like the 80's Japanese animation design is possible to create. Rather than character only, sci-fi spaceship or any non-detailed model are also possible to rotoscope by

using Cinema 4D (Johnson, 2014, 2018).

The noticeable difference between rotoscoping using 3D playblast animation and live-action footage is the realism aspect (Table 1). Playblast is created from the author’s understanding of the fundamentals to gain creative freedom. However, real-footage provides the solid groundwork for rotoscope but with more expenses and realistic constraint. The advantages of using live-action footage for rotoscope is its believable motions that captures more minor details that could be found in real life. This is great for a non-complicated shot because it is easier to record. Modern software can automatically rotoscope scenes without the manual labour from the older rotoscope technique. However, the requirement to obtain extreme tracking and perspective footage is based on the project’s equipment and budgetary constraint. For now, automatic rotoscoping only applies if the subjects are different from each other and not cluttered together. On the other hand, rotoscoping 3D playblast animation does break the unconventional constraint from live-action footage. In an exchange with more workload, lesser realism, and more technical experience with 3D software animation, the author could pre-visualize their conceptual ideas for their expected scenes. Furthermore, the freedom to be creative with tools such as virtual camera, model, riggings, special effects, and even better workflow could potentially improve the original scene. Unlike live-action footage, the recorded scene within 3D software can be altered anytime and reuse in other projects.

Table 1. Comparison between the technique of rotoscoping 2D animation between live-action footage and 3D playblast.

3D PLAYBLAST ANIMATION	ASPECTS	LIVE-ACTION FOOTAGE
<ul style="list-style-type: none"> • Creating imaginable scenarios (pre-visualisation) • Freedom to be creative • No realistic constraint • Suitable for puppet and classical rotoscope animation. 	Advantages	<ul style="list-style-type: none"> • Fluid and realistic motion • Maintain realistic details that difficult to recreate in imagination • Modern rotoscoping algorithm that connects pixel in between keyframe
<ul style="list-style-type: none"> • Required knowledge on the principle of animation and software • Higher workload • Non-realistic details and scenarios to make it logically realistic 	Disadvantages	<ul style="list-style-type: none"> • Constraint with real-life logic • Algorithm underperformed in noisy conditions.

One of the solutions was to rotoscope in a more modern technique via 3D playblast. Hence, the focus of this research is to analyses various methods of known rotoscope techniques. The following sections will explore the two different rotoscoping methods that refer to the 3D animation and convert it into 2D animation. These two divergent techniques are explained in further detail, and the advantages and disadvantages of each rotoscoping approach will be discussed.

METHODS

The methodology will be focusing on qualitative exploration of 2D rotoscoping techniques based on the acquired 3D playblast animation. Automatic tweening and frame-by-frame techniques will be compared based on their specialised software for each technique. First, the production will follow a standard process of creating animation. Briefly, there are three stages of animation production (Gossman, 2012) and Figure 1 shows the overview of the development process for this study’s animation entitled “*A Thousand Miles*”:

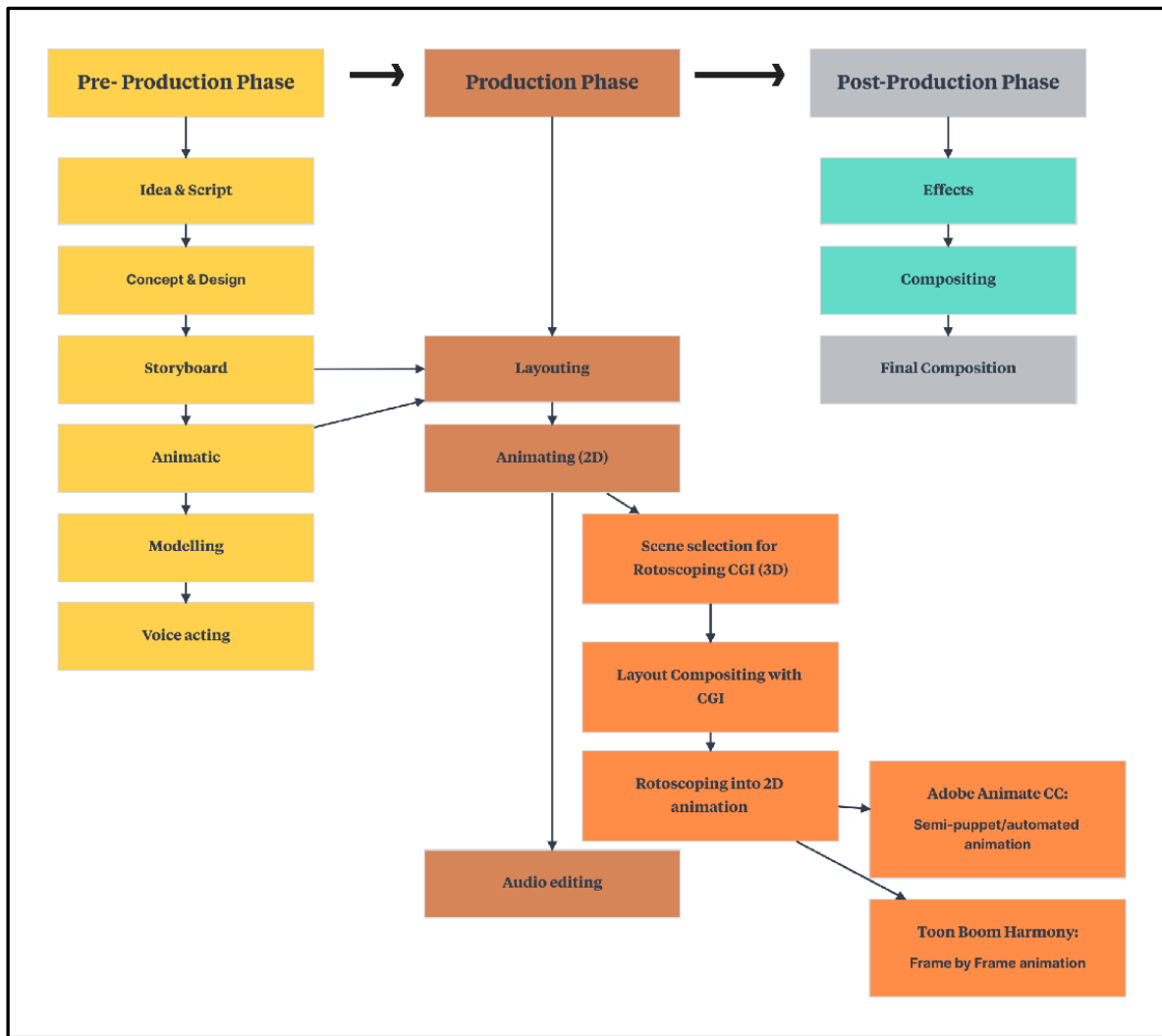


Figure 1. The development process for the short animation “*A Thousand Miles.*”

The animation production “*A Thousand Miles*” was developed into three phases, starting from the ‘Pre-Production’ phase. Usually, ideas were translated into a document format known as a script before adjusting its concept and design. Next, the script was represented visually in a storyboard format. Based on the storyboard, individual panels, voice acting, music, and sound effects, are edited together to see how it flows like an animated film. This is referred to as animatic. It served as a blueprint for the final edit. Moreover, a few scenes were selected and modelled into a fully 3D animation layout before the production stage. However, the character model and rigging developed by Uğur Ulvi Yetiskin (2014) were used in the character animation due to the limitations of the researcher equipment.

Next is the ‘Production’ phase. The first step in this phase is the layout based on the storyboard panels and animatic, including the conceptual design. The following step will be the actual animation: a classical 2D animation approach is by blocking out the character with a keyframe within an environment. In exploring rotoscoping approaches via 3D playblast, several selected dynamic 3D scenes were used as references. Moreover, two mainstream software were used and compared with different animation approaches specialising with each software: (a) Adobe Animate CC and (b) Toon Boom Harmony. However, high quality rendering of the 3D animation is unnecessary and may clutter the overall view when rotoscoping into 2D animation.

Finally, finishing touches like special effects, sound, and colour correction were implemented. Compositing and editing start from the earlier animatic stage. The shots went from storyboard to rough animation to final render and ultimately final composite; they were constantly updated to make sure the shots flowed at an appealing pace. This methodology explores the rotoscoping technique of selected software and how they work with 3D playblast as references in developing 2D animation. Adobe Animate CC will be using a semi puppet method because the software contains more automatic tools than the other, efficiently reducing production time and fewer restrictions. Meanwhile, Toon Boom Harmony will be focusing on classical rotoscoping (tracing frame by frame) because the software is one of the closest tools to produce conventional work.

3D Model Creation using Autodesk Maya

The software that is suitable for the 3D modelling for this project is Autodesk Maya. Autodesk Maya generally enables the user to create models of varying complexity, including a complete product for animation, rendering and shading assets for the projects. Moreover, the product also includes editable movement using the Time Editor and Graph Editor for complex animation via a simple interface. Some benefits of using this software are its customisable and automatable features to complete a task without deep knowledge in programming. Hence, creating a versatile and efficient workflow when completing a project. With that in mind, the scenes started with creating suitable models for the layout of the subject.

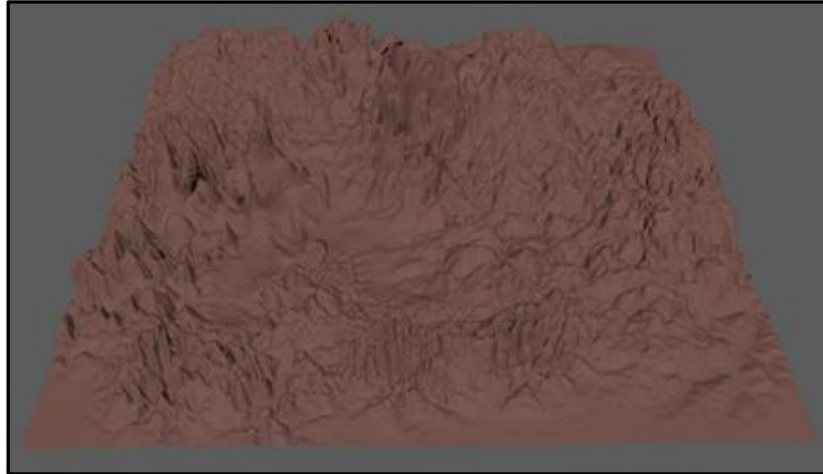


Figure 2. Models of the environment.

The process started with the world-building from the selected scene (refer to Figure 2). Generally, the model is deformed using the sculpt geometry tool to manually sculpt the selected NURBS by pulling or pushing the polygons. The mountains and rock formations can be sculpted using the map height image feature for the rough baseline. Moreover, the pressure-sensitive tablet (Wacom) can conveniently apply the formation height or size that scale accurately with the pen pressure. Hence, an organic landscape with better depth and atmosphere can be built quickly using this feature.



Figure 3. Compositing the subjects.

After creating the environment, the 3D model is imported into a separate scene file. This method ensures the individual file can be recovered when unfortunate situations happen, such as crashing and computing problems during the animation phase. A model from Uğur Ulvi Yetiskin (2014) was selected as the character for the rotoscope. Conceptually, the model is made of simple shapes and character silhouettes. The main objective of this model is to create a proper separation that is easily identified during the rotoscoping process, without adding complicated features such as hair and clothes physics that potentially clutter the overall shapes or silhouette.

Generally, to strengthen the story point in any scene, each subject within a scene must acquire its reason to exist, and each subject should at least have a connection with one another. In summary, the subject should have a purpose on why it exists in that scenario or scene to give context for the story. For example, Figure 3 shows the main character confronting the monster within the wasteland. In this scene, the rock formation shows a deserted area. The encounter shows suspense while building intensity.

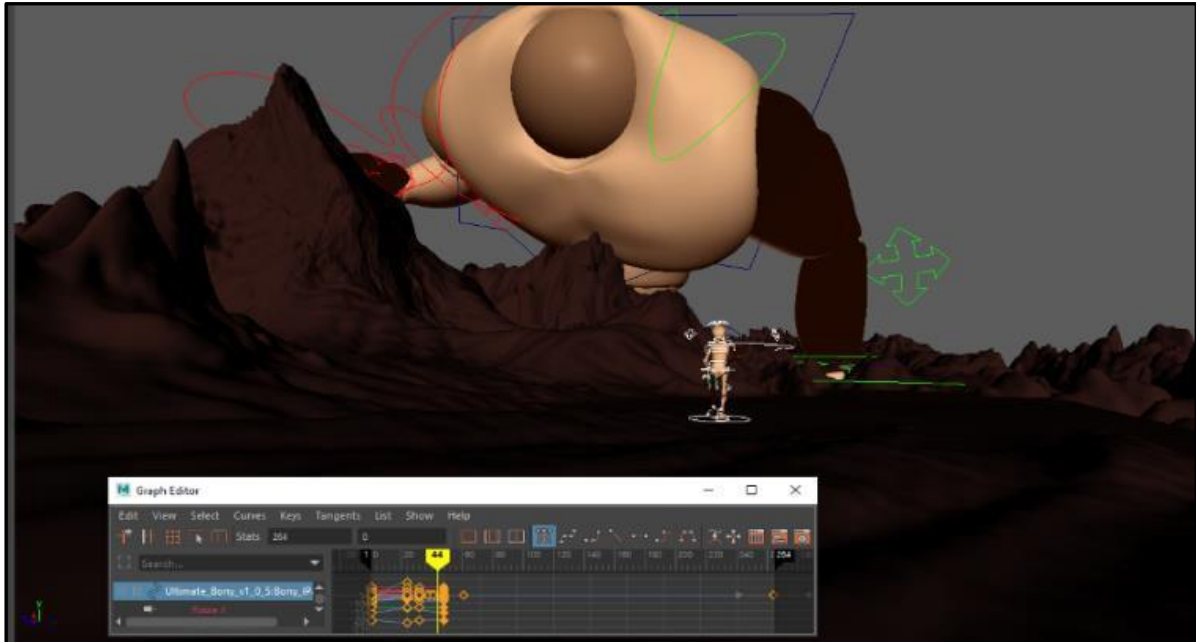


Figure 4. Adding animation keyframes.

Once everything is in place, the rigged model will be animated according to the animatic, and it will sync with the timing and layout like in Figure 4. Next, adding the keyframe for each controller for each model, the time graph panel helps smoothen and create believable motion with weight and purpose. Soon after the rough animation is complete, the scene is improved by adding unique attributes such as horizontal and vertical film aperture to create dynamic scenes that are difficult to view or imagine without the help of the software. Moreover, the additional attributes help to improve the immersion and mood of the scenes.

The dynamic camera angle is one of the challenging aspects to capture when recording live-action footage. The objective is to explore an alternative way to develop this dynamic scene using 3D playblast as potential references to rotoscope due to its lesser limitation, editable scenario, safer, and arguably lower cost. Hence, the selected scene can be significantly improved with dynamic design elements, and the creative camera works with lesser constraints than in real life. Other than camera shots, placement of the characters in a scene is also essential; for examples, leaving empty spaces around the character's movement to avoid the the feeling of claustrophobic (Heiderich, 2012). Then, the scenes were exported individually according to the subject because clarification is vital during the rotoscope procedure. The sequence will be exported into a PNG sequence on 24 frames per second. Based on the arrangement, a critical keyframe is selected and arrange accordingly to the animatic. The factor of choosing the keyframe consists of cycle animation, static animation, and the beginning and ending for each movement. Finally, keyframe was imported to Adobe Animate CC and Toon Boom Harmony for rotoscoping.

ROTOSCOPING PLAYBLAST FROM 3D MODELS

a) Adobe Animate CC: Semi Puppet Rotoscope Technique

Adobe Animate CC, formerly known as Adobe Flash, is an vector-based animation. Its simplicity and lightness made it a popular choice for the online animation industry. The product provides a complete set of animation features and tools for amateurs and professionals. This software can produce various animated projects from Flash-based games, kinetic typography, animation, and any sequence of moving images (Pav, 2021). For this study, the approach of rotoscoping the 3D playblast for Adobe Animate CC will be a semi puppet animation method.

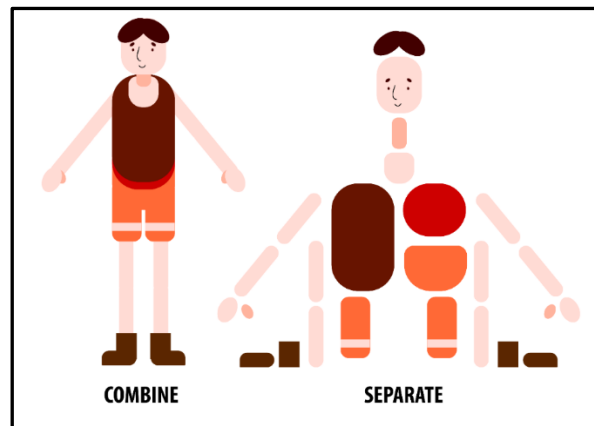


Figure 5. Typical flat 2D animation rig.

The Semi puppet technique is inspired by Adobe After Effect's *Puppet Pin Tool*. This tool is used to insert and move to deform pins, while *Puppet Overlap Tool* is used to designate which parts of an image should appear ahead of others when distortion causes parts of the image to overlap (Adobe, 2021). Moreover, several studies have explored its advantages and limitations when using puppeteer characters (Adi Satria, 2019; Eriya & Zhafiri, 2017). The rig will often look like Figure 5 and can only be used at one limited angle. However, this research's semi puppet method will cover motions in perspective rather than the usual flat angle.

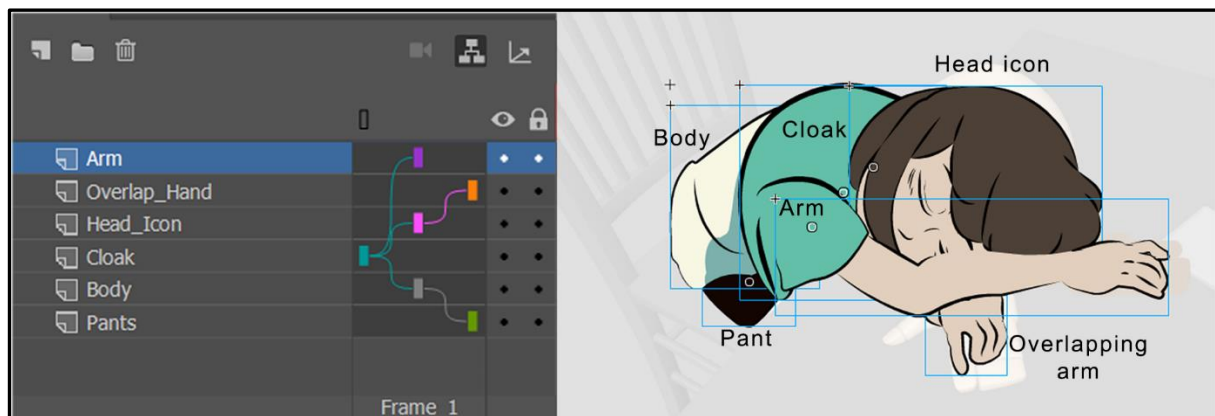


Figure 6. Puppet's rig for perspective animation.

The first step is to export the PNG sequence from Maya and import it inside a new project in Adobe Animate CC's timeline for rotoscoping. Based on the 3D playblast, the composition is adjusted according to the 24 frames per second and the sequence duration. In short, the 3D playblast acts as the reference while rotoscoping the animation using a similar approach to the puppet pin method. Figure 6 shows a high angle shot, showing more depth and perspective of the character. The character is divided into separate significant sections and converted into graphic symbols. While the symbols overlap, each symbol contains each pivoting pin and pinning in its anatomy correct area. Each pin can be used as the anchor when rotating and deforming the symbol. The animation process is like Adobe After Effect's *Puppet Pin Tool* by keyframing each movement and automatically tweening between the frames.

Firstly, the graphic symbol needs to be arranged in a "parent-child hierarchy system" led by the body as the main symbol (Master control). When the body moves, the entirety of the graphics hierarchy rig that parent to the master control will also move. This includes manipulating the asset warp tool. Keyframes on the master control will influence the entire rig. Additionally, with the versatile feature provided in the program, the symbols can easily replace and re-parent any individual part at any time during the process. Like in 3D animation software, the rig created in Adobe Animate CC can be reused in any scene. Hence, it allows rotoscoping while having a tweening option.

Next, keyframes are added based on the 3D playblast as the reference; each keyframe was automatically motion-tweened to move according to the first and last keyframes. In short, tweening generates midway frames between two keyframes or images to give believable movement that progresses smoothly toward the second image. The movement will be refined by manipulating the speed and velocity by using the ease from the tweening feature. Last and not least, adding the background that was created from Adobe Photoshop CC. The background was intentionally

in grayscale to overlay it by colours layers, and the base colour is enhanced by using custom brushes such as texture brush, pastel brush, dry brush, and solid brush.

b) Toon Boom Harmony: Frame by Frame Rotoscope Technique

Toon Boom Harmony is a leading 2D animation software that provides the latest sensitivity brushes with a complete professional animation set. One of the attractive features of the software is its flexible and functional tools that allow pressure sensitivity attributes. The software also includes unique features such as Weighted Deform Node for smoothening texture, independent panel for lighting and shading, advanced colour management for environment and effects and a guide for snapping drawing easier. Furthermore, Cartoon Network, Toei Animation, South Park Studio, Disney, and Nickelodeon primarily used Toon Boom Harmony as their standards for animation.

Rotoscoping approach via Toon Boom Harmony is similar to the classical frame-by-frame rotoscoping approach. The brushes and sensitivity of the pencil tool are chosen as the primary tool for the rotoscope. The method was straightforward without any unique technique and technical issue other than spending a considerable amount of time doing the manual drawing for each frame. The process started with importing a separate sequence to individual layers within the timeline for animation rendered from Autodesk Maya as the reference. The process of importing the separated sequence was direct for Toon Boom Harmony, unlike Adobe Animate CC that required specific navigation to import the sequence into the correct timeline layer. However, the Toon Boom Harmony software is dense with various tools with the same objective but different effects when applied in a certain way. Resulting, the increased level of difficulty to master this software compared to the simple yet straightforward approach for Adobe's software.

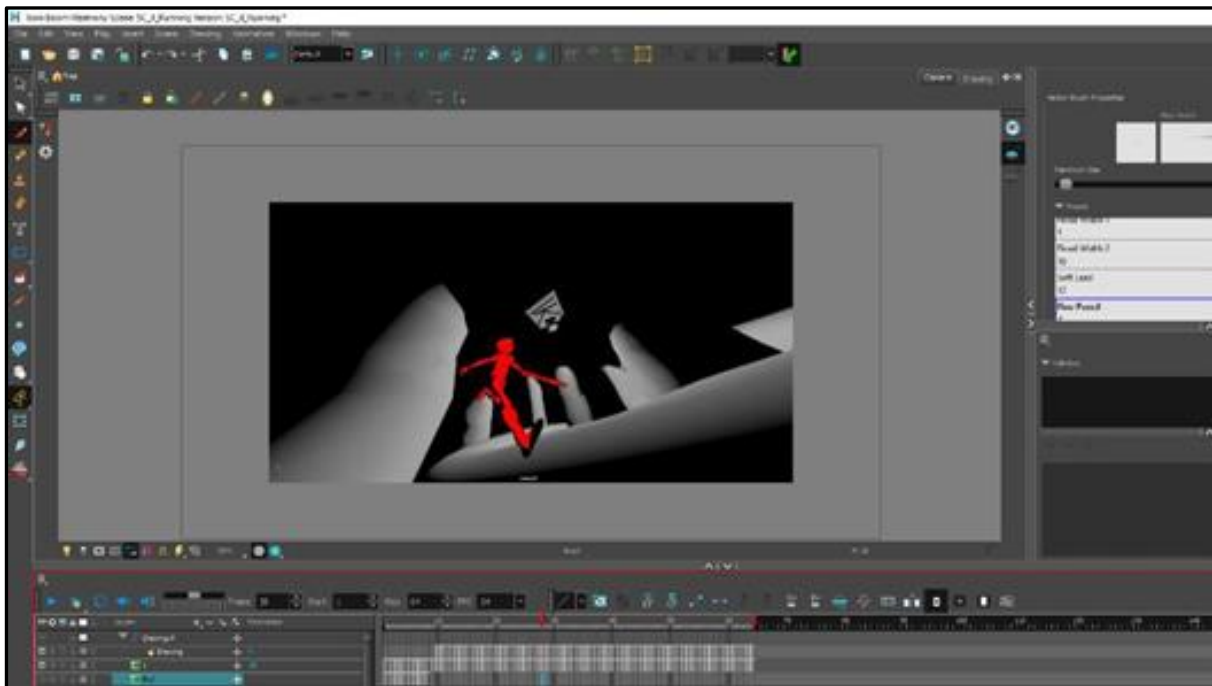


Figure 7. Rotoscoping individual frames.

Once the 3D playblast sequence was placed correctly within the timeline, the next step would be to draw on top of the sequence with a new layer. Generally, the rotoscope is very direct, unlike the Adobe Animate CC that required some moderate planning for the puppet rig. Figure 7, for instance, shows a run cycle animation from an extremely low and distorted angle. Without the 3D playblast as the reference, recreating this scene in real life would be considered a more complicated and higher cost to set up correctly. Unlike actual footage, 3D playblast is editable and convenient to implement and discard material within the virtual environment. Additionally, since the technique is more towards traditional media, the brush provided in Toon Boom Harmony perform similarly to real traditional media. The software provides brush styles from pastel brush to charcoal, and even Chinese ink brush is made available within the vector brush property panel. Each brush has its customisable slider, such as the pen tilt sensitivity pressure, transparency, smoothing, and even texturise paper. However, the tools selected for the rotoscope are mainly the pencil tool with a 'grunge texture' for the outline. Moreover, a drawing tablet featuring a pressure sensitivity display such as Wacom can help create a better stroke and depth for the linework. As a result, it is essential to acquire a high-quality render vector brush to replicate the aesthetic value of traditional media. The number of keyframes for each scene relies on the complexity of the animation. This scene in Figure 7 uses 24 frames per second, but the rotoscope only took nine frames with ten cycles to moderately animate it due to the simple

looping motion. Kitahata and Sakamoto (2018) verify that the modification of the frame size, the field of view, and the projection method will minimise the three-dimensional form in the 3D animation, creating the animation more 2D even though the assets are in 3D. By using this approach, the researchers were able to focus on completing each frame with fewer details.

FINDINGS

To rotoscope using 3D playblast, the 3D software must establish the assets (models) in the scenes. This includes characters and backgrounds modelled around simple shapes and focusing on silhouettes rather than details. Furthermore, once the assets are completed and animated, additional 3D features such as camera shots can be improved and distort without any collision from other models. Special effects and filters can be added early in the pre-production stages to pre-visualise the scenes further before finalising them in 2D. The next rotoscoping phase is where the assets are separated by PNG sequences and traced over separately. Rotoscoping obvious shapes help determine the proportions and maintain consistency of the overall shapes of the character. The following step is to convert everything back together for the finalised pre-production stages.

In terms of rotoscoping software, Table 2 shows nine aspects that differentiate these two software. First and foremost, the Adobe Animate CC interface is designed for beginners with intuitive navigation. It is not complicated to start any animation. However, its feature is limited and requires other Adobe software or third-party plug-in to complete the animation fully, especially in its post-production stage. Furthermore, the learning curve for this software is low and achievable without worrying about the technical aspect too much. Additionally, easy access to tutorials from online platforms is provided officially or created by experience artists significantly helps new users to learn faster and speed up the productivity within a project. Even so, due to its simplistic design and feature, the rotoscope is limited to simple motion and requires more effort and time to create something more dynamic.

Referring to Table 2, the introduction for its user interface in Toon Boom Harmony is rather intimidating due to its complete set of animation tools that consist of almost all the potential creative processes that the software can give. It features traditional animation to computerised suggestions, a flexible bone rig, and even customisable special effects with a virtual 3D camera. However, unlike the Adobe Animate CC, the learning curve for this software is very high. Due to limited forums, tutorials, discussion, and community participation, it is challenging to acquire specific knowledge to do a specific task. Moreover, this software's actual strength lies in its adaptability to maintain a classical aesthetic without sacrificing modern features and low computing power requirement. While Adobe Animate CC excels in simple navigation and design, Toon Boom Harmony provides a seamless workplace for traditional animation. The strokes for each brush or pen tool using the tablets are accurate and smooth. The texture and customisable vector brush created a dynamic outline, and the manipulative vector's point exposed the more advanced animation process. Seeing the strength of Toon Boom Harmony, the frame-by-frame rotoscoping method is accomplished despite having minor setbacks during the process.

Table 2. Comparison between two software based on key aspects.

ADOBE ANIMATE CC	ASPECTS	TOON BOOM HARMONY
User-friendly interface to easily navigate and self-explanatory design.	Interface	Cramped interface but complete animation package for professional standards.
Simplistic feature for complicated non-animation. Provide more intuitive navigation and more automation process.	Features	Cramped with specific features and tools are designed to be used in specific ways. It might not be intuitive, but it provides more advanced animation.
Easy and straight to the point procedure and heavily designed for beginners and hobbyists. However, it required different software to utilise fully.	Learning Curve	High difficulty learning due to professional standard without third party plug-in.
Countless online tutorials from an independent artist and straight the point answer and processes.	Online Tutorials	Little explanations about the technical aspect and procedure.
3Ghz or faster processor and 4GB RAM or more. Adapt with an underperformed computer in exchange with slower loading.	Minimum Computing Requirement	2GHz or faster processor and minimum 2GB RAM or more. The apparent difficulty for compatibility for underperformed computers.
Fast result but limited only to simple composite. Required time to learn and used other software to complete.	Productivity	A higher learning curve at the beginning but gradually increase productivity for the entire animation.
The software specialises in AI-generated motion, and it is plausible to rotoscope	Rotoscope Technique	Classical rotoscoping (frame by frame) is possible with the closest tool to a replicated

motion using puppets with well organised overlapping shapes or graphic symbols.	Using playblast	traditional medium, but its editable feature could change specific characteristics to fit the author personally.
Semi puppet animation/ Puppet pin <ul style="list-style-type: none"> • Rotoscoping using ai generate motion lessen the workload of the overall scene. • Reusable character assets that are only required to build once. • Assets are editable and have supporting library save • The timing and speed of the character's motion are more flexible to edit and improve. • Creative ways to find plausible shortcuts with only motion without the need for a new keyframe 	Rotoscope Technique Advantages	Classical Rotoscope (Frame by Frame) <ul style="list-style-type: none"> • Closest tool to aesthetically maintain traditional animation • Keyframe characteristics such as outline can be changed without the need to start over a new sequence. Everything can be selected as a whole and change at the same time. • Colours can be auto-generated from the previous keyframe if the next keyframe is almost identical. • Potentially have the most freedom in terms of stylise drawing.
<ul style="list-style-type: none"> • Technical and organising would require more focus due to assets are loaded according to the Adobe library. • Assets are limited to its motion constraint • Library could be messy and hectic when dealing with hundreds of assets and its smaller shapes within the library • Motion sometimes feel and look artificial with ai generated motion 	Disadvantages	<ul style="list-style-type: none"> • Intensive workload is expected for classical rotoscope • Required to have more effort to maintain consistency • Auto-generate colours are not plausible to give an accurate filling when dealing with fast-fast motions such as fighting. • It is required to connect each line carefully to make it possible to fill in colour. • More complex designs required more workload to stay consistent.

