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PREFACE

Proceedings of the 2nd Putrajaya International Conference on Multi-Disciplinary Research 2021 (PJIC2021)

It is my pleasure to welcome you to the 2nd Putrajaya International Conference on Multi-Disciplinary Research 2021 (PJIC2021). **PJIC2021** aims to provide a platform for connecting academic scholars and industry practitioners world-wide to share the research findings from various disciplines and create a space for intellectual discussion, exploration and reflection of key issues that are shaping the world today. This is a great opportunity for delegates to expand knowledge, plan and implement innovative strategies, overcome barriers and move forward with the initiatives that benefit the community. There will be huge opportunities for networking, informed dialogues and collaborations.

Your participation in this conference and submission of research papers is greatly appreciated and on behalf of the Organizing Committee, I wish you all the safety and health and together we must strive to get over with the Covid-19 pandemic challenge as soon as possible. Our research works must endure despite these challenges to continue contributing to the body of knowledge from new research ideas, methods and problem resolutions.

Thank you.

Dr. Safaie Mangir
Conference Chairman

ABSTRACT

The objective of this conference is to provide a platform for scholars, intellectuals and professionals from various academic and industrial disciplines to share the research findings from various disciplines and create a space for intellectual discussion, exploration and reflection of key issues that are shaping the world today. The conference welcomes all authors from related fields of research to submit and/or present the research papers. All accepted papers will be published in the conference proceeding book with ISBN number. More importantly, the accepted papers will also be published in refereed journals indexed by Malaysia Citation Centre (MCC). Papers that have the merits for publication in high index journals will be selected for publication in SCOPUS-indexed journals.

The conference has attracted quite a number of participations and accepted research papers from various research disciplines for publication in proceeding book and journals. All submitted papers were reviewed by the review committee and the corresponding acceptance notifications were emailed to the authors upon acceptance approval by the review committee. Subsequently all accepted papers will be published in conference proceeding book which is targeted to complete by middle of September 2021. All accepted papers correspondingly, will be published in September or December 2021 Issue of the refereed journals depending on the wish of the authors. The proceeding (with ISBN) will be provided in PDF format while the journal is online and the related online URL links will be provided via email upon successful journal publication of the papers.

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INSTITUTIONAL QUALITY AND FOREIGN DIRECT INVESTMENT IN ASEAN BEFORE AND AFTER ASEAN ECONOMIC COMMUNITY

Mutiara Nibras Sakinah[1*] andAhmad Setiawan Nuraya[2*]

[1 2] Faculty of Economics, STIE Indonesia Banking School, Jakarta Selatan, DKI Jakarta, INDONESIA

*Corresponding author: mutiaranibras@gmail.com; ahmad.nuraya@ibs.ac.id

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Abstract: *This study aims to determine the effect of institutional quality and macroeconomic variables on Foreign Direct Investments in ASEAN during the 2013-2018 period with a cut-off in 2015 to see the difference in the influence of independent variables on Foreign Direct Investment before and after the AEC. The objects studied are ASEAN member countries that have implemented the AEC agreement. The sample selection was by using the purposive sampling method and obtained a sample of 9 countries. The dependent variable is Foreign Direct Investment, and the independent variable of institutional quality is proxied by Regulatory Quality and Political Stability and Absence of Violence, and macroeconomic variables are proxied by Gross Domestic Product and labor Force. This study uses panel data as measured by multiple linear regression analysis methods. The results of this study indicate that the Political Stability and Absence of Violence and Gross Domestic Product have a significant effect on Foreign Direct Investment.*

Keywords: Foreign Direct Investment, Regulatory Quality, Political Stability and Absence of Violence, Gross Domestic Product, Labor Force, AEC (ASEAN Economic Community).

INTERACTIVE MODULE FOR SLOW LEARNERS IN CREATIVE SEWING PROGRAMME

Norain Abdul Rashid[1*] and Syafiqah Amin[2]

[1 2] Fashion and Tailoring, Raub Community College, Raub, MALAYSIA

*Corresponding author: noryn.iman76@gmail.com

Abstract: *Every human being on earth is born with diverse ability, skills, knowledge and specialty which makes them unique from each other. Each of these differences must not be look down upon and shall be respected. When learners attend early school years, educators may start to identify the learners based on their abilities and skills. There are several types of learners such as fast learners, average learners and slow learners. Learners learning variances may be attributable from poor memory, lack of awareness in education, lack of fundamental knowledge or psychological factors. These obstacles shall be overcome if the educator knows how to attract slow learners in order to bring out their inner talent, also, to make them understand and to be interested in the subject. By overcoming the obstacles, leaners will appreciate and enjoy the learning that they had accomplished during lesson. This article attempts to solve the issues of slow learners' in sewing college. The educators are facing with lots of obstacles in order to make the slow learners to understand the sewing process although the step had been shown to them in detailed steps. Although the educator had guided them in stages where they will be guided as in one to one, some learners could not complete the sewing process in order to make it as the end product. Howard Gardner (1983) quoted saying that "Anything that is worth teaching can be presented in many ways. These multiple ways can make use of multiple intelligences". In this circumstance, as an educator, we must create interesting interactive module to assist learners to improve their understanding and to enhance their interest in order for the learners to complete their sewing project.*

Keywords: Interactive module, sewing process, slow learners.

1. Introduction

Slow learners are children who face or have a developmental delay from birth. Rahmat Kurniawan (2020) mentioned that there are two factors detected with slow learners which are either internal factor or external factor. One of the developments that is affected can be seen from their smile. Slow learners will attain a slow development in smiling and slow to respond to sounds or voices. These learners also show slow in giving and grasping response even after they are more than three years old. This has been happening since infancy and has not disappeared even though the baby is over three months old. These slow learners are usually unable to keep up with learning and teaching taught by teachers using common methods. This is because they are not able to focus and show interest in the learning and teaching process.

One of the characteristics of slow learners is, they are not able to communicate like normal learners. They also have a lower level of intellectual compared to normal learners. Slow learners are also not active and almost quiet at the most of the time. They do not talk much and prefer to be alone. Slow learners will also be at risk in leaving out the syllable in letters or words when they read or write.

A Vasudevan (2017) pointed out that slow learners show weakness in so many parts of in the lesson such as thinking, finding similarity, reasoning, poor development of concept, language and memory. Slow learners are also unable to follow lessons in the classroom, curriculum or in the regular classroom because these slow learners are too slow to achieve a simple teaching objective or short-term objectives and they have strong stimulus which are weak and low to absorb the information in the classroom.

These slow learners also find it difficult to accept instructions. Therefore, educators are advised to give short and simple instructions. In addition, these slow learners often pronounce letters incorrectly or interchangeably. The frequency of errors in spelling, punctuation is a common thing for slow learner.

Various teaching and learning strategies that can be formed by educators, one of it is the interview method. The interview method will include parents or guardians and an educator itself. This method can identify real problems and educators can intervene to these slow learners. On the other hand, by using an interesting worksheet will also improvise the concentration and memory of slow learners.

According to Korikana, A. (2020), slow learners should get an equal opportunity in education in order to make sure that they will succeed and have a better future by improving their skills and knowledge because this factor is an important contribution to a country's development. Hence, as an educator, they need to prepare and provide activities or teaching aids that are created creatively to ensure the engagement of the slow learners. This is because slow learners are not special needs children, nevertheless they need special engagement technique to attract their interest in learning. Educator must get the student to understand the process and the flow of every project that they need to complete.

Standing on the above elaboration, this research aims to analyse the effectiveness of interactive video and tool such as simple photo book used as teaching aids for helping them to understand better towards the lesson stated in the syllabus. By preparing a module and interesting teaching aid for slow learner, it will enhance the learning style and its environment which will assist educators to support slow learners where slow learners will get to install vigorous spirit in their learning session. This is because slow learners are more attracted to something that are visually shaped. It is easier to understand and fun to watch compared to teaching aids which consist of too many texts and words.

2. Literature Review

Student development involves the process of listening, observing and speaking. For the development of motor skills, most students will better understand the teaching method by observing and practicing it over and over again. The situation for creative sewing students they need approaches such as repetitive acts or behaviors to ensure they understand each step of the work being taught. Making skirt is one of the topics in the new upcoming syllabus for students of creative sewing programmed, then the textbook or any reference material is still not available for students to make reference. Therefore, this module was created to help students with disabilities understand and be able to practice the skirt sewing process better.

Clover and Stalker (2007) point out that process of making trained students on justice the situation around, especially when they've grown up and being with people. They will be more mature and know how to solve the problem with surrounding. While doing this, educator must give freedom to the students to produce their work so that they do not feel bias. In addition, educator can also do discussion session in the classroom so that they are accustomed to receiving opinions openly. Therefore, through this discussion or as known as ‘art critism’ is one way for them to know clearly about the information from their counterparts of other races.

This module involves 3 elements namely, photo book, interactive video of skirt production work step process and worksheet. Students will get to know the equipment and sewing materials next to the work steps of skirt production through the picture book provided. At the same time, students can also view videos that have the same functionality as picture books. The difference is that the video has a background song that can engage slow learner students to listen and view pictures as well as videos. Indirectly, they will recognize and know the items used and the sewing steps in the same time. For the video section, the sewing work steps will have subtitles and conversations related to the work steps and processes. It’s like a conversation in class but more focused on the skirt making process only.

In class, after the lecturer makes a description through a picture book, the lecturer will make a demonstration of skirt production. If students still do not understand what is taught in class, students can refer to the video provided at home. students can watch and replay the video many times at home if they still do not understand the learning process in the classroom.

The worksheet aims to further strengthen students' understanding and knowledge of the skirt production process. This worksheet can be distributed before or after the skirt production briefing and demonstration session.

By using motor skill activities, it can also help the teacher to make students more understanding, more respect and recognize the value lesson process. Iinfect, with these activities as well, the students get to know the process of skirt production by viewing the video repeatedly and they can make a challenge among them with who will complete the skirt first. According to Najuana Lee (2012), every activity that provides opportunities for all students to construct their own meaning which each of artwork it symbolically to the specific and profound impact in communication within the classroom.

2.1 Problem Statement

Situations that occur to learners in the creative sewing program available at the Community College under the Ministry of Higher Education Malaysia. Most of them, prior to joining the classes, they come with zero knowledge and background on sewing where they just enrol themselves as creative sewing learners because they want to add some value in themselves so that they have some skills to practice in the future. These skills are important for their future as it will help them in continuance as their survival skills when they do not have any parents or guardians to de depended on later in their life journey. Abdul Salim Choiri (2017) mentioned that slow learner is a group of students who have limited intellectual ability that affects their learning process. Some of them can carry out the directed activities with constant guidance from the educators but some of these slow learners need more attention so that they can get a better understanding and can carry out the activities as well as planned it and be able to complete their project by following the timeline given.

As everyone knows, slow learners may easily lose focus in their learning. Regardless of whether the learning involves them to read, to count or even in applying skills. They are easily bored and this cause them to no longer want to continue learning in the classroom. This situation will make them to lose interest and will not continue learning on that day. Then the time period given to complete a project cannot be achieved because they have lost focus on the day of their learning in class.

Slow learners also have problem in understanding some things, especially in a short time. They will learn something today and will forget it tomorrow. Therefore, educators are facing with this challenging situation where they must repeat the same learning repeatedly. This causes the method of delivery from the educator to be inconsistent and it can cause these slow learners to become unsettled and confused. It was supported by Sunardi (2017), saying that the slow learners limited intellectual capacity affects their reading abilities and as in the normal practice, the educator will provide notes and some worksheets with full of written text which makes them struggle to understand the material and the instruction in the notes provided.

Furthermore, in a situation where the country is hit by a pandemic and this situation has not yet fully recovered where the current situation will always change depending on the number of cases. During normal physical lesson, face-to-face classes were implemented but, in an alternative scenario, when the Ministry of Education ordered all learning institution such as schools and colleges to close down temporarily where educators need to conduct and implement the process of teaching and learning from home through online lessons where the educators will start to find ways and methods of effective delivery to deliver the lessons to students so that they will not lag behind and they could perform well as they normally would. According to Fitri Dwi Arini (2017), to provide an appropriate learning towards slow learner needs is crucial in order to reach their full potentiality. However, as an educator, they must find ways to assist the learners to have good achievement in their learning.

3. Method

The element of research follow are component technique and technique methods, component equipment and teaching aids and component learning activities that are included in Interactive Module for Slow Learners in Creative Sewing Programme. However, in this study researcher want to add new component for slow learners in order to make sure all creative sewing programme in Community College around Malaysia will use this module and yet this module can be acceptance to disabilities student as well. This module can give student exposure about interactive multimedia usage. Slow learners also can get the experience by producing their own basic skirt. This module can help lecturer to have the guideline in order to make the enjoyable environment in the classroom.

3.1 Materials

This study used the qualitative approach to design the instruments that are used in this study. The instruments used are semi-structed interview, observation and document analysis.

An observation to determine either the module and the teaching aids will support the slow learners or vice versa. A pre-test and post-test observation will be conducted by the educator. Five slow learners will start their basic skirt project with the usual teaching technique for a month and after that the same five of slow learner will be given with the interactive module and the teaching aids for basic skirt sewing process. Comparisons can be seen between before using the module and teaching and after using module and teaching aid.

3.1.1 Samples

This study was conducted among creative sewing lecturer in Raub Community College. The respondent was selected using the purposive sampling. According to Fraenkel, Wallen and Hyun (2012), purposive sampling involves individuals who possess specific qualification of some sort. Researcher used two group of sampling which is consist of the lecturer teaching this programme and five slow learners of creative sewing programme. The document analysis by choosing of five slow learners and two lecturers will be collected. Five slow learners need to answer several simple verbal questions given related to their knowledge and understanding of sewing process and the lecturer need to filled up the form given by researcher and few verbal questions. Findings from document analysis can be used as a rubric to grade or to score the document.

3.1.2 Site

Since the researcher is a lecturer at Raub Community College, the data collection site was implemented at the creative sewing workshop of Raub Community College. This is because Raub Community College offers creative sewing programs for the slow learners. Therefore, it makes it easier for researchers to monitor and experiment on their own students.

3.1.3 Procedures

Researcher was formulating the idea to design and develop the Interactive Module for Slow Learners in Creative Sewing Programme. The module is subsisted of Photo Book, Interactive Video and Worksheet.

At the first place, researcher was named this module as i-SLM. Then, researcher created the design of front and back cover for the photo book by using Canva as well as the layout inside the book and also the design arrangement for the interactive video.

After the design of front and back cover and also the design layout was chosen, researcher will go to the next step which is to find and arrange the content of the module. Researcher will refer the content of the basic skirt to the previous reference sewing book which is have the flow of making skirt and researcher will simplify it in order to make slow learners have a better understanding.