By comparing each rotoscoping technique in Table 2, both are capable of rotoscoping animation from animated 3D playblast. In summation, the semi puppet tool is helpful for simple rotoscoped motions. It provides various shortcuts that lessen the animator's workload. Meanwhile, classical rotoscoping is achievable with Toon Boom Harmony software while providing more creative design choices, including advantages and disadvantages in the traditional medium. Using 3D playblast has more potential to visualise the animators' expectations with lower cost, and lesser equipment compares with actual footage. However, real footage provides more realistic detail than 3D playblast. Also, 3D playblast would not entirely replace the benefits provided by actual live-action footage.

DISCUSSION

The study explores and evaluates different rotoscoping technique approaches via two industry-leading software (Adobe Animate CC and Toon Boom Harmony). This section will discuss the overall aspects such as the production speed, quality animation, technical aspect, and learning difficulty. Moreover, it also covers different advantages and disadvantages when using 3D playblast for rotoscoping animation.

First, Adobe Animate CC design and approach suit beginners and professionals due to its simplicity and straight point feature. However, Adobe Animate is difficult to embrace fully the feature of what makes an animation creative. It limits the user's creative process with its simplicity feature and forced to rely on third-party plug-ins or builds to create customisable tools to make the software more versatile and adaptable for production stages. For instance, Adobe Animate CC have two main tools to develop linework, a pencil tool and a brush tool. However, the small pool of readymade brushes and its current customisable are limited with only the shape and pressure. Moreover, brush tools and paintbrush tools are not selected to do rotoscoping. This is because it is unsuitable for outline due to its bristle strokes and uncontrollable ink pressure created more mess and effort to complete a single stroke. The technical challenge that can potentially occur within the rigging process is relatively rare during the production stage. However, it messed up the library arrangement and must restart to square one for the puppet rig. The software heavily depends on the performance of the current computer, with higher specifications resulting in better performance to automatically create an in-between keyframe. As a result, lower-spec acquired find ways to develop additional customisation because the program is not designed to adapt with lower computing power. Although rotoscoping is not the best option for Adobe Animate CC, the puppet rig method is more versatile and simpler to complete. With its parent-child hierarchy and tweening attributes, the program can create a powerful combination of frame-by-frame animation and puppet animation. Hence, a hybrid of the mixed rotoscoping technique should be utilised.

The second software is Toon Boom Harmony. The software is known for its more significant initial learning curve

due to the feature, and tools are designed only for niche uses. Comparing to Adobe Animate CC easier to use brushes, Toon Boom Harmony provide a more feature-rich and high-quality texture brush, including bitmap drawing and painting tool mode with no computing problem despite having the same underperformed computer. Furthermore, the composition is available within the software itself by providing robust compositing tools and compositing systems. Meanwhile, Adobe Animate CC relies on other software within the Adobe suite like Adobe After Effect to integrate visual effects. The same factor occurs as well about rigging tools. Instead of a simple animate bone puppet provided in Adobe Animate CC, Toon Boom Harmony adds advanced features to the puppet to create more flexible and adaptable movement. This software's most substantial aspect is its imitation of brush that replicate texture from traditional media. Hence, classical rotoscoping within Toon Boom Harmony accomplishes similar objectives as traditionally rotoscoping on paper.

There is a noticeable difference between the use of rotoscope using film footage with 3D playblast animation, specifically, the limitation and the sense of realism between pre-visualisation and execution. Rotoscoping actual footage has evolved from classical rotoscoping individual frames to specialise software that automatically detects algorithms to separate subjects from each other. Moreover, the advantage of using actual footage maintains the most vital aspect of realism. For example, details such as the casting of shadow and light, and believability of movements are preserved. On the other hand, it would be difficult to exaggerate a particular aspect of the animation. This includes the aspect of dynamic camera shots that require advanced camera technology to pull off. Despite its advantages, rotoscoping from film footage requires more planning and workload when rotoscoping frame-by-frame. Although AI algorithm is available to detect subject motion in modern software, sooner and later, there will be a scene that is difficult to detect with cluttered background or merged subjects.

Rotoscoping from 3D playblast animation is still a new concept. There is no correct conceptual way to provide pre-visualised 3D animation for rotoscoping. However, 3D playblast animation can surpass the limitation of actual footage. For instance, since everything is computer-generated, creating models and scenarios is limited to the animator's imagination. A creative shot can improve the audience's experience because it stood out from the scenes and became a memorial plot point. Despite having limitless potential, rotoscoping using 3D playblast animation sacrifices a few aspects of realism in providing more creative freedom. The exploration concludes that both classical rotoscope and puppet animation are effective. With an option to export the subjects separately from each other, it is already a significant factor when rotoscoping using 3D playblast animation.

The assets to pre-visualise the scene require some time to establish, especially background and character should be roughly made for rotoscoping purposes. As a result, there are several suggestions to be considered when applying 3D playblast animation for rotoscope. First, when creating or selecting characters to be rotoscope, it is vital to focus only on the fundamental basic shapes when building the model. It is not recommended to be animated on a full detail rig for 3D playblast. It would hinder the overlapping shape from its details and acquire more time to animate every characteristic fully. The purpose of playblast is to create a quick alternative to provide grounding and using it as a reference when animating complex shots, maintaining the body proportion and being able to help identify the shape of the motion at a dynamic angle. This method is also similar to animating background, where shapes and silhouettes are the priorities.

Furthermore, once the model and the rough animation is complete, the scene should be exported separately according to its purpose and avoiding merging everything into a single sequence. For instance, characters, background, and even secondary special effects should be converted into PNG sequences separately to be rotoscoped. This would not just help to adjust the compositing more easily. It is also helpful to create a safe environment when adding and discarding elements without destroying the subject surrounding them. It is recommended to identify the crucial keyframe from the sequence rather than trace every individual frame. Some frames are often similar within those 24 frames, and they should not be recognisable at first glance. By focusing on the critical keyframe, in-between can now be chosen to create a somewhat believable scene without rotoscoping every individual frame. For instance, this animation project was animated in 13 frames per second, but the playblast animation was exported on 24 frames per second; a higher frame rate will be added if a high pace scene requires more frames to be animated.

In summary, both software (Adobe Animate CC & Toon Boom Harmony) is plausible for rotoscoped animation. Adobe Animate CC is simple and well-designed in terms of navigation, more accessible to implemented auto in-between for animation and excellent for puppet pin animation for a project that focuses only on AI assistance when animating. It also provides a versatile animation style, switching from puppet pin rigging to manually drawn animation within the same layers. Hence, the animation method can be considered semi puppet animation due to its hybrid nature switching from puppet and independent frame. On the other hand, Toon Boom Harmony is the closest form of digitising traditional medium software that has a traditional aesthetic feature on its brushes. The software may be intimidating at first, and some features are hidden under specific navigation. Still, once users have familiarised themselves with the software, the production would be significantly faster, and shortcut keys will

eventually be used. Both can be used for rotoscope, and 3D playblast animation has the potential to grow as a concept in producing high-quality scenes. In addition, the advantage of using 3D playblast is to empower animators to create more creative and dynamic shots. Additionally, it is recommended to render each model separately within the 3D playblast on its sequence and emphasise the overall shapes (silhouette) rather than details. As a result, 3D playblast can provide further guidance for animators to develop 2D animation via rotoscoping, improving their overall shot. This approach is also beneficial in experimental educational animation research. For example, comparison studies from various 2D animation, 3D animation, and live-action videos can be conducted by incorporating the rotoscoping techniques to create 2D animation samples based on 3D models or forms (Lucas, 2019).

Nevertheless, there are limitations to this study. Researching 3D playblast into 2D animation rotoscoping technique is quite a niche area. Hence, there are limited studies published focusing on the topic. Moreover, when an animation uses rotoscope techniques, it would be difficult to identify the scene by only observations without acquiring in-depth information of the development process. Furthermore, during the exploration, the researchers could not cover in-depth all the advanced mechanics of the software. Instead, this study focuses on the unique aspects of the animation software by incorporating 3D playblast animation as a reference for rotoscoping dynamic scenes.

CONCLUSION

This research explores alternative rotoscoping techniques such as using 3D playblast to create a more refined 2D animation. Two different rotoscoping approaches were explored to achieve the objectives and analysed to develop a proper dynamic scene. The workflow from rotoscoping using 3D playblast into 2D animation shows that it is achievable to create a dynamic animation scene using 3D models. Accordingly, using 3D playblast as a viable alternative to visualise motion can help animation studios improve their rotoscope composition quality and create creative ways to convey complex but crucial scenes in the story.

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MH370 and MH17 Airplane Catastrophes: Reporting Verbs in Malaysian Online Newspaper Articles

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ABSTRACT

Reporting verbs are important in news articles on controversial events or issues because of the need to present the attitude of news sources towards the topic or even to indicate the journalist's attitudes towards information cited in the articles. The study investigated the use of reporting verbs in news articles on MH370 and MH17 airplane catastrophes in online English newspapers published in Malaysia. A total of 80 news articles on MH370 and MH17 from two online English-language, New Straits Time and The Star, were analysed for the author's stance and writer's stance using Thompson and Ye's (1991) framework on reporting verbs. The analysis identified 931 instances of reporting verbs (91.75%, author's stance; 8.25%, writer's stance). For the author's stance, 91.75% of the articles on MH370 and MH17 were reported positively using mainly the verb "said", and the various news sources were stated clearly. New Straits Time reported MH17 more positively than MH370 but the pattern was the opposite for The Star. The neutral author's stance was hardly used. There was no negative author's stance for MH370 articles in both newspapers. As for the writer's stance, counter-factive (42.51%) and non-factive (47.90%) reporting dominated. Articles on the disappearance of MH370 had more non-factive reporting verbs than counter-factive reporting verbs in both newspapers but for the MH17 articles, New Straits Time leaned towards a counter-factive writer's stance, suggesting more critical reporting. The study showed that the articles on airplane catastrophes reflected safe reporting, often affirming the validity of statements from news sources.

Keywords: Airplane catastrophe, MH370, MH17, online newspapers, reporting verbs

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INTRODUCTION

The newspaper serves as an important tool for shaping thoughts, providing a platform for public debates and forum, and a channel to inform the public of wrongdoings (Martin & Copeland, 2003). Generally, news found in the newspapers consist of local and international news, business and entertainment, sports, politics and health. Sensational news includes reports on tragedies, catastrophes, crises and disasters that occur locally and internationally. In reporting tragedies, journalists inform readers of the current and updated version of news and in the process influence how readers think and feel about the event or issue. The act of reporting requires journalists to use language to achieve intended meanings.

A linguistic element that can be skilfully used to convey intended meanings is verbs or action words, in particular reporting verbs. Reporting verbs do not only describe actions but they can be used to convey the journalist's perspective without being obvious about it. Reporting verbs refers to lexical devices which allow writers to present their stance, build a connection with readers (Hyland, 2005), and express evaluations towards what is being reported (Thompson & Ye, 1991). Reporting verbs can be used to either report on the writer's own ideas or to represent the writer's take towards the claims of others (Bloch, 2010). Although there are other reporting signals such as reporting nouns and reporting adjectives, reporting verbs have been found to be the most important feature of a reporting clause and they occur in most reporting sentences (Nkansah, 2013). Reporting verbs occur in up to 90% of sentences in news articles (Bergler, 1992).

Research on the use of reporting verbs have been largely in academic and research writing because of the need for citations (Hyland, 2002; Jafarigohar & Mohammadkhani, 2015; Loan & Pramoolsook, 2015; Manan & Mohd Noor, 2014; Shaw, 1992; Swales, 1990; Thompson & Ye, 1991). In non-academic writing, reporting verbs are

important for establishing the credibility of sources in magazines (De Oliveira & Pagano, 2006) and newspaper articles (Floyd, 2000; Ruminda, 2016; Yamashita, 1998). Journalists are adept at presenting opinions as facts and since most news is reported speech, reporting verbs have an important role to play in new reports:

Most news is in fact reported speech. It is talk about talk, with several stages of reporting often involved. Journalists depend a lot on other sources to report on events, so news is full of second-hand information, announcements, opinions, reactions, appeals, promises and criticisms. (Floyd, 2000, p. 43)

Nkansah (2013) found that in front page stories of Ghanaian newspapers, reporting verbs for author's stance is more dominant than reporting verbs for writer's stance. The reporting was primarily from the perspective of news sources, and journalists did not frequently include their evaluative stance. Stance refers to "the way speakers position themselves in relation to their own or other people's beliefs, opinions and statements about things or ideas in ongoing communicative interaction with other speakers" (Simaki, Paradis, Skeppstedt, Sahlgren, Kucher, & Kerren, 2016, p. 215).

Little is known about stance in news reports in the Malaysian context. Media framing studies have shown that mainstream newspapers tend to quote government sources whereas alternative newspapers quote opposition leaders and religious leaders as news sources in controversial events, such as the 1Malaysia Development Berhad (1MDB) financial-cum-political scandal involving high-ranking politicians (Murudi & Ting, 2019) and race-related issues (Azlan, Rahim, & Basri, 2012; Ismail & Ahmad, 2014; Khalid, 2011; Yang & De Rycker, 2017; Yang & Ishak, 2012; Yang & Leong, 2017). However, as the researchers are from the field of communication, they do not analyse how the news sources are quoted. Ting, Murudi, and Chuah (2020) found that online English newspapers on 1MDB avoided evaluative judgements but the findings are obtained from content analysis. In the news reporting of controversial or sensational incidents whereby causal factors are being investigated and yet to be determined, journalists may have to rely on reporting verbs to write the news stories by citing various sources. A sensational topic is the two airplane catastrophes affecting Malaysia in 2014, namely, the disappearance of Malaysian Airlines MH370 and the shooting down of MH17. The news readership thirst for news on the parties responsible and developments in the investigation, but such information may not be forthcoming at a rate that satisfies the readership, and this is when journalists often quote various sources to sustain interest in the news. As journalists may not have definitive information on the incidents, this is where reporting verbs are particularly useful for them to write breaking news without being presumptuous. Through the use of reporting verbs, journalists can attribute responsibility without committing themselves to the claims. Therefore, linguistic analysis of the use of reporting verbs in controversial or sensational events is vital to reveal whether journalists present their stance on the events.

MH370 and MH17 airplane disasters were sensational news throughout the world because of the immensity of the catastrophe and it affected nationals of other countries, and the airline industry. Airplane catastrophe can be considered as a human-made disaster usually caused by technology disturbance, human involvement and human error (Silverman & Greca, 2002). In the case of MH370, there were suggestions of the possibility of pilot involvement, besides the possibility of technical problems which caused the flight to lose contact with the air-controllers at the point of crossing from Malaysian air space into Vietnam air space. Available satellite tracking data showed that MH370 changed course thereafter, and did not proceed to China, but flew across the Indian Ocean towards Australia, and the airplane has not been found to date. As for MH17, the airplane was shot down over Ukraine air space and initially the parties responsible for the downing of the airplane were unclear although the pro-Russian rebels, who were fighting central Kiev authorities, claimed the plane had been shot down by a Ukrainian jet (Vanguard, 2014). Because of the scale of the news and the controversies involved, it is important to study how the news on MH370 and MH17 airplane catastrophes are written, particularly to reveal whether journalists include their evaluative stance or their take towards the claims of others when reporting developments in the coverage of the news.

The study investigated the usage of reporting verbs in MH370 and MH17 airplane catastrophe in online English language newspapers published in Malaysia. The aspects analysed were the reporting verbs for author's stance and writer's stance.

METHOD OF STUDY

The data for this qualitative descriptive study were 80 articles on MH370 and MH17 airplane catastrophes taken from two online English-language Malaysian newspapers, that is, The Star and News Straits Times (40 each). The news articles on MH370 were collected from 8 March 2014 (the day of missing flight MH370) to 31 December 2018 while the MH17 articles were from 17 July 2014 (the day MH17 was shot down) to 31 December 2015. The duration of the data collection from date of incident to end of the year was considered adequate because interest had waned by the end of the year as shown by the Google Trend statistics (Figures 1 and 2). The keywords used for the search were “MH370” and “MH17”. Only hard news articles were included and opinion pieces and editorials were excluded. The word count for the 80 news articles was 36,124 words.

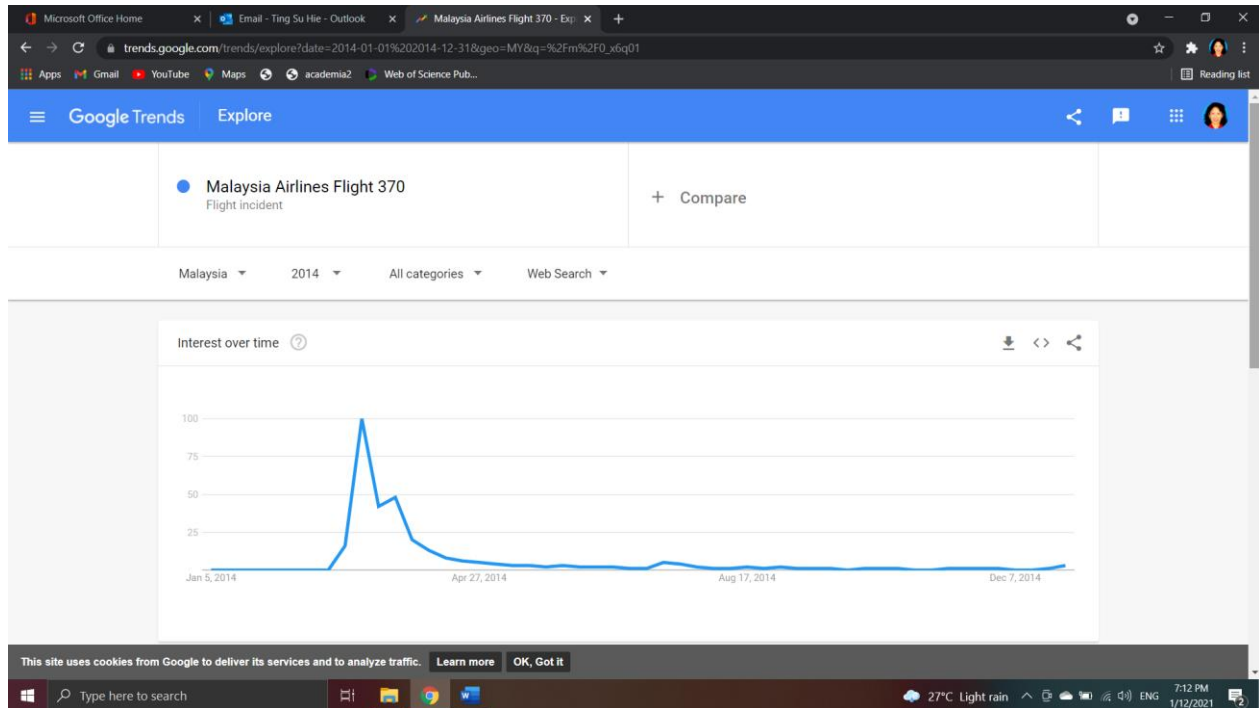


Figure 1. Google Trends showing interest in Malaysia Airlines Flight 370 in 2014

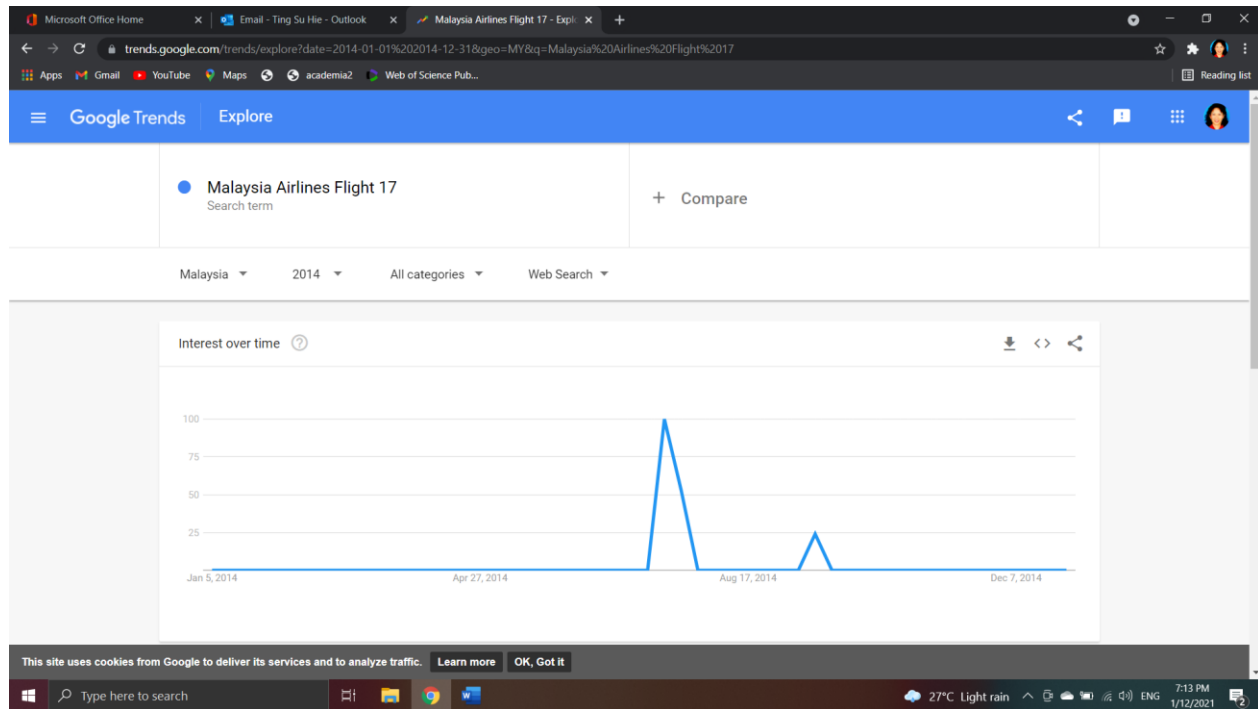


Figure 2. Google Trends showing interest in Malaysia Airlines Flight 17 in 2014

The reporting verbs in the news articles were analysed using Thompson and Ye's (1991) classification of evaluation aspects of reporting verbs into two stances. Thompson and Ye's (1991) classification was selected over other frameworks because their framework is able to provide an integrated method of analysing a varied kind of verb that is used when reporting news report, and the delineation between author's stance and writer's stance is clearly spelt out with many examples of verbs for the sub-categories, thereby ensuring reliability in the analysis.

Author's stance is "the attitude which the author is reported ... as having towards the validity of the reported information or opinion", that is, whether the information is presented as positive, negative or neutral (Thompson & Ye, 1991, p. 372). On the other hand, writer's stance refers to the writer's attitude towards the author's information or opinion, that is portraying the authors as presenting factive (true), counter-factive (false) and non-factive (unclear attitude) (Thompson & Ye, 1991). In this paper, the author's stance refers to the way the information given by news sources are reported in the news articles.

Table 1 shows the framework for the analysis of author's stance which is presented as positive, negative and neutral. According to Thompson and Ye (1991), the information is presented as coming directly from the author without interference from the writer. An example of an author's stance presenting the information/opinion as positive using the reporting verb "accepted" is as follows:

It is now almost universally accepted that frequent fixations and regressions are symptoms of poor comprehension, rather than causes of it (see M. and E. De Leeuw 1965). [Alderson and Urquhart 1984:xx] (Impersonal Author Act, Mental) (Thompson & He, 1991, p. 372)

Thompson and Ye (1991) listed 33 reporting verbs for author's stance and some of the examples are shown in Table 1.

Table 1. Thompson and Ye’s (1991) classification of reporting verbs in author’s stance

Categories	Definition	Example
Positive	The author is reported presenting information/opinion as true	as accept, emphasise, hypothesise, invoke, note, point out, reason, subscribed to, pointed out, asked, told, said, exhorts, commended, urged, declared, stressed, insisted, adding, pledged, called, predicted, lauded, stressed, confirmed
Negative	The author is reported presenting information/opinion as false	as attack, challenge, dismiss, oppose, question, reject, warned, the appealed, disclosed, threatened, cautioned, complains, ordered, as conceded, dispute
Neutral	The author is reported presenting information/opinion as neither true nor false	as describe, indicated, examine, quote, evaluate, assess, focused, the announced as

Table 2 shows the analysis framework for the writer’s stance. Factive reporting verbs, counter-factive reporting verbs and non-factive reporting verbs are used to indicate the writer’s attitude towards the author’s information or opinion, as to whether they are considered true or false. Thompson and Ye (1991) listed 47 reporting verbs for writer’s stance and some of the examples are shown in Table 2.

Table 2. Thompson and Ye’s (1991) classification of reporting verbs in writer’s stance

Categories	Definition	Example
Factive	The writer portrays the author as presenting true information (acceptance)	acknowledge, bring out, demonstrate, identify, notice, proved, recognise, explain, direct, advise, promise, assure, observe, propose.
Counter-Factive	The writer portrays the author as presenting false information (rejection)	claim, accuse, criticise, condemn, defied, denied, refuse, betray, confuse, ignore, misuse.
Non-Factive	The writer gives no clear signal to her attitude towards the author information (neutrality)	advance, believe, generalise, suggest, insist, state, report, affirm, roll out, maintain, examine.

For the analysis, the articles were read three or more times to ensure no verbs used in the reports were missed out during the coding. The frequency of reporting verbs used were calculated to find out whether the author’s stance or writer’s stance dominated in the reporting of airplane catastrophes.

RESULTS

The news articles on MH370 and MH17 airplane catastrophes were about the effort of searching for the missing flight, updates about the passengers, parties who were involved in search and rescue whether they are local or international, and explanation on how the catastrophe occurred. Altogether 44 reporting verbs (or 52.4%) out of the total of 84 reporting verbs in Thompson and Ye’s (1991) list were used, showing somewhat limited variety in the verbs used. There was more variety of verbs used for the author’s stance (26 reporting verbs) than for the writer’s stance (18 reporting verbs). Altogether 931 instances of reporting verbs were used in 80 articles on the two airplane catastrophes, a majority of the verbs showed the author’s stance (764 instances or 82.06% of 931 instances) while only 167 instances (or 17.94%) showed the writer’s stance.

Reporting verbs in author’s stance

Table 3 shows the frequency and percentage of reporting verbs for author’s stance in MH370 and MH17 articles in New Straits Time and The Star, and the author’s stance was categorised into positive, negative and neutral stances. Overall, a majority (91.75% out of 764) of the reporting verbs in the news articles showed positive author’s stance. The percentage of positive author’s stance shows that New Straits Time reported MH17 (93.83%) more positively than MH370 (88.59%). However, the opposite pattern was found for The Star whereby MH370 articles carried more positive author’s stance (95.1%) than MH17 articles (88.95%). There was no negative author’s stance for MH370 articles in both newspapers. Perhaps during the MH370 crash, it was hard to validate statements of news sources as the case is still unsolved. The newspapers did not engage in speculative reporting. For the shooting down of MH17, New Straits Time had similar percentages of negative and neutral author’s stances (2.47% and 3.70% respectively) but The Star clearly had more negative author’s stance in the reporting verbs (8.41%) compared to the neutral stance (2.91%). In the rest of this section, examples of the reporting verbs for the three stances will be provided.

Table 3. Frequency and percentage of reporting verbs for author’s stance in MH370 and MH17 articles in New Straits Time and The Star

Category of author’s stance	New Straits Times				The Star				Total	
	MH370		MH17		MH370		MH17		Freq	%
	Freq	%	Freq	%	Freq	%	Freq	%		
Positive	163	88.59	228	93.83	157	95.15	153	88.95	701	91.75
Negative	0	0	6	2.47	0	0	14	8.14	20	2.62
Neutral	21	11.41	9	3.70	8	4.85	5	2.91	43	5.63
Total	184	100	243	100	165	100	172	100	764	100

Table 4 shows the frequency of reporting verbs for positive author’s stance in MH370 and MH17 articles in New Straits Time and The Star. Altogether 14 different reporting verbs for positive author’s stance was identified in the analysis. The reporting verb “said” was the most frequent (534 times), followed by “told” (53 times). Other less generic reporting verbs for positive author’s stance were “added”, “confirmed”, “called” and “asked”. The reporting verbs that expressed a stronger commitment to the stance were “pledged”, “declared”, “emphasised” and “stressed” but the frequency of use was five or less each because of the lack of definite information on the airplane crashes.

Table 4. Frequency of reporting verbs in positive author’s stance in MH370 and MH17 articles in New Straits Time and The Star

Reporting verb used in positive author’s stance	Frequency
1. Said	534
2. Told	53
3. Added	31
4. Confirmed	28
5. Called	19
6. Asked	11
7. Pledged	5
8. Declared	5
9. Insisted	5
10. Urged	5
11. Pointed	2
12. Emphasised	2
13. Stressed	2
14. Noted	1

On the downing of the MH17, the analysis of reporting verbs in the articles revealed that the news was reported directly without any inclusion of the journalists’ opinions in order to portray the author as telling the truth. Excerpts 1 to 3 show how positive reporting verbs were used to show that the information about the incident was true. Excerpt 1 shows that “said” was the most frequently used verb for reporting positive author’s stance. “Said” was used to cite information from sources involved in the incident such as the emergency services rescue worker who said that at least 100 bodies had been found in the search and rescue for MH17. The verb “said” ranked the highest in frequency of use in the 80 news articles. This result is not surprising because the verb “said” is in fact the simplest form of verb which is used to express statements. Excerpt 2 is an example of how “told” was used to report the source of the information (US officials). Excerpt 3 shows Malaysian Airlines as a news source for confirming that it had lost contact with MH17. However, “confirmed” was a less frequently used reporting verb for reporting positive author’s stance because a lot of information were uncertain in the two airplane catastrophes. Table 4 shows that “confirmed” was used 28 times to enhance the truth value of the news, and the sources of the information was clearly stated.