The content will be aligned by following the most important thing first such as the materials and tool. Researcher also prepared the Interactive Video when completing the Photo Book of Basic Skirt. This is because, to make sure the content in Photo Book of Basic Skirt is synchronised with the content in Interactive Video. At the same time researcher are construct the worksheet related to the photo book and the interactive video.

After the Interactive Module for Slow Learners in Creative Sewing has been done, researcher will meet up the lecturer to hand over the sets of modules for conducting five sample of student and observe their first impression towards the photo book and the video. The lecturer will distribute the first worksheet as an opening to attract slow learner's interest. After that, lecturer will provide the photo book to the five slow learners for some briefing and get reaction from them about the photo book. Once lecturer done with the photo book, the demonstration of making basic skirt will start. Lecturer will show to the slow learners about QR Code to access the interactive video that bring them to watch the flow of making basic skirt repeatedly.

All of the five slow learners will be interview by researcher after the learning session has been done. The time needed to evaluate the five slow learners by using Interactive Module for Slow Learners in Creative Sewing programme was around 2 days and the interview session will take about 15 minutes to answer the question given. The question in interview session is consist of the strength and weaknesses of the module. Slow learners need to answer the simple question given.

After the researcher got all the feedback by semi structured interview from the lecturer and five slow learners, it will be as a data and reference for researcher to have an evidence about the effectiveness of the Interactive Module for Slow Learners in Creative Sewing Programme.

Design: This study used the Qualitative design. Researchers conducted a semi-structured interview with five participants who are slow learners and with the creative sewing lecturer as well. The selected student were 2 males and 3 females who enrolled in creative sewing program in Raub Community College, Pahang and 1 female lecturer of creative sewing programme. The participants for this study were initially selected based on their behaviours a. In this session, a face-to-face interview was conducted with the participants. As suggested by Charlie Marshall (2016), the face-to-face interview are very effective to get a deeper insight for specific answers. The real reaction and answers from the learners will be collected, analysed and be used to create an interactive module to incorporate with teaching aids.

This research was used the qualitative approach. Qualitative research is a generic term for methodologies of investigation in which it was described as ethnographic, naturalistic, anthropological, field, or research participants from the observer. It stressed the importance of studying the variables in the natural environment in which it is found. Interactions between variables is important to get the best result. Researcher used the semi structured interview in order to collect the data. In this session, researcher will conduct the interview to the participant by face to face. As suggested by Creswell (2014), face to face interview will get the solid data which is researcher will know the participant's voice, faces reaction, the intonation and the movement. It is useful and help researcher a lot in order to complete the data collection.

Variables: In this study, the interactive module for slow learners in creative sewing programme can be improved from time to time depends on slow learners needed. The design cover and the layout can be change if those things not functional to attract slow learner's interest. Same goes to the content as well which is researcher can change any content if there is any part that failed to communicate with slow learners.

Power and sample size: Five slow learners are chosen as a sample for this interactive module for slow learners in creative sewing programme. They are a student in Raub Community College for creative sewing programme.

3.2 Measurement

This study is measured by using the semi structured interview from the feedback of five slow learners and creative sewing lecturer before and after using this Interactive module. The data will be collected from the interview session between the five slow learners, creative sewing lecturer and the researcher. The interview session will be recorded and the foam for the five slow learners that filled up by researcher for agree and disagree answer will be collected. For the lecturer side, they will be filled up the foam by themselves.

3.3 Data Analysis

Data analysis is a process of check out, restore, revamp, and create data with the intention of invent useful information, informing conclusions, and aiding decision making. Data analysis has multiple feature and approaches, enveloping varied techniques under a range of names, and is used in different business, science, and social science domains.

In this statistical analysis, researcher was separated the two different group of samples to get the best result. It consists of five slow learners and creative sewing lecturer. The statistical analysis can be seen as below.

3.3.1 Five Slow Learners

Based on pre-test scores, five slow learners were teaching with the traditional learning style like previous which is, lecturer need to brief and explain related to the topic for beginning of class without any figure or picture then they will be doing practical part which is lecturer will show step of making basic skirt and ask five slow learners to record the process by themselves. After that, five slow learners will use the sets of modules for basic skirt.

The pre-test and post-test results were compared as mean score of the five slow learners are synchronised or not. Perceptions about the sets of modules for slow learners in creative sewing programme were analyse using pie chart below.

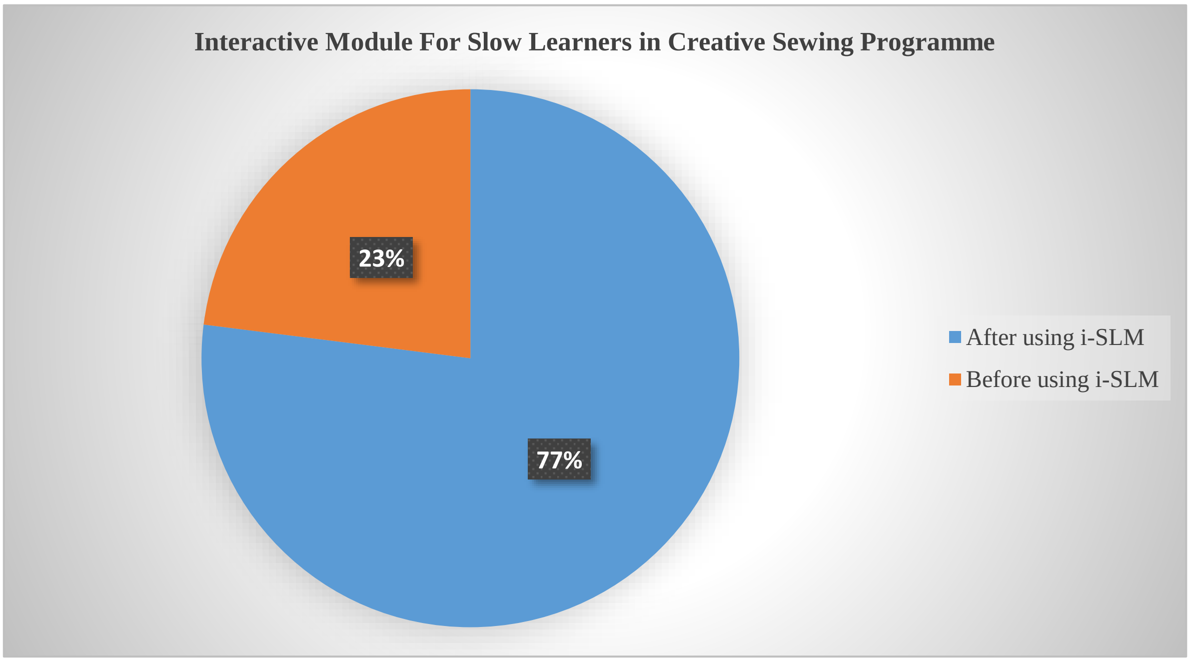

Figure 1: Change in average scores of Pre-test and Post-test of i-SLM for creative sewing programme in Raub Community College

3.3.2 Creative Sewing Lecturer

Based on pre-test scores, lecturer identified that most of the student are lack of understanding by using traditional method. That is because lecturer just give an explanation without any reference photo or video. Furthermore, the traditional method is bored and cannot get engage and attract student interest towards the topic.

The pre-test and post-test results were showing the differences and improvement before using the sets of modules and after using i-SLM. Perceptions about the sets of modules for slow learners in creative sewing programme were analyse using the table below.

Table 1: Creative Sewing lecturer's feedback based on close-ended questions

No.	Responses of lecturer towards slow learners	Agree	Disagree
1	Photo book helps slow learners to recognize tools and material	98%	2%
2	Interactive video is synchronized to photobook	95%	5%
3	Interactive video easier to understand and follow	100%	0%
4	Worksheet related with the task (Practical process)	95%	5%
5	Photobook related with the topic and easy to understand	100%	0%
6	Activity in worksheet interesting	97%	3%
7	The learning environment previously was fun	5%	95%
8	Teaching environment without sets of modules easy to understand	0%	100%

3.4 Validity and Reliability

Since reliability and validity are entrenched in positivism context then they should be refined for their use in a reasonable approach. Based on Nahid Golafshani, (2003) Reliability and validity are conceptualized as trustworthiness, rigor and quality in qualitative paradigm. Such reliability and validity as worn in quantitative research are contingent upon springboard to scrutinize what these two terms mean in the qualitative research description, triangulation as used in quantitative research to proof the reliability and validity can also highlight some ways to test or expand the validity and reliability of a qualitative study. Consequently, reliability, validity and triangulation, if they are admissible research concepts, especially from a qualitative point of view, have to be redefined in order to emulate the numerous ways of endowing veracity.

3.5 General Research Questions

Several research questions in general are given to both group of sampling. Different types of question are constructed by researcher. These questions are conducting by using verbal interview method. Researcher want to analyse the reaction for both group of sampling. The verbal interview session has been done before doing the pre-test post-test to get engage with some information that can help researcher built up the sets of modules.

Question for the lecturer is more to the teaching method and point of view based on their experience during lesson in class. Meantime, question for the five slow learners is related to their desired and perspective of this programme. Researcher are prepared the question for lecturer to answer the question by expressed the sharing of situation in class and the slow learners just need to give yes or no answer only. The table below shows the question asking by researcher to the lecturer and five slow learners.

Table 2: General question for lecturers

No.	Responses of lecturers
1	What are the difficulties you face as a lecturer to handle the slow learners in class?
2	Normally, how you attract slow learners to get involves in lesson.
3	Are you enjoy teaching slow learners?
4	How you overcome the situation if the slow learners starting to get bored with the lesson?
5	Do you need any reference or teaching aids to help you conducting slow learners?
6	Can you share your teaching process and lesson flow in class?
7	What source you used to get any materials as a reference to handle slow learners?
8	What is your suggestion to improvise the teaching method for slow learners?

Table 3: General question for learners

No.	Responses of Slow Learners
1	Do you like sewing?
2	Do you know how to sew?
3	Are you enjoying learning session in class?
4	Do you like to watch video?
5	Are happy being in this programme?
6	Are you interested to sew a basic skirt?

3.6 Collection of Information

There are many ways to converge information in research. The method that is selected by the researcher depends on the research question that is being asked. Examples of information collection methods include surveys, interviews, tests, physiological assessments, observations, existing record reviews and biological samples.

As for this research, researcher is using semi-structed interview, observation and document analysis. Researcher construct the question for interview session based on needed for the slow learners and the lecturer. Researcher need to do an observation to measure based on the environment and situation in class. Researcher demand to do the document analysis as an evidence and prove to further strengthen the data collection.

3.7 Transformation of Data

Data transformation is one of the processes from the findings of raw information to a solid collection of data. Researcher were transforming the information and source from the semi structured interview with the lecturer and five slow learners into pie chart and table. It is because to exposition the data clearly and easier to understand. Researcher also transforming the record audio during interview session into the table above by simplifying with wording.

3.8 Interpretation of Data

Data interpretation is the process of investigating data through a number of pre -determined steps and will help some meaning to the data and be conferred at more relevant conclusions. This involves contagious the results of data analysis, make a conclusion about the relationships of studied, and using them to draw conclusions.

4. Results and Discussion

This research appraised the efficiency of the interactive module which stands for photobook and several worksheets sets as a teaching aid. It is an alternative to improve the understanding and to enhance the learning interest of the slow learners. They will have a new spirit in learning session with the new teaching environment by using something new and totally different. Indirectly, it will improve their motivation by using the new module and teaching aid which helps them to improve their understanding and they will be more focused on the lesson. As mentioned by Kim, Park and Coleman, (2017), “The portability and social acceptability will create an enjoyment and giving satisfaction to the slow learners in their learning environment by using the tablet, technology and applications”.

In addition, slow learners certainly need new module to guide them, help them and to make them delighted in the learning process. They need something to exhilarate their mind, boost their energy and increase their motivation to make them not to lose focus and always on track in order in making something especially related to skills which need a pleasing emotion in order to make sure the project is accomplished on time.

Besides that, these modules and teaching aids also can provide an exposure for the slow learners to explore about the use of video as a medium to help them understand and follow the learning over and over again without changing the method and presence of its delivery. This module leads to asynchronous and synchronous activity.

This study is led to build up a module and construct the teaching aids which it included the interactive video to compose slow learners to be interested in the making of basic skirt. They just need to scan the QR code prepared on a card like and their identity card and it will directly link them to the videos. The video will be shown in steps by steps on the process of making skirt starting from take the measurement until the end of the process. Slow learners just need to click the video by following the steps given. Other than that, in the teaching aid, tools are prepared for them such as fabric and material used for making a basic skirt. Then, learners will know what kind of fabric they will need to use to make a basic skirt. The patterns were provided as for their reference. It helps to ease them in making a new skirt on the later part. The activity book will have 10 different activities which will be given as worksheets will be prepared for the slow learners. It has colouring activities, doodling, find and match the material and cut and paste activities.

5. Conclusion

In conclusion, based on the discussion above, the use of interactive module such as video and novel types of learning tools may assist in reinforcing the slow learners learning and install the interest in slow learners of creative sewing program at Raub Community College, Pahang. Additionally, it will also strengthen their understanding towards the process of sewing a basic skirt and aids to improve their sewing techniques.

6. Acknowledgement

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ISOLATION AND CHARACTERISTIZATION OF INDIGENOUS YEAST FROM BEKASAM CATFISH (Pangasius hypopthalmus)

Muhamad Ikhsan Prawira Negara[1*], Tri Yuliana[2] and Gemilang Lara Utama[3]

[1 2 3] Magister of Agro-Industrial Technology, Faculty of Agro-Industrial Technology, Universitas Padjadjaran, Jatinangor, INDONESIA

*Corresponding email : ikhsanprawiranegara@yahoo.com

Abstract: *Bekasam is an Indonesian traditional fermented food made from fish which added by rice, sugar and salt, then undergo in spontaneous fermentation anaerobically. The substrates used has the potential for the growth of various types of microorganisms, including yeast. This study aims to determine the type of yeast involved in the fermentation of Bekasam for one week. The research was conducted with explorative approach then the data analyzed descriptively. Catfish (P. hypophthalmus) which has been filet as much as 700gr mixed with salt, sugar and rice as much as 20% w/w, then fermented for one week in room temperature at anaerobic plastic box (Huda 2012). Yeasts isolated from the Catfish then identified macroscopic, microscopic, and species identification was done by PCR using ITS region primer. Besides, the other parameter also identified such as yeast growth by the TPC method and acidity (pH). The peak of yeast growth was on the second day with a decrease on the following days. During fermentation, the pH of Bekasam is decreased until 4.52 at seven days fermentation. The number of yeasts isolates obtained was seven isolates which identified as Candida tropicalis CMC_1978, Rhodotorula mucilaginosa YWW9, Saccharomyces cerevisiae K46A, Pseudozyma sp. VITJzN01, Pseudozyma sp. VITJzN01, Saccharomyces cerevisiae AUS-LFB-MA-YC2 and, Rhodotorula dairenensis strains NB2Y.*

Keywords: Growth, pH, Isolation, Yeast.