- 1) An emergency services rescue worker **said** at least 100 bodies had so far been found at the scene (New Straits Times, MH17, Article 4)
- 2) Two US officials **told** AFP that intelligence analysts were reviewing the data to see whether the missile used to down the aircraft was launched by pro-Moscow separatists (The Star, MH17, Article 9)
- 3) Malaysian Airlines **confirmed** that it had “lost contact” with one its planes in Ukrainian airspace (New Straits Times, MH17, Article 2)

Next, the frequency of reporting verbs in negative author’s stance is shown in Table 5. In contradiction with positive reporting verbs, negative reporting verbs portrays the author as telling false information. Negative reporting verbs are usually associated with harsh statements and are provocative in nature. Only five reporting verbs for reporting negative author’s stance were identified in the analysis, and used 26 times. Of these “warned” was the most frequently used (9 times), followed by “ordered” and “blamed” (6 times each); “attacked” and “complained” was only used two times each.

Table 5. Frequency of reporting verbs in negative author’s stance in MH370 and MH17 articles in New Straits Time and The Star

Reporting verb used in negative author’s stance	Frequency
1. Warned	9
2. Ordered	6
3. Blamed	6
4. Attacked	2
5. Complained	2

Excerpts 4 to 6 illustrate the use of negative reporting verbs in both online newspapers for only MH17 because no negative reporting verbs were used for reporting the disappearance of MH370. This is because for MH370, it was hard to confirm statements of news sources because the case is still not solved until the present day. Statements containing negative reporting verbs came across as harsh. For example, Excerpt 4 was taken from an article in The Star reporting witnesses who saw the plane being shot down by a battle plane of the Ukrainian forces. The reporting verb “attack” brought up images of weapons being used and the plane exploding into fire, and witnesses also identified the plane as belonging to the Ukrainian forces. However, the statement was carefully crafted to not state that it was the Ukrainian forces which shot down MH17. Excerpt 5 is a clearer statement by the Australian Prime Minister blaming Russia for the downing of MH17. The Russian president was reported as reacting to these statements by warning the United States not to impose sanctions as it would damage foreign relations (Excerpt 6). In all three excerpts, reporting verbs are used for negative author’s stance, and the source of the information is clearly stated in Excerpts 5 and 6.

- 4) Witnesses saw the plane being **attacked** by a battle plane of the Ukrainian forces (The Star, MH17, Article 5)
- 5) Australian Prime Minister Tony Abbott **blamed** Russia on Friday over the shooting down of Malaysia Airlines (MAS) flight MH17 over eastern Ukraine that killed all 298 people on board (The Star, MH17, Article 8)
- 6) Russian President Vladimir Putin earlier **warned** that sanctions would inflict “very serious damage” on the already tattered US-Russia relationship (New Straits Times, MH17, Article 5)

The controversy over the shooting of MH17 is partly because neither the Ukrainian nor the Russian government wanted to take the responsibility of the incident and blamed each other for causing the incident. The five reporting verbs used in negative author’s stance (shown in Table 5) showed that the sources were “on the offensive” rather than defending their actions or views, namely, “warned”, “ordered”, “blamed”, “attacked” and “complained”.

Finally, the frequency of reporting verbs in the neutral author’s stance is shown in Table 6. Neutral reporting verbs shows that the author presented neither true nor false information. Neutral reporting verbs, therefore, indicate some kind of detachment or objectivity in statements (Nkansah, 2013). The author does not convey his or her stand in a statement and the writer did not express his or her attitude towards the information. Examples of verbs frequently used for reporting the neutral author’s stance were “announced” and “indicated” (16 and 10 times respectively, Table 6). The reporting verb “quoted” explicitly attributed the information to the news sources, thereby freeing the journalist from making any evaluative stance or commitment to the statement. In comparison, “examined” and “assessed” were infrequently used (2 and 1 time respectively), partly because not many news sources were in the position to performing these kinds of analysis and evaluations.

Table 6. Frequency of reporting verbs in neutral author’s stance in MH370 and MH17 articles in New Straits Time and The Star

	Reporting verb used in positive author’s stance	Frequency
1.	Announced	16
2.	Indicated	10
3.	Quoted	7
4.	Described	5
5.	Focused	5
6.	Examined	2
7.	Assess	1

Excerpt 7 shows the journalists quoting the news source (Xinhua newspaper) that quoted Chinese aviation authorities as saying that MH370 did not enter China’s air space. In effect, The Star was doing a secondary quotation by citing from another newspaper. Excerpt 8 is a neutral statement which was free of the journalist’s interpretation and merely informed the readers that the acting transport minister had announced a new phase in the MH370 search. Excerpt 9 is about the focus area of the MH370 search but did not directly name a source for the information. In this way, the news on the search area in the Indian Ocean to the west of Australia came across as a fact.

- 7) Xinhua also **quoted** Chinese aviation authorities saying the plane did not enter China's air traffic control sphere (The Star, MH370, Article 2)
- 8) Acting Transport Minister Datuk Seri Hishammuddin Hussein **announced** that the new phase in the search for Malaysia Airlines flight MH370 will be refined but will remain in the southern corridor (New Straits Times, MH370, Article 1)
- 9) It was the second time a Malaysia Airlines plane was lost in less than six months. Flight 370 disappeared in March en route from Kuala Lumpur to Beijing. It has not been found, and the search has **focused** on the Indian Ocean far west of Australia. (The Star, MH370, Article 17)

To sum up, the analysis of reporting verbs for the author’s stance showed a tendency to cover the two airplane catastrophes positively in the midst of a tragedy where many lives were lost. The large percentage of reporting verbs in the positive author’s stance shows that Malaysian reporters presented the author as telling the truth.

Reporting verbs in writer’s stance

The writer’s stance was categorised into factive, counter-factive and non-factive. The overall results showed a balanced use of counter-factive and non-factive reporting of the writer’s stance (42.51% and 47.90% out of 167 instances respectively, Table 7). The news articles tended to portray the authors as presenting false information due to the controversy surrounding both airplane crashes (counter-factive) and made their attitude towards the veracity of the information unclear (non-factive), perhaps intentionally because of the controversies. The articles were written such that the news writers refrained from portraying the author as presenting true information (9.58% factive), probably because they were unsure of the facts and if the sources were accurate.

Table 7. Frequency and percentage of reporting verbs for writer’s stance in MH370 and MH17 articles in New Straits Time and The Star

Categories of writer’s stance	New Straits Time				The Star				Total	
	MH370		MH17		MH370		MH17		Freq	%
	Freq	%	Freq	%	Freq	%	Freq	%		
Factive	5	15.62	1	1.89	6	19.35	4	7.84	16	9.58
Counter-factive	8	25	32	60.38	8	25.81	23	45.10	71	42.51
Non-factive	19	59.38	20	37.73	17	54.84	24	47.06	80	47.90
Total	32	100	53	100	31	100	51	100	167	99.99

New Straits Time and The Star were similar in the writer’s stance for MH370, in that over half of the writer’s stances were non-factive (New Straits Time, 59.38%; The Star, 54.84%). One quarter of the writer’s stance was counter-factive (New Straits Time, 25%; The Star, 25.81%). Similarly, factive writer’s stance was the least common (New Straits Time, 15.62%; The Star, 19.35%). In the MH370 articles published in both newspapers, the writer’s stance was non-factive and this gave the impression that the articles were objectively reported. A non-factive or neutral writer’s stance is perhaps the safest option considering the many speculations and rumours of the possible causes of the disappearance of such a huge object and the inability of the authorities to find it despite the use of advanced technologies such as the ping-locator and 3-F1 satellites.

However, in reporting the MH17 catastrophe, New Straits Time leaned towards a counter-factive writer’s stance (60.38%) and less towards the non-factive stance (37.73%), suggesting that the news articles were more critical of the information. On the other hand, The Star had a balance of counter-factive (45.10%) and non-factive writer’s stances (47.06%). In other words, The Star strived to present a mix of critical articles and those that appeared to be neutral and free of writer attitudes. Next, the use of reporting verbs in these three writer’s stances will be described with the aid of excerpts.

Table 8. Frequency of reporting verbs in factive writer’s stance in MH370 and MH17 articles in New Straits Time and The Star

Reporting verb used in factive writer’s stance	Frequency
1. Identify	6
2. Advised	4
3. Promised	3
4. Proved	3
5. Assured	3
6. Demonstrated	2
7. Explained	2

Firstly, factive reporting verbs can be described as the writer portraying the news sources as giving true information or a correct opinion (Thompson & Ye, 1991). The reporting verbs associated with factive writer’s stance are “identify” and “advised” (6 and 4 times respectively, Table 8). Some of the reporting verbs are more definitive (e.g., “promised”, “assured”) or strong assertions (e.g., “proved”), which were used three times each.

Excerpts 10 to 12 show the journalists indirectly expressing agreement with the views of the news sources. The journalists concerned believed that “Fuad explained everything in the interview with Anderson Cooper” (Excerpt 10) because the reporting verb “explained” gave the information source an authoritative tone. The use of definitive positive reporting verbs such as “assured” and “promised” signalled the writer’s agreement with Azharuddin who assured the public that their team was doing their best (Excerpt 11), and with Iskandar who promised the families he would convey their requests to the Malaysian government (Excerpt 12).

- 10) In the interview with Anderson Cooper, Fuad **explained** that the flight which departed 41 minutes after midnight from Kuala Lumpur was supposed to have arrived in Beijing at 6.20am. (The Star, MH370, Article 1)
- 11) Azharuddin, who has led DCA since 2008, **assured** that every authority involved in the SAR mission were doing their very best to locate the aircraft and determine the cause of the incident, as well as ensure a similar event would not recur. (New Straits Times, MH370, Article 4)
- 12) Iskandar addressed the families at the end of the session, saying that he **promised** that he will convey their sentiments and thoughts to the Malaysian government. (The Star, MH370, Article 15)

Secondly, counter-factive reporting verbs are used to indicate disagreement with the contents of the news articles. Reporting verbs were cleverly chosen to suggest that the information was false as shown by the frequent use of three reporting verbs, namely, “denied” (25 times), “accused” (19 times) and “claimed” (18 times), as shown in Table 9.

Excerpt 13 shows that by using “denied” instead of the generic verb “stated”, the journalist suggested that the Russian and Ukraine governments might have been involved in shooting down the MH17. Similarly, in Excerpt 14, the pro-Russian rebels was reported as claiming that a Ukrainian jet had shot down MH17. If the generic verb “stated” had been used, then there is no suggestion that the information might have been false. Excerpt 15 is a clear case of disagreement expressed using the reporting verb “criticised”.

Table 9. Frequency of reporting verbs in counter-factive writer’s stance in MH370 and MH17 articles in New Straits Time and The Star

Reporting verb used in counter-factive writer’s stance	Frequency
1. Denied	25
2. Accused	19
3. Claimed	18
4. Condemned	4
5. Criticised	4
6. Refused	2

- 13) Foreign media reported that the plane was “shot down”, but the Russian and Ukraine governments had **denied** their involvement in the incident. (New Straits Times, MH17, Article 7)
- 14) The pro-Russian rebels, who are fighting central Kiev authorities, **claimed** the plane had been shot down by a Ukrainian jet. (The Star, MH17, Article 5)
- 15) MAS also **criticised** journalist Geoff Taylor and former Kiwi Travel International Airlines chief executive Ewan Wilson for their book **claiming** to offer the “scoop” on MH370. (New Straits Times, MH370, Article 12)

By using selected reporting verbs, news writers can include their judgement on the statements presented by the author and question the truth of the information.

Finally, Table 10 shows that the two reporting verbs most associated with a non-factive or neutral writer’s stance were “reported” (35 times) and “believed” (28 times). Like “reported”, “stated” is a generic verb that does not show the writer’s stance on the statement. Excerpt 16 is about a sensational controversy in the MH370 incident whereby the captain was suspected of intentionally crashing the plane and there were other news reports of the captain having a flight simulator at home. However, to mitigate the sensationality of the news, New Straits Time merely stated “The Sunday Times in UK reported that ...”. Excerpt 17 also shows a sensitive matter that may affect foreign relations if countries accuse one another of shooting down MH17. Again the reporting verb “believed” was used as a hedging device as follows, “He said that Ukrainian authorities believed that the plane was shot down ...”. Another reporting verb which functions well to make statements devoid of the writer’s attitudes is “suggested” which is used six times in the news articles on the two airplane catastrophes (Table 10).

- 16) The Sunday Times in UK **reported** that the Malaysian police had regarded the prime suspect in the missing MH370 as its pilot, Captain Zaharie Shah. (New Straits Times, MH370, Article 7)
- 17) He said that Ukrainian authorities **believed** that the plane was shot down but that Malaysia was unable to verify this at this moment. (The Star, MH17, Article 6)

Table 10. Frequency of reporting verbs in non-factive writer’s stance in MH370 and MH17 articles in New Straits Time and The Star

Reporting verb used in non-factive writer’s stance	Frequency
1. Reported	35
2. Believed	28
3. Stated	9
4. Suggested	6
5. Maintained	2

In controversial news, it is important to use reporting verbs in the non-factive writer’s stance to avoid giving a clear judgement on statements of news sources. Non-factive reporting verbs convey some distance between the news source and the journalist on what has been said by the source (Nkansah, 2013). MH370 and MH17 articles contained

frequent use of “reported” and “believed” to present a neutral or non-factive writer’s stance. However, news which are neutral appear to be uninteresting to readers. This is why it is important to have some amount of counter-factive writer’s stance in news articles to attract readers. In the case of MH370 and MH17 reporting, the reporting verbs had been carefully selected to suggest falsity of information without getting the journalists into trouble, and the commonly used reporting verbs for this purpose were “denied”, “accused” and “claimed”. Reporting information that are true is much easier in comparison, and a number of reporting verbs were used. There was no particular reporting verb that stood out in that the frequencies of the reporting verbs were similar.

DISCUSSION

The study on reporting verbs in articles on MH370 and MH17 airplane catastrophe in Malaysian English online newspapers (New Straits Time and The Star) shows that Malaysian news articles tended to present statements of news sources as positive statements using the reporting verb “said” for the author’s stance. As for the writer’s stance, a greater proportion of the reporting verbs indicated counter-factive and non-factive reporting, where the news articles either questioned the truth of the statements given by news sources or presented them neutrally. Malaysian journalists tended to emphasise use of the author’s stance rather than the writer’s stance to avoid expressing their attitudes towards the information given by news sources. This finding is similar to Nkansah’s (2013) finding on stance in Ghanaian news articles, showing that the dominance of author’s stance in news articles may be common in news reports. Nkansah (2013) analysed front page news stories and no specific topics were focussed on, whereas the present study focussed on tragedies. Yet the findings on the infrequent inclusion of the writer’s stance are similar. In Malaysia, front page stories are usually on sensational news (e.g., tragedies), government announcements, events attended by ministers and major events in the society. Extrapolating from the findings, it is possible that front page stories in Malaysian newspapers would show more author’s stance and less writer’s stance in terms of the frequency of reporting verbs used.

The study also revealed that New Straits Time and The Star hardly used the negative and neutral author’s stances in their articles on MH370 and MH17. There seems to be an avoidance of negative author’s stance such as speculations, rumours and false leads which might be traumatic to families who experienced loss of lives as well as organisations and countries affected by the catastrophe. The two newspapers relied on the positive author’s stance which concentrated on presenting the news as true and accurate. The positive reporting verb “said” and “told” are the two most frequently used reporting verbs because they are the most generic forms of verb. The inclination of news articles towards positive author’s stance is consistent with findings from media framing studies such as Ting et al. (2020) who found that news articles on the 1MDB financial scandal were written with minimal evaluative judgements and negative adjectives, but the news sources are chosen to indirectly show their position on the scandal. For example, activists and advocate groups are likely to give opinions contrary to the government position. Floyd (2000, p. 43) rightly stated that “most news is in fact reported speech” and journalists who can interview more news sources are considered to be better at gathering news.

As for the writer’s stance, both newspapers had similar percentages of counter-factive and non-factive reporting verbs in their news on the disappearance of MH370 but there was little use of factive reporting verbs. In other words, the two newspapers were inclined to either question the truth of information presented by the news sources quoted in the articles or to give no indication of the writer’s attitude towards the information. The journalists did not go out of their way to portray the news sources as presenting true information. The unfolding events and information updates were presented as a matter of fact. Nevertheless, in the reporting of MH17, The New Straits Time (60.38%) was inclined towards more critical reporting compared to The Star (42.51%), evident in more frequent use of reporting verbs associated with a counter-factive writer’s stance. The study showed that the articles on airplane catastrophes leaned towards safe reporting focussed on the available details of the incidents. Focussing on news sources presenting true information or opinions minimises the circulation of fake news which may mislead readers into developing beliefs,

attitudes, or perceptions which are misplaced. This is part of responsible reporting which Malaysian newspapers seemed to adhere to more than foreign press (Alias, 2017).

CONCLUSION

The present study has uncovered a link that has not been highlighted in other academic publications on reporting verbs. The low frequency of factive reporting verbs for the writer's stance may be linked to the high frequency of positive author's stance in contexts where the norm is safe reporting and where journalists do not usually engage in speculative discourse. The factive writer's stance means that the writer portrays the author as presenting true information using reporting verbs such as "emphasise" and "point out" while positive author's stance means that the author is reported as presenting the information as true using reporting verbs such as "bring out" and "demonstrate". In other words, if the journalist chose to signal that the statement given by news source is correct, there is little need to emphasise the validity of the information by proclaiming his or her positive attitude towards the truth value of the statement. The writer's stance becomes pertinent only when the information given by news source is unexpected or appears questionable to the journalist, and the journalist then feels a need to suggest that the information may be false. However, the possible link between the frequency of reporting verbs for positive author's stance and factive writer's stance needs to be further examined.

In the present study, the focus was on reporting verbs and other linguistic features of the news reports were not analysed. Alias's (2017, p. ii) analysis of MH370 news articles in 10 Malaysian and foreign newspapers showed that "the speculative discourse is reflected through immense utilisation of modals of probability, speech act verbs, apologetic quotation marks, hypothetical questions, as well as excessive utilisation of passive voice". Analysis of language features of speculative news discourse may uncover more nuances of how journalists shape readers' views of events and issues because the present study showed that journalists seemed to have refrained from putting in the writer's stance on developments in the investigation of the two airplane catastrophes. However, the journalists' attitude may be reflected in less obvious ways through reporting verbs. Therefore, future studies on newspaper articles on tragedies and other sensational news that capture worldwide attention should also investigate the use of other linguistic elements, particularly speculative language, as well as the organisational structure of the articles to attain a holistic understanding of how negative incidents with uncertainty are handled by newspapers to satisfy the curiosity of the readers for news.

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Coffee Consumption and the Sustainability of the Coffee Industry in Malaysia

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ABSTRACT

Malaysia's popular beverage has always been tea; however, current trends show an increase in coffee consumption among its population. The introduction of international coffee chains and the adoption of the coffee culture among the overseas educated has led to an increase in coffee consumption in Malaysia. Hence, the objective of this research was to determine the trend of coffee consumption in Malaysia; to investigate consumers' perception of drinking coffee and to study the efforts carried out to sustain the Malaysian coffee industry. The study was conducted via an online self-administered questionnaire uploaded in Google Form. The results, obtained from 174 respondents, showed that 77.6% of participants consumed coffee. The main reasons for coffee consumption are "the taste" (69.6%); "to boost energy" (60.0%) and "to start up the day" (58.8%). 92.5% make their coffee at home or in the office. Low disposable income and restrictions imposed by the current pandemic has led to 62.7% of the respondents purchasing brewed coffee less than once a week. 55.5% buy their coffee from branded outlets (Starbucks, Coffee bean and tea leaf, McCafé) compared to 46.7% from non-branded outlets (*kopitiams*, office canteen). The survey has shown that Malaysian residents have become more discerning in their coffee consumption. Statistically too, total coffee consumption in Malaysia has been increasing since 2020, Covid-19 notwithstanding. Currently Malaysia only contributes 0.16% of the global coffee production; however, studies show that efforts are being carried out to improve the local coffee industry, especially with respect to coffee farming. This will lead to a twofold benefit to the Malaysian economy: firstly, local roasters will be able to source locally grown premium coffee beans, which could hopefully lead to a niche coffee brewing industry and secondly, coffee farming can serve as an alternative cash crop to the once lucrative oil palm industry.

Keywords: Coffee consumption, coffee production, Malaysia, sustainability

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INTRODUCTION

Coffee is one of the most popular beverages in the world today. It has been estimated that over the period 2019-2020, around 164,487 (60 kg) bags of coffee were consumed globally (International Coffee Organisation, 2020). It is considered the second-best-selling product globally after petroleum products (BLLNR Singapore, 2020). People drink coffee because they like the taste (69%) and to boost their energy levels (62%) and only 10% drink it because of health benefits (MyFriendsCoffee, 2021).

Historically Malaysians have preferred drinking tea as their main beverage, however recently, the country has also started a strong culture of drinking coffee. The coffee culture in Malaysia started in the Colonial era with the Hainanese Chinese opening of *kopitiams* ('kopi' means coffee in Malay and 'tiam' is Hokkien/Hakka for shop) (Khoo, 2009, as cited in Khazanah Research Institute, 2019; The Sun, 2017). These *kopitiams* started as small stalls that are found in neighbourhoods or side streets that sell cheap coffee along with snacks (Khazanah Research Institute, 2019). The coffee is called *kopi* and it is a concoction of roasted *Liberica* coffee with mixture of sugar and condensed milk or evaporated milk. The beans are roasted with sugar and butter to create a more palatable drink (De'Longhi Coffee Lounge, 2019).

Additionally, coffee or tea is also served along with snacks by house owners to their guests to show appreciation for their visit (Countries and their Culture, 2021). Due to urbanisation and the introduction of Western culture into the Malaysian lifestyle, international coffee chains were introduced during the 1900s. The introduction of cafés like Starbucks and Coffee Bean and Tea Leaf has contributed to the upgrade of *kopitiams* to a more modern version like Old Town White Coffee (Khoo, 2009, as cited in Khazanah Research Institute, 2019; Lee, Rajaratnam, and Konar, 2018). These international chain cafés also caused a change in the trend of coffee consumption. Today, coffee is popular among the younger generation in Malaysia specially the Western style of coffee (Lee et al., 2018). They prefer the cafés because these places provide a range of reasonably priced coffees compared to the restaurants and bars. In addition, these places also provide a perfect ambience for patrons to socialise with friends. Prior to the pandemic, the popularity of coffee consumption was more common in these cafés rather than in the home (Lee et al., 2018).

Today, the coffee industry in Malaysia is booming and becoming more competitive. Coffee shops are expanding and growing, which includes both the international coffee chains as well as the local cafés. More people are consuming coffee, and it is becoming more of a regular drink specially among the young millennials. Malaysia is included among the top 50 coffee consuming countries (Rahim, Jin, and Fong, 2019). A statistical analysis on coffee consumption in Malaysia from 2013 – 2022 (forecast) (see Figure 1 below) shows that coffee consumption has been increasing from 635 thousand 60kg coffee bags in 2020 to 800 thousand 60kg coffee bags in 2021 and 2022 (Statista, 2021). This fact warrants a study into the current coffee consumption trend in Malaysia and the factors that contribute to these changes.

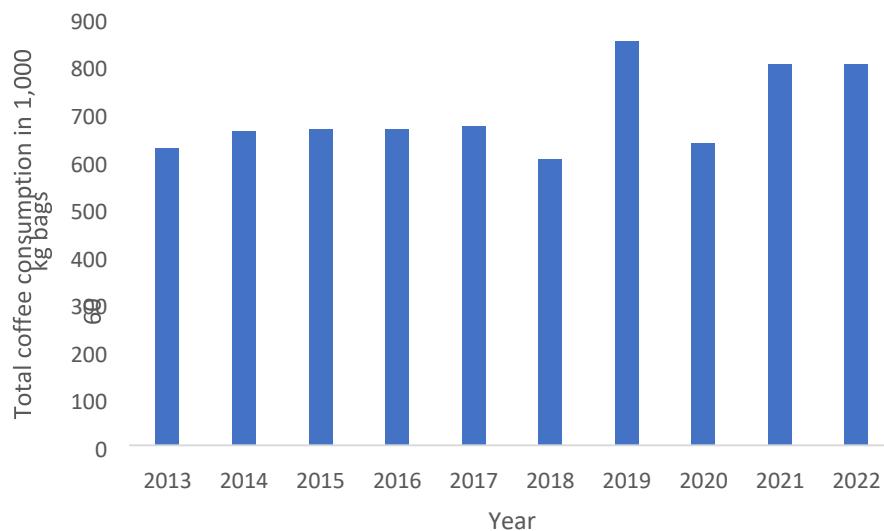


Figure 1. Total coffee consumption in Malaysia from 2013-2022 (Statista, 2021)

Past studies carried out on coffee consumption in the Malaysian context were limited to either a specific generation or to a specific city (Hashim, Mamat, Nasarudin, and Ab Halim 2017; Haque, Hashim, Rusal, and Haque, 2015). Other studies focused on factors (price, branding, quality, packaging) that influence the purchase intention of coffee (Harith, Ting, and Zakaria, 2014; Rahim et. al., 2019), or reasons that support the patronisation of specialty coffee shops (Lee et al., 2018; Lee, 2019). The main objective of this research was to determine the trend of coffee consumption in Malaysia, with the subobjective of investigating consumers' perception of drinking coffee and efforts being undertaken to sustain the Malaysian coffee industry. The uniqueness of the current study lies in the fact that it aimed to investigate the trend in coffee consumption (not purchase intention or health benefits) amongst all residents of Malaysia, aged 18 and above regardless of nationality, ethnicity, or locality.

Although coffee consumption in Malaysian is increasing, currently Malaysia only contributes to 0.16% of the global coffee production (Food and Fertilizer Technology Center for the Asian and Pacific Region, 2016). The low

prices that coffee beans fetch in Malaysia has made it unprofitable for farmers to invest in coffee farming. The second part of the study thus investigates the efforts being undertaken to develop the Malaysian coffee industry. With falling palm oil prices, it would be beneficial for Malaysia to consider an alternative cash crop to help stimulate its economy. Moreover, if local roasters can source locally grown premium coffee beans, this could lead to a niche local coffee brewing industry. Resulting in a more lucrative coffee farming industry. It is hoped that the findings of this study and the subsequent literature review will justify Malaysia's development of its coffee industry.

METHODOLOGY

An online self-administered questionnaire was designed for this study. The platform for this survey was Google Forms. The link of the survey was shared via social media platforms like Facebook and WhatsApp. Prior to starting the questionnaire, the participants were briefed about the purpose of the study. This research was conducted in strict confidence, as respondents were not required to divulge their names on the questionnaire. The questionnaire consisted of nineteen questions, categorised into two sections. The sections included the demographic and the coffee consumption data. Demographic data included gender, ethnicity, occupation, income and age. Consumption data contained questions on the reasons for drinking coffee; if respondents made or purchased their coffee; and the frequency of their purchases. The questions were constructed based on the objectives of this research and the literature review carried out on previous studies (Hashim et al., 2017; Haque et al., 2015). The questionnaire was set entirely in English.

Random sampling method was employed in this study. This study was open to participants aged 18 years and above regardless of ethnicity and gender, with the only criteria being that they reside in Malaysia. Those who met the criteria were invited to participate after being briefed about the survey. Briefing consisted of an introductory page attached to the survey indicating the purpose of the study. Participation was entirely voluntary.

The results from the survey were retrieved from the database in the Google Form. The retrieved data was analysed using Microsoft Excel 2016. The data was filtered in Excel to find the demographic numbers and percentage of respondents who consumed coffee. In addition, the data was filtered to find out if there was a link between the reasons for drinking coffee and gender/age/income. Also, the spending power and home coffee consumption was linked with gender, age and income.

Analysis of the data obtained from the survey was used to address the first and second research objectives. The third research objective, based on literature review, was analysed for the activities being undertaken to increase coffee production in Malaysia to determine if they were justifiable and sustainable.

RESULTS & DISCUSSION

Demographic data

Out of the 174 respondents who completed the survey, 135 were coffee drinkers. Table 1 below shows the percentage according to gender, age, occupation and income of these 135 respondents.

Table 1. Demographics of respondents who consumed coffee.

Demographic characteristic		Percentage consuming coffee	Number of respondents
Gender	Males	32.6	135
	Females	67.4	
Age	18-30 years	70.4	
	31-45 years	20.7	

	46-55 years	5.2	
	56-65 years	3.0	
	66-75 years	0.7	135
Occupation	Government sector	2.2	
	Private sector	34.8	
	Self-employed	5.2	
	Students	49.6	
	Unemployed	8.2	135
Income	Below RM 1000	46.7	
	RM 1001 – 3000	25.2	
	RM 3001 – 5000	17.0	
	RM 5001 – 10000	9.6	135
	Above RM 10000	1.5	

Based on the data in Table 1 the highest percentage of coffee consumers are between the ages of 18 to 30 years (70.4%). Only 3.7% of the participated coffee consumers are above 55 years old. Most of the coffee consumers are either students (49.6%) or people working in private sectors (34.8%). 71.9% of the participants have a monthly income of below RM 3000. The Department of Statistics Malaysia (2020) reported that in 2019 the average household monthly disposable income in Malaysia was RM6,764. Hence, it can be said that most of the people who participated in this survey had low disposable income.

Based on the results obtained from the current survey, the percentage of young females (67.4 %) consuming coffee is higher compared to males (32.6 %). This data is slightly skewed as most of the participants were young females. The reason for this could be the fact that females respond to online surveys more often compared to males (Culture Counts, 2020). Furthermore, the participants are mainly from the younger generation. This could be because older people are less aware of internet-based surveys and have less accessibility to the internet (Remillard, Mazor, Cutrona, Gurwitz, and Tjia, 2014). According to statistics obtained from the European union, people aged 65 years and above are under-represented among internet users (Eurostat, 2014). Moreover, surveys that rely only on the internet can have significant biases due to non-response and under coverage (Neves, Fonseca, Amaro, and Pasqualotti, 2018).

Consumption data

As can be seen from Figure 2 below, the most consumed beverage is coffee (77.6%) followed by tea (76.4%) and malt drinks (60.3%). This collaborates the findings that coffee has now become the most popular beverage of Malaysians, especially among the young (aged 18-30) (The Malaysian Reserve, 2018) and is further substantiated by statistical data that shows that total coffee consumption in Malaysia has been increasing since 2020, the Covid19 pandemic notwithstanding (Statista, 2021). The findings meet the first research objective.