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1. Introduction

Bekasam is a traditional food utilizing fermentation. The processing of the raw ingredients for making Bekasam is using freshwater or marine fish which is spontaneously fermented by natural microbes for one to two weeks. Bekasam in South Kalimantan is generally known as "samu", with raw materials of freshwater fish with the addition of salt about 15-20% and added rice as much as 15%, then fermented for about one week to produce a distinctive aroma and taste (Huda 2012).

Additional materials used such as salt and sugar will affect the fermentation process and aim for biocontrol during fermentation so that certain microorganisms are able to survive. (Koesoemawardani et al., 2013). Source of carbohydrates or sugar aims to stimulate the growth of microorganisms such as lactic acid bacteria (LAB) and yeast(Nuraini et al. 2014). These components will cause osmotic pressure so that it affects the growth of microorganisms. Osmotic pressure affects microorganisms to adapt to the substrate environment, this pressure is influenced by the presence of free water present in the substrate, when fermentation takes place the salt and sugar components will bind free water so that it affects growth and the growing microorganisms will be more specific(Gaur et al. 2019).

Microorganisms that are able to grow in this environment other than lactic acid bacteria (LAB) are yeasts. Yeast has resistance to extreme conditions because some yeast has halophilic properties and low pH resistance so that they can adapt to their environment(Toldra 2017).

Some of the yeast types that can growth include Saccharomyce sp, Candida and Rhodotorula. Saccharomyces sp is the most commonly found yeast in fermentation products, its adaptability is excellent, the resistance of *S. cerevisiae* yeast can inhibit growth in a concentration of 8-12% ethanol (v / v). It can survive up to a concentration of 15% ethanol (Stewart, 2014). Candida yeast has optimal growth tolerance at 25oC and pH 4-6. Candida is found in many fermented products such as dairy and meat products. The properties of Candida are resistant to low pH and ethanol concentrations up to 7% (Hommel 2014). Rhodotorula sp. Are found in many dairy or meat products. This yeast can adapt to extreme environmental conditions such as high salt conditions. Rhodotorula can adjust to environmental conditions, such as at a salt concentration of 5%, as well as a pH of 2.2 (Albertyn et al. 2014).

Indigenous yeasts originating from Bekasam can be isolated because the substrate contained in the agar requires the growth of Indigenous yeast. In this study, this research aims to determine the types of yeast found in the fermentation of Bekasam.

1.1 Materials and Tools

The primary raw materials of this research are catfish (Pangasius hypophthalmus), and other supporting materials are salt, sugar and rice. The chemicals used are distilled water, physiological NaCl 0.85%, YMA (yeast mould agar), and buffer pH 7 and buffer pH 4.

The tools used are analytical balance, autoclave, Erlenmeyer, Petri disposal plates, measuring flasks, water baths, vortices, measuring cups, incubators, aluminium foil, laminary flow, pH meters, bunsen, colony counters, micropipettes, test tubes, knives and scissors and PCR (Polymerase Chain Reaction).

1.2 Making Bekasam catfish (*P. hypophthalmus*)

Catfish (*P. hypophthalmus)* which has been filet as much as 700gr. Then add salt and sources of carbohydrates such as sugar and rice as much as 20% of the weight of catfish (P.hypophthalmus) fermented for one week (Huda 2012).

1.3 Growth Curve and Isolation of Khamir indigenous

The sample of Bekasam was then taken as much as 1 mL and put into a test tube containing 9 mL of 0.85% NaCl. Inoculation on YMA medium (with the addition of antibiotics) and incubation for 48 hours at a temperature of ± 30 ° C (Utama et al. 2019).

Observation of the growth curve to determine the yeast population contained in the sample from day 1 of fermentation to day 7 of fermentation, then observations every days until the 7th day of fermentation. Yeast growth was calculated using the TPC (Total plate count) method (Murtini, 1997).

1.4 Value of Acidity (pH)

Calibrate the pH meter using a pH 7 buffer then a pH 4 buffer. Prepare 5gr of puree sample for 25ml of distilled water (1: 5 w / v).

1.5 Isolation and Identification of Indigenous Yeasts

Do the isolation of Indigenous yeast from Bekasam catfish every day after observing the growth curve. The isolated yeast was then grown on YMA media and observed and purified, then cultures that looked macroscopically different were inoculated on YMA media using the scratch method. The inoculant incubated at 37 ° C for 48 hours. The resulting isolates were identified by microscopy.

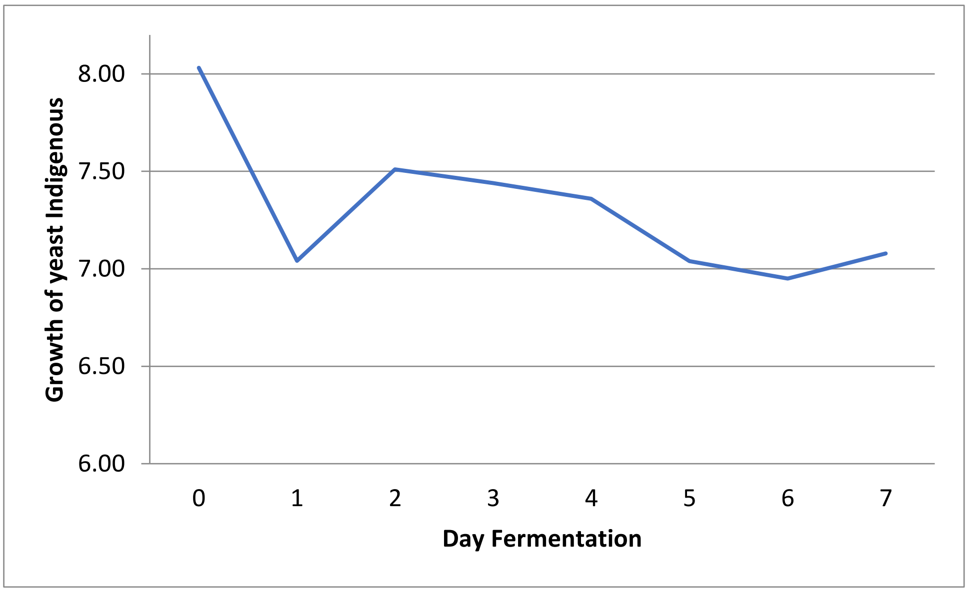
The identification of yeasts from Bekasam will be carried out molecularly by looking at the genome based on the DNA sequence of the Internal Transcribed Spacer (ITS) region. The primers used are ITS1 as reverse primer and ITS4 as a forward primer. Primary sequence ITS1 is (5'- TCC GTA GGT GAA CCT GCGG -3 '), and primer ITS4 is (5'- TCC TCC GCT TAT TGA TATGC-3') (Lu et al. 2021). Macrogen Inc performed DNA amplification. The results were compared with the GenBank database using the BLAST algorithm (Utama et al. 2019)

2. Results and Discussion

2.1 Indigenous Yeast Growth

The results of observations made on indigenous yeast originating from fish scars, during day 0 to day 1 of fermentation, growth decreased because yeast experienced an adaptation phase on the substrate. This phase is a period of adaptation of microorganisms to the environment(Kctc & Kim 2001).

Figure 1: Growth Graph of Indigenous Yeast from Bekasam



Source: (Primary Date, 2020)

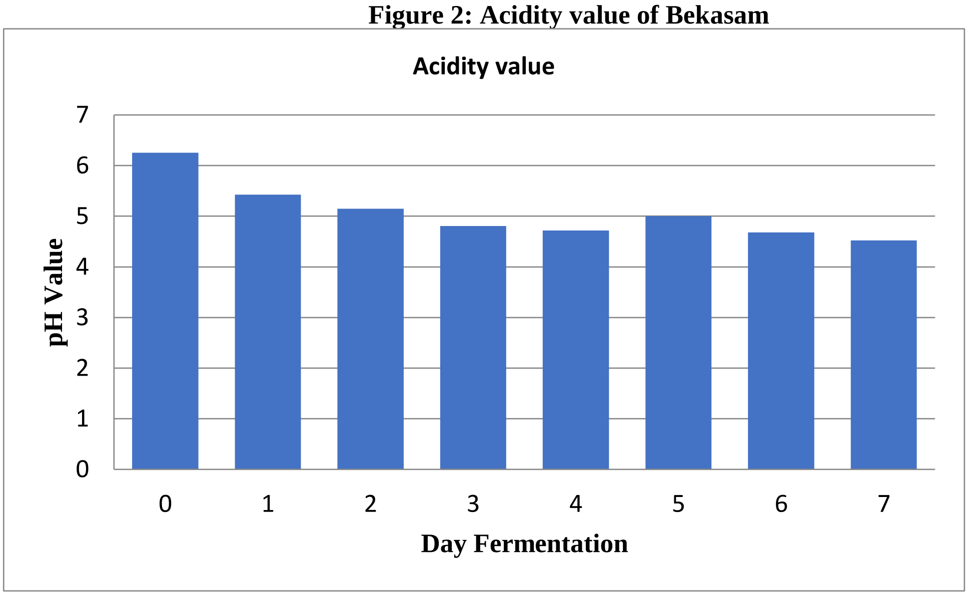
After the adaptation phase, the cell will adapt to the substrate environmental conditions, and the cell begins to develop. Yeast growth phase, the cell growth rate at 0 to 24 hours is lower than the following hours when entering the 24 hours to 48 hours yeast cells will increase marked by the growth of yeasts that utilize sources of amino acids and carbohydrates as stimulation for growth (Paula et al. 2018). In the exponential growth phase, yeast cells will multiply where the cell density will growth rapidly (Kctc & Kim 2001).

Based on the observations in Figure 1. The exponential growth of yeast occurs on day 2 or after 24 hours of fermentation. Research (Kanti & Sudiana 2003), The population of indigenous yeasts such as Candida, Rhodotorula, Pichia, and Debaryomyces, has increased after 24 hours to 72 hours. After more than 72 hours of fermentation, yeast growth will enter a stationary phase and enter a death phase, and this is due to the decrease in sugar levels in the substrate.(Wahono et al., 2011).

Yeast will use the glucose substrate as a source of carbon and energy for growth (Yurliasni. 2010). The results of secondary metabolites from yeast will produce alcohol and organic acids so that the growth of yeast will be disrupted because the pH of the substrate will be more acidic, which will cause osmotic pressure in cells(Dennis E et al. 2004).

2.2 Acidity Test

Figure 2: Acidity value of Bekasam



Source: (Primary Date, 2020)

Bekasam is a fermentation product that has a low or acidic pH value. The microorganisms in Bekasam will utilize the available carbohydrate sources and then hydrolyze them to become lactic acid. The acidity of the substrate dramatically affects the growing microorganisms and affects cell growth during fermentation(Lestari et al. 2018). The pH value is an indicator to determine the growth of microorganisms in Bekasam. The decrease in pH is caused by hydrolysis of carbohydrates into organic acids and alcohols by BAL or yeast(Hana et al. 2018).

Based on the observation in Figure 2, there is a decrease in pH and an increase in the amount of yeast (in Figure 1), it is suspected that the glucose hydrolysis process is used by yeast for growth, so that it will become a byproduct in the form of alcohol, lactic acid and other organic acids which cause a decrease in the pH value. The mechanism of decreasing or increasing pH is caused by the presence of carbon and nitrogen sources available in the substrate.

The addition of glucose will trigger glycolysis(Kanti & Sudiana, 2003). The decrease in pH in Bekasam is caused by the formation of byproducts such as lactic acid and alcohol resulting from the synthesis of microorganisms(Sari et al. 2018). The decrease in pH in the fermentation process occurs along with the increasing number of lactic acid bacteria(Zumma 2013). Besides LAB, yeast is also able to produce organic acids such as lactic acid and fatty acids through the biosynthesis process(Yurliasni. 2013).

The low pH of the substrate causes the growth of microorganisms to be inhibited. To occurs because high acid will cause osmotic pressure in the growing organisms. Yeast has a cell wall that acts as a protector of the plasma membrane from osmotic pressure so that it can prevent cell death(Dennis et al. 2004), allowing the yeast to be able to survive at a low pH.

2.3 Macroscopic and Microscopic Identification of Indigenous Yeast Isolates of Bekasam

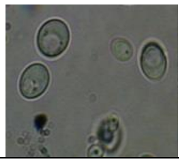
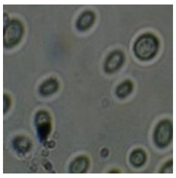
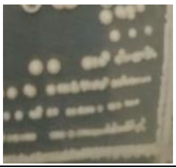
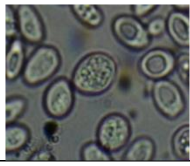
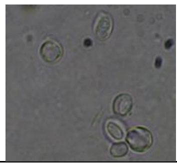
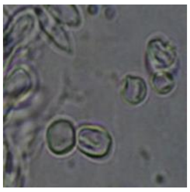
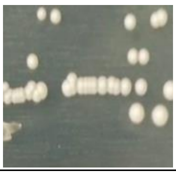
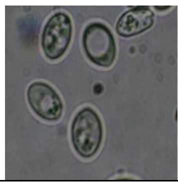
Carried out macroscopic identification of yeast Indigenous Bekasam based on one of the identification keys(Phaff 2003). Before microscopic identification is carried out, one must know it macroscopically, including the colony texture, surface colour, and shape of the purified yeast (Gemilang L Utama et al. 2019). Macroscopic and microscopic characteristics of Indigenous yeast isolates from Bekasam are shown in Table 1. Macroscopic and Microscopic Characteristics of Indigenous Yeast Isolates form Bekasam.

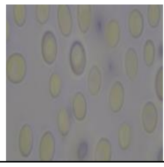
Based on the macroscopic observations listed in Table 1, yeast isolates from Bekasam catfish have various shapes and colours. Yeast is round or oval and does not form filaments. The colour of yeast can change with growth and the components contained in the media. The colour of yeast cells, in general, is white and cream, but some yeasts have carotenoid pigments that give colour to the colony(Kurtzman 2000). The characteristics of yeast, according (Indratmi 2012), which is growing on the different substrates, does not change shape. The colours of the *Rhodotorula* yeast colonies were pink, reddish and yellow. Colonies appear soft with a smooth round surface. According to(Putranto et al. 2010) *Rhodotorula* sp is a group of wild yeast, reproduction by multipolar budding.

Observation of its microscopic characteristics was carried out using a magnification of 100x. The microscopic characteristics of the catfish-cut yeast isolates are shown in table 1. Microscopic observations show that yeast cells are oval in shape. Types of yeast are distinguished by their form and reproduction. The forms of yeast include round (number 1,2,4, and 5), and oval (number 3,6 and 7). The shape of the yeast reflects the mode of reproduction and the characteristics of the yeast species According to (Stewart 2014)The macroscopic characteristics of *S.cerevisiae* yeast are oval or cylindrical, cream-white colour with a smooth surface.