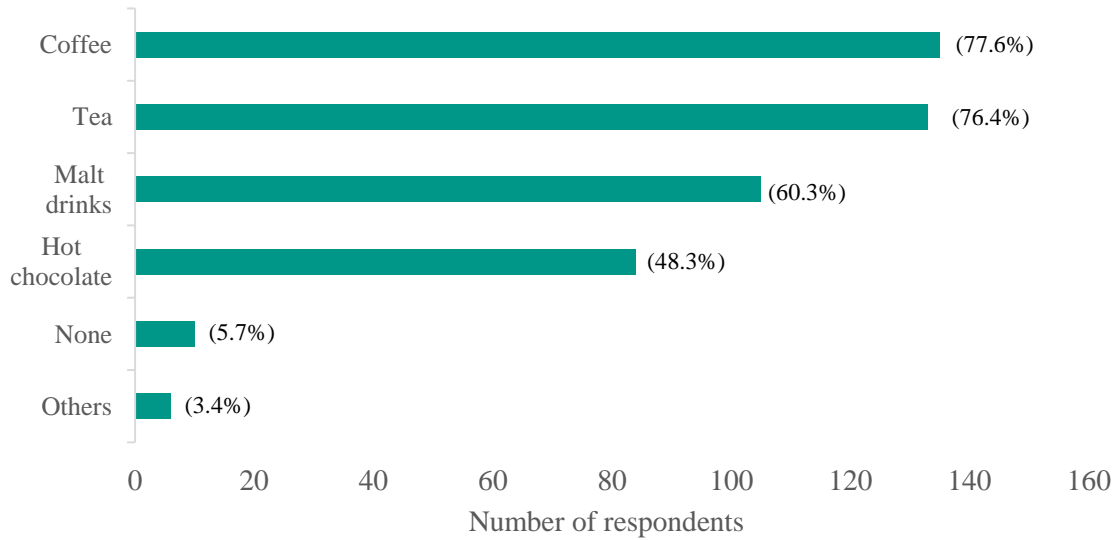


Figure 2. Types of beverages consumed by respondents

Values depicted in brackets in Figures 3, 4 and 5 below represent the percentage of respondents who consume coffee (n=135). According to Figure 3, the main reasons for coffee consumption are “the taste” (69.6%) followed by “to boost energy” (60%) and lastly “to start up the day” (57.8%). Only 17.8 % drink coffee for its health promoting benefits. For coffee drinkers, coffee is a great way to get them up and going and prepares them to begin their workday (Samoggia & Riedel, 2019).

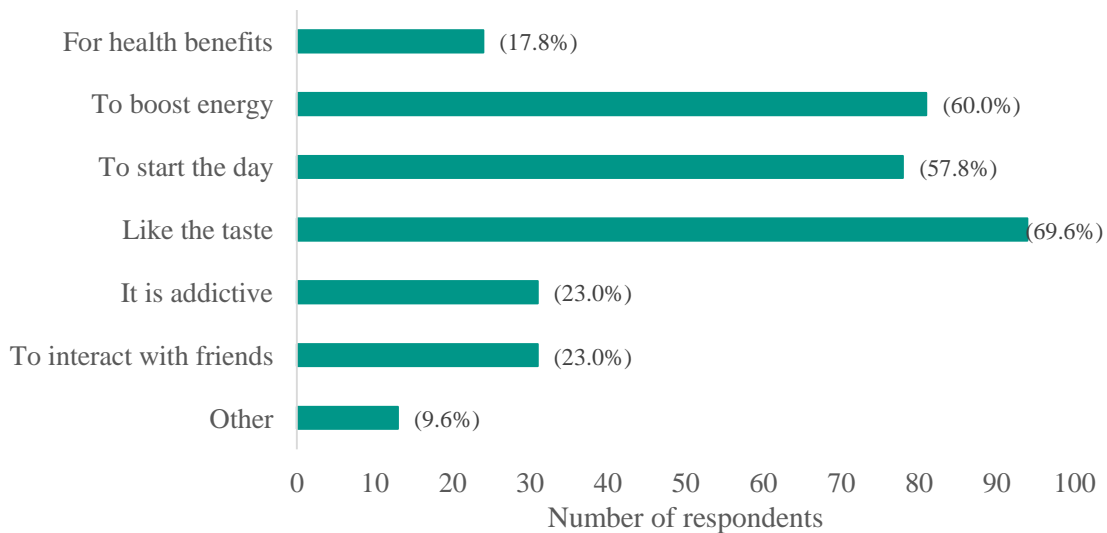


Figure 3. Reasons for drinking coffee

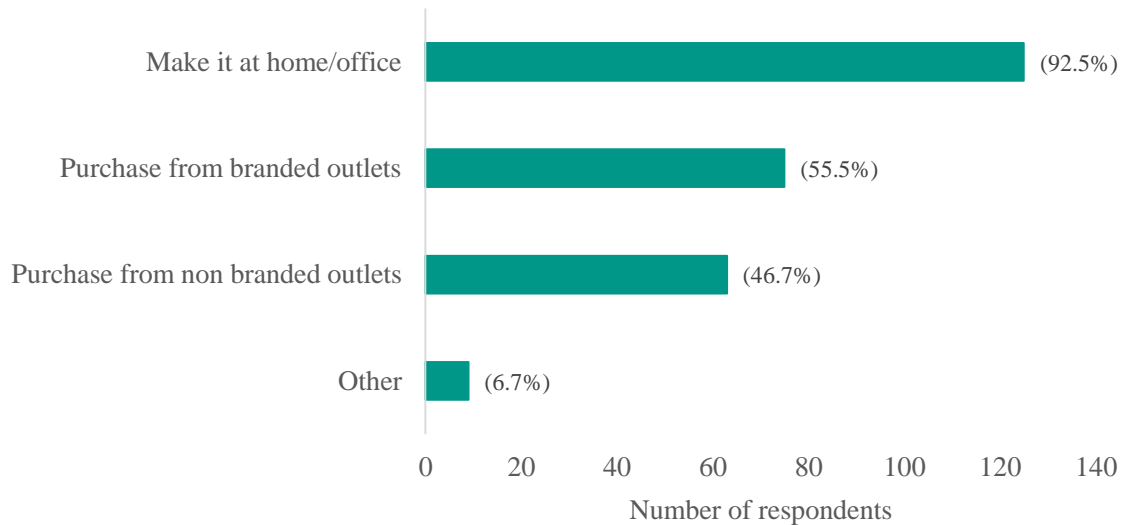


Figure 4. Location of coffee consumption

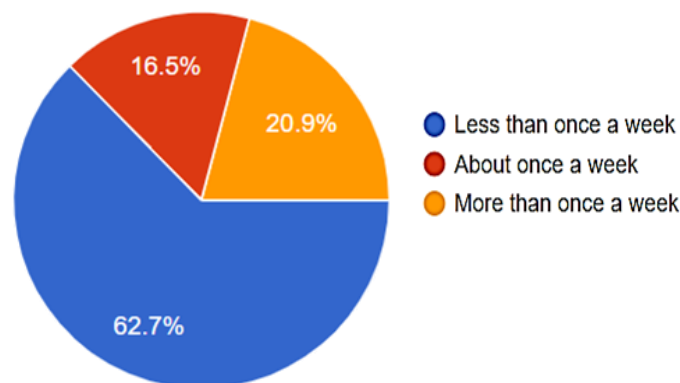


Figure 5. Frequency of purchasing a cup of coffee

According to Figures 4 and 5 above, 92.5% of people prepare their own coffee, either at home or in the office, with most (62.7%) purchasing from outlets less than once a week. The data is justified when considering the fact that most participants had low disposable income. The majority (71.9%) of the participants earn less than RM 3,000 per month, with 57.8% being still at school or unemployed (Table 1). Thus, most respondents cannot afford the luxury of purchasing coffee. Buying coffee from outlets also affords consumers a place to socialise but with the pandemic most food and beverage outlets, cafés, restaurants and even coffee shops were closed with people being restricted to having their meals and beverages at home. This has thus led to more people (92.5%) preparing their own coffee at home. It has been found that in the US, 85% of coffee consumers have at least one cup at home (up 8% since January 2020) (PR newswire, 2021).

For those people who do occasionally buy their coffee, 55.5% purchase their coffee from branded outlets (Starbucks, Coffee bean and Tea leaf, McCafé) compared to 46.7% from non-branded outlets (*kopitiams*, food court, office canteen). The price of a cup of coffee can range anywhere from RM 6 -15 in branded outlets to RM 2 -3.50 from the *kopitiam* (Khazanah Research Institute, 2019). This shows that for those respondents who do purchase their coffee, albeit less than once a week, they do not mind splurging out on the occasional cup of branded coffee, thus

indicating that young Malaysian residents have become more discerning in their choice of coffee. Figures 3,4, and 5 have addressed consumers' perception (reason, location and frequency of purchase) of coffee consumption thus meeting the second research objective.

Efforts undertaken to sustain the Malaysian coffee industry

In its Third National Policy (NAP3, 1998-2010)([Federal Agricultural Marketing Authority, nd](#)), Malaysia identified coffee as one commodity that deserved to be developed (Food and Fertilizer Technology Center for the Asian and Pacific Region, 2016). Some of the objectives of this policy include increasing productivity and competitiveness of the sector (coffee farming) by deepening linkages with other sectors (brewing and roasting of coffee), to create new sources of growth for the sector and to conserve and utilise natural resources on a sustainable basis (Federal Agricultural Marketing Authority, n.d.). The above finding has indicated that there is an upward trend of coffee consumption in Malaysia, and it would benefit the country to start increasing its coffee production from the current 0.16% of the global coffee production. This would not only lead to an alternative cash crop for struggling farmers but would also encourage the entrepreneurship of locally brewed speciality coffee, which would ultimately benefit the Malaysian economy.

The main challenge faced by Malaysian farmers is selling their coffee beans at a suitable price to the local buyers. Coffee beans are non-perishable and requires less capital than vegetable farming. It is believed that farmers are willing to plant coffee if they can sell their beans at a premium price. Moreover, sharing the positive feedback from the downstream players can boost the farmers' confidence and enable them to sell high quality beans to the downstream players (like local roasters). The local roasters face issues in buying high quality coffee beans as they have to import beans from other countries, which is costly, so buying premium coffee beans from the local farmers can be a solution. In order to improve the local coffee industry, Sabarica , [producers of Sabah's Arabica coffee species](#), is trying to create awareness among the local roasters about the availability of Arabica coffee beans in Sabah (The Edge Markets, 2020). As of January 2020, with the help of Sabarica there are 40 local farmers growing Arabica coffee plants. Moreover, Sabarica is trying to grow different varieties of Arabica coffee plants in Sabah such as Gesha coffee. Arabica beans has high market demand and can fetch farmers a better price (The Edge Markets, 2020).

Another avenue that is being investigated is in improving the public perception of Liberica coffee (coffee variety that is most widely grown in Malaysia). According to the Perfect Daily Grind (2019), Earthlings Coffee Workshop is trying to regrow Liberica plants in Kuching, Sarawak, and as such, public cuppings are held in their specialty coffee shop so that their customers can learn more about the Liberica flavours. In addition to being a specialty coffee shop, they also act as a training centre where roasting and processing techniques are trialed to improve the flavour of Liberica. In 2019, the Earthlings Coffee held the world's first Liberica roasting competition which acted as a pilot study to explore the different flavour potentials with different roasting techniques (Perfect Daily Grind, 2019). Additionally, the Earthlings Coffee Workshop's also aims to improve the potential of Sarawak grown coffee. They believe that choosing Liberica could be a sustainable choice when there is the threat to wild coffee diversity due to climate change. Additionally, this could also improve the local economy (Perfect Daily Grind, 2019).

In addition to Earthlings Coffee, My Liberica Coffee in Johor is working on improving the Liberica coffee. My Liberica has been planting Liberica in Kulai, Johor since 2009 (ThirstMag.com, 2018). It is believed that Robusta and Liberica are considered of low quality due to mishandling by farmers and traders during processing (ThirstMag.com, 2018). As of September 2018, there are 4 outlets of My Liberica in Johor and one outlet in Kuala Lumpur which serves Liberica of specialty graded coffee (ThirstMag.com, 2018). My Liberica cafés not only continues to introduce new recipes to keep up with the coffee trend but they also utilise every part of the plant such as the cascara (shell of coffee cherry), leaves and flowers to prepare drinks and fertilizers (ThirstMag.com, 2018). This is yet another avenue in which sustainability is being achieved in the coffee farming industry.

In 2019, Nestlé launched a program called "Nescafe Grown Respectfully" to improve the livelihood of local coffee farmers in Kedah and revive the local coffee industry (Nestlé, 2020). They initiated this program with the support of local partners to ensure that 100% of their coffee beans are responsibly sourced and sustainably certified by 2025 (Nestlé, 2020). With grafting technology, they have replicated the mother plant, grown since the early 1990s, to provide seedlings to farmers. They also provide trainings and technical assistance to the farmers to improve the productivity

and yield; this involves guiding farmers with best agricultural practices, optimising cost of production and post-harvest treatments. Nestlé also help farmers improve their livelihood by purchasing the beans that meet their stringent quality requirements. This also benefits Nestlé as these beans are used for their Nescafe products. Furthermore, it improves Nestlé's sustainable coffee supply chain. Nestlé target is to buy 100 metric tonnes of coffee beans by year 2022 through this program (Nestlé, 2020).

CONCLUSION

The findings of the study have indicated an upward trend in coffee consumption especially among the young. The millennials are more discerning of the coffee they drink and are willing to spend on quality. The authors therefore believe that there is a justifiable need for Malaysia to improve coffee farming to meet this demand. Moreover, this would not only increase the livelihood of the farmers, but also contribute to a sustainable economy.

Malaysia identified coffee as one produce that has the potential to be promoted and developed in its Third National Agricultural Policy (NAP3, 1998-2010) (Food and Fertilizer Technology Center for the Asian and Pacific Region, 2016). This study has shown that there are various activities being carried out to develop the coffee industry in Malaysia. Companies like Sabarica, Earthlings Coffee and Nestlé are helping to not only promote coffee farming but also to improve the quality of coffee beans using sustainable agricultural practices. The third and final objective of the study has thus been satisfied.

The finding of this research was limited by the online questionnaire employed in the methodology and hence is not a true reflection of coffee consumption amongst the general Malaysian population. The data is instead restricted to the respondents who were from the younger (aged 18-30) generation. The survey did however provide evidence that coffee consumption is increasing, and the subsequent literature review indicates that the Third National Agricultural Policy is being acted on. Coffee looks promising as a viable alternative cash crop for farmers. Moreover, coffee roasters would also be able to create quality local coffee brands which would meet the demands of coffee connoisseurs in Malaysia (and hopefully abroad). In Malaysia the current trend lies in specialty coffee. Specialty coffee is different from other coffees in that the quality is the main priority. To maintain quality, work is done at each process of the chain from the seed to the cup (The Specialty Coffee Company, n.d.). Future studies could look at consumer coffee preference and ways to improve the downstream processing of coffee beans.

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The Role of Foreign Direct Investment Inflows in Economic Growth in Malaysia

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ABSTRACT

The purpose of this study is to investigate the relationship between the inflows of Foreign Direct Investment (FDI) and economic growth in Malaysia. The sample collected for this empirical study covered 30 years of data from 1991 to 2020. The secondary data was collected annually and a total of 30 observations were taken for each variable. Ordinary Least Square (OLS) regression, unit root test, several diagnostic tests and Granger causality test were used in this research to investigate the relationship between FDI inflows and economic growth. Eviews 11 was used to analyze the time series data throughout all the tests. The result showed that the inflows of FDI has a significant negative relationship with economic growth and there is no causal relationship between FDI and Gross Domestic Product (GDP).

Keywords: Economic growth, FDI inflows, Granger Causality Test, Ordinary Least Square regression, Unit Root Test

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INTRODUCTION

Malaysia has recently been recognised as one of Southeast Asia's most successful Foreign Direct Investment (FDI) destination. FDI is an investment made by a firm or individual of one country into the business interests located in another country. For developed nations, FDI is regarded as a significant addition to a country's sustainable economic growth while for developing countries, it is regarded as an element to promote economic growth. However, there are few consistent assumptions. Abramovitz (1986) believes that the requirements for the host country to benefit from FDI inflows are human capital resources, economic and political stability, and market transparency. Borensztein, De Gregorio, and Lee (1998) concluded that the higher productivity of FDI only occurs when the developing host country has a minimum amount of human capital. According to Markusen & Maskus (2002), FDI can exert greater production performance. This is the long-term decisive factor. Factors relating to the activities of FDI are absolute or comparative domestic factors, taxation, market size or scope, and trade and investment costs in the target host country. According to the Bengoa and Sanchez-Robles (2003), the recipient country's economy needs human resources, economic stability and market liberalisation to benefit from long-term FDI inflows.

According to 2020 data from the International Monetary Fund, Malaysia's economy ranked 6th in Southeast Asia. Malaysia's market economy is newly industrialized, relatively transparent and country-oriented. Trade and investment transparency has played a major role in job development and the growth of profits. However, the COVID-19 pandemic in 2020 will have a significant economic impact on Malaysia. Cheng (2020) reported that this pandemic would have a devastating effect on the Malaysia's economy. However, in the past 30 years, FDI has been accepted as a primary predictor of economic growth in Malaysia. Malaysia has worked closely with the private sector as a developing nation to speed up the rate of industrialization and highlighting positive economic growth. Malaysia has been listed as one of the top 25 foreign investment destinations in the Association of Southeast Asian Nations (ASEAN) countries. Foreign direct investment is the main stimulus for a country's economic growth. Therefore, this study aims to investigate the relationship between the inflows of FDI and economic growth in Malaysia based on the endogenous growth theory, which theorises that FDI causes economic growth via technology transfer, diffusion and spillover effects (e.g. Nair-Reichert and Weinhold, 2001; Borensztein et al., 1998; de Mello, 1999; Elboiashi, 2011 and Al Nasser, 2010).

LITERATURE REVIEW

Most of the empirical studies on the role of FDI show that FDI is a significant source of finance, a complement to domestic private investment, traditionally linked to new opportunities for employment and technology transfer and can foster the host country's overall economic development. Several studies have been conducted and examined the relationship between FDI inflows and economic growth; they noted significantly positive, negative or even irrelevant relationships, while other studies have found a causal relationship between the two variables.

Mokuolu (2018) used least squares regression analysis and autoregressive distributed lag (ARDL) model and found a strong positive relationship between FDI and economic growth in Nigeria from 1960 to 2008. Neto and Veiga (2013) used panel data sets covering 139 countries from 1970 to 2009 to study the effect of foreign direct investment on growth and found that FDI have positive effects on GDP growth. Balasubramanyam et al. (1996) used cross-sectional data related to 46 developing countries from 1970 to 1985 and OLS regression to find that FDI has a positive impact on the economic growth of the host country. Olofsdotter (1998) used cross-sectional data and the OLS regression from 1980 to 1990 covers 50 countries and found that the increase in FDI stock is positively correlated with growth. According to the research of Okonkwo, Egbunike, Udeh, and Francis (2015), they studied Nigeria's foreign direct investment and economic growth from 1990 to 2012 by using ordinary least squares (OLS) estimation techniques. FDI has led to Nigeria's export growth. The results of this study show that FDI has a positive relationship with economic growth.

Fry (1993) used OLS regression to analyse the effects of FDI on economic growth in 16 developed countries over the period 1975 to 1991. There is a negative relationship found between two variables in 11 developed countries while positive relationship found in Pacific Basin countries. Khaliq and Noy (2007) used detailed sectoral data FDI inflows to Indonesia from 1997 to 2006 to investigate the impact of FDI on economic growth. This study uses OLS fixed effects regression. The results show that mining and quarrying have a negative impact on economic growth. Bornschieer, Chase-Dunn, and Rubinson (1978) used OLS regression to study the relationship between FDI and economic growth in 76 underdeveloped countries from 1960 to 1975. The results show that foreign direct investment has a negative relationship with the economic growth of developing countries.

Carkovic and Levine (2002) analyzed the relationship between FDI inflows and economic growth in 72 developed and developing countries from 1960 to 1995 by using GMM for cross-sectional OLS analysis and dynamic panel data analysis. The conclusion is that there is no strong relationship from foreign direct investment to the economic growth of the host country. Azman-Saini et al. (2010) studied the link between FDI and economic growth in 85 countries from 1976 to 2004. The result shows that there is no significant relationship has been found. Sarkar (2007) uses panel data covering 51 underdeveloped countries from 1970 to 2002 to study the relationship between FDI and economic growth. The ordinary least squares (OLS) fixed and random effects regression used in this study. There is no long-term relationship between foreign direct investment and economic growth.

Nair-Reichert and Weinhold (2001) applied fixed and random mixed estimation methods to study the relationship between FDI and economic growth in 24 developing countries from 1971 to 1995. The researchers examined evidence of Granger causality. Therefore, a causal relationship found between FDI and economic growth. Liu et al (2000) examined the relationship between China's economic growth, foreign direct investment and trade. The study found that there is a bi-directional causal relationship between FDI, growth and exports. Based on panel cointegration and causality test, Basu et al. (2003) found that between 1978 and 1996, there was a two-way causal relationship between economic growth and FDI in 23 developing countries. Ericsson and Irandoust (2001) studied the causal relationship between FDI growth and output growth based on the data of Denmark, Finland, Norway and Sweden from 1970 to 1997 under the multi-country framework of four OECD countries. They could not find any causal relationship in Finland and Denmark but there is a causal relationship in Norway. Chowdhury and Mavrotas (2005) used lag-augmented vector autoregression to study the relationship between FDI and economic growth in three developing countries, namely Chile, Malaysia, and Thailand from 1969 to 2000. They found no relationship in Chile, while for Malaysia and Thailand, there is strong evidence that there is a two-way causal relationship between the two variables.

Duasa (2007) studied the causal relationship between FDI and output growth in Malaysia from the first quarter of 1990 to the fourth quarter of 2002. The study does not have strong evidence to prove that there is a

causal relationship between FDI and economic growth. This shows that in Malaysia, FDI does not cause economic growth. Chakraborty and Nunnenkamp (2006) tested the relationship between Indian FDI and economic growth from 1987 to 2000 by using Granger causality test within the framework of panel cointegration. The results showed that no causality was found in India's primary industry.

The results from the findings above are mixed. Although most of the empirical studies show that there is a significant positive relationship between FDI inflows and economic growth but some of the empirical studies show that there is a significant negative relationship between two variables and even the relationship between two variables does not exist. The findings also show that the causal relationship between two variables only found in several studies while there is no causal relationship found in some of the studies. This again shows that the relationship between foreign direct investment inflows and economic growth is far from straightforward. It varies by country and time period. In addition, the above causality test still has some shortcomings. Therefore, there is a need to further investigate the relationship between FDI inflows and economic growth, with the following hypotheses:

H₀: There is no relationship between FDI inflows and economic growth.

H₁: There is a significant positive relationship between FDI inflows and economic growth.

METHODOLOGY

In this study, the independent variable is the inflows of FDI while dependent variable is economic growth and calculated as Gross Domestic Product. Data was collected over 30 years period from year 1991 to 2020, 30 observations are taken. The data of gross domestic product collected from World Development Indicator (WDI) by World Bank and denominated in Ringgit Malaysia in billion whereas net inflows of FDI collected from World Development Indicator (WDI) by World Bank and denominated in percentage of GDP. Econometric Views (Eviews) used to investigate the relationship between dependent and independent variable. There are few tests such as Ordinary Least Squares (OLS), Unit Root Test, Normality, Autocorrelation, Heteroscedasticity, Ramsey's RESET and Granger Causality are carried out to verify the problem that exists in the economic equation.

Model Estimation

Coefficient of variation (CV) is known as a tool of measurement for the average error of the sample regression function in this study. The functional forms which have been considered in this study are Linear model, Log-log model, Linear-Log model, Log-Linear model, and Reciprocal model. The coefficient of variation (CV) has been used to carry out comparison between all the five mentioned models equations. When the model has a smaller coefficient of variation (CV), the equation of the model will be more preferred in this study. The log-linear model has the smallest coefficient of variation (CV) among all models. Thus, the best model is the log-linear regression model. The equation of the empirical model is written as follow:

$$\text{LogGDP} = \beta_0 + \beta_1 \text{FDI}_t + \epsilon_t$$

Where,

LogGDP=Gross Domestic Product in log term

FDI=Foreign Direct Investment, net inflows

β_0, β_1 = Coefficient of the independent variables to be estimated

ϵ_t = random error term or disturbance error term

RESULTS

Table 1 shows the result of OLS. The relationship between the independent and dependent variables is determined using the OLS method. Based on the result, FDI and GDP have a negative relationship. When there is 1 percentage increase in FDI, the GDP will decrease by 0.182456 percentage point. Since the probability of FDI is 0.0018 which is lower than the significance level of 0.05, thus we do not reject the null hypothesis. Therefore, there is a statistically significant relationship between FDI and GDP. In addition, R-squared value (R^2) is 0.2992. It implies that 29.92% of the total variation in GDP can be explained by FDI. The remaining 70.08% is attributed to other factors.

Table 1: Result of OLS

Variable	Coefficient	Standard Error	t-Statistic	Probability
FDI	-0.182456	0.052776	-3.457172	0.0018
C	7.185813	0.231521	31.03736	0.0000
$R^2 = 0.2992$				

Table 2 shows the results of Augmented Dickey-Fuller (ADF) Test i at level and first difference for both Intercept and Trend and Intercept. The result shows that the probability of GDP is greater than 5% significance level at level whereas it is less than 5% significance level at first difference. The probability of FDI is smaller than 5% significance level at both level and first difference. Thus, it can be said that GDP is not stationary at level but is stationary at first difference whereas FDI is stationary in ADF Test at both level and first difference.

Table 2: Result of Unit Root Test

Variable	Level		First Difference	
	Intercept	Trend & Intercept	Intercept	Trend & Intercept
GDP	0.9012	0.6518	0.0013	0.0087
FDI	0.044	0.044	0.0000	0.0000

The diagnostic test used in this study are Jarque-Bera Normality Test, Breusch-Godfrey Serial Correlation LM Test, Heteroscedasticity-White Test and Ramsey RESET Test. Based on the result in Table 3, the probability of Jarque-Bera Normality Test is 0.4533 which is higher than 0.05. Thus, we do not reject the null hypothesis. Therefore, it can be said that the error term is normally distributed. Besides that, since the p-value of Breusch-Godfrey Serial Correlation Test LM Test is zero which is smaller than significant level, we reject the null hypothesis. Therefore, there is an autocorrelation in model. Moreover, we do not reject null hypothesis since the p-value of Heteroscedasticity-White Test is 0.0859 which is higher than 0.05. Thus, there is no heteroscedasticity among the error term. Next, the p-value of Ramsey RESET Test is 0.0953 which is higher than 0.05. Thus, we do not reject null hypothesis. It can conclude that the model is correctly specified.

Table 3: Results of Diagnostic Tests

Diagnostic Tests	P-value	Decision	Results
Jarque-Bera Normality test	0.4533	Do not reject null hypothesis	The error term is normally distributed.
Breusch-Godfrey Serial Correlation Test LM Test	0.0000	Reject the null hypothesis	There is autocorrelation in model.
Heteroscedascity-White test	0.0859	Do not reject null hypothesis	There is no heteroscedasticity among the error term.
Ramsey RESET test	0.0953	Do not reject null hypothesis	The model is correctly specified.

Table 4 shows the result of Granger Causality test, when the dependent variable is GDP and independent variable is FDI, null hypothesis cannot be rejected. This is due to the p-value of both variables is greater than 0.05. On the other hand, when dependent variable is FDI and independent variable is GDP, the p-value of both variables are greater than 0.05. Therefore, null hypothesis will not be rejected. It can be concluded that there is no direct causality between GDP and FDI.

Table 4: Results of Granger Causality Test

Null Hypothesis:	Observation	F-statistic	Probability
FDI does not Granger cause GDP	30	0.54959	0.5846
GDP does not Granger cause FDI		2.67260	0.0904

DISCUSSION

Simple Linear Regression Model is formulated to investigate the relationship between FDI inflows and economic growth. A total of 30 observations were extracted from yearly data from year 1991 to 2020. Descriptive analysis is conducted to summarize continuous data in this study. Based on the result of OLS regression, there is a substantial negative relationship found between FDI inflows and economic growth. The researchers such as Fry (1993), Khaliq and Noy (2007), Bornschier, Chase-Dunn and Rubinson (1978) also showed similar outcome. Besides, Unit Root Test is used to determine whether the variables are stationary. Augmented Dickey-Fuller (ADF) Test is used and test at level and first difference. Both variables are considered stationary at first difference. Moreover, diagnostic tests such as Jarque-Bera Normality Test, BG Serial Correlation Test LM Test, Heteroscedasticity White Test and Ramsey RESET Test are conducted to detect whether econometric problems occur. The results showed that the error term is normally distributed, no heteroscedasticity occur and correctly specified. However, the result showed the error term exhibits serial correlation problem and there is considered an autocorrelation in model.

Furthermore, in this study, the Granger causality test was employed to investigate the causal effect between measurable variables in the short term. The findings revealed that there is no direct causal relationship between FDI inflows and short-term economic growth. This result is supported by Ericsson and Irandoust (2001), Chowdhury and Mavrotas (2005), Duasa (2007) and Chakraborty and Nunnenkamp (2006). In short, economic growth does not Granger cause FDI inflows and FDI inflows does not Granger cause economic growth. Possible reasons could be the steady decline of FDI flows over the period of 2015 – 2020, which was made worse due to the effect of the Covid-19 pandemic and the resulting recession in 2020 (OECD, 2020). In fact, FDI flows to developing nations were projected to fall even more since industries significantly damaged by the epidemic, such as agriculture and manufacturing, account for a bigger part of their FDI than in developed economies (OECD, 2020).

CONCLUSION

The aim for this research is to investigate the relationship between FDI inflows and economic growth in Malaysia for the periods of year 1991 to 2020. Statistical analyses were systematically carried out through Ordinary Least Squares (OLS), Unit Root Test, Normality, Autocorrelation, Heteroscedasticity, Ramsey's RESET and Granger Causality test. Based on the result, there is a significant negative relationship and no direct causal relationship between FDI inflows and economic growth. The error term is normally distributed, no heteroscedasticity occur and correctly specified, however, there is considered an autocorrelation in model. There are some recommendations for researchers who want to undertake comparable research in the same field as this study. It is suggested that future researchers use the latest software which is Stata or Eviews to run the data for more accuracy. Besides, the sample size in the model should be increased. Future researchers are particularly encouraged to conduct such studies using monthly or quarterly data. The reason for this is that the larger the sample size, the more information and accuracy the model's output will be. Therefore, the result will have less econometrical problems that affect the accuracy of research.

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Pandangan Dalam Kalangan Kaum Melayu dan Cina di Kawasan Sibu Terhadap Cukai Barang dan Perkhidmatan (GST)

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ABSTRAK

Pelaksanaan GST merupakan satu strategi makroekonomi dalam merangsang pertumbuhan ekonomi di peringkat nasional. Pengumuman pelaksanaan Cukai Barang dan Perkhidmatan (GST) untuk menggantikan Cukai Jualan dan Perkhidmatan (SST) pada April 2015 yang lepas telah membangkitkan keresahan dalam kalangan masyarakat. Lebih keruh lagi apabila masyarakat terpengaruh oleh andaian negatif tentang GST dan pada masa itu, Barisan Nasional (BN) terpalit dengan skandal rasuah serta hutang negara melambung naik. Keresahan rakyat apabila terdapat persepsi bahawa GST berpotensi untuk meningkatkan kos sara hidup. Tingkah laku politik masyarakat juga berubah terutamanya semasa Pilihan Raya Umum ke-14 apabila pertama kali dalam sejarah UMNO-BN telah kalah dan diganti dengan Pakatan Harapan (PH). Tujuan kajian ini adalah untuk menganalisis persepsi kaum Melayu dan Cina terutamanya di sekitar kawasan Sibu yang berada di kawasan Democratic Action Party (DAP) iaitu parti pembangkang, terhadap pelaksanaan GST dari aspek pengetahuan am mengenai GST, kesannya terhadap taraf kehidupan dan sumbang saran dasar tersebut kepada mereka. Objektif kajian ini adalah menunjukkan bahawa terdapat persamaan dan perbezaan mengenai GST dalam kalangan kaum Melayu dan Cina serta mengenal pasti sama ada kaum Melayu masih setuju dengan pelaksanaannya jika kutipan GST untuk membayar hutang negara.

Kata kunci: Cukai Barang dan Perkhidmatan, perbezaan idea, persepsi masyarakat, kaum, tafsiran

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PENGENALAN

Tahun 2018 begitu penting bagi Malaysia kerana pada tahun tersebut kita dapat menyaksikan berakhirnya pemerintahan selama 60 tahun Barisan Nasional (BN) yang ditewaskan oleh gabungan parti politik Malaysia, Pakatan Harapan (PH). Keputusan Pilihan Raya Umum ke-14 pada 9 Mei 2018 menunjukkan BN hilang sebanyak 143 daripada 222 kerusi parlimen dan kalah di lapan buah negeri iaitu Perak, Negeri Sembilan, Kedah, Sabah, Selangor, Melaka, Pulau Pinang dan Johor. Kemenangan PH semestinya kerana janji-janji yang ditabur semasa berkempen untuk meraih pengundi. PH telah mengeluarkan manifesto '100 Hari 10 Janji' yang digariskan dalam Buku Harapan. Ini telah memberikan kejayaan besar buat PH. PH juga buat pertama kalinya dapat menawan Dewan Parlimen.

Pelaksanaan GST merupakan keputusan paling susah untuk diterima oleh setiap kaum di Malaysia namun merupakan inisiatif terbaik untuk memulihkan ekonomi negara. Begitu banyak pihak mempertikaikan keperluan pelaksanaan GST seperti kenaikan harga barangan, ketidakseimbangan kenaikan gaji dan harga barangan dan perkhidmatan, ketidakpuasan hati dalam kalangan sesama pemimpin parti dan penyalahgunaan kuasa dalam kalangan pemimpin (Norhayati, 2008; Nurazidah et al., 2013). Senario ini telah dianggap sebagai satu tanda bagi rakyat Malaysia untuk memilih kerajaan baharu yang menjanjikan pemansuhan GST. Ramai juga rakyat yang berpengetahuan luas dalam sistem percukaian Malaysia bersetuju bahawa GST membantu meningkatkan pendapatan mereka dari segi pengurangan kadar cukai pendapatan oleh kerajaan. Kaum Melayu dan Cina yang merupakan dua kaum terbesar di Malaysia juga tidak terkecuali dalam menyumbangkan persepsi tentang GST dan kenaikan kos sara hidup.

Oleh itu, sebelum melaksanakan GST sepenuhnya, BN mengambil kira pandangan kaum-kaum di Malaysia terlebih dahulu. Untuk mengelakkan masyarakat menolak pelaksanaan GST dan berasa terbeban, BN telah membuat pengecualian ke atas barangan keperluan asas seperti produk-produk pertanian, makanan asas

seperti beras, gula, tepung, minyak masak, dan sebagainya. Ternyata, pelaksanaan GST tidaklah seperti yang dibincangkan melalui media sosial iaitu semua barangan dan perkhidmatan dikenakan GST. Hal ini menunjukkan GST bukanlah sistem yang menindas rakyat seperti yang diuar-uarkan di media massa.

Sistem percukaian penting sebagai sumber pendapatan tambahan negara untuk menyediakan perkhidmatan awam seperti jaminan sosial, kesihatan, pertahanan nasional, dan pendidikan. Menyedari pentingnya pembaharuan cukai di Malaysia, Dato' Sri Haji Mohammad Najib memperkenalkan satu dasar ekonomi iaitu GST berkadar 6% pada 1 April 2015. Dasar awam ialah cadangan khas atau keputusan kerajaan untuk menyelesaikan masalah utama yang berpandukan konsep (Lassance, 2020). GST ada sejenis percukaian berkonsepkan cukai penggunaan iaitu semakin banyak perbelanjaan dan penggunaan perkhidmatan, semakin banyak cukai yang dibayar. Keputusan pelaksanaan GST juga adalah untuk memastikan pendapatan negara sentiasa mencukupi untuk menampung perbelanjaan tahunannya supaya setiap projek yang dirancang dapat dijalankan. Dye (1972) pula melihat dasar awam sebagai keputusan, tindakan dan apa-apa sahaja yang dipilih oleh pemerintah sama ada dilaksanakan atau tidak. Kerajaan akan memilih sama ada untuk melaksanakan atau sebaliknya sesuatu dasar dalam menyelesaikan konflik dalam masyarakat. Bagi Mackay (2005), dasar awam dibuat oleh pihak berkuasa yang sah iaitu orang terpilih. Pihak berkuasa yang sah ini juga dikenali sebagai eksekutif politik. Ini menjadikan sesuatu dasar yang diketengahkan akan dibincang bersama dengan perdana menteri dan kabinet.

Peters (2015) dalam bukunya *Advanced Introduction to Public Policy*, mendefinisikan dasar awam sebagai aktiviti yang dilakukan oleh kerajaan untuk tujuan mengubah ekonomi dan masyarakat mereka. Beliau berpendapat bahawa dasar awam ialah undang-undang yang dibawa dengan tujuan menguntungkan atau memberikan kesan kepada pengundi dalam beberapa cara. Pembaharuan cukai yang dilakukan oleh BN menunjukkan bahawa hasil kutipannya akan digunakan kembali ke atas rakyat kerana percukaian menyediakan kaedah untuk mengagihkan semula sumber ekonomi kepada mereka yang berpendapatan rendah atau yang berkeperluan khas. Dente (2014), dalam bukunya *Understanding Policy Decisions* menerangkan dasar awam sebagai satu set tindakan yang mempengaruhi penyelesaian masalah dasar, iaitu ketidakpuasan mengenai keperluan, permintaan atau peluang untuk campur tangan dalam masyarakat. Kualiti sesuatu dasar diukur dengan keupayaannya untuk memberikan nilai kepada masyarakat. Ini menunjukkan setiap dasar yang dilaksanakan hendaklah membawa nilai kepada masyarakat dan memberikan impak kepada kehidupan mereka. Jelas bahawa dasar pembaharuan cukai merupakan satu jalan untuk memulihkan ekonomi Malaysia sejurus menyelesaikan masalah masyarakat.

Sebagai parti yang telah memerintah hampir 60 tahun, BN percaya pembaharuan cukai diperlukan untuk menyusun semula struktur percukaian negara. Mereka juga sedar akan sistem cukai jualan dan cukai perkhidmatan yang sedia ada memiliki kelemahan iaitu kesan bertindih dan berganda, kesan cukai bertingkat, terdapat elemen SST yang terselindung dalam kos barangan yang dieksport dan melibatkan aktiviti pemindahan harga. Oleh itu, GST diperlukan untuk perolehan sumber hasil yang lebih stabil iaitu berasaskan penggunaan dan tidak dipengaruhi oleh faktor luaran. Sistem percukaian GST juga lebih efisien dan efektif kerana melibatkan kaedah perakaunan sendiri, mempunyai sistem semakan bersilang, meningkatkan pematuhan cukai dan mengurangkan karenah birokrasi. Tambahan pula, sektor ekonomi yang terselindung akan terdorong untuk menyertai GST.

SOROTAN LITERATUR

Cukai Barang dan Perkhidmatan

Sesebuah kerajaan yang memerintah memerlukan hasil untuk mentadbir negara. Negara yang kekurangan hasil menampung segala perbelanjaan untuk projek pembangunan melalui pinjaman dengan bank dunia. Kebergantungan kepada pinjaman semata-mata untuk menguruskan pembangunan tanpa mendapatkan sumber atau hasil lain dari dalam negara mengakibatkan sesebuah negara itu menjadi mufliis serta dikawal oleh bank pemberi pinjaman. Sebagai contoh, apa yang berlaku di negara lain seperti Greece dan Sepanyol iaitu negara mereka tidak mempunyai hasil yang mencukupi dan terpaksa meminjam dari luar sehingga menyebabkan matawang mereka jatuh teruk sehingga kini (Mohamad, Borhan & Ahmad, 2014).

Francis ialah negara pertama yang melaksanakan GST pada tahun 1954 (Cheng, 2020). Sejak pelaksanaan tersebut, terdapat anggaran lebih kurang 160 buah negara melaksanakan sistem percukaian ini walaupun dalam bentuk lain termasuk Canada, Australia, Singapura dan Malaysia sebelum Pakatan Harapan

menggantikan GST kepada SST. Malaysia sedang mengorak langkah ke arah pembangunan dan kemajuan. Kadar cukai yang dikenakan juga berbeza di setiap negara. Idea memperkenalkan Cukai Nilai Tambah (VAT atau 'value-added tax') di Singapura tercetus ketika Singapura menjadi sebuah negara republik. GST di Singapura merupakan bahagian terpenting daripada keseluruhan pakej pembaharuan cukai diikuti komitmen ahli politik yang kuat untuk melaksanakannya. VAT di Singapura pada tahun 1966 merupakan pengganti kepada cukai korporat, cukai pendapatan dan sumbangan dana simpanan majikan, tarif perlindungan, dan cukai penjualan yang lain (GST Act, 1993).

Fokus utama VAT dalam beberapa tahun pertama adalah untuk memberi rakyat Singapura masa untuk menyesuaikan diri dengan cukai. VAT dikenakan pada kadar rendah 3% (salah satu kadar GST terendah di dunia) dan kerajaan memberikan jaminan bahawa VAT tidak akan menaikkan kadar tersebut selama 5 tahun (Jenkins & Khadka, 1998). Kemudiannya kadar VAT dinaikkan dari 3% menjadi 4% pada tahun 2003, dan menjadi 5% pada tahun 2004. Setiap kenaikan disertakan dengan pakej offset yang dirancang untuk menjadikan keseluruhan isi rumah rakyat Singapura lebih baik, walaupun setelah mengambil kira kos tambahan yang dikenakan dengan kenaikan kadar VAT. Kadar cukai langsung juga dikurangkan (Ministry of Finance, 2005). Pada Februari 15, 2007, Menteri Kewangan Kedua Tharman Shanmugaratnam mengumumkan bahawa kadar GST akan dinaikkan kepada 7% berkuat kuasa pada 1 Julai 2007 (Channel News Asia, 2007). Seperti Malaysia, VAT di Singapura dikenakan kepada pengguna akhir. Perniagaan hanya bertindak sebagai ejen pemungut cukai bagi pihak jabatan cukai Singapura.

Seiring dengan pembangunan dan kemajuan negara, muncul pelbagai persoalan dalam masyarakat untuk mencari jalan penyelesaian yang bijak lagi berkesan. Antara persoalan yang tercetus adalah seperti, sejauh manakah rakyat Malaysia benar-benar memahami keperluan pelaksanaan GST? Adakah rakyat Malaysia berpuas hati dengan pelaksanaan GST yang diperkenalkan oleh Najib? Adakah rakyat Malaysia masih setuju dengan pelaksanaannya jika kutipan GST adalah untuk membayar hutang negara?

Pengenalan GST merupakan langkah untuk penyusunan semula percukaian di Malaysia ke arah menjadikan sistem percukaian lebih cekap, berkesan, telus, mesra perniagaan dan berupaya menjana pendapatan tambahan yang stabil. Akta Cukai Barang dan Perkhidmatan 2014 telah menjelaskan beberapa perkara termasuk taksiran, pengenaan dan skop cukai serta pembayaran balik cukai. Secara asasnya, cukai boleh didefinisikan sebagai:

satu bayaran yang wajib, bukannya denda yang dikenakan oleh kerajaan ke atas penggunaan pendapatan, kekayaan atau asas-asas lain, tidak termasuk bayaran-bayaran untuk faedah khusus seseorang pembayar seperti bayaran lesen, tol, permit, bayaran masuk dan taksiran khas. Tujuannya adalah untuk faedah rakyat yang diperintah dalam sesebuah Negara yang merdeka (Jeyapalan dan Mustafa, 1998).

Definisi di atas bermaksud apa-apa jenis cukai ialah pendapatan sesebuah negara dan hasil kutipan tersebut akan digunakan dan dibelanjakan semula kepada penduduk dalam bentuk kemudahan asas atau perkhidmatan awam.

Mohd Afzanizam Abdul Rashid sempat menyatakan ulasan mengenai GST iaitu kutipan GST pada 2017 ialah RM 44.3 bilion yang mana adalah tahun terakhir kerajaan dapat membuat kutipan cukai penuh setahun, manakala kutipan cukai jualan dan perkhidmatan (SST) pada 2019 pula adalah RM 28 bilion (Berita Harian, 2020). Kutipan antara dua cukai iaitu GST dan SST menunjukkan perbezaan jumlah yang amat besar. Rakyat Malaysia hendaklah membuat pertimbangan yang bijak dalam menilai sesuatu dasar kerajaan, manakala pihak kerajaan pula perlu menyingkirkan defisit kepercayaan sejauh-jauhnya

Memang tidak dapat disangkal bahawa pelaksanaan GST telah menimbulkan pelbagai reaksi daripada kalangan dalam masyarakat kita. Mereka mula membuat persepsi dan tafsiran sendiri mengenai GST. Terdapat reaksi yang positif iaitu lahir perasaan patriotik untuk memenuhi hak dan tanggungjawab sebagai rakyat terhadap negara. Fenomena ini bukanlah sesuatu yang luar biasa kerana sesuatu agenda yang baru, akan diterima dengan penuh rasa bimbang dan curiga oleh sesetengah rakyat, sedangkan yang lainnya mungkin hanya menunggu sahaja sebelum membuat sebarang kesimpulan untuk menerima atau menolaknya, malah terdapat dalam kalangan lain yang terus menerimanya tanpa banyak persoalan (Ibrahim, 2010). Jika jumlah hasil kerajaan berkurangan, kedudukan kewangan akan mengalami defisit. Oleh itu, kerajaan perlu membuat pinjaman bagi menampung defisit untuk membiayai perbelanjaan pembangunan.

Pilihan Raya Umum ke-14

Sepanjang pentadbiran Najib, Malaysia berpegang pada Dasar 1Malaysia yang bertujuan menyatukan bangsa-bangsa Malaysia. Laungan 1 Malaysia yang kerap diungkapkan menunjukkan kejayaan misi Najib dalam melaksanakan Dasar 1Malaysia. Namun, formula kemenangan belum cukup untuk menambat hati rakyat dan mengekalkan apa-apa yang ada. Segalanya seakan hilang sekelip mata dalam pilihan raya umum ke-14 yang merupakan PRU yang paling sengit dalam sejarah pilihan raya di Malaysia. Keputusan PRU-14 pada Mei 9, 2018 menunjukkan bahawa wujudnya kebangkitan rakyat atau pengundi yang dianggap sebagai 'silent voters' telah menjatuhkan penguasaan Barisan Nasional terhadap kerajaan Malaysia sejak 63 tahun yang lalu. Malah, keputusan PRU-14 juga memberikan satu kesan yang sangat besar terhadap landskap politik Malaysia dan dianggap sebagai 'tsunami politik' kerana landskap politik Malaysia berubah dalam sekelip mata. Kunci perancangan kempen parti pembangkang (Pakatan Harapan) dalam pilihan raya umum pada kali ini membuahkan hasil.

PRU-14 sepatutnya berpihak kepada BN kerana tetapan tarikh pilihan raya selalunya memberikan kelebihan kepada parti pemerintah. Hal ini demikian kerana, mereka boleh memilih tarikh yang dianggap selesa dan juga bebas daripada isu-isu kontroversi yang boleh menggugat sokongan terhadap mereka. Oleh itu, 9 Mei 2018 ialah tarikh yang dipilih sebagai tarikh pilihan raya dengan harapan BN dapat mengukuhkan kedudukannya sebagai parti pemerintah di peringkat Persekutuan dan juga di peringkat negeri. Tetapi, sebelum penetapan tarikh pilihan raya atau ketika dalam pemerintahan BN, beberapa isu atau peristiwa berprofil tinggi telah berlaku seperti skandal 1MDB, kes pembunuhan dan isu pelaksanaan Cukai Barang dan Perkhidmatan (GST). Tambahan pula, peristiwa tersebut telah membawa isu-isu seperti ketidakpatuhan kepada undang-undang negara oleh ahli politik, keterpinggiran kaum dalam pembangunan, kuasa ISA, ketelusan dalam kehakiman dan sebagainya. Selain daripada isu-isu yang dibangkitkan dalam kempen pilihan raya, pengaruh internet dalam kalangan generasi muda dikatakan sebagai antara faktor yang mengayun undi generasi muda kepada parti pembangkang (Samsudin, 2010).

Antara isu utama yang membawa kepada kekalahan BN ialah isu Cukai Barang dan Perkhidmatan (GST) yang dilaksanakan pada 1 April 2015. Yang menariknya, kerajaan Malaysia di bawah pimpinan Najib melaksanakan GST setelah skandal 1MDB hangat diperkatakan dan ahli-ahli politik parti kerajaan mendakwa bahawa tujuan GST dilaksanakan untuk pembangunan negara. Sebaliknya, rakyat berpendapat bahawa kutipan GST untuk membayar hutang negara yang amat tinggi. Jika hutang negara tidak dibayar, negara akan muflis seperti Argentina (Azham, 2016). Pilihan raya umum ke-14, telah memberikan peluang kepada parti pembangkang dengan mengaitkan isu-isu berkaitan BN dalam misi merebut gelaran sebagai pemerintah. Parti pembangkang (Pakatan Harapan) telah menjanjikan pemansuhan GST jika menang PRU-14. Oleh itu, rakyat dan pengundi mengambil tindakan tegas dan dramatik dengan mengundi Pakatan Harapan dalam pilihan raya umum. Hasilnya, Pakatan Harapan menang 122 daripada 222 kerusi Parlimen. Setelah membentuk sebuah kerajaan baharu, Pakatan Harapan menunaikan janji pemansuhan GST.

Perkara yang berlaku telah jelas dipamerkan dalam pilihan raya umum ke-14. Rakyat telah membuat keputusan berdasarkan kuasa yang mereka ada untuk memilih pemimpin dan memberikan mandat kepada Pakatan Harapan untuk mentadbir Malaysia.

Tingkah Laku Politik

Tingkah laku politik ialah cara orang berfikir, merasa, dan bertindak berkenaan dengan politik. Menurut Abercrombie, Hill dan Turner, (1984) mengenai tingkah laku politik:

political refers to political activity of individuals and its consequences for political institutions. The study of political behaviour covers issues such as participation ... voting behaviour, political attitude formation and public opinion. (p. 185)

Umumnya, tingkah laku politik memfokuskan kepada tingkah laku pengundi dalam sistem pilihan raya demokrasi. Menurut Ibrahim dan Daud (2014), hak rakyat untuk memilih kerajaan, iaitu kerajaan yang akan memerintah menerusi amalan pilihan raya yang adil, bebas dan telus adalah tunjang kepada prinsip asas sistem demokrasi. Tingkah laku pengundi semasa pilihan raya dipengaruhi oleh beberapa faktor. Antaranya kredibiliti calon, pegangan agama, kekuatan parti, kedudukan ekonomi dan kepentingan isu. Tambahan pula, tingkah laku pengundi dapat dikenal pasti melalui tiga pendekatan iaitu pendekatan sosiologikal, pendekatan identifikasi parti dan pendekatan pilihan rasional. Partisan politik memudahkan proses membuat keputusan dan membimbing tingkah laku individu mereka (Campbell, Converse, Miller & Stokes, 1960; Lipset & Rokkan 1967; Lewis-Beck, Norpoth, Jacoby & Weisberg, 2008).

Barbrook (1975) berpendapat bahawa sesuatu kajian yang berkaitan dengan tingkah laku politik penting bagi sesebuah masyarakat dan memerlukan analisis yang kritikal. Flanigan dan Zingale (1975) pula menegaskan tingkah laku politik ada hubung kait dengan pilihan raya di mana tingkah laku politik dalam pilihan raya memberikan kesan yang mendalam pada pengundian dan sikap pengundi. Pernyataan ini disokong oleh Napolitan (1972) yang berpendapat pilihan raya ialah satu kaedah untuk mencapai kemenangan seseorang calon menerusi persaingan antara calon-calon atau parti politik yang bertanding.

Selain itu, aspek kesedaran dan penyertaan masyarakat dalam politik dapat dijelaskan melalui konsep budaya politik yang memberikan pemahaman terhadap tingkah laku sebenar masyarakat (Bowman & Boynton, 1974). Faktor-faktor politik ini akan melibatkan tingkah laku manusia dalam memastikan negara ditadbir dengan baik. Tambahan pula, tingkah laku pengundi dipengaruhi oleh proses sosialisasi seperti keluarga, sekolah, rakan dan persekitaran yang dapat menentukan *polah* pengundian mereka dalam membuat pilihan. Sebaliknya McDonald (1965) dalam penulisannya '*Politics a Study of Control Behaviour*' menegaskan bahawa melalui peraturan, undang-undang dan perlembagaan, tingkah laku manusia dalam politik lebih terkawal tetapi akan wujud tingkah laku yang memperjuangkan hak asasi manusia.

Berdasarkan pendekatan psikologi pula, pengundian dapat menjelaskan psikologi dan sosiologi pilihan manusia. Campbell, Converse, Miller dan Stokes (1960) menjelaskan:

Voting may tell about the psychology and sociology of human choice...dan beliau menambah "from initial efforts to understand voting behavior two major current of thought have emerged, one primarily sociological, the other more psychological in emphasis.

Di Malaysia, ketiga-tiga pendekatan yang berkaitan dengan tingkah laku politik boleh dilihat semasa pilihan raya. Menurut Ghazali (2006), tiga pendekatan iaitu pendekatan sosiologikal, pendekatan identifikasi parti dan pendekatan polihan rasional boleh dikaji berdasarkan proses pilihan raya di Malaysia kerana ketiga-tiga pendekatan adalah saling berkaitan. PH pada masa itu juga menjanjikan pemansuhan GST dan pada masa yang sama hasil kutipannya diuar-uarkan untuk membayar hutang negara yang berbilion-bilion. Tambahan pula, masyarakat juga disuntik oleh propaganda BN yang terpalit dengan skandal berprofil tinggi. Masyarakat juga merupakan pengguna kelihatan dapat menilai isu rasuah dan kenaikan harga barangan sebagai sesuatu yang tidak wajar dan salah serta Malaysia layak ditadbir oleh parti baharu.

METODOLOGI

Kajian mengenai pandangan terhadap Cukai Barang dan Perkhidmatan (GST) ini dijalankan di salah satu bandar di Sarawak iaitu Bandar Sibul. Sibul merupakan kawasan persekutuan yang diwakili dengan kod P212 di Dewan Rakyat. Parlimen Sibul yang dipegang oleh DAP merupakan salah satu kawasan majoriti pengundinya ialah kaum Cina mempunyai tiga kawasan Dewan Undangan Negeri (DUN). Dua daripada kawasan tersebut iaitu DUN Bawang Assan dan DUN Pelawan adalah di bawah DAP, manakala DUN Nangka adalah di bawah PBB (Pesaka Bumiputera Bersatu). Majoriti kaum yang mendiami kawasan Sibul ialah kaum Cina, diikuti kaum Iban dan kaum Melayu. Justeru, kawasan ini bertepatan dengan permasalahan yang ingin dikaji.

Kaedah penyelidikan yang digunakan untuk mendapat maklum balas ialah borang soal selidik atas talian, Google Form. Kajian ini juga melibatkan 100 orang responden kaum Melayu dan Cina di sekitar kawasan Sibul yang telah dipilih menggunakan teknik Snowball Sampling atau persampelan bebola salji (snowball). Kaedah persampelan ini melibatkan responden memperkenalkan responden lain hinggalah jumlah sampel sampai ke tahap yang diperlukan seolah-oleh seperti bebola salji yang makin bertambah besar semasa berguling. Persampelan 'snowball' adalah satu kaedah pensampelan untuk memperoleh data. Menurut Neuman dan Kreuger (2006), kaedah ini biasanya digunakan untuk menggambarkan corak sosial atau komunikasi pada komuniti tertentu.

Kita sedia maklum bahawa kaum Melayu dan Cina merupakan dua kaum terbesar di Malaysia. Maka setiap keputusan, persepsi, pemahaman, tafsiran politik mereka terhadap isu yang dihadapi memberi kesan ke atas pelaksanaan sesuatu dasar seperti keberkesanan dan kejayaannya. Segala data diperoleh telah diproses menggunakan perisian SPSS. Data sekunder yang diperoleh daripada jurnal dan buku-buku juga digunakan sebagai rujukan.

DAPATAN DAN PERBINCANGAN

Didapati responden dalam lingkungan umur 21 – 30 (69%) aktif menjawab borang soal selidik berbanding responden yang berumur 60 dan ke atas (2%). Jantina responden yang menjawab borang soal selidik juga hampir sama tetapi responden lelaki (54%) lebih ramai menjawab berbanding responden perempuan (46%). Kemudian, status perkahwinan responden juga dikenalpasti iaitu responden kajian kebanyakannya berstatus bujang (63%) diikuti status berkahwin (36%) dan janda/duda (1%). Responden kajian juga majoriti tidak berkerja (45%), diikuti perkerja awam (25%), bekerja sendiri sebagai penjaja/pekedai/peniaga (22%), pekerja swasta (7%) dan akhir sekali responden berstatus bekerja sendiri sebagai pesawah/pekebun/penternak (1%). Tahap pendidikan responden kajian juga berjaya dikenalpasti iaitu kebanyakannya mempunyai kelayakan Ijazah Sarjana Muda (46%). Manakala responden berkelayakan SRP/PMR/SJC (1%) adalah paling sedikit. Dai segi pendapatan, majoriti responden kajian meninggalkan soalan ini kerana mereka merupakan golongan pelajar dan golongan yang giat mencari pekerjaan. Manakala hanya sebahagian kecil responden kajian berpendapatan RM1000 – RM2000 (5%) menjawab borang soal selidik.

Jadual 1: Profil Demografi Responden. (peratusan dalam parentesis)

Faktor Demografi	Kategori	Kekerapan
Umur	21 – 30	69 (69)
	31 – 40	5 (5)
	41 – 50	9 (9)
	51 – 60	15 (15)
	60 dan ke atas	2 (2)
Jantina	Lelaki	54 (54)
	Perempuan	46 (46)
Status Perkahwinan	Bujang	63 (63)
	Berkahwin	36 (36)
	Janda/Duda	1 (1)
Sektor Pekerjaan	Awam	25 (25)
	Swasta	7 (7)
	Tidak bekerja	45 (45)
	Bekerja sendiri (penjaja/pekedai/peniaga)	22 (22)
	Bekerja sendiri (pesawah/pekebun/penternak)	1 (1)
Tahap Pendidikan	SRP/PMR/SJC	1 (1)
	SPM/MCE/SC/EUC	18 (18)
	STPM/HSC/DIPLOMA	30 (30)
	Ijazah Sarjana Muda (Degree)	46 (46)
	Ijazah Sarjana (Master)	5 (5)
Pendapatan	RM1000 ke bawah	12 (12)
	RM1000 – RM2000	5 (5)
	RM2001 – RM3000	13 (13)
	RM3001 – RM4000	6 (6)
	RM4001 dan ke atas	17 (17)
	Missing	53 (53)
N=100		

Hasil dapatan maklum balas membuktikan kesemua kaum Melayu dan Cina mengetahui dasar ekonomi Cukai Barang dan Perkhidmatan yang dilaksanakan oleh BN. BN telah membuktikan bahawa pihak mereka berjaya dalam memperkenalkan GST kepada rakyat Malaysia kerana kewujudan dasar ekonomi itu diketahui ramai. Malah, kaum Melayu dan Cina mempunyai pengetahuan am yang kukuh dan peka dengan isu semasa mengenai GST walaupun diajukan soalan perangkap iaitu kadar GST di Malaysia ialah 8%.

Kemudian, didapati kaum Cina sebanyak 58% menafikan barangan keperluan asas seperti minyak masak, tepung dan beras dikenakan cukai seperti yang dinyatakan oleh pihak kerajaan. Manakala sebanyak 66% kaum Melayu mengiyakan keperluan asas dikenakan GST (Jadual 2). Soalan berikutnya menunjukkan majoriti iaitu 75% kaum Melayu dan kaum Cina pernah mendengar GST di negara lain walaupun menggunakan nama lain iaitu VAT (Jadual 3). Hanya 27% kaum Melayu dan Cina berpendapat bahawa GST dapat dielakkan dan berbaki 73% (41 Melayu dan 32 Cina) berpendapat GST adalah cukai yang tidak dapat dielakkan (Jadual 4). Dikenali sebagai cukai regresif, pihak BN ternyata memberikan kelonggaran kepada syarikat yang memperoleh keuntungan tidak melebihi RM 500 000 setahun di mana syarikat ini tidak wajib mendaftar di bawah GST. Sebagai satu cukai yang dikenakan terhadap barangan dan perkhidmatan, kaum Melayu (70%) dan Cina (68%) berpendapat bahawa perkhidmatan penjagaan kesihatan dan tol lebuhraya tidak dikenakan GST (Jadual 5).