The type of asexual reproduction of yeast has known through monopolar budding. The shoots emerge from the cell, beginning with the outer folds of the cell layer at several points on the cell surface, which then enlarges and forms a budding (*blastoconidium*). Based on its position, yeast budding is classified into monopolar, bipolar and multipolar. Monopolar (number 1,4, and 7) is a type of shoot that is limited to one side of yeast cells, while bipolar nodes are shoots that are found on two poles of yeast cells. Multipolar (3,5, and 6) are located in all parts of the yeast cells. *S.cerevisiae* is a spherical-ovoid yeast type with asexual reproduction of multilateral budding(Iris et al. 2020).

Table 1: Macroscopic and Microscopic Characteristics of Indigenous Yeast Isolates from Bekasam

No.	Code	Macroscopic observation	Microscopic observation	Criteria	Result
1	H1 10A			Cell shape	Round-oval
				Colour	White
				Elevation	Convex
				Edge	Intact
				Size	8µm
2	H2 10B			Cell shape	Round ovoid
				Colour	Red
				Elevation	convex
				Edge	Intact
				Size	7-8 µm
3	H3 10A			Cell shape	Oval
				Colour	White
				Elevation	convex
				Edge	Intact
				Size	12-15 µm
4	H3 10B			Cell shape	Round-oval
				Colour	Chocolate
				Elevation	Flat
				Edge	Intact
				Size	7-8 µm
5	H3 10C			Cell shape	Round-oval
				Colour	Chocolate
				Elevation	Flat
				Edge	Intact
				Size	8-11 µm
6	H3 10E			Cell shape	Oval
				Colour	White
				Elevation	Convex
				Edge	Intact
				Size	9-10µm

7	H5 10A			Shape	Oval
				Colour	Red
				Elevation	convex
				Edge	Intact
				Size	4-7 µm

(Source: Primary Date, 2020)

Yeast Identification

Yeast can grow in almost all environments, especially in environments with high levels of sugar or carbohydrates, such as the substrate in Bekasam (Tikka et al. 2013). Yeast requires nutrients and stable environmental conditions to support growth. Besides carbohydrates, yeast will utilize carbon from organic acids resulting from fermentation(Utama et al. 2016).

Based on Table 2. Yeast isolates H110A, H210B, H310A, H310B, H310C, H310E, H510A have similarities above 89% to 100% with the yeast type *Candida tropicalis* strain CMC_1978, *Rhodotorula mucilaginosa* isolate YWW9, *Saccharomyces cerevisiae* isolates K46A, *Pseudozyma sp*. VITJzN01, *Pseudozyma sp*. VITJzN01, *Saccharomyces cerevisiae* isolate AUS-LFB-MA-YC2, *Rhodotorula dairenensis* strain NB2Y. In general, species identification can be determined by the percentage of identity obtained through BLAST, if the homologous DNA content ranges from 60-100%, the species are considered identical, 0-60% are considered closely related, while less than 20% are considered different species(Dejonghe et al. 2003)

Table 2. Results of Yeast Species with the Highest Identity Based on BLAST on the NCBI website

Isolate Name	Description						
	Name Khamir	Max. score	Total score	Query coverage	e-value (E value)	Per.ident (identity)	Accession (access number)
H110A	Candida tropicalis strain CMC_1978	879	879	100%	0.0	98.20%	MF767862.1
H210B	Rhodotorula mucilaginosa isolate YWW9	894	1056	99%	0.0	97.16%	MG775708.1
H310A	Saccharomyces cerevisiae isolates K46A	946	946	100%	0.0	95.47%	MK973014.1
H310B	Pseudozyma sp. VITJzN01	1240	1240	100%	0.0	99.26%	JX454447.1
H310C	Pseudozyma sp. VITJzN01	1219	1219	100%	0.0	98.68%	JX454447.1
H310E	Saccharomyces cerevisiae isolates AUS-LFB-MA-YC2	415	415	95%	9e-112	89.75%	JN093143.1
H510A	Rhodotorula dairenensis strains NB2Y	1119	1119	99%	0.0	99.83%	MT102821.1

(Source: Primary Date, 2020)

The determination of the sequence homology of the E-value must be considered. The value on the E-value is the estimated value based on statistical significance for both sequences. These scores represent the sum of differences parallel to the corresponding scores that are in the NCBI database(Carlos et al. 2008). The higher the E-value, showing the level of homology between sequences, is getting lower(Sandy et al. 2015). All yeasts are based on table 3, showing the number 0.0 in the E-value. According to(Carlos et al. 2008) The E-value shows the number 0 (zero) that the two sequences have a high level of sequence homology.

The query coverage value on yeast *Candida tropicalis* strain CMC_1978 was 100% with a total score of 879, *Rhodotorula mucilaginosa isolate* YWW9 was 99% with a total score of 1056, *Saccharomyces cerevisiae* isolates K46A was 100% with a total score of 946, *Pseudozyma sp*. VITJzN01 of 100% with a total score of 1240, *Pseudozyma sp*. VITJzN01 was 100% with a total score of 1219, *Saccharomyces cerevisiae* isolates AUS-LFB-MA-YC2 was 95% with a total score of 415, and *Rhodotorula dairenensis* strain NB2Y was 99% with a total score of 1119. The higher the total score obtained, the higher the score has a homology level of the sequence(Carlos et al. 2008).

The isolates identified were *Saccharomyces* and *non-Saccharomyces*, which have the ability to utilize glucose as an energy source and can perform enzymatic hydrolysis of the free acrylamide β-naphtylamide substrate on proline and histidine. Previous research, Candida can ferment and produce ethanol, with a sugar tolerance of up to 50%(Yanti & Susilowati 2016). Rhodotorula is a yeast that can grow on extreme substrates such as high salt and sugar content with a concentration of 54%(Albertyn et al. 2014).

S. cerevisiae is the most common yeast found in fermented products. In general, S. cerevisiae yeast can ferment carbohydrates into glucose with the help of the amylase enzyme(Kustyawati et al. 2013). *S. cerevisiae* can grow at a high alcohol concentration of 20%. *S.cerevisiae* has the advantage of being able to grow in microaerophilic conditions, so this yeast has an advantage in anaerobic fermentation. (Stewart, 2014).

The addition of salt and sugar with high concentrations to Bekasam will cause a more specific yeast growth, which can tolerate high levels of sugar and salt. The concentration of sugar and salt will cause high osmotic pressure so that the growth rate of yeast will be inhibited(Arroyo-lópez et al. 2009). Yeast can survive osmotic pressure through the synthesis and retention of glycerol in the cell wall(Myers et al. 1997).

Yeast has a mechanism in maintaining internal conditions with the help of cell walls (Dennis et al. 2004). *Candida* is known to have the ability to produce fat in the cell walls to overcome environmental conditions that are incompatible with growth, *S.cerevisiae* is also able to produce fatty acids to increase tolerance to high sugar conditions. (Stewart 2014), under these conditions, it produces lecithin and behenic acid to form a cell wall layer to replace the fat loss due to lipolytic percentages and osmotic pressure, thus allowing the yeast to survive(Mahmoud 1997).

Conclusion

Former substrate consisting of sugar, salt and protein are components needed for the growth of microorganisms, but the presence of sugar and salt causes osmotic pressure so that it affects the growth of all the organisms involved. The yeast found in the fermentation of Bekasam has different varieties.

Acknowledgement

This research is a preliminary study regarding the isolation and original yeast of catfish. To is a series of research on indigenous yeast with potential probiotics from Bekasam catfish (*Pangasius hypophtalmus*).

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KEBOLEHPASARAN GRADUAN WANITA TVET ILJTM ZON SABAH DALAM PEMILIHAN KERJAYA

Farrah Syamimi Che Ros[1*], Syed Mohd Yusri Syed Yusoff[2], Mohd Raris Mohamed Yusof[3] and A.R.A Nazren[4]

[1 2 3] Jabatan Tenaga Manusia (JTM), Institut Latihan Perindustrian Sandakan, Sabah, MALAYSIA

[4] Universiti Malaysia Perlis, Perlis, MALAYSIA

*Pengarang penghubung: farrahsyamimi@jtm.gov.my

Abstrak: *Inisiatif yang di bangunkan kerajaan dalam meningkatkan kebolehpasaran graduan Pendidikan Teknikal Dan Vokasional (TVET) melalui Wawasan Kemakmuran Bersama (WKB) 2030 perlu di ambil peluang oleh institusi teknikal serta para graduan terutamanya wanita yang sedang di alam pemilihan kerjaya. Oleh itu, kajian ini bertujuan untuk mengenalpasti tahap kebolehpasaran graduan wanita TVET di Institut Latihan Jabatan Tenaga Manusia (ILJTM) zon Sabah dalam pemilihan kerjaya. Dapatan kajian menunjukkan sebanyak 44% (84 orang) telah bekerja. Manakala sebanyak 46% (88 orang) masih belum bekerja. Selain itu juga, dapatan kajian mengenai graduan bekerja berkaitan dengan bidang pengajian mendapati sebanyak 64% (82 orang) bekerja diluar bidang pengajian mereka. Hasil dapatan kajian juga menunjukkan 57% (64 orang) menerima bayaran gaji pada kadar purata RM1001-RM1300. Walau bagaimanapun, seramai 88% (161 orang) bersetuju bekerja di luar kawasan tempat tinggal. Secara keseluruhannya, kebolehpasaran graduan wanita ketiga-tiga ILJTM Zon Sabah pada tahap sederhana dan perlu ditingkatkan. Oleh itu, pihak institusi juga memainkan peranan yang penting dalam mengukuhkan lagi kolaborasi bersama firma atau industri untuk menjamin masa depan graduan wanita. Akhir sekali, sebagai persiapan menuju ke WKB 2030 graduan wanita perlu meningkatkan kemahiran keusahawanan sebagai persiapan agar tidak terlalu bergantung kepada peluang pekerjaan yang berkaitan dengan bidang.*

Kata Kunci: Kebolehpasaran, WKB 2030, pemilihan kerjaya, graduan wanita, TVET

Abstract: *The government's initiatives to improve the marketability of Technical and Vocational Education (TVET) graduates through the Shared Prosperity Vision (WKB) 2030 should be embraced by technical institutions as well as graduates, particularly women, in career selection. As a result, the purpose of this study is to determine the level of marketability of TVET women graduates from the Sabah zone Institut Latihan Jabatan Tenaga Manusia (ILJTM) when it comes to career choices. The statistics revealed that 44% (84 persons) of the population was employed. In contrast, 46% (88 people) are still looking for work. Additionally, the data indicates that 64% (82 individuals) of working graduates are employed in fields unrelated to their subject of study. The studies also revealed that 57% (64 persons) earn wages ranging from RM1001 to RM1300 on average. However, around 88% (161 individuals) have agreed to work outside of their residence. In general, the marketability of women graduates from the three ILJTM Sabah zones is moderate and requires improvement. As a result, the institution plays a vital role in further expanding collaboration with firms or industries to safeguard the future of female graduates. Finally, as part of their preparation for 2030 WKB, women graduates must strengthen their entrepreneurial abilities to become less reliant on field-related occupations.*

Keywords: Marketability, WKB 2020, career selection, women graduates, TVET.

1. Pengenalan

'Wawasan Kemakmuran Bersama (WKB) 2030' adalah salah satu daripada strategi yang dibangunkan oleh kerajaan dalam menyediakan taraf hidup yang wajar (*decent standard of living*) kepada semua rakyat Malaysia menjelang tahun 2030. Terdapat tujuh elemen teras strategik yang dibangunkan dalam WKB 2030, antara yang berkaitan adalah mengenai pembangunan modal insan dan pasaran buruh di Malaysia. Oleh yang demikian, hasrat Perdana Menteri dalam intipati sasaran teras strategik WKB 2030 bagi melahirkan 35% modal insan yang berkemahiran tinggi dan majoriti tenaga kerja berkemahiran tinggi dalam pembangunan ekonomi haruslah terdiri daripada golongan Bumiputera dan sekurang-kurangnya 60% lepasan Sijil Pelajaran Malaysia (SPM) melanjutkan pelajaran dalam bidang TVET. Sehubungan dengan itu juga, pihak universiti dan institusi-institusi Pendidikan Teknikal Dan Vokasional (TVET) di Malaysia bersaing dalam menawarkankan kursus dan latihan bagi melahirkan graduan yang lebih kompeten, memenuhi kriteria yang diperlukan oleh pihak industri serta semestinya memberi jaminan pekerjaan kepada para graduan umumnya tanpa diskriminasi ke atas umur, gender, etnik dan agama.

2. Kajian Literatur

Pertumbuhan institusi pendidikan tinggi dan peruntukan kewangan oleh pihak kerajaan yang semakin positif dapat memberi kesan kepada penduduk untuk mendapatkan pendidikan tertiari seterusnya peningkatan modal insan kepada negara. Graduan dari bidang teknikal juga tidak terkecuali dari memenuhi permintaan pasaran sekarang. Oleh itu, setiap graduan perlu berdaya saing dalam memastikan mereka berkualiti dan diterima dalam bidang pekerjaan. Namun, masalah peningkatan graduan yang tidak selari dengan kelulusan dan bidang pengajian boleh disimpulkan bahawa kegagalan institusi pengajian tinggi dalam menghasilkan tenaga kerja yang memenuhi permintaan pasaran (Nooriah Yusof & Zakiah Jamaluddin, 2017). Menurut Presiden Persatuan Teknologi Automasi Malaysia (MATA), Tiong Khe Hock berkata, permintaan tenaga mahir sangat diperlukan oleh pihak industri, namun sukar dipenuhi kerana kekurangan tenaga berkemahiran.

Data daripada Jabatan Perangkaan Malaysia (2020) menunjukkan bahawa anggaran penduduk yang menetap di Malaysia melebihi dari 30 juta orang, di mana bilangan penduduk lelaki melebihi wanita sebanyak 3%. Oleh yang demikian, kadar populasi lelaki adalah lebih berbanding wanita ia dapat di buktikan melalui kadar penduduk yang bekerja mengikut statistik pekerjaan dan perburuhan yang dikeluarkan oleh Kementerian Sumber Manusia (KSM) (2020) seramai 9202.4 ribu penduduk yang bekerja terdiri daripada lelaki berbanding wanita yang hanya 5871 ribu sahaja.

Negeri Sabah termasuk Wilayah Persekutuan Labuan mencatatkan angka yang agak tinggi iaitu 1948.9 ribu jumlah penduduknya yang bekerja selain Johor dan Selangor. Namun begitu, penduduk wanita di Sabah hanya 695 ribu sahaja yang bekerja berbanding lelaki sebanyak 1253.9 ribu, iaitu mewakili 35.7% sahaja pekerja di Sabah terdiri daripada golongan wanita. Walau bagaimanapun, Laporan Survei Tenaga Buruh Malaysia (2019) juga menunjukkan kadar tenaga buruh wanita di Malaysia adalah sebanyak 55.6%. Gambaran ini jelas menunjukkan bahawa wanita merupakan penyumbang kepada peningkatan ekonomi Malaysia secara tidak langsung (Hamzah et al., 2014).
Manakala menurut Jabatan Perangkaan Malaysia (2020), sehingga Mei 2020 berlaku penurunan sebanyak 1.6% berbanding Mei 2019 iaitu sebanyak 15.12 juta orang yang masih bekerja. Tambahan lagi, menurut sumber yang sama melaporkan pada suku pertama 2019, negara merekodkan seramai 516,600 penganggur yang terdiri daripada graduan-graduan institusi pengajian tinggi. Laporan yang dikeluarkan oleh Jabatan Perangkaan Malaysia bagi tahun 2019 di negeri Sabah adalah sebanyak 5.8% kadar pengangguran yang disumbangkan oleh graduan dari negeri itu.

Kajian yang dijalankan melalui Program Pembangunan Pertubuhan Bangsa-Bangsa Bersatu (2014), antara isu ketidaksamaan gender dalam pekerjaan professional atau teknikal berpunca daripada majikan-majikan yang terlalu mengharapkan graduan wanita supaya mempunyai kemahiran dan kebolehan yang sama seperti lelaki. Graduan wanita antara yang paling banyak menyumbang kepada kadar peningkatan pengganguran iaitu sebanyak 56.9 % berbanding graduan lelaki hanya (43.1%). Melalui kajian lain yang dijalankan pada graduan Kolej Teknikal Yayasan Sabah oleh (Jim Jipun, 2013) terhadap kadar *employability*, responden lelaki (96.0%) lebih tinggi berbanding responden perempuan yang hanya (84.0%). Pada masa sama, seramai 238,286 penganggur termasuk 174,327 graduan mendaftar sebagai pencari kerja aktif dengan laman sesawang JobsMalaysia di bawah Jabatan Tenaga Kerja (JTK) Semenanjung.

Jepun merupakan salah satu negara yang pesat membangun dari segi ekonominya, termasuk juga tahap pendidikannya di peringkat tinggi. Kajian yang dilakukan oleh Balakrishnan, B., & Low, F.S. (2014) tentang penglibatan wanita dalam bidang kejuruteraan pada tahun 2004, sebanyak 9.5% sehingga tahun 2010, peningkatannya hanya 0.05% iaitu 10% sahaja graduan bidang kejuruteraan terdiri daripada wanita. Sehingga tahun 2014, hanya 1% jurutera di Jepun adalah terdiri daripada golongan wanita. Manakala di Korea dimana kursus yang paling didominasi oleh pelajar wanita di universiti adalah kursus pendidikan. Kursus kejuruteraan banyak di monopoli oleh pelajar lelaki. Inisiatif dari pihak universiti dalam membendung masalah peluang pekerjaan kepada graduan wanita adalah dengan mewujudkan subjek pendidikan kejuruteraan, supaya dapat meningkatkan peluang pekerjaan dalam sektor kejuruteraan kerana sektor pendidikan yang sudah terlalu ramai graduan wanita dan persaingan yang sangat sengit. Kajian yang dijalankan oleh Jong & Song (2015) mendapat reaksi positif dimana 84% pelajar wanita bersetuju diperkenalkan dengan subjek kejuruteraan itu.

Selain Jepun dan Korea, menurut Adelakun, O.A., Oviawe, J.I., & Barfa, G.I. (2015) di Nigeria juga mempunya permasalahan yang sama tentang penglibatan wanita dalam TVET. Jurang penglibatan mengikut gender dalam TVET antara lelaki dan wanita adalah jauh bezanya berbanding bidang kursus lain dalam pendidikan dimana, wanita ketinggalan dalam beberapa aspek seperti kebolehcapaian, penglibatan dan prestasi. Pelajar wanita dilihat lebih gemar untuk mengikuti pengajian dalam bidang sains sosial, perniagaan dan perundangan kerana menurut Statistik Pendidikan Tinggi (2018) memaparkan majoriti seramai 283,833 pelajar wanita memilih bidang itu dan diikuti bidang kedua paling digemari pelajar wanita adalah bidang kejuruteraan, pembuatan dan pembinaan. Namun begitu, perbezaan ketara dapat dilihat pada kadar enrolmen di institusi TVET seperti di Institut Latihan Jabatan Tenaga Manusia (ILJTM) yang terdiri daripada tiga (3) institusi iaitu Institut Latihan Perindustrian (ILP), Japan Malaysian Technical Institute (JMTI) dan Pusat Latihan Teknologi Tinggi (ADTEC), peratusan perbezaan bilangan pelajar lelaki dan wanita adalah sangat tinggi (Kementerian Sumber Manusia, 2020) iaitu 82.2% di ketiga-tiga institusi. Julat perbezaan itu boleh diklasifikasikan sebagai begitu ketara.

Kewujudan institusi TVET di negara ini adalah untuk melatih tenaga mahir dan separa mahir serta melahirkan juruteknik, dan pihak universiti pula untuk menghasilkan jurutera. Walaupun begitu, umum mengetahui bahawa pendidikan merupakan salah satu elemen penting untuk meningkatkan kualiti pengeluaran sumber manusia dalam memajukan tahap ekonomi sesebuah negara (Farrah Syamimi, 2016).

Walaupun secara ironinya wanita adalah sebahagian dari kadar tenaga kerja, majoriti mereka masih bekerja dalam keadaan tahap keselamatan kurang diberi perhatian, gaji rendah, dan kondisi pekerjaan rendah, status atau pangkat yang rendah dan skop pekerjaan yang sempit (Kushmakar, 2016). Melalui data yang dikongsi oleh KPM dalam laporan kajian pengesanan graduan tahun 2019 menunjukkan purata pendapatan bulanan sebanyak 3544 responden dari institusi di bawah KSM majoriti dibayar diantara RM 1001 sehingga RM2000 dan ada juga yang dibayar bawah RM1000 untuk graduan yang memiliki Sijil Kemahiran Malaysia (SKM) Tahap 1 dan 3. Manakala graduan yang memiliki Diploma Kemahiran Malaysia (DKM) dibayar kadar upah sebanyak RM 1001 sehingga RM 3000. Melalui dapatan kajian yang dijalankan oleh Chellapan & Kenayathulla (2019) terdapat perbezaan yang signifikan pendapatan graduan lelaki berbanding graduan perempuan di Institut Latihan Kemahiran Belia dan Sukan mengikut kelayakan sijil tertinggi.

Malahan, wanita seringkali disosialisasikan bahawa perkahwinan adalah merupakan pencapaian paling utama yang perlu dicapai berbanding pendidikan. Manakala kerjaya adalah dikedudukan kedua dalam hidup bagi seseorang wanita. Walau bagaimanapun, dalam kehidupan masyarakat yang semakin berfikiran terbuka dan moden ini, dapat dilihat wanita semakin sedar tentang betapa pentingnya pendidikan bagi menjamin masa depan mereka nanti. Ajaran Islam juga ada menyebut tentang kedudukan wanita bekerjaya mestilah memahami kedudukan mereka di dalam Islam, melaksanakan tanggungjawab asasi dalam rumah tangga, memahami konsep pekerjaan dan berusaha mematuhi adab dan syarat-syarat ketika bekerja (‘Adawiyah & Salasiah, 2012).

Manakala menurut Mohamad Yusof (2012), melalui bual bicaranya bersama Penganalisis Kanan, Institut Kajian Strategik dan Antarabangsa (ISIS) Malaysia, Dr Jorah Ramlan terdapat beberapa faktor lain yang mendorong golongan wanita kurang penglibatan dalam industri adalah kerana majikan yang kurang memahami kepentingan sumbangan wanita kepada keuntungan syarikat, perkembangan organisasi, pembangunan tenaga mahir dan kestabilan sosio ekonomi negara. Terdapat beberapa faktor yang menjadikan peratusan pengangguran dalam kalangan wanita semakin meningkat antaranya kajian yang dijalankan di Nepal, tahap kemiskinan penduduk di luar bandar adalah sangat tinggi berbanding penduduk di bandar. Oleh itu, ia memberi impak yang besar kepada sistem pendidikan terutamanya, kerana melalui sistem pendidikan dapat memberi kesan positif kepada tahap ekonomi sesebuah negara. Kerajaan Nepal sedang membangunkan sistem pendidikan untuk penduduk luar bandar terutamanya wanita, oleh itu dengan memperkenalkan pendidikan TVET dapat seimbangkan pendidikan luar bandar dan bandar serta meningkatkan penyertaan wanita dalam pendidikan.

2.1 Pernyataan Masalah

Oleh yang demikian, setelah melihat kepada pelbagai kesulitan kebolehpasaran graduan wanita TVET dan pemilihan kerjaya yang bersesuaian dengan bidang penggajian sesuatu harus dilakukan untuk membantu graduan wanita dalam pemilihan kerjaya yang bersesuai dengan bidang serta mendapat bayaran upah setimpal tanpa mengikut gender. Walaupun terdapat banyak kajian penyelidikan telah dilakukan mengenai teori pemilihan kerjaya terhadap graduan wanita, namun masih kurang kajian yang mengkaji permasalahan ini dari sudut bayaran upah serta kesanggupan graduan wanita bekerja di luar kawasan tempat tinggal sedia ada. Adakah tawaran pekerjaan yang tidak bersesuaian bidang merupakan penyebab utama graduan wanita di luar sana yang masih menganggur? Ataupun adakah kadar upah yang ditawarkan majikan tidak selari dengan sijil yang dimiliki oleh graduan wanita? Apakah penyelesaian yang patut dilakukan oleh pihak ILJTM serta graduan wanita dalam meningkatkan kadar kebolehpasaran graduan TVET sekali gus mampu mencapai WBK 2030.

Seharusnya satu penyelidikan yang memenuhi kehendak pasaran ekonomi sekarang mungkin dapat membongkarkan isu kebolehpasaran dalam kalangan graduan wanita TVET. Justeru itu, kajian ini dibangunkan bagi mengkaji sejauh manakah graduan wanita TVET mampu memberi kesan kepada pembangunan ekonomi negara setanding graduan TVET lelaki dan menghapuskan isu ketaksamaan gender dalam pembayaran upah mengikut sijil yang dimiliki serta meningkatkan keberanian graduan wanita untuk menerokai bidang kerja di luar kawasan tempat tinggal sekarang.

Terdapat tiga objektif kajian ini iaitu:

1. Mengenalpasti jumlah graduan wanita TVET yang bekerja berdasarkan bidang pengajian
2. Mengenalpasti jumlah pendapatan graduan wanita TVET dibayar berdasarkan bidang
3. Mengenalpasti tahap kesediaan graduan wanita bekerja di luar kawasan tempat tinggal

3. Metodologi

Bagi mengenalpasti tahap kebolehpasaran graduan wanita TVET, satu kajian yang berbentuk kuantitatif iaitu melalui kaedah tinjauan deskriptif.

3.1 Populasi dan Sampel

Populasi yang dipilih dalam kajian ini adalah populasi capaian yang merupakan pilihan realistik terdiri daripada graduan wanita TVET yang bergraduasi pada tahun 2016 sehingga 2019 di ILP Sandakan seramai 115 orang graduan, manakala di ILP Kota Kinabalu dengan jumlah seramai 181 orang graduan, dan seterusnya di ILP Wilayah Persekutuan Labuan seramai 30 orang graduan. Keseluruhannya pelajar di ketiga-tiga institut seramai 326 orang graduan dan sekurang-kurangnya sampel seramai 181 orang perlu diambil merujuk kepada jadual penentuan saiz sampel yang dihasilkan oleh Krejcie & Morgan (1970). Teknik persampelan adalah secara rawak mudah. Sampel diambil dari setiap ILP Zon Sabah melalui Unit CESS.

Ketiga-tiga institut memenuhi ciri-ciri yang memenuhi kriteria kajian iaitu mempunyai graduan wanita bidang TVET. Sebanyak 90 sampel yang menjawab soal selidik secara atas talian dari ILP Sandakan, 96 sampel dari ILP Kota Kinabalu dan 5 sampel dari ILP Wilayah Persekutuan Labuan. Secara keseluruhannya berjumlah 191 responden.

3.2 Instrumen Kajian

Kajian ini menggunakan instrumen soal selidik secara atas talian melalui aplikasi *Survey Monkey*. Soal selidik ini dibahagiakan kepada dua bahagian iaitu Bahagian A mengenai latar belakang graduan yang mempunyai tiga (3) soalan dan Bahagian B mengenai maklumat pekerjaan yang mempunyai tujuh (7) soalan. Soal selidik yang digunakan ini adalah hasil gabungan yang dibangunkan sendiri oleh penyelidik dan beberapa item yang diadaptasi daripada soalan yang dibina oleh pihak institusi Jabatan Tenaga Manusia (JTM) melalui Unit CESS yang terdapat dalam perisian Sistem Atas talian e-Kajian Pengesanan (Kebolehkerjaan) (ETOS).

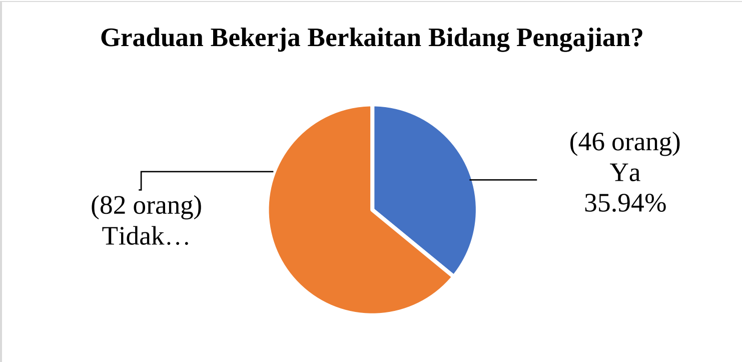
4. Dapatan Kajian

Kajian ini melibatkan graduan wanita TVET di ILJTM Zon Sabah. Ringkasan maklumat demografi graduan adalah seperti dalam Jadual 4.1.