Jadual 2: Adakah barangan seperti minyak masak, tepung dan beras dikenakan GST? (peratusan dalam parentesis)

Bangsa	Ya	Tidak	Jumlah
Melayu	33 (66)	17 (34)	50 (100)
Cina	21 (42)	29 (58)	50 (100)
Jumlah	54 (54)	46 (46)	100 (100)

Jadual 3: Pernahkah anda mendengar cukai jualan GST di negara lain? (peratusan dalam parentesis)

Bangsa	Ya	Tidak	Jumlah
Melayu	40(80)	10 (20)	50 (100)
Cina	35 (70)	15(30)	50 (100)
Jumlah	54 (54)	25 (25)	100 (100)

Jadual 4: Bolehkah anda mengelak daripada membayar GST? (peratusan dalam parentesis)

Bangsa	Ya	Tidak	Jumlah
Melayu	9 (18)	41 (82)	50 (100)
Cina	18 (36)	32 (64)	50 (100)
Jumlah	27 (27)	73 (73)	100 (100)

Jadual 5: Adakah perkhidmatan penjagaan kesihatan dan tol lebuhraya dikenakan GST? (peratusan dalam parentesis)

Bangsa	Ya	Tidak	Jumlah
Melayu	15 (30)	35 (70)	50 (100)
Cina	16 (32)	34 (68)	50 (100)
Jumlah	31 (31)	69 (69)	100 (100)

Malaysia berhadapan dengan arus pembangunan yang pesat walaupun berhadapan dengan krisis kewangan. Maka, pelaksanaan GST adalah sebagai pendapatan tambahan untuk negara dalam menampung perbelanjaan dan kutipan cukai tersebut telah menyumbang sebanyak RM 42 bilion kepada dana negara. Walau bagaimanapun, setiap dasar yang dilaksanakan tidak dapat lari daripada persepsi-persepsi kaum yang berbeza. Hasil kajian membuktikan kaum Melayu dan Cina walaupun berbeza etniksiti mempunyai persepsi yang sama mengenai pelaksanaan GST. Kaum Melayu (42%) dan Cina (34%) bersetuju dana negara untuk menangani krisis kewangan yang dihadapi (Jadual 6). Malah, sebanyak 38% Melayu dan 32% Cina tidak setuju GST tidak penting untuk menyediakan bantuan seperti BRIM (Bantuan Rakyat 1Malaysia), dan Klinik 1Malaysia (Jadual 7). Persamaan persepsi juga wujud apabila kedua-dua kaum Melayu dan Cina iaitu sebanyak 46% dan 42% sangat setuju dan setuju GST agar banyak kemudahan infrastruktur seperti jalan raya, klinik dan sekolah dapat dibina (Jadual 8). Perbezaan persepsi apabila kaum Melayu (26%) menyokong keputusan BN menggunakan kutipan GST untuk membayar hutang negara manakala kaum Cina (28%) membantah keputusan tersebut (Jadual 9). Kebanyakan kaum Melayu (28%) bersetuju kutipan GST akan menampung hasil minyak yang menurun berbanding dengan kaum Cina (38%) yang sebaliknya (Jadual 10).

Jadual 6: Dana negara digunakan untuk menangani krisis kewangan negara. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	1 (2)	5 (10)	14 (28)	21 (42)	9 (18)	50 (100)
Cina	2 (4)	4 (8)	8 (16)	17 (34)	19 (38)	50 (100)
Jumlah	3 (3)	9 (9)	22 (22)	38 (38)	28 (28)	100 (100)

Jadual 7: GST tidak penting untuk menyediakan bantuan seperti BRIM, dan Klinik 1 Malaysia. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	11 (22)	19 (38)	10 (20)	7 (14)	3 (6)	50 (100)
Cina	9 (18)	16 (32)	18 (36)	5 (10)	2 (4)	50 (100)
Jumlah	20 (20)	35 (35)	28 (28)	12 (12)	5 (5)	100 (100)

Jadual 8: Saya menyokong GST agar banyak kemudahan infrastruktur (jalan raya, klinik, sekolah) dapat dibina. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	4 (8)	4 (8)	5 (10)	14 (28)	23 (46)	50 (100)
Cina	2 (4)	5 (10)	9 (18)	21 (42)	13 (26)	50 (100)
Jumlah	6 (6)	9 (9)	14 (14)	35 (35)	36 (36)	100 (100)

Jadual 9: Saya menyokong keputusan BN menggunakan kutipan GST untuk membayar hutang negara (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	10 (20)	6 (12)	13 (26)	8 (16)	13 (26)	50 (100)
Cina	10 (420)	14 (28)	10 (20)	10 (20)	6 (12)	50 (100)
Jumlah	20 (20)	20 (20)	23 (23)	18 (18)	19 (19)	100 (100)

Jadual 10: Kutipan GST akan menampung hasil minyak yang menurun. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	6 (12)	6 (12)	15 (30)	14 (28)	9 (18)	50 (100)
Cina	7 (14)	19 (38)	12 (24)	8 (16)	4 (8)	50 (100)
Jumlah	13 (13)	25 (25)	27 (27)	22 (22)	13 (13)	100 (100)

Persamaan dan perbezaan persepsi berlaku kerana pihak BN menggunakan pendekatan yang berbeza dalam menerangkan keperluan pelaksanaan GST dalam kalangan kaum Melayu dan Cina walaupun telah membelanjakan sejumlah RM 17 juta untuk kempen dan publisiti. Lantaran itu, kaum Melayu dan Cina tidak mengalami kesukaran dalam mencari maklumat yang mudah difahami berkaitan GST daripada media massa, media elektronik dan media baru. Tetapi kebanyakan mereka masih kabur mengenai pelaksanaan GST walaupun sudah membaca artikel dan surat khabar. Menyedari keadaan tersebut, pihak BN telah mengadakan siri penerangan GST di semua peringkat masyarakat sama ada di sekolah, institut pengajian tinggi, taman-taman perumahan, dan kampung-kampung. Kaum Cina (48%) ternyata memperoleh banyak informasi terperinci mengenai GST. Manakala kaum Melayu masing-masing tidak setuju (18%) dan tidak pasti (23%) sekiranya BN ada mengadakan siri penerangan bersama mereka (Jadual 11). Senario ini menyebabkan kaum Melayu sebulat suara menyatakan bahawa kekurangan maklumat membuatkan mereka membuat andaian-andaian negatif terhadap GST. Kaum Cina pula tidak mudah terpalit dengan andaian tidak berdasar kerana mereka menghadiri kempen penerangan GST.

Perbezaan pendapat juga berlaku apabila kaum Cina kurang terdedah oleh informasi GST yang disiarkan melalui tv dan surat khabar berbanding dengan kaum Melayu. Pada waktu yang sama kaum Melayu (36%) dan Cina masing-masing setuju (26%) dan tidak pasti (38%) bahawa pihak pembangkang menggunakan keengganan membayar cukai sebagai senjata untuk menjatuhkan BN (Jadual 12). Memandangkan media perdana ialah pro-kerajaan, media sosial menjadi pilihan pihak pembangkang untuk berkempen dan berhubung dengan rakyat. Buktinya, dapatan (Jadual 13) menunjukkan kaum Melayu (40%) sangat setuju dan kaum Cina (36%) setuju media sosial ialah landasan bagi parti pembangkang untuk berkempen. Pihak pembangkang juga ternyata berjaya menyebarkan propaganda untuk menjatuhkan BN melalui media. Kedua-dua kaum Melayu (34%) dan Cina (42%) masing-masing sangat setuju dan setuju keberhasilan penyebaran propaganda ditunjukkan melalui keputusan PRU14 (Jadual 14). Jika ditinjau dari aspek kesedaran pula, kaum Melayu terus menyokong pelaksanaan GST

kerana mereka dapat merasai kelebihan cukai itu berbanding dengan kaum Cina yang mendesak pemansuhan GST.

Jadual 11: BN telah mengadakan siri penerangan GST di semua peringkat masyarakat sama ada di sekolah, institut pengajian tinggi, taman-taman perumahan, dan kampung-kampung. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	3 (6)	9 (18)	23 (46)	10 (20)	5 (10)	50 (100)
Cina	5 (10)	7 (14)	14 (28)	24 (48)	0 (0)	50 (100)
Jumlah	8 (8)	16 (16)	37 (37)	34 (34)	5 (5)	100 (100)

Jadual 12: Keengganan (Unwillingness) membayar cukai dijadikan senjata oleh pembangkang untuk menjatuhkan BN. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	2 (4)	4 (8)	17 (34)	18 (36)	9 (18)	50 (100)
Cina	1 (2)	11 (22)	19 (38)	13 (26)	6 (12)	50 (100)
Jumlah	3 (3)	15 (15)	36 (36)	31 (31)	15 (15)	100 (100)

Jadual 13: Media sosial menjadi pilihan parti pembangkang untuk berkempen dan berhubung dengan rakyat. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	3 (6)	3 (6)	15 (30)	9 (18)	20 (40)	50 (100)
Cina	0 (0)	3 (6)	19 (38)	18 (36)	10 (20)	50 (100)
Jumlah	3 (3)	6 (6)	34 (34)	27 (27)	30 (30)	100 (100)

Jadual 14: Kejayaan penyebaran propaganda untuk menjatuhkan BN melalui media ternyata berhasil melalui keputusan PRU14. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	4 (8)	3 (6)	21 (42)	5 (10)	17 (34)	50 (100)
Cina	0 (0)	9 (18)	13 (26)	21 (42)	7 (14)	50 (100)
Jumlah	4 (4)	12 (12)	34 (34)	26 (26)	24 (24)	100 (100)

Rakyat yang berjiwa patriotik akan melakukan apa-apa sahaja demi kedaulatan negara dan mempertahankan institusi politik walaupun dipimpin oleh kerajaan yang tidak amanah dan korup. Senario ini membuktikan bahawa sentimen cinta akan negara yang berkait rapat dengan emosi telah mengalahkan sikap mementingkan diri dalam individu seterusnya mengajar mereka untuk berfikir secara rasional dan sedar akan tanggungjawab sebagai rakyat Malaysia. Buktinya, kedua-dua kaum Melayu (58%) dan Cina (52%) sangat setuju bahawa membayar cukai ialah satu tanggungjawab seseorang warganegara (Jadual 15). Tambahan juga kaum Melayu dan Cina akan tetap membayar cukai walaupun hasil kutipan minyak dan balak masih banyak serta sebanyak 32% menuntut agar Malaysia patut melaksanakan GST seperti hampir semua negara di dunia. Namun

demikian, sebanyak 38% kaum Cina menolak pelaksanaan GST di Malaysia (Jadual 16). Kaum Cina juga berpendapat bahawa Singapura maju bukan kerana kadar GST yang tinggi. Bersangkutan dengan hal itu, mereka kelihatannya keberatan untuk membayar GST berkadar Singapura. Berbeza dengan kaum Melayu yang melihat kemajuan Singapura disebabkan kadar GST yang tinggi. Oleh itu, mereka sanggup membayar cukai berkadar Singapura demi pembangunan negara.

Jadual 15: Membayar cukai adalah satu tanggungjawab seseorang warganegara. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	0 (0)	0 (0)	5 (10)	16 (32)	29 (58)	50 (100)
Cina	0 (0)	2 (4)	7 (14)	15 (30)	26 (52)	50 (100)
Jumlah	0 (0)	2 (2)	12 (12)	31 (31)	55 (55)	100 (100)

Jadual 16: Malaysia patut melaksanakan GST seperti hampir semua negara di dunia. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	3 (6)	6 (12)	14 (28)	11 (22)	16 (32)	50 (100)
Cina	17 (34)	19 (38)	6 (12)	7 (14)	1 (2)	50 (100)
Jumlah	20 (20)	15 (35)	20 (20)	18 (18)	17 (17)	100 (100)

Menurut Ibrahim (2014), hak rakyat untuk memilih kerajaan, iaitu kerajaan yang akan memerintah menerusi amalan pilihan raya yang adil, bebas dan telus adalah tunjang kepada prinsip asas sistem demokrasi. Hasil kajian telah berjaya membuktikan majoriti kaum Melayu (56%) dan Cina (60%) menolak parti yang membawa pembangunan walaupun terkait dengan skandal rasuah (Jadual 17). Tambahan pula, sebanyak 42% kaum Melayu dan Cina menyokong Pakatan Harapan yang bercadang mahu menghapuskan GST (Jadual 18). Malah, 44% Melayu dan 40% Cina menyatakan GST tidak sesuai untuk negara Malaysia yang jurang pendapatannya besar antara rakyat berada dan kurang berada. Hal ini telah menyebabkan majoriti kedua-dua kaum berhenti menyokong BN selepas GST dilaksanakan. Walau bagaimanapun, masih terdapat sebahagian besar kaum Melayu (50%) dan Cina (26%) tetap menyokong dasar-dasar yang telah dilaksanakan oleh kerajaan pusat serta sebagai rakyat Malaysia mereka bersetuju GST membawa kepada kelancaran serta melicinkan pentadbiran negara (Jadual 19).

Jadual 17: Saya menyokong parti yang membawa pembangunan walaupun terkait dengan skandal rasuah. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	28 (56)	15 (30)	5 (10)	2 (4)	0 (0)	50 (100)
Cina	30 (60)	9 (18)	8 (16)	3 (6)	0 (0)	50 (100)
Jumlah	58 (58)	24 (24)	13 (13)	5 (5)	0 (0)	100 (100)

Jadual 18: Saya menyokong Pakatan Harapan yang bercadang mahu menghapuskan GST. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	5 (10)	5 (10)	14 (28)	8 (16)	18 (36)	50 (100)
Cina	2 (4)	7 (14)	7 (14)	10 (20)	24 (48)	50 (100)
Jumlah	7 (7)	12 (12)	21 (21)	18 (18)	42 (42)	100 (100)

Jadual 19: Saya menyokong dasar-dasar yang telah dilaksanakan oleh kerajaan pusat. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	1 (2)	5 (10)	13 (26)	25 (50)	6 (12)	50 (100)
Cina	3 (6)	8 (16)	21 (42)	13 (26)	5 (10)	50 (100)
Jumlah	4 (4)	13 (13)	34 (34)	38 (38)	11 (11)	100 (100)

Seperti yang dinyatakan di dalam Rang Undang-undang GST 2009, GST mempunyai 3 kategori iaitu kadar standard, kadar sifar dan dikecualikan GST. Pembekalan barangan asas seperti produk pertanian tergolong dalam kategori sifar. Barangan dan perkhidmatan awam pula seperti rumah, perkhidmatan kesihatan, dan tol lebuhraya pula dalam kategori dikecualikan GST. Setelah GST dilaksanakan kaum Cina (48%) berpendapat harga barangan adalah berpatutan. Sebaliknya kaum Melayu masing-masing tidak setuju (24%) dan tidak pasti (42%) sekiranya harga barangan dan perkhidmatan berpatutan (Jadual 20). Bagi kaum Melayu dan Cina, pelaksanaan GST menyebabkan peningkatan kos sara hidup serta secara tidak langsung menurunkan kuasa beli mereka. Rentetan daripada itu, sebanyak 34% Melayu dan 48% Cina sangat setuju dan setuju GST menjadikan mereka lebih berjimat cermat dalam berbelanja (Jadual 21). Kaum Melayu dan Cina juga mempunyai persepsi bahawa mereka akan kurang membayar cukai (GST) bergantung kepada tempat berbelanja. Namun demikian, kebanyakan kaum Melayu (36%) dan Cina (42%) berpendapat bahawa walaupun berbelanja secara kecil, kos perbelanjaan tetap bertambah (Jadual 22). Lantaran itu, majoriti kaum Melayu dan Cina amat risau dengan pelaksanaan GST sungguhpun hanya membeli keperluan asas.

Jadual 20: Harga barangan semasa pelaksanaan GST adalah berpatutan. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	7 (14)	12 (24)	21 (42)	3 (6)	7 (14)	50 (100)
Cina	4 (8)	12 (24)	7 (14)	24 (48)	3 (6)	50 (100)
Jumlah	11 (11)	24 (24)	28 (28)	27 (27)	10 (10)	100 (100)

Jadual 21: GST menjadikan saya lebih berjimat cermat dalam berbelanja. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	1 (2)	10 (20)	15 (30)	7 (14)	17 (34)	50 (100)
Cina	3 (6)	2 (4)	7 (14)	24 (48)	14 (28)	50 (100)
Jumlah	4 (4)	12 (12)	22 (22)	31 (31)	31 (31)	100 (100)

Jadual 22: Walaupun berbelanja secara kecil, kos perbelanjaan saya tetap bertambah. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	0 (0)	5 (10)	11 (22)	16 (32)	18 (36)	50 (100)
Cina	3 (6)	4 (8)	5 (10)	17 (34)	21 (42)	50 (100)
Jumlah	3 (3)	9 (9)	16 (16)	33 (33)	39 (39)	100 (100)

Setiap dasar yang dilaksanakan oleh kerajaan hendaklah memberikan nilai kepada masyarakat. Cukai ekonomi GST juga tidak terlepas dalam menyumbangkan nilai kepada rakyat Malaysia. Nilai tersebut merujuk kepada bantuan yang telah dihulurkan oleh pihak kerajaan BN dalam membantu meringankan beban nasib rakyat Malaysia. Namun, ada juga mengatakan bahawa sumbangan yang telah disediakan oleh pihak BN menunjukkan inisiatif yang telah diambil oleh kerajaan pimpinan Najib untuk menjayakan pelaksanaan GST. Hasil dapatan kajian membuktikan pelaksanaan GST boleh meningkatkan jumlah kutipan hasil negara. Sejumlah 65% kaum Melayu dan Cina setuju dan sangat setuju dengan pernyataan tersebut (Jadual 23). Rata-rata kaum Melayu (42%) dan Cina (38%) setuju dengan pernyataan lebih banyak hasil kutipan GST, lebih banyak kemudahan infrastruktur dibina (Jadual 24). Hal ini berlaku kerana kaum Melayu dan Cina sebulat suara berpendapat GST mampu merencanakan pembangunan negara kerana dana negara meningkat.

Kemudian kaum Cina (40%) menyatakan BN banyak memberikan bantuan kepada masyarakat menggunakan hasil GST. Kontradiksinya, kaum Melayu (56%) (Jadual 25) tidak pasti dengan bantuan tersebut dan sumbangan hasil GST dalam memajukan Perusahaan Kecil dan Sederhana (PKS). Dari sudut lain, kebanyakan kaum Melayu (30%) dan Cina (58%) menafikan taraf kehidupan meningkat semenjak perlaksanaan GST (Jadual 26). Persamaan pendapat juga apabila rata-rata Melayu dan Cina menafikan perlaksanaan GST telah menurunkan kutipan cukai lain serta meningkatkan ekonomi Malaysia seperti ekonomi Singapura. Dapatan kajian juga menunjukkan kaum Melayu dan Cina percaya bahawa perlaksanaan GST menurunkan taraf kehidupan. GST yang dipercayai pihak BN mampu menurunkan kebergantungan terhadap minyak mendapat sokongan 42% kaum Cina. Sebaliknya, sebanyak 26% dan 36% kaum Melayu tidak setuju dan tidak pasti kebergantungan terhadap hasil sumber minyak menurun semenjak pelaksanaan GST (Jadual 27).

Jadual 23: Pelaksanaan GST boleh meningkatkan jumlah kutipan hasil negara. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	1 (2)	0 (0)	13 (26)	18 (36)	18 (36)	50 (100)
Cina	2 (4)	8 (16)	11 (22)	12 (24)	17 (34)	50 (100)
Jumlah	3 (3)	8 (8)	24 (24)	30 (30)	35 (35)	100 (100)

Jadual 24: Dengan lebih banyak hasil kutipan GST, kita ada lebih banyak kemudahan infrastuktur (jalan raya, klinik, sekolah). (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	1 (2)	5 (10)	12 (24)	21 (42)	11 (22)	50 (100)
Cina	3 (6)	1 (2)	14 (28)	19 (38)	13 (26)	50 (100)
Jumlah	4 (4)	6 (6)	26 (26)	40 (40)	24 (24)	100 (100)

Jadual 25: BN banyak memberi bantuan kepada masyarakat menggunakan hasil GST. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	1 (2)	2 (4)	28 (56)	9 (18)	10 (20)	50 (100)
Cina	3 (6)	4 (8)	18 (36)	20 (40)	5 (10)	50 (100)
Jumlah	4 (4)	6 (6)	46 (46)	29 (29)	15 (15)	100 (100)

Jadual 26: Taraf kehidupan meningkat semenjak pelaksanaan GST. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	7 (14)	15 (30)	17 (34)	4 (8)	7 (14)	50 (100)
Cina	9 (18)	29 (58)	7 (14)	5 (10)	0 (0)	50 (100)
Jumlah	16 (16)	44 (44)	24 (24)	9 (9)	7 (7)	100 (100)

Jadual 27: Kebergantungan terhadap minyak menurun semenjak pelaksanaan GST. (peratusan dalam parentesis)

Bangsa	Sangat Tidak Setuju	Tidak Setuju	Tidak Pasti	Setuju	Sangat Setuju	Jumlah
Melayu	6 (12)	13 (26)	18 (36)	10 (20)	3 (6)	50 (100)
Cina	4 (8)	3 (6)	17 (34)	21 (42)	5 (10)	50 (100)
Jumlah	10 (10)	16 (16)	35 (35)	31 (31)	8 (8)	100 (100)

RUMUSAN DAPATAN KAJIAN DAN KESIMPULAN

Kesimpulannya, penyelidikan ini telah berjaya menjawab persoalan serta objektif kajian yang telah ditetapkan. Pemilihan dua kaum iaitu kaum Melayu dan Cina kerana kaum Cina di Sibu kebanyakan cenderung ke bidang perniagaan di mana mereka yang mempunyai wang untuk dibelanjakan pastinya lebih sensitif terhadap cukai. Manakala kaum Melayu pula cenderung mendapat manfaat daripada sistem cukai daripada dasar pengagihan semula. Ini adalah antara sebab berlakunya perbezaan persepsi antara kaum Melayu dan Cina. Mereka sedar akan tanggungjawab mereka untuk membayar cukai tetapi mereka enggan membayar cukai seperti GST disebabkan isu-isu yang terpalit dengan penggunaan kutipan GST. Rakyat akan membayar GST jika ia hanya cukai semata-mata. Akan tetapi sekiranya GST dikutip untuk menyelesaikan masalah yang tiada hubungkait dengan rakyat, maka rakyat akan mempersoalkan tujuan sebenar pelaksanaan GST. Dapat dilihat melalui satu kajian yang dijalankan oleh Saira et al., (2010), dimana ramai rakyat Malaysia tidak mempunyai tahap keyakinan yang tinggi terhadap percukaian kerajaan. Oleh itu, kerajaan harus menjelaskan dengan jelas dan telus tentang perkara percukaian, supaya rakyat dapat memahami dengan jelas. Sebagai contoh, kerajaan boleh menjelaskan sebab atau rasional pelaksanaan GST serta kelebihan cukai yang akan mereka terima nanti.

Kemudian pengetahuan am GST dalam kalangan kaum Melayu dan Cina hanyalah menyentuh secara dasar dan tidak terperinci. Sehingga kini dasar ini masih menjadi perbualan ramai kerana tidak mustahil pada masa akan datang, Cukai Barang dan Perkhidmatan akan dilaksanakan kembali. GST sememangnya satu cukai yang baik. Buktinya, negara-negara membangun di dunia mengamalkan cukai ini pada kadar yang berpatutan. Sebelum melaksanakan GST sepenuhnya, pihak BN juga mengambil langkah bijak dengan mengumpul

pandangan rakyat Malaysia. Pandangan kaum penting untuk melihat penerimaan mereka terhadap dasar kerajaan. Penelitian juga mendapati bahawa kaum Melayu dan Cina masih menganggap GST penting untuk menyediakan bantuan seperti BRIM dan infrastruktur-infrastuktur lain. Buktinya, kaum Melayu dan Cina mengaku bahawa mereka ada menerima bantuan rakyat daripada pihak BN.

Selain itu, kaum Melayu menyokong tindakan BN menggunakan kutipan GST untuk membayar hutang namun kaum Cina adalah sebaliknya. Hal ini demikian kerana, kaum Cina lebih prihatin terhadap bahagian mereka dalam hasil kutipan cukai. Penjelasan BN terhadap GST yang tidak jelas juga mempengaruhi tingkahlaku politik kaum Cina. Tidak dapat dinafikan bahawa pelaksanaan GST sukar untuk difahami tujuan pelaksanaannya, lantaran itu tidak hairanlah GST mengundang kekeliruan seterusnya interpretasi yang berbeza-beza dalam kalangan masyarakat. Malah, hasil kajian turut berjaya membuktikan bahawa dana negara banyak digunakan untuk membayar hutang berbanding ke atas rakyat. Walau bagaimanapun, di sebalik kekeliruan dan pelbagai interpretasi, rata-rata responden kajian Melayu dan Cina bersetuju bahawa pelaksanaan GST masih penting untuk pembangunan infrastruktur dan mengurangkan kebergantungan terhadap hasil minyak yang kian berkurangan.

Cukai yang telah wujud sejak berzaman lagi membuktikan bahawa cukai ialah tulang belakang kepada pendapatan negara. Dapat kita lihat pengelak hutang sering kali didenda sama ada dipenjarakan atau disaman. Keadaan ini membuktikan bahawa tidak membayar cukai ialah satu kesalahan yang besar. Denda terhadap pengelak cukai ternyata mendapat sokongan daripada kaum Melayu tetapi mendapat tentangan daripada kaum Cina. Ini membuktikan kaum Melayu mementingkan kesamarataan dalam perpaduan kaum dan mereka mengambil serius hal ini untuk mengelakkan masalah *free rider* dalam kalangan masyarakat. Kaum Cina pula dilihat kurang menyemarakkan semangat patriotisme kerana berpandangan bahawa isu tidak membayar cukai tidak harus disertakan dengan hukuman dan tindakan ini amat tidak bertanggungjawab serta tidak adil di mata masyarakat lain yang membayar cukai. Perbezaan dalam tingkah laku ini menunjukkan kaum Melayu dipengaruhi oleh sentimen perpaduan kaum dalam isu percukaian. Sebaliknya, kaum Cina lebih mementingkan diri sendiri dalam isu percukaian.

Hasil kajian juga membuktikan bahawa kaum Melayu dan Cina sebulat suara menyokong sepenuhnya satu perniagaan wajib membayar GST. Walau bagaimanapun, kaum Melayu tidak bersetuju jika peniaga dan pekedai yang memperoleh keuntungan bawah RM 500 000 juga dikutip cukai. Seterusnya, jika dilihat Singapura mempunyai kadar GST yang tinggi iaitu 7% dan ekonominya juga stabil. Hasil kajian membuktikan bahawa kaum Cina kekal dengan pendirian mereka bahawa GST yang tinggi tidak mendorong sepenuhnya kepada kemajuan di Singapura manakala kaum Melayu adalah sebaliknya. Kebanyakan kaum Melayu juga bersetuju jika mereka membayar kadar GST berkadar Singapura. Walaupun masih ada yang tidak menggemari cukai, mereka tetap membayar kerana membayar cukai ialah tanggungjawab rakyat.

Majoriti responden kajian juga mempunyai persamaan interpretasi bahawa pelaksanaan GST untuk melicinkan dan melancarkan pentadbiran negara. Hal ini demikian kerana, negara mempunyai dana yang banyak untuk menjalankan dasar-dasar dan pembangunan lain. Tambahan pula, rata-rata kaum Melayu dan Cina bersetuju bahawa GST melunaskan hutang negara merupakan propaganda pihak Pakatan Harapan (PH) untuk berkempen menjelang PRU-14. Dengan cara ini, maka sudah pasti pihak PH memancing undi daripada pelbagai kaum demi meraih kejayaan mereka pada PRU-14. Tindakan ini ternyata mendapat sokongan majoriti masyarakat apabila PH menang semasa PRU-14 dan pertukaran kerajaan berlaku.

Persamaan dan perbezaan pendapat berlaku kerana kaum Melayu kurang didedahkan dengan konsep GST seperti yang ditunjukkan dalam hasil kajian siri penerangan di kawasan-kawasan kediaman masyarakat. Kaum Cina bersetuju bahawa pihak BN ada melawat mereka untuk menerangkan tujuan pelaksanaan GST manakala kaum Melayu adalah sebaliknya. Perkara ini terjadi disebabkan dua perkara iaitu kaum Melayu tidak menghadiri sesi penerangan atau pihak bertanggungjawab tidak mengadakan siri penerangan di kawasan kediaman kaum Melayu. Dapatan ini didukung apabila kaum Melayu sebulat suara bersetuju bahawa kekurangan maklumat membuatkan mereka akan membuat andaian-andaian negatif terhadap GST. Sebaliknya, kaum Cina yang sudah terdedah pada awalnya tidak berpendapat sedemikian. Perbezaan tingkah laku juga dilihat apabila kaum Melayu setuju BN menggunakan tv dan surat khabar untuk menyebarkan tujuan pelaksanaan GST manakala kaum Cina adalah sebaliknya kerana mereka terlebih dahulu terdedah oleh agenda pelaksanaan GST melalui siri penerangan. Kemudian, PRU-14 telah membuktikan bahawa propaganda PH dalam menjatuhkan BN membuahkan hasil apabila peralihan undi banyak kepada pihak pembangkang.

Dari sudut sumbang saran GST terhadap kehidupan pula, rata-rata kaum Melayu dan Cina walaupun berbeza pendapatan bersetuju bahawa GST adalah antara penyumbang terbesar dapatan negara selain merencanakan pertumbuhan ekonomi serta pembangunan negara. Jumlah kutipan GST banyak menyumbang kepada hasil negara. Lebih banyak lagi kutipan cukai, lebih banyak lagi wang dapat digunakan untuk kemudahan seperti jalan raya, klinik dan sekolah dibina. Matlamat pelaksanaan GST yang diuar-uarkan oleh pihak BN untuk mengurangkan kebergantungan terhadap hasil minyak ternyata masih samar-samar apabila kaum Melayu dan Cina rata-rata tidak pasti dengan perubahan tersebut. Apabila ditanya tentang ekonomi Malaysia mampu meningkat seperti ekonomi Singapura melalui GST, kebanyakan kaum Melayu dan Cina tidak bersetuju bahawa GST membawa perubahan yang ketara sehingga meningkatkan ekonomi Malaysia setaraf Singapura.