Jadual 4.1: Maklumat demografi pelajar

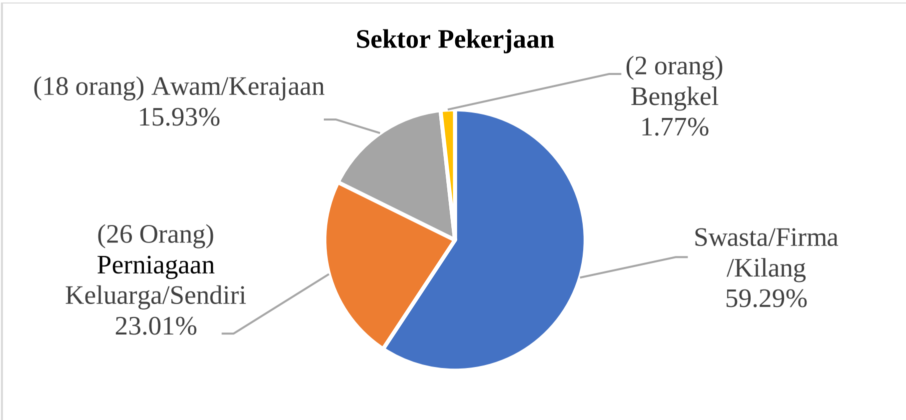
Kategori Demografi	Bil.	Peratusan (%)
Umur		
19-21	72	37.69
22-24	89	46.60
25-27	21	11.0
28-30	6	3.14
$\geq$ 31	3	1.57
Institusi		
ILP Sandakan	90	47.12
ILP W.P. Labuan	5	2.62
ILP Kota Kinabalu	96	50.26
Program Pengajian (SKM)		
Teknologi Telekomunikasi	20	10.47
Teknologi Mekatronik	2	1.04
Teknologi Minyak & Gas	4	2.10
Teknologi CADD Senibina	19	9.95
Teknologi Komputer Sistem	45	23.57
Teknologi Elektrik Fasa 1&3	9	4.71
Teknologi Elektronik Industri	6	3.14
Teknologi Komputer Rangkaian	60	31.41
Teknologi Peyelenggaraan Mekanikal	2	1.04
Teknologi CADD Mekanikal (Minyak & Gas)	13	6.80
Teknologi Penyejukbekuan & Penyaman Udara	3	1.58
Lain-lain	8	4.19

Objektif kajian 1**:** Mengenalpasti jumlah graduan wanita TVET yang bekerja berdasarkan bidang pengajian.



Rajah 1: Graduan Bekerja Berkaitan Bidang Pengajian

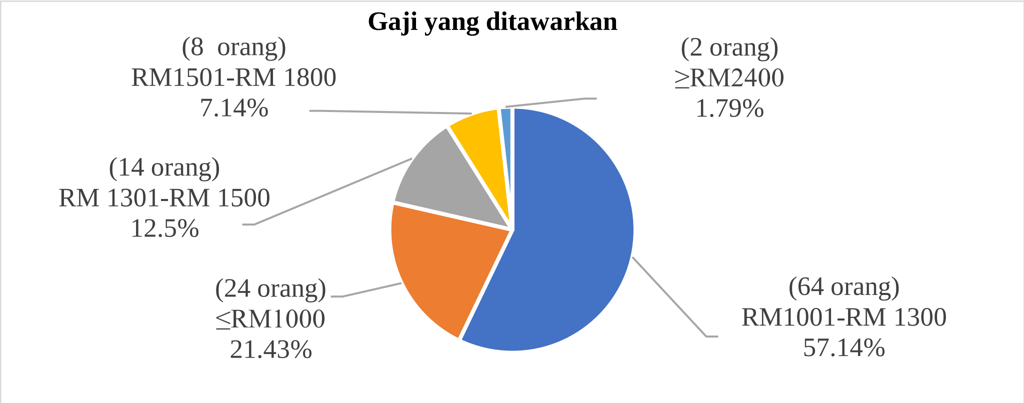
Berdasarkan Rajah 1 di atas hasil dapatan kajian untuk menjawab persoalan pertama iaitu bagi mengenalpasti jumlah graduan wanita TVET yang bekerja berdasarkan bidang pengajian adalah berjumlah sebanyak 46 orang mewakili 35.94%. Manakala didapati sebanyak 82 orang graduan bersamaan 64.06% bekerja tidak mengikut bidang pengajian selepas bergraduasi.



Rajah 2: Sektor Pekerjaan Graduan

Rajah 2 menunjukkan sektor pekerjaan graduan selepas bergraduasi. Terdapat empat sektor yang diceburi oleh graduan. Sektor paling mendapat pilihan tertinggi oleh graduan wanita TVET di ILJTM Zon Sabah adalah sektor kategori swasta yang terdiri daripada firma atau kilang yang menyumbang sebanyak 59.29% iaitu sebanyak 67 orang graduan. Manakala sektor kedua tertinggi ialah kategori perniagaan yang terdiri daripada perniagaan keluarga atau sendiri iaitu seramai 26 orang graduan yang mewakili sebanyak 23.01%. Sektor pekerjaan awam iaitu kerajaan menyumbang sebanyak 15.93% iaitu dengan jumlah bilangan 18 orang graduan. Sektor pekerjaan di bengkel adalah kurang di dominasi oleh graduan wanita di ILJTM Zon Sabah iaitu hanya 2 oarang graduan bersamaan dengan 1.77% sahaja secara keseluruhan.

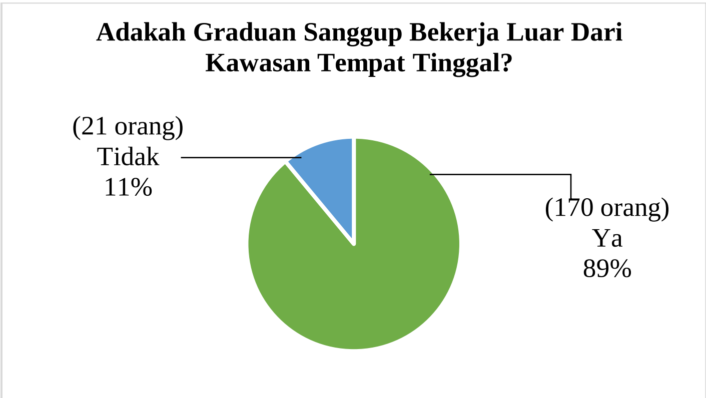
Objektif kajian 2: Mengenalpasti jumlah pendapatan graduan wanita TVET dibayar berdasarkan bidang.



Rajah 3: Gaji yang Ditawarkan

Rajah 3 di atas menunjukkan kadar bayaran gaji yang ditawarkan oleh majikan kepada graduan wanita TVET di ILJTM Zon Sabah. Melalui carta pai di atas dapat dilihat bahawa majoriti dibayar pada kadar RM1001 hingga RM1300 dengan jumlah graduan yang menerima bayaran tersebut seramai 64 orang graduan bersamaan 57.14%. Manakala bayaran gaji ditangga kedua tinggi dengan jumlah bayaran RM1000 dan kebawah adalah seramai 24 orang graduan iaitu bersamaan dengan 21.43%. Gaji yang ditawarkan melebihi RM1301 hingga RM1500 hanya seramai 14 orang graduan iaitu sebanyak 12.5%. Seramai 8 orang graduan iaitu 7.14% mendapat bayaran gaji sebanyak RM1501 hingga melebihi RM1800 dan akhir sekali hanya 2 orang iaitu mewakili 1.79% untuk graduan yang dibayar gaji melebihi RM2400 dan keatas.

Objektif kajian 3: Mengenalpasti tahap kesediaan graduan wanita bekerja di luar kawasan tempat tinggal.



Rajah 4: Tahap Kesediaan Graduan Bekerja Diluar Kawasan Tempat Tinggal

Carta pai pada Rajah 4 di atas menunjukkan peratusan graduan wanita TVET di ILJTM Zon Sabah yang sanggup berhijrah dari tempat asal mereka untuk bekerja sekiranya diberi tawaran pekerjaan. Jumlah peratusan yang bersetuju berhijrah adalah sebanyak 170 orang graduan iaitu bersamaan dengan 89%. Manakala bakinya sebanyak 21 orang graduan bersamaan dengan 11% masih belum bersedia untuk berhijrah dari tempat asal mereka untuk bekerja di atas beberapa faktor yang lain.

5. Perbincangan

Hasil dapatan kajian yang diperolehi melalui persoalan pertama iaitu jumlah graduan wanita TVET yang bekerja berdasarkan bidang pengajian adalah pada tahap rendah. Dimana hanya 46 orang yang bekerja mengikut bidang yang dipelajari semasa di ILJTM. Hal ini mungkin disebabkan oleh beberapa faktor yang mendorong para graduan memilih pekerjaan yang diluar bidang pengajian mereka. Menurut Dekan Fakulti Kepimpinan dan Pengurusan Universiti Sains Islam Malaysia (USIM) Profesor Dr Mohd Yahya Mohamed Ariffin antara faktor graduan bekerja di luar bidang adalah kerana permintaan melebihi penawaran. Selain itu juga antara faktor lain adalah persaingan yang tinggi dimana kita lihat kadar graduan bergraduasi semakin meningkat dan peluang untuk mendapat tempat di hati majikan adalah sangat tipis dengan kekosongan jawatan adalah terhad (Nor Hanisah Kamaruzaman, 2016).

Menurut Pengarah Eksekutif Persekutuan Majikan-Majikan Malaysia Datuk Shamsuddin Bardan menyatakan pilihan kerja luar bidang merupakan trend yang baik, beliau menegaskan bahawa kemahiran yang diperolehi ketika belajar boleh diaplikasikan dan diguna pakai dalam bidang lain. Namun, ini telah diutarakan dalam kajian terdahulu oleh Hasnah Hussin (2019) menyatakan punca graduan bekerja luar bidang penggajian adalah disebabkan oleh kebanyakkan sektor pekerjaan kurang menggunakan tenaga kerja manusia kerana beralih kepada penggunaan teknologi yang lebih canggih bagi menggantikan tenaga manusia. Ini telah ditegaskan oleh penyelidik terdahulu oleh Zafir Khan & Mohd Nazmy (2017) mengenai kemajuan Industri 4.0 yang membawa perkembangan teknologi pengkomputeran dan automasi agar boleh melakukan penambahbaikan dalam pembangunan modal insan, pengurusan dan operasi organisasi. Walau bagaimanapun, secara ironinya kajian yang dijalankan oleh Kushmakar Bhatta (2016) di negara Nepal, pekerjaan tradisi selalunya di penuhi oleh pekerja wanita seperti perkhidmatan, pengkeranian, perubatan, pendidikan dan pengurusan. Namun, pekerjaan bukan tradisi seperti pembaikan kereta, pertukangan, perpaipan, kejuruteraan sivil dan elektrikal kurang menjadi pilihan pekerja wanita sebagai kerjaya.

Manakala hasil dapatan persoalan kedua iaitu jumlah pendapatan graduan wanita TVET dibayar berdasarkan bidang. Lebih dari separuh graduan iaitu sebanyak 57.14% ditawarkan gaji sebanyak RM1001 hingga RM1300 dan 21.43% dibayar RM1000 ke bawah. Menurut KSM gaji permulaan untuk graduan dengan SKM Tahap 1 dibayar RM1130, SKM Tahap 2 dibayar RM1250 manakala untuk SKM Tahap 3 dibayar sebanyak RM1510 minima. Namun hasil dapatan dari soal selidik yang dijalankan atas talian menunjukkan sebaliknya. Graduan wanita TVET yang berkelayakan SKM Tahap 3 ditawarkan gaji dibawah kadar minima yang ditetapkan. Melalui kajian terdahulu yang dijalan oleh Siti Nor Hayati & Karimah Umar (2018) terhadap graduan Kolej Komuniti Kuala Langat menunjukkan seramai 162 orang graduan dengan julat pendapatan RM1001 hingga RM1500 sebulan. Ini membuktikan graduan TVET masih di bayar gaji di bawah kadar minima yang ditetapkan. Dapatan itu juga turut disokong oleh Komathi Chellapan & Kenayathulla, H.B., (2019) dalam kajiannya mendapati pendapatan graduan lelaki TVET Institut Latihan Kemahiran Belia Sukan (ILKBS) Malaysia jauh lebih tinggi berbanding graduan wanita. Jelas menunjukkan bahawa, kesan interaksi gender dengan sijil tertinggi terhadap gaji graduan wujud secara signifikan. Graduan lelaki sering diberi keutamaan oleh majikan kerana dipercayai lebih layak untuk melakukan tugas yang tidak boleh diganti dalam pasaran kemahiran (Pamela, 2016).

Hasil dapatan bagi persoalan ketiga iaitu tahap kesediaan graduan wanita bekerja di luar kawasan tempat tinggal menunjukkan kadar 88.46% bersamaan dengan 161 graduan wanita TVET di ILJTM Zon Sabah bersetuju sekiranya diberi tawaran pekerjaan di luar kawasan tempat tinggal. Ini menunjukkan kematangan dan kesediaan graduan untuk berhijrah adalah pada tahap tinggi. Terdapat kajian yang mendapati pelajar wanita mempunyai kematangan kerjaya yang lebih tinggi berbanding pelajar lelaki (Walker, 2010) dapatan ini turut disokong oleh Mohd Sani Ismail et al. (2018) kajian yang dilakukan keatas pelajar perempuan di sekolah menengah menunjukkan pelajar perempuan mempunyai tahap kematangan kerjaya yang lebih tinggi, mereka lebih fokus dan mempunyai lokus kawalan yang lebih tinggi berbanding lelaki. Menurut ‘Adawiyah Ismail & Salasiah, H.H., (2012) dalam agama Islam juga membenarkan wanita bekerja di luar asalkan mendapat kebenaran dan keizinan bapanya sekiranya belum berkahwin dan suaminya sekiranya sudah berkahwin demi menjaga keselamatan semasa berada di luar. Selain dari isu kematangan dan kesediaan graduan wanita TVET di Sabah, terdapat beberapa kajian yang menyatakan peluang pekerjaan penduduk tempatan di negeri Sabah agak sukar kerana bilangan warga asing yang bekerja adalah lebih tinggi (Ramli Dollah & Kamarulnizam Abdullah, 2017). Ini mungkin mempengaruhi keputusan graduan wanita untuk berhijrah dari kawasan tempat tinggal dan bekerja di kawasan yang lain.

6. Kesimpulan

Berdasarkan perbincangan di atas dapat disimpulkan bahawa kadar kebolehpasaran graduan wanita TVET di ILJTM Zon Sabah masih boleh dipertingkatkan dengan beberapa pendekatan. Namun, pihak institusi dan pihak kerajaan haruslah berganding bahu dalam menyediakan pelan-pelan yang bersesuaian dengan graduan wanita serta mewujudkan lebih banyak peluang pekerjaan terutamanya bagi graduan yang tinggal di luar bandar terutamanya di negeri Sabah. Unit kerjaya (CESS) yang terdapat di setiap ILJTM perlu memainkan peranan yang penting kerana boleh membantu graduan dalam pemilihan dan pendapat tentang industri.