Jelas menunjukkan bahawa terdapat persamaan dan perbezaan pendapat antara kaum Melayu dan Cina dari segi persamaan pandangan apabila kedua-dua kaum tidak berpuas hati dengan kegunaan hasil kutipan GST yang kontra dengan tujuan sebenar pelaksanaannya iaitu untuk mengurangkan kebergantungan pada sumber minyak. Tambahan pula, kaum Melayu dan Cina menyokong parti yang menentang GST semasa PRU-14. Perbezaan pula apabila kaum Melayu setuju harga barangan semasa GST adalah berpatutuan manakala kaum Cina berpendapat sebaliknya. Hal ini kerana, bantuan kebajikan banyak diberikan kepada kaum Melayu kerana Barisan Nasional ialah parti berasaskan kaum Melayu. Oleh itu, kebajikan kaum Melayu lebih terbela daripada kaum lain.

Secara keseluruhannya, dapat kita ketahui GST merupakan beban tambahan kepada rakyat Malaysia terutamanya golongan miskin dan sederhana. Kaum Melayu dan Cina juga menentang sekeras-kerasnya keputusan menggunakan hasil kutipan GST untuk melunaskan hutang negara. Namun terdapat juga faktor dominan yang mendorong kaum Melayu dan Cina menyokong GST iaitu menggalakkan pembangunan infrastruktur untuk kegunaan awam. Hasil kajian juga membuktikan rakyat faham akan kaedah pelaksanaan GST iaitu jumlah bayaran cukai bergantung kepada perbelanjaan sendiri. Jelas menunjukkan bahawa cukai adalah sebagai medium pentadbiran Howlett dan Ramesh (1995) yang dapat digunakan kerajaan untuk mencapai matlamat sosio-ekonomi dan dasar microekonomi negara (Lipsey, Purvis, Sparks & Steiner, 1982). Namun begitu cukai juga banyak mengundang kontroversi. Buktinya, hampir keseluruhan kawasan parlimen di bandar raya dan di bandar jatuh di tangan Pakatan Harapan pada Pilihan Raya 2018.

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Political Satire and Its Influence on Youth Political Perception

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ABSTRACT

This article is based on research that explored the familiarity of political satire among youth and examined whether political satire has any impact on the political perception of the youths. A survey was conducted in Kuala Lumpur involving 50 respondents from 18 to 40 years of age. Content analysis was used to explore the forms of political satire. There were seven different forms of political satire analysed in this research, namely, political graphics by Fahmi Reza, political cartoons by Zunar, political anime from a Facebook page entitled “Bro, don’t like that la, bro”, memes from “SarawakGags”, “HarakatDaily” satirical news site, Dr Jason Leong’s satirical tweets on Twitter and parody videos by Douglas Lim. These themes were derived from social media platforms like Facebook and Twitter. The study found that political satire has profound impact on the political interests of the youths as it not only helps to increase their political understanding, it also presents political issues in creative and interesting ways. It is argued that political satire will shape the political thinking, especially the youths. However, the direct effects of political satire on voting inclination are still inconclusive and need to be further explored.

Keywords: Political satire, youth, voting, perception

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INTRODUCTION

The political crisis that took place in March 2020, resulting in the fall of the Pakatan Harapan (PH)-led government, came with the outbreak of the Covid-19 pandemic. The pandemic has forced people and organizations all over the world to adjust to new ways of work and life. A rapid increase in digitalization is leading corporations, firms, and educational institutions to shift to work-from-home (WFH). The pandemic and the associated public health interventions undertaken to contain it have resulted in widespread and unprecedented social disruption. It has led to an inevitable surge in the use of digital technologies due to nationwide lockdowns and social distancing norms in the world. This collective trauma has caused schools and businesses to be closed, and an increase in unemployment. Governments all around the world have issued ‘stay-at-home’ orders to the public and mandated children to engage in online learning. As a result, people are now spending even more time with technology while consuming news media, watching television, using social media to connect with others, utilizing lifestyle apps to shop for groceries and other consumer goods, and engaging in home workouts (Nielsen Global Media, 2020).

The Malaysian Communications and Multimedia Commission (2020) reported that the demand for bandwidth had increased during the implementation of the Movement Control Order (MCO) as people subscribed to video conferencing, online reading, learning, and shopping. With the increase in the use of internet, political satire has gained popularity among social media users. Political satire is an outcome of change in government and political behaviour. Most social media channels are now diffusing political information in satirical forms. Different forms of political satire have become an inevitable part of the daily transmission on social media to gain people’s attention. This research was conducted to better understand how political satire was used as a medium of communication on social media and to examine its influence on the youth political perception. The research is pertinent as political satire has become a medium that communicates information in the form of support or criticism through political graphics, cartoons, memes, tweets, parody videos and so on.

Political satire has been an important part of political discourse in a society. It attracts not only the people who are active in politics but also helps in forming opinions for people who are not active participants in political issues and discussions. This also leads to an increase in the sense of political efficacy and interest. Moreover, political satire is a mix of humour and user-created content.

In this research, the researchers identified the familiarity of political satire among youth and examined whether political satire has any impact on youth political perception. Social media platforms such as Facebook, Twitter, Instagram and so on have been used as a place to share views among youths on current issues, especially on political matters. They often express their opinions freely and tend to accept at face value what they see on social media. The research is, therefore, important as it allows the researchers to examine how the youth react to the different forms of political satire and how they choose to engage with satirical content circulating on social media.

LITERATURE REVIEW

Political Satire

Studies on political satire have undergone rapid developments over the last few decades. Multiple scholars have made a contribution to increase our understanding of the field but the debates on the basic assumptions and definitions that frame the term “political satire” continue.

According to Becker (2012), political satire is the ability to offer commentary on the current state of affairs that is both aggressive and judgmental and at times playful and fun; satire ultimately offers a reinterpretation or reimagining of a political event or text. Political satire serves as a crucial societal force and has been an influential outlet for political commentary and criticism since the days of Jonathan Swift¹ (Becker, 2013). The nature of satire is designed in such a way to keep those in power in check and allow the masses to laugh at our collective folly (Feinberg, 1967). Satire can often take the form of parody, which is ultimately an imitation of an original speech act or text (Gray, Jones & Thompson, 2009).

Oftentimes, satire could be the highlight of a one-sided point of view. Political satire garners the attention of people through the political events. At its very core, and in contrast with more traditional forms of information media or straight news content, satire is designed to engage its audience in a more critical and cognitively engaging political and social experience (Young, 2013, 2020). In today’s global media environment, there are numerous examples of political satire, such as *The Colbert’s Report* that mimics an evening news broadcast on Comedy Central Channel, and the more investigative satire of John Oliver’s *Last Week Tonight* on HBO (Home Box Office) and *Full Frontal with Samantha Bee* on TBS (Turner Broadcasting System) (Bode & Becker, 2018).

However, one can argue the boundaries between serious critical reflection and pure entertainment, between politics and satire that have been blurred. It is still an open debate whether political satire has facilitated political engagement, whether the art is a mere form of political expression, or whether it has only generated cynicism and disengagement among the spectators. The debate takes place in a growing complexity of both modern media environment and contemporary politics.

Political Cartoons

Previous studies on political cartoons have focused on their nature and functions. According to Walker (2003), political cartoons play a key role as a form of political communication. Walker contended that political cartoons are known as prevailing weapons for communicating political issues as cartoon messages can easily be absorbed by people and transmitted in mass virality. Besides, political cartoons portray social importance as it sets social agenda and to deliver satirical commentary that aims to transform the social and political norms of society.

Minix’s (2004) study discovered the nature and settlements of political cartoons where cartoonists use their creativity and talents in representing issues of public interest through their illustrations which exploit a wide range of visual rhetoric such as humour, blending and exaggeration to communicate social issues in society. Furthermore, his findings examined the cartoonists’ use of visual rhetoric to serve as a persuasive device to convey messages. Duus (2001), who studied the ancient development of political cartoons in Japan, found that political cartoon was used as a form of political critique in the Japanese media as a channel to express one’s political perceptions.

¹ Jonathan Swift is an Anglo-Irish satirist considered as a master of the closely allied forms of political pamphletting and satire.

Political Memes

The concept of memes was developed by Richard Dawkins (1976) in which he used it to refer to minimum cultural information units that move between individuals and generations through the process of replication or transmission. Memes could be in the form of songs, videos, catchphrases or images. Nowadays, memes have attained a different level of popularity. There are several websites created only for memes such as 9GAG, SarawakGags, or memebase.com. Besides, since memes are common among social media users, public relations and advertising professionals use memes creatively and actively to communicate their messages in order to attract the audience. Politicians also use memes in political campaigns or even at political rallies that aim to develop public opinion and as a tool for propaganda to entice more voters (Bauckhage, 2011).

Parody Videos

According to Holman and Harman (1986), parody means an imitation intended to ridicule or criticize. Bakhtin (1981, p. 76) views the parodistic act as “an arena of conflict between two voices” in a hostile contrast, where the second represents a “semantic authority” with which the audience is expected to agree. This highlights the importance of grasping the basic understanding of comic satiric relationship. Rossen-Knill and Henry (1997) outlines four characteristics of parody: (1) the intentional verbal representation of the object of parody, (2) the flaunting of the verbal representation, (3) the critical act, and (4) the comic act. The approach adopted by the parodist to revamp an older text or images includes, caricatures to substitution, addition, subtraction, exaggeration, condensation, contrast, and discrepancy (Rotermund, 1963; Davis, 2013).

Parody and satire go hand in hand when they involve humour in criticism and commentary. Moreover, satire is referred to as “the use of humour, irony, exaggeration, or ridicule to expose and criticize people’s stupidity or vices, particularly in the context of contemporary politics and other topical issues” (“Satire”, 2005). This comes in contrast to the standard definition of a parody: “a literary or musical work in which the style of an author or work is closely imitated for comic effect or in ridicule” (Merriam-Webster, n.d.). Ultimately, parody and satire apply humour as an instrument to convey a message. The motivation of a parody is to comment on or criticize the work that is the subject of the parody. The significant difference here is that satire uses an artistic work as the vehicle for the message, provides criticism and commentary about the world.

Political parody is a manifestation of political satire, whereby it serves as an expansive act that aims to elicit a laugh to discredit a politician or a political party or ideology by making fun of it, often aiming in turn at political persuasion (D’Errico & Poggi, 2013). In this research, parody videos are portrayed as political parody that serves as a form of political satire.

Elaboration Likelihood Model (ELM)

The ELM explains how persuasion is used as a tool to influence perceptions. Petty and Cacioppo (1980) argue that this theory measures people’s readiness to create engagement especially in elaboration. This highly depends on their motivation and competence to do so. In other words, people are more motivated to elaborate when the message is important to them. This model also suggests that when a person is presented with information, he/she processes it on a certain level of elaboration. They either express it on a high or low elaboration which comes from their level of effort when they come across a persuasive message. Then, the level of elaboration dictates whether the message is processed in two ways which are central route processing or peripheral route processing. Central route processing simply means the users are interested in the message. This is where they will pay greater attention and evaluate the quality and strength of the argument presented in the message. Attitudes that are created or reinforced in this manner are regarded to be more durable and resistant to counter-arguments. The primary path is logic-based and relies on evidence and facts to convince people about the validity of an argument (Yocco, 2014). On the other hand, peripheral route processing means the audience is paying less attention to the message while being influenced by aspects like visual presentations, fame, emotions and enticements. Attitudes might change or be reinforced in this manner based on the effectiveness of the influence of different aspects other than the message. These are the two routes of persuasion in the elaboration likelihood model. Moreover, according to McClure (2016), different forms of political satire use the cognitive and the peripheral route to communicate and influence public opinions. This tool of awareness uses humour and sarcasm as elements for persuasion.

Priming Theory

According to Moy, Tewksbury and Rinke (2016), priming interprets how individuals discern and give responses to their political and social environment. This theory was developed by Iyengar, Peters and Kinder in 1982. Initially, social psychologists used this theory to understand how human process information and make a judgement (Dillman, 2009; Valenzuela, 2009). Priming plays a crucial role in amplifying hot issues on social media. Iyengar and Kinder (1987) argued that issues influence the so called “standards by which governments, presidents, policies, and candidates for public offices are judged” (p.63). Likewise, there is a rising fear from the belief that mediated satirical content trivializes the political and media systems, thus widening and increasing the already established democratic deficit and political apathy among the youths, respectively (Baum, 2005; Moy, Xenos & Hess, 2005a). Generally, political infotainment on social media is portrayed through satire, comedy or even humour -- a vital platform for political information acquisition and attitude formation, rivalling the mainstream news (Kim & Vishak, 2008; Moy, Xenos & Hess, 2005b).

METHODS

A qualitative method was adopted to gather the data that comprised a survey. This study was conducted in Kuala Lumpur involving 50 youth respondents from the age of 18 to 40 years old. A survey was used to explore the forms of political satire. There were seven different forms of political satire analysed in this research, namely, political graphics by Fahmi Reza, political cartoons by Zunar, political anime from a Facebook page entitled “Bro, don’t like that la, bro”, memes from “SarawakGags”, “HarakatDaily” satirical news site, Dr Jason Leong’s satirical tweets on Twitter and parody videos by Douglas Lim. These themes were derived from social media platforms like Facebook and Twitter. Certainly, it can be argued that political satire is a form of political communication by itself (Purcell, 2010). Secondary data from articles, journals, and online newspapers were also obtained to support the findings.

A computer administrated survey using Google Form was used to gauge the respondents’ perception of political satire, including their demographic background, patterns of social media use, and their familiarity with different forms of political satire on social media. The respondents’ perception was measured based on a five-point Likert scale (1=Strongly Disagree to 5=Strongly Agree).

RESULTS

Demographic Profile

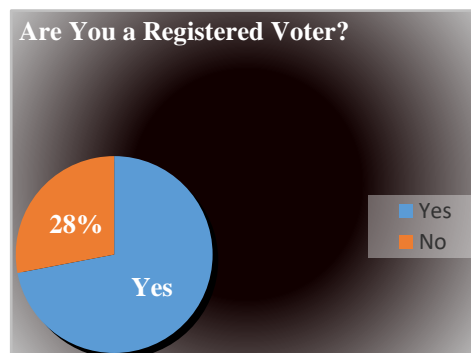


Figure 1: Distribution of Registered Voters among Respondents

In Figure 1, 72% of the respondents were registered voters while 28% were unregistered voters.

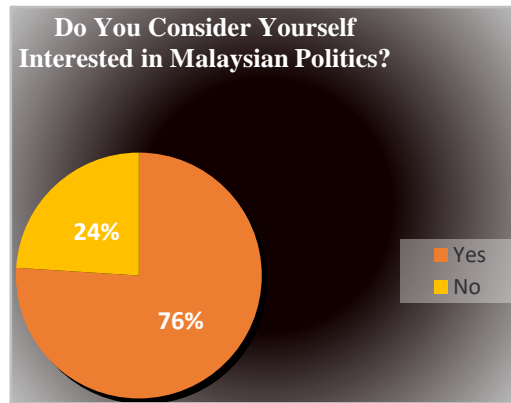


Figure 2: Distribution of Respondents' Interest in Malaysian Politics

Figure 2 shows respondents' interest towards Malaysian politics where 76% were interested while the 24% were not.

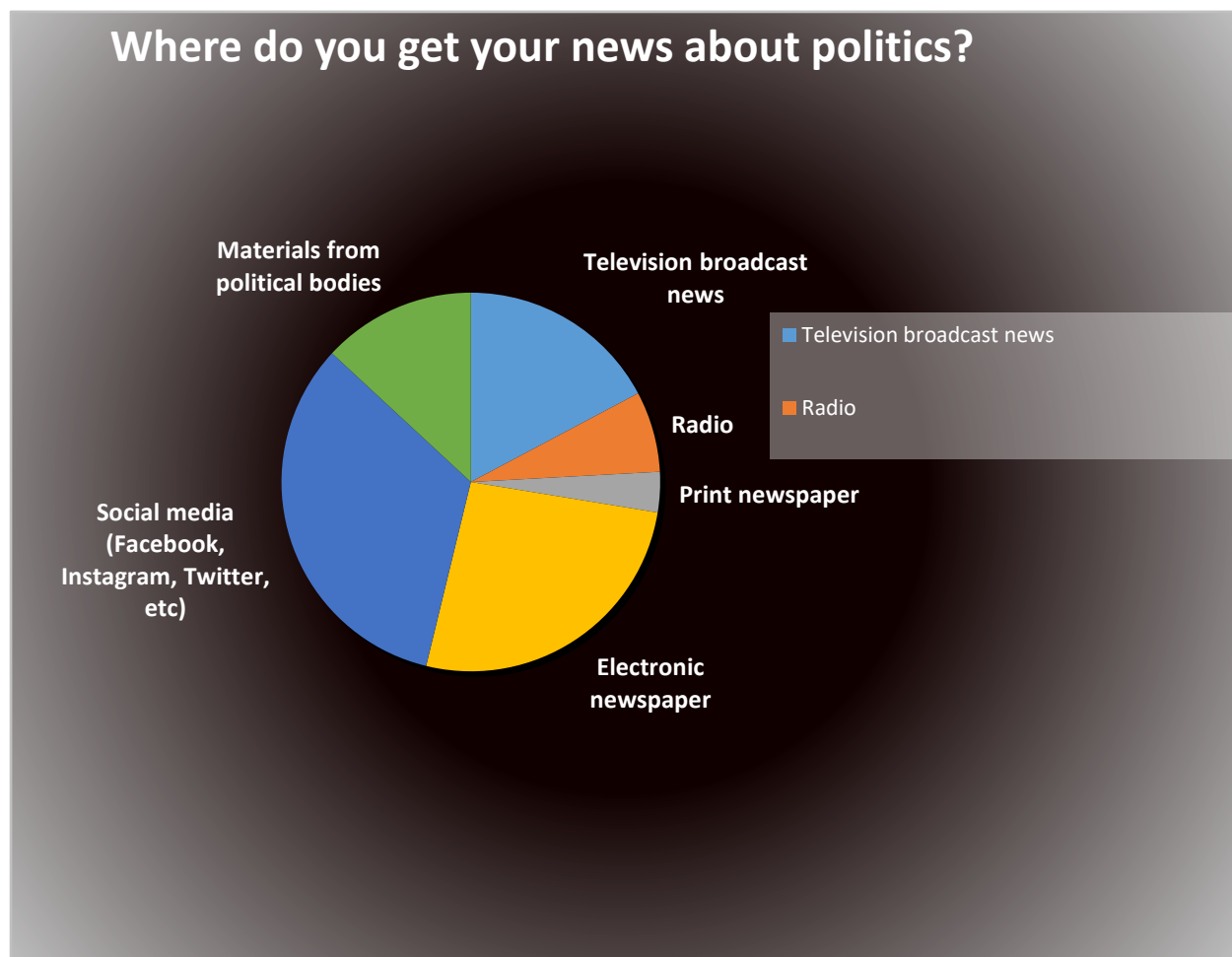


Figure 3: Distribution of Respondents' Sources of News about Politics

Figure 3 shows the different platforms used by the respondents to obtain news about politics. Social media platforms such as blogs, Facebook, Instagram, Twitter, etc., came on top as main sources of news at 96%, followed by electronic newspaper (76%), television broadcast news (50%), materials from political organisations, radio (20%), and print newspaper (10%).

Familiarity of Political Satire among Youth

In this section, the researchers included images and videos taken from the social media to represent the familiarity of political satire among youth. The respondents' responses are based on a five-point Likert scale (1=Not Familiar at All to 5=Extremely Familiar).

Table 1: Respondents' Familiarity of Different Forms of Political Satire

Level of Familiarity	Not Familiar at All	Slightly Familiar	Somewhat Familiar	Moderately Familiar	Extremely Familiar
Forms of Political Satire					
Sample A: Political Graphics by Fahmi Reza	5 (10)	4 (8)	2 (4)	7 (14)	32 (64)
Sample B: Political Cartoons by Zunar	9 (18)	4 (8)	8 (16)	9 (18)	20 (40)
Sample C: Political Anime by "Bro, Don't Like That La, Bro" Facebook Page	4 (8)	5 (10)	11 (22)	8 (16)	22 (44)
Sample D: Memes by SarawakGags	9 (18)	4 (8)	12 (24)	7 (14)	18 (36)
Sample E: HarakatDaily Satirical News Site	16 (32)	7 (14)	6 (12)	7 (14)	14 (28)
Sample F: Dr Jason Leong's Tweets on Twitter	11 (22)	5 (10)	6 (12)	12 (24)	16 (32)
Sample G: Parody Videos by Douglas Lim	4 (8)	3 (6)	1 (2)	13 (26)	29 (58)

Note: Percentages are shown in brackets

As shown in Table 1, most of the respondents were familiar with the different forms of political satire presented to them, except for Harakat Daily Satirical News Site. Thirty-two respondents (64%) were extremely familiar with Fahmi Reza's political graphics while only two (2) respondents (4%) were somewhat familiar. For Zunar's political cartoons, 20 respondents (40%) were extremely familiar while four (4) respondents (8%) were slightly familiar. Twenty-two of 50 respondents (44%) were extremely familiar with the political anime -- "Bro, Don't Like That La" -- as opposed to only four (4) respondents (8%) were not familiar at all. Eighteen (18) respondents (36%) were extremely familiar with the memes from SarawakGags compared with only four (4) respondents (8%) who were slightly familiar.

Interestingly, 16 respondents (32%) were not familiar with Harakat Daily Satirical News Site compared to six (6) respondents (12%) who were slightly familiar. In the meantime, 16 respondents (32%) were extremely familiar with Dr Jason Leong's satirical tweets as opposed to only five (5) respondents (10%) who were slightly familiar. Lastly, as for Douglas Lim's parody videos, 29 respondents (58%) were extremely familiar while one (1) respondent was "somewhat familiar".

Perception of Political Satire and Its Effect on Political Interest

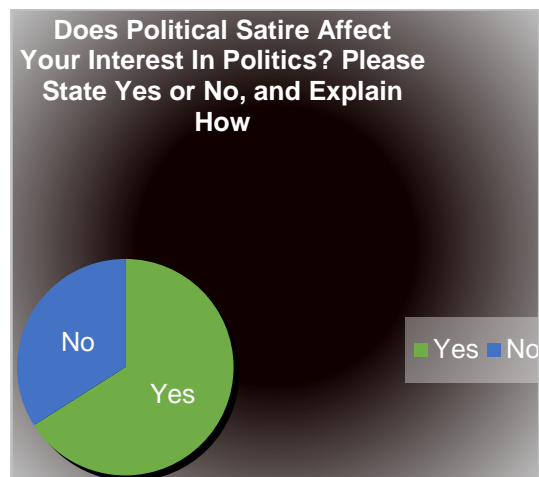


Figure 4: The Effect of Political Satire on Respondents' Interest in Politics

Figure 4 illustrates the effect of political satire on the respondents' interest in politics. Thirty-three (33%) of the respondents said that political satire does affect their interest in politics as opposed to 17% who responded otherwise. Some of the responses from respondents who said political satire has had an effect on their interest in politics are compiled as follows:

"It's easy to understand [about politics and about] what's been happening [around us through political satire]" *Respondent A*

"[Political satire] helps [to] highlight the main [political] issues of [the day] and exposes the mismanagement by the government" *Respondent B*

"Yes, [political satire has affected my interest] because it points out the truth in a sarcastic way! The truth is just the truth and it hurts for some who got to learn how to deal with these satires maturely because it seems politicians can't accept criticism" *Respondent C*

"Yes, as I believe [political satire] allows the audience [to] engage with the content and raise awareness through humour and satire" *Respondent D*

For those who responded negatively, their responses are as follows:

"No. I don't really have much opinion on politics" *Respondent E*

"No, because I don't like politics so it does not affect me at all" *Respondent F*

Table 3: Perception of Political Satire

Statements	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Political satire can reveal the weaknesses of our political leaders and institution	25 (50)	18 (36)	5 (10)	2 (4)	0
Political satire reinforces my political beliefs	11 (22)	21 (42)	15 (30)	3 (6)	0
Political satire helps me express my political opinions	19 (38)	21 (42)	8 (16)	2 (4)	0
Political satire helps me understand why voting is important	24 (48)	18 (36)	7 (14)	1 (2)	0

Note: Percentages are shown in brackets

Table 3 shows the respondents' perception of political satire. Twenty-five respondents said that political satire can reveal the weaknesses of political leaders and institution while only two (2) respondents disagreed. A majority of the respondents also said that political satire reinforces their political beliefs, indicating political satire's importance and influence in shaping the respondents' political attitude. Most of the respondents also believed that political satire helps them in expressing their political opinions and in increasing their understanding of the importance of voting.

DISCUSSION

Based on the findings, a majority of the respondents were familiar with the given forms of political satire except for Harakatdaily satirical news site. This is because Harakatdaily is less popular on social media and rather uncommon to many users especially the youth.

The most popular to the least popular political satire by the order of ranking is as follows: 1. Fahmi Reza's political graphics, 2. Douglas Lim's parody videos, 3. political anime by "Bro, don't like that 1a, bro", 4. Zunar's political cartoons, 5. memes by SarawakGags, 6. Dr Jason Leong's satirical tweets, and 7. Harakatdaily Satirical News Site.

The study found that a majority of the respondents agreed that the different forms of political satire had enhanced their understanding about politics.

Based on the respondents' perception to political satire, we believe in its ability in motivating the youth to participate in the political process more actively and in increasing their political literacy.

Politics has always been considered as the realm for grown men. Most youths feel discouraged to take part in politics as political parties are still largely dominated by the elites of yesteryears – whose political ideals are not compatible with that of the youths'. This explains why in the country's electoral history, only a handful of youth contested as candidates in elections.

Political satire has indirectly encouraged the youth to participate more in the political process through their presence and responses to political issues on the social media. The youths have long been marginalised because of their age, lack of experience and inadequate opportunities. This, however, is set to change with the popularity of political satire among the young people as they are expected to shape the country's political landscape. Political satire also empowers the youth in that it has allowed them to acquire knowledge about democracy and equip them with the tool to explore political issues of the day. Through political satire, the youth can learn more about the government's basic functions, policy-making and the importance of good governance. Besides, many youths also shun politics because it has always been associated with greed, manipulation of power and self-serving politicians. Political satire helps to expose the other side of politics to the youth. At the same time, it also educates them on the use of politics in nation-building and governing. In order to enhance the involvement of youth, it is necessary for the country to provide an enabling environment and as well as appropriate evidence-based programmes on youth development.

Perception of Political Satire

A majority of the respondents agreed that political satire plays a key role in revealing the weaknesses of political leaders and institutions, reinforcing their political beliefs, helping them to express their political opinions, and teaching them on the importance of voting.

The Covid-19 pandemic has laid bare the inability of some governments across the globe in managing their public healthcare system. Corruption, lack of priority and mismanagement of public funds are among the problems faced by some countries especially in the developing world. As governments are struggling to cope with the outbreak of the Covid-19 pandemic, people use political satire to reveal the weaknesses of political leaders and institutions. Double standards, confusing SOPs (Standard Operating Procedures) and broken public healthcare system are among the issues highlighted in satirical fashion to attract people's attention.

The youth particularly turn to political satire on social media to learn more about political issues. As political satire is partly humorous and satirical, they are more attracted to it than the more conventional and formal media channels.

Political satire allows the youths to see things from different points of view and helps shape their political belief which is not necessarily similar to the one held by the establishment, based on the survey conducted in this research. Once satirical political messages are shared on the social media, it goes viral from one user to the other. The messages not only generate interest but evoke responses, encouraging the youth to speak out and to publicly share their opinion. A case in point is the Undi18 campaign movement. Undi18 is a Malaysian youth movement that successfully advocated for the amendment of Article 119 (1) of the Federal Constitution to reduce the minimum voting age in Malaysia from 21 to 18 years old (Undi 18, n.d.). Undi 18 has sparked and brought youth empowerment to life in Malaysia. Many Malaysian youths are coming forward to fight for their right. With the rise of political satire, youth are no longer afraid to voice their opinions on social media or even organize peaceful protest like #LAWAN² to fight bad governance, corruption and systemic racism in Malaysia. The link between political satire and voting inclination is unclear but it opens the minds of the youth about their sense of responsibility as voters.

CONCLUSION

Political satire has profound impacts on the political interests of the youths. Political satire not only helps to increase the political understanding of the youths, it also presents political issues to the youths in creative and interesting ways. Political satire is expected to grow and become more popular in the country's political scene. It will shape the political thinking of the youths and influence the way they vote in the coming elections. The direct effects of political satire, however, on the voting inclination of the youths, are still inconclusive and need to be explored further.

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² #LAWAN is a rally organized by Sekretariat Solidariti Rakyat that demanded the resignation of Malaysian 8th Prime Minister, Tan Sri Muhyiddin Yassin.

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The Globalization of Hallyu Phenomenon: Impact on Malaysian Young Female's Attitude and Behaviour

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ABSTRACT

Hallyu phenomenon is a globalized cultural product from South Korea that has spread uncontrollably into many parts of the world, and Malaysia was no exception. With the aid of media and the internet, the domination of its significant products such as K-drama, K-pop music, K-Food, K-Beauty, and technology brands left an indisputable impact on society. Hallyu's wide acceptance in Malaysia, however, received backlash from the anti-Hallyu group who criticized it for degrading the value of Malaysian culture, specifically targeting young females in Malaysia for their "obsession" with this foreign culture. This paper aimed to examine the relationship between the globalization of Hallyu phenomenon and young females in Malaysia. It employed a quantitative method to explore the impact of Hallyu on young females' attitudes and behaviour by distributing online surveys to 300 targeted respondents with prior knowledge regarding the topic. The findings showed that the most popular Hallyu cultural product is K-Pop, which consequently further influenced their attitude and behaviour towards other Hallyu products. The success of Hallyu culture among young females in Malaysia owed a lot to the internet and social media as the tools to disperse information, hence shaping their thoughts, attitudes and behaviour on the issue. The results also noted a few behavioural changes among the respondents in terms of time and money spent on Hallyu products. Overall, this study suggested that most respondents have a positive attitude towards Hallyu and that any behavioural changes were still within their control, hence denying the claim of "obsession" and "degrading one's cultural value" as claimed by the anti-Hallyu group.