Namun begitu, persaingan yang wujud diantara graduan TVET lelaki dan wanita di mata majikan industri pada masa akan datang adalah semakin mencabar dalam kegawatan ekonomi disebabkan pandemik Covid-19 yang melanda negara ketika ini, tenaga manusia yang dilahirkan haruslah mempunyai daya saing, kemahiran yang tinggi dan peka terhadap perkembangan mengikut revolusi Industri 4.0. Justeru itu, bagi mencapai WKB 2030 graduan-graduan wanita TVET haruslah dibekalkan dengan kurikulum yang relevan dengan permintaaan industri. Walau bagaimanapun, segala strategi yang dirancang perlulah mendapat tindakan menyeluruh oleh semua pihak yang terlibat bagi memastikan ianya berjaya dan memberi impak yang positif kepada graduan wanita TVET terutamanya dalam pemilihan kerjaya.

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MEASURING SHARIA COMPLIANCE IMPLEMENTATION AMONG HOTELIERS IN KLANG VALLEY, MALAYSIA USING THEORY OF PLANNED BEHAVIOUR MODEL

Adib Mohd[1], Azlizam Aziz[2] and Siti Suriawati Isa[3*]

[1 2 3] Department of Nature Parks and Recreation, Faculty of Forestry and Environment, Universiti Putra Malaysia, Serdang, MALAYSIA

*Corresponding author: ssuria4@upm.edu.my

Abstract: *Islamic tourism has become one of the significant niche tourism market in Malaysia. For the past five years Malaysia has maintain her position as the top ten Islamic tourism destination in the world. Hence, Sharia compliance hotel has been created to cater for Muslim guests as demand and awareness for Islamic products and services increased. This innovative development can be found in countries where Muslim residents are the majority like Malaysia and Indonesia. However, there is a limited of study on the sharia compliance hotel acceptance among hoteliers particularly in Malaysia. Thus, the main purpose of the study is to examine the factors that contribute to the acceptance of sharia compliance hotel concept implementation among hoteliers. This study focuses on the middle management level employees in 3-5 star hotel situated in the Klang Valley, Malaysia. Drawing from Theory of Planned Behaviour, the specific research objectives are three-fold: 1) to examine the relationship between attitude and sharia compliance hotel acceptance, 2) to investigate the relationship between subjective norm and sharia compliance hotel acceptance, and 3) to examine the relationship between perceived behavioural control and sharia compliance hotel acceptance. The study utilized quantitative research approach to achieve the stated research objectives. For data collection, a self-administered questionnaire was deployed which was developed based on previous studies. For the purpose of the study, the data collection was conducted in fifteen hotels in the Klang Valley area which include hotels in Kuala Lumpur, Selangor, Putrajaya and Cyberjaya. The results verified hotelier's attitude, subjective norms and perceived behavioural control are salient attributes of sharia compliance hotel acceptance in the hotel industry. The research model used the theory of planned behavior and managed to explain more than 60 percent of the variance in sharia compliance hotel is acceptance.*

Keywords: Sharia, Theory of Planned Behaviour, acceptance, halal hotel, tourism.

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1. Introduction

The hotel industry increases in the central and reconstructed city where job opportunities and economic activities occur drastically. Sharia Compliance Hotel has been one part of the industry where we can see the numbers of hotels' operators following the practice. Malaysia, for instance, has been taken a step to empower the halal tourism industry. According to the Department of Statistic Malaysia (DOSM), in 2019, 61.3% of the Malaysian are Muslim, followed by Buddhist at 19.8%, Christian 9.2%, Hindu at 6.3% and others. As most of the population are Muslim, most of the hotels' operators are in line with Islamic values indirectly; for instance, some of the hotels providing Buffet Ramadhan during the fasting month, prayer room to perform prayers and promote traditional halal food.

The Malaysia Islamic Tourism Centre (ITC) stated that, in 2018, Malaysia welcomed an estimated 5.3 million inbound Muslim tourists (Islamic Tourism Centre, 2019). Considering the size and the opportunity lies ahead for halal tourism, hotel industry players should take this opportunity and allow their hotels to implement the Sharia principles as an innovation for this tourism market segment. The market for Islamic products and services is one of the strategic advantages for hotel operators. The influx of tourists from the Middle East into Malaysia offers the Sharia Compliance Hotel (SCH) an enormous opportunity to attract them, increasing the hotel's profits (Mohd Salleh 2015).

Today, the halal market is not exclusive to Muslims and has gained more recognition among non-Muslim consumers who associate halal with ethical consumerism (Mastercard-Cresentrating 2018). For Muslims, it's no longer merely a religious obligation or observance. Halal, meaning lawful, has become a robust market. According to ITC (2017), Islamic tourism can have high impacts on Malaysia's tourism industry from economics, social, environmental and politic. This is because Islamic tourism provides new peculiar and universal needs which will influence the development of the tourism industry in Malaysia. Suid, Nor and Omar (2018) mentioned this industry promises a profitable chain of economic opportunities.

Nonetheless, most traditional hoteliers hesitate to move to SCH because of the term's lack of knowledge and comprehension. Capacity hotel management refers to room constraints and facilities provided to hotel resource customers. The hotel must handle the efficiency of its rooms well because this influences its returns. Additional costs incurred for renovating the existing pool and spa facilities can add to the challenges facing existing hotel operators (Samori and Sabtu 2014). In designing proper Sharia hotels such as; the separation of rooms for men and women, architectural and interior design is suggested, which demands comfort and space for prayer (Samori and Sabtu 2014). Ideally, hoteliers are advice to hire consultant or officer who knows the SCH concept to ensure that everything conforms to the guidelines. According to Zailani, Omar and Kopong (2011) mentioned in their exploratory study, most of the managers are not well understood the importance of Halal certification, however they still can have a successful business without it.

Previous studies indicated that, the level of awareness and profit are their biggest concerns to follow the requirement of SCH. Meanwhile, most industry player in Malaysia refuse to accept this concept due to acceptance. Acceptance towards the concept from the operators, the customer and the regulation. Until today, there is a lack of research on the acceptance level among the hoteliers on this concept. Drawing from Theory of Planned Behaviour (TPB), the specific research objectives are three-fold: 1) to examine the relationship between attitude and sharia compliance hotel acceptance, 2) to investigate the relationship between subjective norm and sharia compliance hotel acceptance, and 3) to examine the relationship between perceived behavioural control and sharia compliance hotel acceptance.

2. Literature Review

This section will explain about the related literature review of the topic. The focus will be on literature reviews about shariah compliant (or compliance) hotel (SCH), theory of planned behaviour, attitude and acceptance, subjective norm and acceptance and finally perceived behavioural control and acceptance.

2.1 Shariah Compliant Hotel (SCH)

The SCH is a hotel that delivers not only halal food and beverage services in accordance with Sharia principles, but also covers the entire hotel business (Razalli, Mohd Ismail and Yaacob 2015). This definition was supported by Mohamad Rasit, Hamjah and Mansor (2016), that stated Muslim or Islamic hotel is a hotel that provides sharia-compliant services as a moral code to lay the guideline for Islam's whole life.

In addition to providing a tranquil, cozy and healthy environment with guest-friendly services, Baharudin, Hisyam, Muhamad and Mohsin (2015) defined a Sharia hotel as one with its management and services delivered based on the Muslim Sharia principle. Saad (2014) stated that a hotel compliant with Sharia is defined as a hotel providing Sharia-compliant services. Besides, Samori and Sabtu (2014) argued that a hotel which is Sharia-compliant does not merely supply halal food and drink but involves the entire operations of the hotel.

Sharia is an Arabic word meaning the oath that Muslim should follow (Doi 1984). The Sharia Compliance Hotel can therefore be defined as a hotel providing Sharia principle-based services (Yusuf 2009). Reviews of work of literature differed between three categories of hotels covered by the Islamic Hospitality Concept; dry hotels which serve non-alcoholic in their centres; partly SCHs that provide a few additional Islamic services, such as Halal food and prayer rooms; Qur'an and prayer rug in each room as well as split facilities between men and women, and fully controlled by the Sharia from its design, interior to hotel accounts (Zulkharnain and Jamal 2012).

The SCH can be defined as a hotel entity that provides all services according to the Sharia principles (all the commands of Allah Subhanahu Wataalla in all aspects) (Samori and Sabtu 2014). Further, Shaharuddin, Kassim, Yusof, Bakar and Talib (2018) stated that SCH is defined as the hotel that is governed by Sharia standard which goes beyond the concept of dry and Islamic hotels. Henderson (2016) explained that the SCH as not serving non-halal food and no alcohol at the premises or hotels only. The holy book Qur'an must be put in the room and the room must be provided with a prayer mat and a *qibla* sign. The beds and toilets must not be positioned facing the *qibla* and the prayer room has to be available in the premises and hotels, and no inappropriate entertainment.

2.2 Research Framework: Theory of Planned Behavior Perspective

TPB is basically an extension model of Theory of Reasoned Action (TRA) (Ajzen 1991; Ajzen and Madden 1986) and is one of the most researched models for a social psychologist to predict behavioral intentions (Armitage and Conner 2001). TPB allows the examination of the influence of personal determinants and social surroundings as well as non-volitional determinants on intention (Han and Kim 2010). TPB was developed due to the limitation of the original models in dealing with behaviors that people have incomplete volitional control.

The theory postulates three conceptually independent determinants as the main model where attitude is the psychological tendency to evaluate a certain entity in some degree of favor or disfavour (Eagly and Chaiken 1993). The subjective norm evaluates the social pressure on persons to perform or not to perform certain behaviour. The perceptions of behavior are described as the degree to which behaviour, or to which people perceive control, is regarded as controllable (Liou and Contento 2001).

Past research has shown that TPB offers an excellent framework to identify predictors of the intention to buy automotive technology for example; autonomous (Kelkel 2015), environmentally friendly vehicles (Afroz, Masud, Akhtar and Islam 2015). Apart from that, applications for the use of TPB were also used to study safety behaviors such as; motorcycle helmet use (Ali, Mahmoodabad, Saeed and Mohammad 2011) and occupational health-related behaviour (Colemont and Van den Broucke 2008). In hospitality, TPB is used to explain consumer’s decision-making process of visiting green hotels (Han and Kim 2010). Apart from that, TPB is also being used to study on the intention to purchase halal food product (Mohd Suki and Abang Salleh 2016).

2.2.1 Attitude and Intention to Accept SCH Concept

TPB assumes a behavior attitude, subjective norms and perceived behavioral control are three cognitively independent determinants. The first important factor for behavioral intent is the attitude which can be described as the extent to which the individual has a favorable or unfavorable assessment or evaluation of the behavior concerned (Ajzen 1991). Ajzen (1991) also mentioned that the more favorable the attitude concerning behavior, the stronger is the individual’s intention to perform the behavior under consideration. Attitude toward a behavior is assumed to be the result of one's own prominent beliefs that represent perceived effects of behavior and his assessment of the important impacts it delivered. According to Blackwell, Miniard and Engel (2006), attitude is the evaluation of performing a particular behavior involving the attitude object, such as, buying the product. In addition, it also includes an assessment as to whether the behavior is good or bad and whether the actor wants to do it (Leonar, Graham and Bonacum, 2004). Ramayah, Lee and Mohamad (2010) reported that, attitudes involve perceived behavioral consequences. According to Chen and Tung (2014), the main predictor of behavioral intentions is attitude and also as a psychological emotion routed through consumers’ evaluations and, if positive, behavioral intention tend to be more positive Miniard and Engel (2006).

2.2.2 Subjective Norm and Intention to Accept SCH Concept

In the TPB model, the second determination of behavioural intention is the subjective norm. The term “subjective norm” is defined as the social pressures perceived for performing or not performing the behaviour (Ajzen 1991). Hee (2000) highlighted, the influence from close friends, family members, relatives, colleagues or business partners is a subjective norm that captures a sense of social pressure of an individual for a certain behaviour. Subjective norm is usually defined as the normative beliefs of a person concerning what prominent references he or she thinks should or should not make and its motivation to meet these referents (Ajzen and Fishbein 1980). Prior research by Sukato (2008), Webster (2000) and Yoh et al. (2003) stated that friends and family members actually influence the decision-making of consumers. This argument is further supported by Mohd Suki and Abang Salleh (2016), who have found the most important predictor of the consumer's behavioral intentions to be subjective norms.

2.2.3 Perceived Behavioral Control and Intention to Accept SCH Concept

Among these three antecedents in TPB, perceived behavioral control (PBC) is most significant when behavioral control is partially controlled by will. The term PBC refers to perceived behavioral ease or difficulty (Ajzen, 1991) and actually reflects previous experiences and expected barriers. According to Zhou, Thøgersen, Ruan and Huang (2013) behavioral control and motive determines behavior. In particular, PBC evaluates how well factors can be controlled that can make the actions required to deal with a specific situation more simple or restrictive. PBC is defined to be a function of control beliefs (CB) that refers to one's perception of the existence or lack of the resources or opportunities required to conduct a particular behavior, and its determination of the extent of importance of such resources or opportunities to the outcome (Ajzen and Madden 1986).

Many studies showed that in several research contexts, such as; recycling, PBC is positively linked with the intention (Taylor and Todd 1995), conservation (Albayrak, Aksoy and Caber 2013). green hotels (Han et al. 2010; Chen and Tung, 2014; Chang et al. 2006). Research has shown that PBC has an impact on consumer intention to purchase and re-patronize Halal foods like food service facilities (Shah Alam and Sayuti 2011). Thus, for this study, perhaps PBC has a direct influence for hoteliers to accept the implementation of SCH as mentioned by the previous scholar that peoples' intentions are positively influenced by their self-confidence in their ability to perform the behavior (Baker et al. 2007; Cheng et al. 2006; Conner and Abraham 2001).

3. Methodology

In this chapter the process of getting data will be discussed. The study utilizes the quantitative research method, using a survey questionnaire as a tool for data collection. The questionnaire was developed based on TPB, adapted from the studies of Paul, Modi and Patel (2016), and Chen and Tung (2014). They used TBP on studies in predicting consumers' intention to visit green hotel.

For this study, the questionnaire consists of six sections. Section one is a set of demographic questions, while section two test on Sharia compliance attributes by testing hoteliers understanding and knowledge about SCH. Section three discuss on the hoteliers' acceptability towards the SCH concept, followed by section four focusing on attitude as the first variable in the TPB. Next is section five that test on subjective norms and lastly, section six on perceived behavioural control. The reliability of the questionnaire was tested using the Cronbach Alpha to ensure that all questions are reliable to measure the variables.

3.1 Research Respondents

For this research, the respondents are hoteliers in the Klang Valley area. They were categorised according to their star rating hotels. Using a cluster sampling technique, staffs from the supervisor level to senior managers were selected to participate in this study. Cluster samples in this study are hotels that have not applied for Halal Certification from JAKIM and rating from 3 to 5 stars. The sampling size was determined using the Cochran's formula. Although the sample size for the study is 400 respondents, however only 391 respondents returned the survey with valid data.