Keywords: Hallyu phenomenon, globalization, South Korea, cultural products, young females

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INTRODUCTION

Hallyu is a Chinese term which translated to "Korean Wave", a collective term that refers to the phenomenal growth of Korean popular culture ranging from music, movies, drama, online games to Korean food. The Hallyu phenomenon penetrated other countries in Asia since the late 1990s, and soon after, spurred by the internet and social media, to other parts of the world. The Hallyu phenomenon began as part of South Korean economic policy reform during the 1997 Asian financial crisis that saw the South Korean government injecting more funds into its entertainment industry. The export of Hallyu cultural products contributed to 0.2% of Korea's GDP in 2004, amounting to approximately USD1.87 billion. According to Korea Foundation for International Cultural Exchange, Hallyu contributed USD9.5 billion to the Korean economy in 2018, and rose to USD12.3 billion in 2020, up 22.4% from 2018 (Martin, 2021 and Huang, 2020).

The spread of Hallyu culture first began in China through one of its products, K-drama. A Korean drama titled "What is Love" was so popular that it had 150 million Chinese viewers. That same year, popular music caught the attention of Chinese teenagers through a radio broadcast, Seoul Music Room that was aired in Beijing. The trend, though recognized first by the Chinese, finally spread among the Koreans themselves (Soo, 2012). The popularity of Hallyu Phenomenon led to many researchers analyzing its effects on East Asia, the Middle East and Southeast Asian regions that had shown the presence of fandom movement that nurture the success of Hallyu culture (Roll, 2020). According to Roll, the Korea Foundation reported a 89 million hallyu fans in 113 countries in 2019 where over 70 million lived in Asia and Oceania, 11.8 million in the Americas and 6.6 million in Europe.

Hallyu, in particular, is essentially an embodiment of soft power in South Korea (Kiymet & Murat, 2016). South Korea yielded its influence by featuring visual attractions to the eyes of the world that indirectly facilitate its competitiveness at the international level. The cumulative effect of movies, music, dramas and games has been tremendously positive to the Korean economy and the Korean country image in the region.

However, it did not escape from receiving backlash from the anti-Hallyu group who claimed that such phenomenon inflicted a negative impact on the existing cultures in Malaysia. A study conducted by Anslie, Limpura & Lim (2017) perceived Hallyu as a "low" cultural product that does not meet the aspect of modernity and sophistication. Zamsari (2014) wrote that Hallyu fever led to people abandoning their own culture to learn and practice Korean culture instead, which led to a concern of people forgetting their roots. The anti-Hallyu believed that the Hallyu phenomenon depreciated the Malaysian culture, and attacked young females for being "obsessed" with Korean celebrities. Despite substantial studies on how people were drawn into Hallyu products, a deeper investigation is needed to look into the effects of the Hallyu phenomenon on the attitude and behaviour among young females in Malaysia. Therefore, this study aimed to explore the relationship between the Hallyu phenomenon and its impact on the attitudes and behaviour of young females in Malaysia. The study was guided by two research objectives while incorporating the concepts of globalization and Korean soft power to determine the results.

RESEARCH METHODOLOGY

Population, Sample Size & Sampling technique

The population of this research comprises young females aged between 15 and 30 years old, and currently staying in Malaysia. They possessed similar background being active Hallyu followers who consumed its popular cultural products. The sample size was 300 female respondents to represent young female population in Malaysia within the youth age range. A snowball sampling method was used by sending the Google form to the key-person of a few group fan bases, namely "Carat Big Family Seventeen", "X1 Old OneIt", and "BTS Army Sarawak" on Twitter.

Data Collection

An online survey was distributed through social media, namely Twitter and WhatsApp to reach respondents who are actively following the Hallyu phenomenon, also known as "fandom". The fandom movement is widely active on both social media platforms, hence the reason they are expected to participate in the survey. Constructed in Google Form, the online survey comprised both close-ended and open-ended questions to obtain critical information such as the demographic profile of the respondents, popular Hallyu cultural products among young females in Malaysia, and attitudes and behaviour towards Hallyu cultural products. The data visualisation generated from the results of the survey became the primary source for data analysis.

Data Analysis

Descriptive analysis was carried out with the aid of SPSS. Data derived from the demographic section were essential to construct the demographic profile of Hallyu followers, and whether factors like age, marital status or occupation have influence over them. The analysis also generated a three-point scale result which will depict the highest Hallyu product score that contributed to the attitude of young females. A thematic analysis will be applied to explore the effects of Hallyu products on their attitude and behaviour. The data analysis will determine the characteristics of Hallyu products that might result in changes in their attitude and behaviour.

RESULTS

Demographic data of young females in Malaysia

The demographic factors in this study were age, marital status and occupation. Figure 1 showed the age of respondents which ranged from 15 to 30 years old. Out of 300 respondents, 68% belonged to the 19 - 24 age group comprised of young females who were either university students or working. The age groups of 15 - 18 and 25 - 30 held the same percentage of 16% respectively. The former comprised young females still in high school while the latter were either still studying or already working.

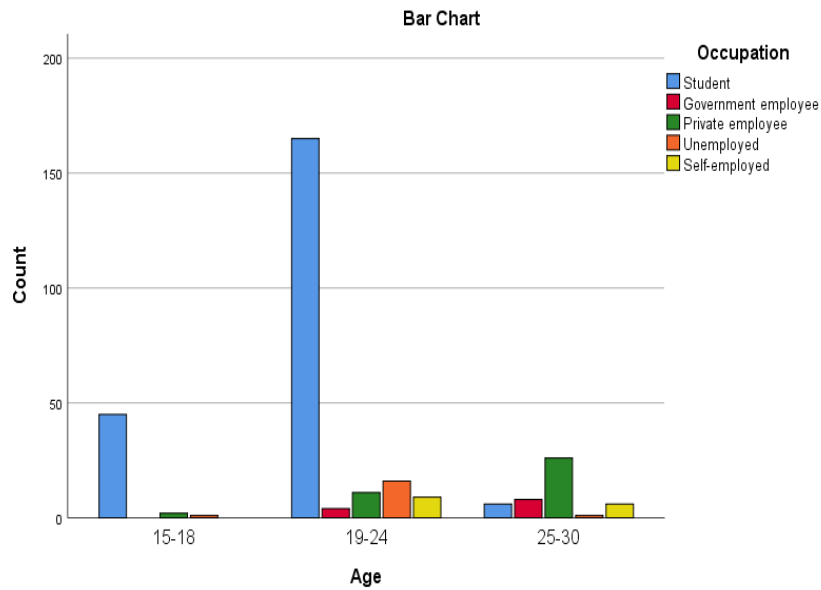


Figure 1: Distribution of Respondents by Age and Occupation

With regard to occupation as shown in Figure 2, 72% were still studying in high school and university, 4% were government servants, 13% worked in the private sector, 6% were unemployed and 5% were self-employed. The majority of the respondents were still single, 7 of them were married while only 1 was a divorcee.

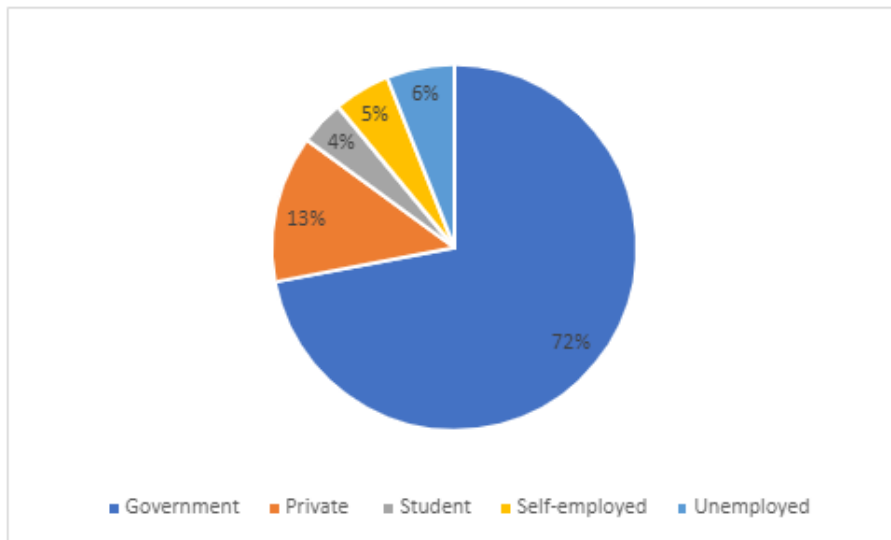


Figure 2: Occupation

Types of Hallyu cultural products that are popular among young females in Malaysia

The data collected depicted five main components of Hallyu cultural products popular among young females in Malaysia, namely K-Drama, K-Pop, K-Food, K-Beauty and K-Technology as shown in Figure 3. In the survey, open-ended fields were provided for the respondents to supply the names or brands of their favourite Hallyu cultural products, which were then analysed thematically due to their wide variation.

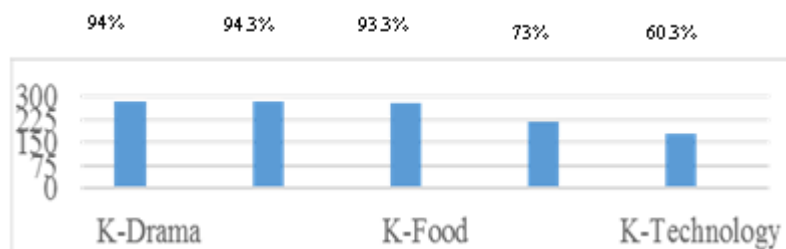


Figure 3: Most Favourite Hallyu cultural products

K-Drama was the earliest Hallyu cultural products that penetrated many parts of the world, including Malaysia. The first K-Drama that had established popularity across the neighbouring Asian countries was Winter Sonata. In Malaysia it was aired on the TV3 network. In August 2002, it was reported that Winter Sonata had 1.5 million Malaysian viewers when it was first broadcasted (Hariati, 2012). The survey garnered 282 responses for K-Drama with 94 different K-Drama favourite titles albeit with similar characteristics, that were released from 2016 to present, such as “Goblin” and “Scarlet Heart Ryeo”, except for “Boys over Flower” which was released in 2009. At the time of the release, these respondents were around the ages 19 to 24 years old, or 25 to 30 years old now). Five years ago, in 2016, they would have been in school and had more time to indulge in watching K-Drama.

K-Pop music was also one of the most successful Hallyu products, drawing 283 responses which provided the names of K-Pop idol groups and artists of their favourite. In 2006, TVXQ was the first K-Pop idol group to hold a concert in Malaysia, opening a pathway for other K-Pop groups to perform in this country such as Girls Generation, Super Junior and Wonder Girls (Hariati, 2012). Overall, 47 K-Pop idols were named, ranging from individual artists, idol groups and idol bands, mainly from the 2nd Generation (early 2000's) to the 4th Generation (present) groups. 93% of the respondents were fans of idol groups such as BTS, SEVENTEEN and EXO; five (5%) preferred idol bands such as DAY6 and FT Island while only two (2%) were fans of individual artists, namely IU and Ailee.

The popularity of K-Drama and K-Pop ignited interest in Korean food, inadvertently leading to the opening of many Korean restaurants in Malaysia such as Mr Dakgalbi, K-Fry, Seoul Garden, Pelicana and many others. 280 respondents named 23 favourite Korean traditional food such as *tteokbokki* (rice cake), noodles like *ramyeon* and *jjajangmyeon*, and variety of stew (*jjigae*) such as *kimchi jjigae*, *soondubu jjigae* (tofu stew), and *budae jjigae* (army stew). Other familiar K-Food that made the list was *kimbap*, a dish that is similar to Japanese *sushi*, *bulgogi* (stir-fried meat) and *dakgalbi* (stir-fried chicken).

Additionally, Korean Beauty products also flourished especially among the youth in Malaysia even though the responses recorded, 219, were slightly lower than the previous three Hallyu products. The respondents shared and bought K-Beauty products such as mask sheets, toner, volcanic clay mask, mist, perfume and essence. Among the popular brands are Innisfree (36.1%), The Saem (12.3%) and Etude House (8.2%).

The last component of Hallyu cultural products, K-Tech, collected the least responses and only nine (9) names of K-Tech products or brands were mentioned by the respondents. From 181 responses, 86% named Samsung as their favourite technology brand, and this include Samsung products such as Samsung Smart TV and mobile phones. Others named brands such as LG Electronics, Hyundai, G-Market, Kia motors, water dispenser brands like Coway and Cuckoo, and other high-end technology features, such as Korea's high-end toilet bidet and door security.

Reasons why they like Hallyu Products

The respondents were asked to choose one Hallyu cultural product that they most liked, and why. Figure 4 showed a clear analysis of the respondents' choices.

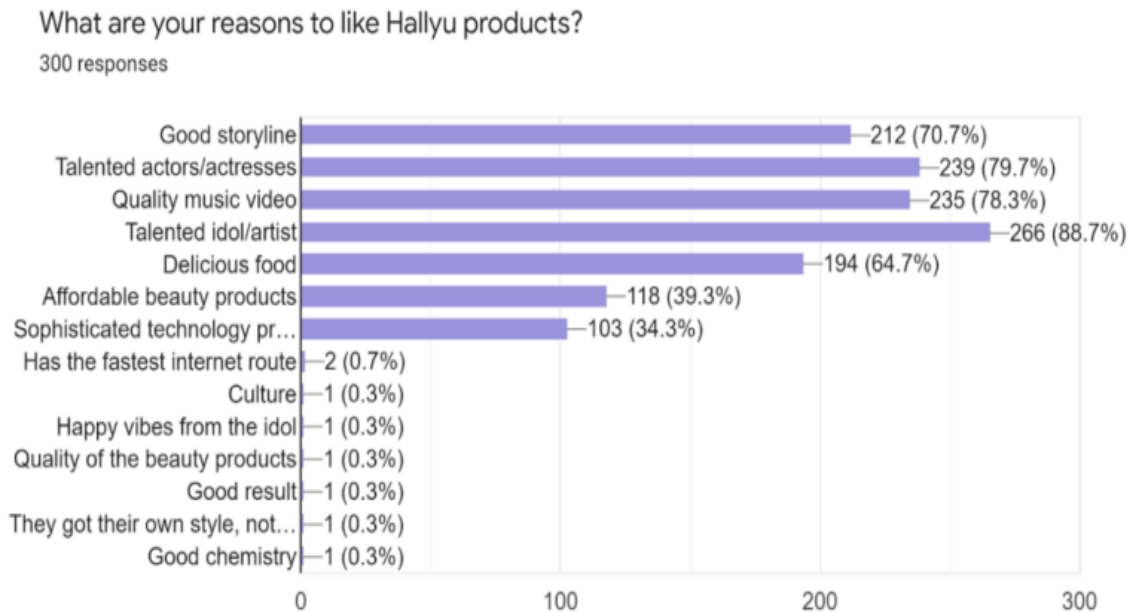


Figure 4: Reasons why respondents like Hallyu products

For K-Drama, a significant number of respondents (70.7%) selected "good storyline" and (79.7%) "talented actor/actresses" as the reasons why they like K-Drama. One respondent shared that "good chemistry" between actors was the reason that encouraged her to like K-Drama. Meanwhile, since a majority of the respondents were fans of K-Pop, the highest frequency of factors associated with K-Pop were "quality music video" and "talented idol/artist". Two respondents shared their reasons for liking K-Pop; one thought that the "idols bring her happiness" while another believed that the "idols are uniquely charismatic without copying others". The respondents also agreed that "K-Food items were delicious", and though none of them chose K-Technology as their favourite product, they still acknowledged it as "sophisticated technological products". K-Beauty, in particular, received a fair amount of responses and was appreciated for its "affordable price, quality and the promising results it gave to consumers".

DISCUSSION

Impact of Hallyu culture on young female's attitude

The discussion focused on the attitude of young females in Malaysia towards Hallyu culture. Different people reserved different judgment and thoughts when it comes to the purpose of consuming any products. It was apparent that the respondents have positive attitudes towards Korean. Most admitted they like watching Korean dramas as the storyline depicted real-life situations and contained values that resonated well with young females in Malaysia, for example, Reply 1988, a nostalgic drama portraying a real-life relationship between friends and family. This echoed earlier findings by Gan (2019) and Juliana, Hassan & Nor Hafezah (2018) that similarity to real people that touches dominantly on human sensitivity such as lifestyle, value and family has propelled the success of Korean dramas in Malaysia. Korean dramas were said to satisfy Asian audiences' emotional needs as they were easily assimilated into a similar lifestyle, cultural proximity and expressiveness (Juliana, Hassan & Nor Hafezah, 2018, p.13).

Similar to K-Drama, K-Pop also received positive responses from young females where fewer "No" answers were given. As one of the most successful Hallyu products that garnered interest from the younger generation in Malaysia, Korean idols and celebrities showcased creativity and enthusiasm in their music videos, and imparting great values where they could even become the ambassador/idol for the youth. For instance, in conjunction with the 75th United Nations General Assembly (UNGA) in September 2020, BTS represented UNICEF with its "BTS Love Yourself" Campaign. BTS delivered a heartfelt message to the youth who were struggling during the pandemic to remind that they were not alone in facing the depression and frustration during the unprecedented time of COVID-19 (The Jakarta Post, 24 September 2020). There was a high probability (88%) that the respondents will continue to like K-Pop. Ideally, the positive values portrayed by the Korean celebrities construed the real concept of soft power which was essential to entice public opinion of the Korean culture.

Besides being influenced by K-Drama, another driving factor that encouraged people to try out Korean traditional food was the *mukbang* videos, a popular eating show in South Korea. Of the total respondents, 50% admitted to trying K-Food after watching the mukbang videos. There were 169 respondents who claimed that K-Food suits their palate while the rest were uncertain (33%), and those likely to dislike the taste of K-Food formed the least percentage (10.3%). However, despite this uncertainty, there was a high possibility that the respondents would try K-Food recipes in their own homes. Sixty-three percent (63%) of the respondents stated that they occasionally had Korean food, and 28% had Korean food sometimes. Only a small percentage (9%) of young females admitted to having Korean food often. The craze over Korean cuisine even drove Malaysian fast-food chains such as McDonald, Texas Chicken and Domino's Pizza to introduce Korean-fused items in their menus (The Malaysian Reserve, 29 July 2019) to tap further into the local market.

As mentioned in the previous section, the attitude responses for K-Beauty and K-Tech were slightly lower compared to other Hallyu products. Two main reasons the respondents bought K-Beauty and K-Tech products were because of the quality (50%) and good reputation of the brands (67%). Meanwhile, those who answered "No" and "Maybe" were unlikely to purchase or use these products. When K-Beauty in Malaysia began to be popular in 2014 under AmorePacific, Korea's renown cosmetic company, Etude House became the first Korean cosmetic line-up that reached Malaysia, followed by Laneige, Innisfree and Mamonde. Malaysians are typically exposed to tropical climate with long humidity, and certain Etude House brands incorporated skincare-makeup combination that are made specially for Asian skin. Positive judgement towards K-Beauty in this study is parallel to what Bervin (2019) mentioned that K-Beauty promised better results and more variety for different type of skins.

In 2020, Samsung Electronics was honoured as the 1st in Asia's Top 1000 Brands, and that was for ten consecutive years. Samsung produces vast variety of electronic devices such as smartphones, washing machine, refrigerator, and flatscreen television, among others. While Samsung remained the trusted brand in Malaysia in general, the respondents gave the least responses to K-Tech presumably because of the preference towards other brands such as Apple and Panasonic which came in 2nd and 3rd after Samsung for Asia's Top 1000 Brands 2020 (TechNave, 2020). Nonetheless, even though K-Tech received the least responses, the respondents still acknowledged the sophistication of Korean brands.

When asked to elaborate, the respondents stated their willingness to continue purchasing, buying and using K-Beauty, but there was a high uncertainty in doing so when it came to K-Technology. This consumer behaviour depended on the level of respondent's engagement with K-Pop and K-Drama; whereby respondents were more inclined to support products in which their favourite celebrities were ambassadors. Since the purchasing behaviour was majorly driven by the idol factor, that explained the lack, or, selective purchase of K-Tech products among the respondents.

Impact of Hallyu culture on young female's behaviour

The two biggest key influence of behavioural changes among the respondents was the media and technology. Information and updates on Hallyu culture happened every day through the vast usage of the internet across the world, the push factor in the globalization process that helped the spread of Hallyu culture in Malaysia.

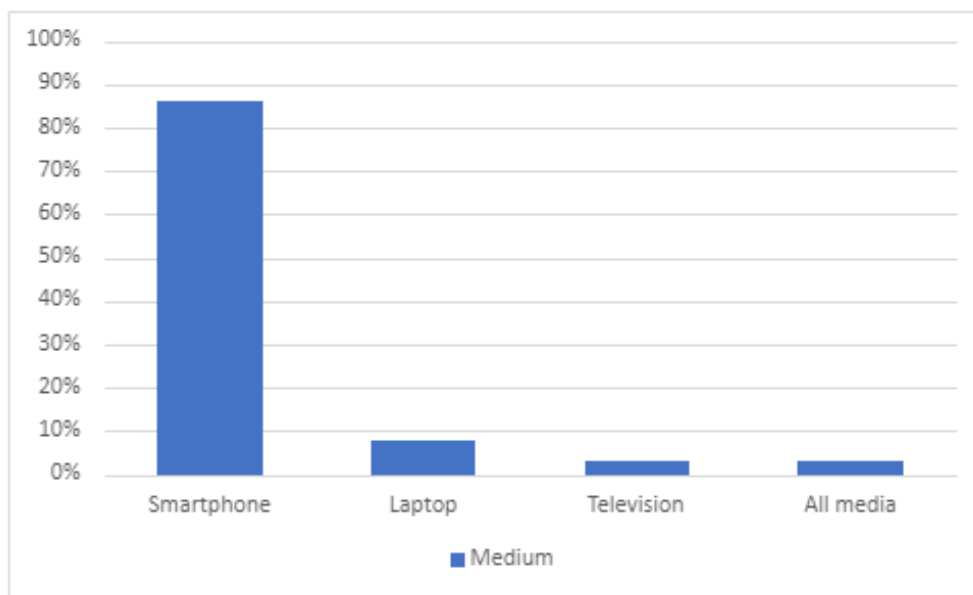


Figure 5: Medium used to watch/listen/learn about Hallyu products

Figure 5 recorded that as high as 86% of young females used smartphones to watch, listen and learn about Hallyu products. In addition, respondents were asked to choose more than one social media platform that they used to share information related to Hallyu products. Instagram had the highest frequency, followed by Twitter, and WhatsApp. These three platforms in general are the most engaging, and the Korean celebrities have their own social accounts to interact with fans by updating their pictures on Instagram and status on Twitter. Meanwhile, on WhatsApp, fans created their own groupchat to interact with each and discuss their favourite idols. Smartphones became the most used medium obviously due to their convenience of mobility and smart features that provide information to humans just with a tap of their fingers. 8% and 3% of respondents used laptops and televisions respectively to gain information. Televisions used to be the first media that broadcasted elements of Hallyu, but over the years, the importance of televisions as the medium to disseminate information have dwindled and usurped by smartphones. Most countries in Southeast Asia that are actively following Hallyu such as Malaysia, Indonesia, Philippines, Thailand, Vietnam and Singapore are using the streaming platforms instead of TV. However, TV viewership in the Philippines remained the highest among other Southeast Asia countries, especially during the containment of pandemic period (Nadhirah, Tan & Raul, 2020). Only 3% of respondents stated they used all the above-mentioned media interchangeably to watch Korean movies and drama or listening to Korean pop music.

Involvement with Hallyu-related products

Table 1 showed the time spent by young females in Malaysia watching K-Drama or listening to K-Pop music every week where the highest frequency recorded was more than six hours (39%), slightly lower for between four to six hours (38.3%) while only 22.7% spent one to three hours. The significant amount of time allotted on watching or listening to Hallyu products fit the culture of binge-watching foreign dramas that were easily accessible as they were made available on digital platforms such as Netflix, Viu, and Amazon Prime Video.

Table 1: Time spent watching K-Drama/K-Pop per week

Time spent	Frequency	Per cent	Cumulative Percent
1-3 hours	68	22.7	22.7
4-6 hours	115	38.3	61.0
More than 6 hours	117	39.0	100.0
Total	300	100.0	

The clustered graph in Figure 6 indicated that the 19 - 24 years old age group spent the most time watching K-Drama and K-Pop per week. This could be related to their occupation as most were comprised of university students whose time was more flexible than those working. The lower graph pattern for between 25 - 30 years old age group could be explained by the lack of time to indulge in such pastimes as they were working, thus their activities were restricted by their working hours. There are also those who belonged in 15 - 18 age group who spent more than 4 hours due to factor of the pandemic. When they are already done with online classes, their schedule is more flexible and unaccounted for. Generally, most of these age groups spent a lot of time with K-Drama and K-Pop. Therefore, it is important to know if these spent times on Hallyu products are affecting other responsibilities of young females. Based on the conducted survey, 67% believed that they are managing their time fairly, 22% did not spend more time on Hallyu, and there is only 11% who did spend more time on Hallyu than their other responsibilities.

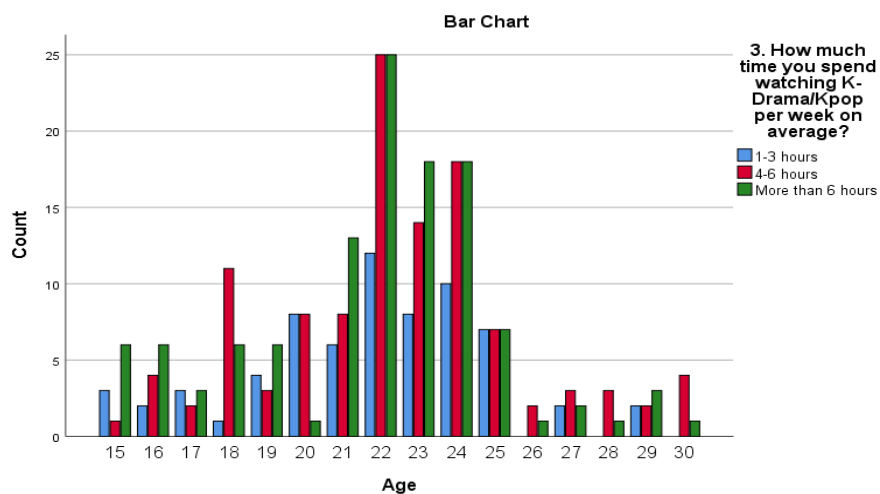


Figure 6: Age vs time spent watching K-Drama and K-Pop per week

Table 2: Amount of money spent on Hallyu products

Money spent (RM)	K-Drama	K-Pop	K-Food	K-Beauty	K-Tech	Not spending
0 - 100	9	95	25	22		40
101 - 500	4	67	1	19		
501 - 1000		16				
> 1000		1			1	
Total/%	13 (4%)	179 (60%)	26 (9%)	41 (14%)	1 (0.33%)	40 (13.33%)

The respondents also shared the amount of money spent on Hallyu cultural products, and the amounts varied across all five products. The results showed that the product that most young females spent on was K-Pop (60%), followed by K-Drama (45%), K-Beauty (14%), K-Food (9%) and K-Tech (0.33%). However, quite a number of them also did not spend on any of the products at all (13.33%).

Interestingly, as shown in Table 2, the amount spent on K-Pop products showed quite a huge gap, ranging from RM50 to RM5000. Some shared details of the items they bought, such as K-Pop merchandise, albums, photo cards, and concert tickets that could be worth more than RM500. Money spent on K-Drama items consisted of DVD set box, photo book, and subscription payment to online streaming worth RM15 to RM20. Meanwhile, K-Beauty items consist of makeup and skincare products from various brands. Similarly, spendings on K-Food

products included dining at Korean restaurants and purchase of imported Korean food from the supermarket. Only one respondent spent on K-Technology worth RM2000, while the rest did not make any spending on Hallyu cultural products at all.

This spending behaviour could be justifiably explained by demographic factors, specifically age group and employment status, whereby respondents who spent money on Hallyu products were the ones already working or university students who have pocket money either from parents, student's loans or part-time jobs. Only a small number of respondents aged 15 to 18 spent money on Hallyu products, and their purchases were also limited to items worth less than RM100. This trend reflected the lack of money for spending among this age group as they were still in high school.

Behavioural changes and thoughts

The Korean society set a certain characteristics that determined the "ideal" beauty standard to the extent that it has set the standard of beauty for Asians. They believed pretty faces and good appearances were the keys to success. The idea of what "true beauty" looks like was further enhanced by the media which dominated the life and breath of the youth. Emphasis on the importance of appearance consequently boosted the production of high-quality makeup products as well as cosmetic surgeries and expedite the sale of Korean beauty products in the Asian market. In comparison to other foreign brands that emphasised the stereotypical look with arched eyebrows and heavy contour, K-Beauty highlights the natural colours that incorporated smoothly with the skin to create porcelain-like texture and appear younger than the age (Bervin, 2019). Thus, respondents were asked if the contents they had encountered before made them thought of complying with the Korean beauty standard. 14% often thought of doing so, 36% only thought of it sometimes, 14% rarely thought that way while 32% did not put much thought on it at all. This negate the claim that with the growing influence of Hallyu, young females could not resist the urge to wanting the skin of Korean celebrities, especially the glass skin, the recent trend in K-Beauty. They might have thought about it, but the figures showed that the majority did not succumb to the temptations.

Finally, the respondents were asked to self-assess their involvement with Hallyu culture. Overall, 52% rated themselves as a moderate audience, 26% as a casual audience, where they watched, listened or used Hallyu cultural products casually, but without any attachment or deep engagement. Roughly 1/4, or 26%, claimed they are devoted audience, and this explained their willingness to invest a lot of time and money in Hallyu products as shown in the tables and figures above. The high rate of involvement and clear intention to continue to consume Hallyu cultural products showed there was no sign that the Hallyu phenomenon is diminishing, as evidence in the demands for Hallyu cultural products like K-Beauty that have steadily risen since 2018, propelling AmorePacific to sign a Memorandum of Understanding (MoU) with Shopee Malaysia in order to solidify its online presence in Southeast Asian beauty market.

CONCLUSION

The findings managed to classify types of Hallyu cultural products popular among young females in Malaysia. Across the demographic profiles, the majority of respondents have the strongest inclination towards K-Pop, followed by K-Drama, K-Food, K-Beauty and K-Technology. Most significant was the prominence of K-Pop influence on the respondents. The Hallyu phenomenon had influence on the attitude and behaviour of young females in the consumption of Korean cultural products. Overall, the respondents have a "positive" attitude toward Hallyu culture in which it was not as detrimental as claimed by the anti-Hallyus, and the Hallyu brands are still "trending". While the amount of time and money that some spent on Hallyu products could be described as "unnecessarily excessive", they maintained that they were still able to draw a clear line between entertainment and responsibilities.

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