4. Results and Discussion

For this section the result obtained from data collection process will be presented. Firstly, pilot study result will be presented and discussed followed by full-scale study and finally multiple regression.

4.1 Pilot Study Realibility Analysis

Pilot study was conducted by this study to ensure that it is reliable and valid before the full-scale test is conducted. Based on the reliability analysis shown in table 1, the acceptance score $\alpha = .921$, attitude $\alpha = .968$, subjective norm $\alpha = .948$ and perceived behavioural control $\alpha = .824$. This indicates that all question are significant and reliable for this study.

Table 1: Reliability Analysis

Factor	α	N of Items
Acceptance	.921	7
Attitude	.968	14
Subjective Norm	.948	6
Perceived Behavioural Control	.824	8

4.2 Full-scale Study

The questionnaires were distributed to gather demographic information like age, gender, religion, years of service and their position can be used to grouping the respondent for future use. The findings are as below:

Table 2: Frequency Distribution of Respondent's Demographic Information

Demographic information	**Frequency *n*=391**	**Percent**
Age		
20 to 30 years	202	51.7%
31 to 40 years	127	32.5%
41 to 50 years	26	6.6%
51 to 60 years	24	6.1%
Gender		
Male	168	43.0%
Female	202	51.7%%
Religion		
Islam	318	81.3%
Buddha	34	8.7%
Hindu	26	6.6%
Christian	13	3.3%
Others	0	0%
Years of service		
1 to 5 years	127	32.5%
6 to 10 years	55	14.1%
11 to 15 years	29	7.4%
16 to 20 years	17	4.3%
21 and over	28	7.2%
Position		
Head of Department	40	10.2%
Senior Manager	18	4.6%
Junior Manager	89	22.8%

Supervisor	82	21.0%

Based on the above table, 391 respondents are male (43.0 %) and female (51.7%). Most of the respondents are between 20 to 30 years old (51.7%) and the majority of the respondent are Muslim (81.3%). A total of 127 respondents have worked between 1 to 5 years and 7.2% of the respondents have been working at the same hotel for more than 21 years. In addition, 40 respondents are Head of Department while the majority of the respondent 22.8% are junior manager.

4.2.1 Level of Awareness of SCH in Malaysia

To assess the level of awareness of SCH in Malaysia, the result has shown that most of our hoteliers are aware of the SCH implementation in Malaysia. As we can see, 95.4% of respondent are aware that Malaysia is one of the leading Muslim tourist destinations and 92.6% or 362 respondents understand about Sharia compliance hotel. Similarly, 92.6% of the respondents are aware of the needs of Muslim tourists. Furthermore, 312 respondents or 80% of the respondents are equipped with information on the attributes of Sharia compliance hotel.

Based on the question given, 78% or 304 respondents were not aware whether their premises are certified Halal by JAKIM or JAIN and only 22% of respondent were aware that their premises are certified Halal by JAKIM or JAIN.

About 89% of respondents think it is important for their premises to run according to the SCH attributes. Only 11% of the respondents think it is not important for their premises to implement based on the SCH attributes. Out of 391 respondents, 304 respondents mentioned that their premises sell Non-Halal food and beverages at their premises to capture the Non-Muslim market.

Table 3: Level of Awareness among Hoteliers in Malaysia.

***n*=391**	**Yes**	**No**
Malaysia is a top Muslim tourist destination	373 (95.4%)	18 (4.6%)
Understand about Sharia compliance Hotel.	362 (92.6%)	29 (7.4%)
aware of the need for Muslim tourist	362 (92.6%)	29 (7.4%)
Premises certified Halal	87 (22.3%)	304 (77.7%)
attributes of Sharia compliance Hotel	312 (79.8%)	79 (26.2%)
Important runs according to Sharia compliance attributes	348 (89.0%)	42 (11.0%)
Selling Non-Halal food and beverage	304 (77.7%)	28 (22.3%)

Based on the frequency test, majority of hoteliers have high level of awareness about SCH implementation in Malaysia. Besides that, most of the hotel operators are starting to target the Muslim market due to the major influx from the Middle Eastern continent (Islamic Tourism Centre 2018).

4.2.2 Relationship between Attitude, Subjective Norm and Perceived Behavioural Control on the Acceptance of SCH Implementation

Four correlation coefficients were tested via Person's product-moment correlation and the significance level was set at 0.01 level (2-tailed). The strength of the relationship can be determined via the Pearson correlation (*r*). If the *r*-value is 0, then it indicates no relationship between the two variables and if the *r* value is 1, then it can be interpreted as perfect positive correlation, while if the *r* value is -1, it can be interpreted as a negative correlation. The summary for the matrix for correlation of these four variables is presented in the table below: -

Table 4: Correlation between Attitude, Subjective Norm, Perceived Behavioral Control and Acceptance

Factors		(1)	(2)	(3)	(4)
(1)	Attitude	1			
(2)	Subjective Norm	.494**	1		
(3)	Perceived Behavioral Control	.476**	.719**	1	
(4)	Acceptance	.736**	.661**	.492**	1
	Mean	6.01	5.85	5.86	5.68
	SD	.761	.916	.614	.917

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

- Relationship between Attitude and Acceptance

Based on the result, there is a strong relationship between hoteliers' attitude and their acceptance towards the implementation of Sharia compliance with a positive correlation (r=.736, p<0.01). These findings suggest that hoteliers have a positive attitude towards the acceptance of Sharia compliance hotel implementation. Attitude is an important factor in influencing people's intention to accept because those with high positive attitudes appeared to have greater intention to accept the implementation of SCH. Several past studies have found that attitude has a significant direct relationship with intention to accept (Baker et al. 2007).

- Relationship between Subjective Norm and Acceptance

The result indicates a strong relationship between subjective norms and the acceptance towards SCH implementation with a positive correlation (r=.661, p<0.01). This shows that the subjective norms such as peer pressure and family background have a significant positive relationship to the acceptance of SCH implementation. SN is important in influencing people's intention in this context, hotelier's intention to accept SCH. Consistent to the research by Afendi, Azizan and Darami (2014), SN was positively and significantly related to the intention which is can be interpreted into acceptance.

- Relationship between Perceived Behavioural Control and Acceptance

There is a medium-strength relationship between perceived behavioural control and acceptance towards SCH implementation among hoteliers in Malaysia with a positive correlation (r=.491, p<0.01). The analysis indicates that perceived behavioural control has a significant value in hoteliers' acceptance towards SCH implementation. This is because control could directly affect behaviour by increasing effort to goal achievement. In collectivistic cultures such as the Muslim culture, people tend to perceive themselves as interdependent with their group and tend to strive for in-group rather than personal goals Afendi et al. (2014).

4.3 Multiple Regression

In this study multiple regression assumes that the sample size is large enough. Stevens (2002) recommends that 'for social science research, about 15 participants per predictor are needed for a reliable equation. However, for this research, the researcher following Tabachnick and Fidell (2007) rule of thumb by following the equation, the sample size shall be greater than 82 participants. Since our sample size is 391 it meets the rules. Besides that, referring to r value that less than 0.9, hence, no multicollinearity exists.

Table 5: Regression analysis summary

Source of Variation	*β* - value	*t*-value	p-value	R	R^2	F-value
Attitude	.558	16.144	.000			
Subjective Norms	.462	10.573	.000			
Perceived Behavioural Control (PBC)	.106	2.445	.000			
Acceptance				.815	.664	255.500

a. Dependent Variable: Acceptance
b. Predictors: (Constant), SN, Attitude, PBC

To provide answer to the research question, regression analysis has been conducted and the result as show above. Based on the result given, it explained on the R square, the result indicates that 0.664 which means that this model explains 66.4% of the variation of SCH implementation acceptance can be explained by the model containing attitude, subjective norms and perceived behavioural control (R^2=.664). It is very high and regression equation forecasts are relatively accurate. It also means that 33.6% of the variation is still unexplained so the addition of other independent variables could improve the model's fit. The model in this study reaches statistical significance (Sig. = .000; this means $p<.005$).

As can be observed from the table above, the relationship between acceptances of the three predictors was examined by the multiple regression. The result shows the three predictors have been statistically significant ($p<0.05$). Results showed that attitude explained the largest portion of individual acceptance of SCH at 55.8% (p=0.000); closely followed by subjective standards (46.2%, p=0.000) and perceived behavioral control (10.6%, p=0.000).

5. Conclusion

The findings of this study found that majority of hoteliers in Klang Valley, Malaysia are aware and understood about the Sharia compliance hotel concept and its attributes. Besides that, their intention to accept the SCH concept to be implemented is also influence by their attitude, subjective norms and PBC. Thus, the result can be used as a reference to the tourism industry and regulators bodies that monitoring and controlling the tourism situation in Malaysia. Importantly, the result shows that Malaysia can go fully SCH to capture the growing demand of Muslim tourists since Islam is the country's official religion. That can lead to the positive outcome for SCH concept to be implemented significantly among the hoteliers. Nonetheless, more studies from all aspects of SCH are needed to strengthen the SCH concept.

Although, SCH 's attractiveness is tempting, as a hotel operator requires careful consideration and needs to balance with Malaysia's current hotel scenery market to avoid the hotels losing other tourists. The function of government bodies such as the ITC is intended to assist hotel operators and tourists from other countries in raising awareness of the SCH concept. For example; Halal can be generalized as promoting cleanliness and hygene from housekeeping to preparing food for guests. Besides that, ITC can help to penetrate more market for SCH to keep them relevant in the industry rather than being just another market trend. Other than that, it contributes to the body of knowledge about SCH by referring to the result and also the use of the theory of planned behavior in predicting human intent to choose. It can reinforce the theory for use in various study disciplines.

In order to encourage more hotels in Malaysia to accept the SCH concept, the existence of the universal SCH standard is important. The benefits of SCH are many and one of them, because of the significant demand for Islamic goods and services, it could be a competitive advantage for the tourism industry. As a conclusion, this paper has identified the level of awareness and understanding of hoteliers in Klang Valley, Malaysia on SCH concept.

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PHENOTYPIC AND GENOTYPIC ASSESSMENT OF RICE MUTANT GENOTYPE, NMR151 & NMR152

Siti Norvahida Hisham[1,2*], Faiz Ahmad[1,2], Affrida Abu Hassan[1,2], Noraziyah Abd Aziz Shamsuddin[1], Siti Nurdiyana Yusof[1,2], Nor'Aishah Hassan[3], Sobri Hussein[2] and Abdul Rahim Harun[2]

[1] Department of Biological Sciences and Biotechnology, Faculty of Science and Technology, Universiti Kebangsaan Malaysia, Bangi, MALAYSIA.

[2] Agrotechnology and Biosciences Division, Malaysian Nuclear Agency, Bangi, MALAYSIA.

[3] Faculty of Applied Science, Universiti Teknologi MARA, Cawangan Negeri Sembilan Kampus Kuala Pilah, Negeri Sembilan, MALAYSIA

*Corresponding author: P105923@siswa.ukm.edu.my

Abstract: *Rice (Oryza sativa) is second most water intensive crops, requiring 3000-5000 litre of water per kilogram of rice produced. Thus, irregularities in climate causing drought is a threat to rice cultivation. Drought and decreasing availability of clean water for agriculture irrigation suggests the needs of drought tolerant rice variety and Malaysia are lacking of climate resilience rice variety. In 2015, Malaysian Nuclear Agency (MNA) developed two mutant rice and has been recognize as National Certified Seeds in 2020. The understanding of various morphological, biochemical, physiological, molecular and yield components on rice plant under stress is key for future development of drought-resilient rice varieties. Two mutant genotypes (NMR151 and NMR152) and drought susceptible MR219 were tested under drought stress (RS) and non-stress (NS) for phenotypic evaluation during booting phase. All data collected were subjected for analysis of variance (ANOVA) using Statistical Tool for Agricultural Research (STAR 2.0.1). Leaf score NMR151 and NMR152 for rolling (LR) and drying (LD) shows significant difference when compared to their parent, MR219. Yield component trait (no. of effective tiller, spikelet fertility, 1000 grain weight) and yield contributing trait (panicle length, number of effective tiller) shows significant difference at* $p \leq 0.05$ *between RS and NS. Genotypic assessment for NMR151, NMR152 and MR219, involving major drought yield QTLs (quantitative trait loci) using 32 SSR marker,* $qDTY_{1.1}$, $qDTY_{1.2}$, $qDTY_{2.2}$, $qDTY_{3.1}$ *and* $qDTY_{12.1}$ *are carried out. However, the primer tested link to qDTY are not amplified in both mutant genotype, which means both of these mutant rice does not possess qDTY. This suggests for a potential new QTLs in both of rice mutant NMR151 and NMR152 that responsible for drought tolerant traits.*

Keywords: mutant rice, drought tolerant, phenotyping, genotyping, QTLs.

SAY YES TO CREATING VIDEOS ON YOUTUBE: A CONTINGENCY TO SURVIVE LAYOFFS IN THE ERA OF COVID-19

Che Nooryohana Zulkifli[1*], Nur Afiqah Ab Latif[2], Melati Desa[3], Raja Rosila Raja Berahim[4] and Nor Karina Mohammad Nor[5]

[1 2 3 4 5] Academy of Language Studies, Universiti Teknologi MARA, Cawangan Pulau Pinang, Pulau Pinang, MALAYSIA

*****Corresponding author: yoezulkifli@uitm.edu.my

Abstract: *Unemployment is one of the most significant and devastating impacts of Covid-19 pandemic. To date, many industries around the world, especially the small businesses have begun to crumble, and people have also started losing their jobs. Without proper and immediate countermeasure, this can eventually lead to permanent job loss and the existence of the new poor society. As many are affected, this paper aims to understand the public's preference in choosing videos to watch on YouTube, which can help them emulate the activity of creating content and publishing it on this widely watched platform. By creating interesting and powerful content on YouTube, people can explore new job opportunities and start generating income (Holland, 2016). This study posed three Research Questions that are related to the public's interest in selecting videos to watch on YouTube. A questionnaire survey form was used to gain data for this study from 368 respondents whose age ranged from 18 to 65. The data was collected primarily from these two categories of respondents: 1) 20 to 29 years old and 2) 30-39 years old. The results illustrated that people have always liked to watch positive content and rather excited to follow the footsteps of their favourite YouTubers to create their own videos in the future and hence, a solution to unemployment during Covid-19 pandemic can be materialised.*

Keywords: Covid-19, layoffs, unemployment, YouTube, online videos.

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1. Introduction

1.1 Covid-19 and Layoffs

The outbreak of Covid-19 that initially started in China did not take a long time to circle the world. As soon as it became a global threat to all countries, many people have begun to experience layoffs and certainly pay cuts and hence, contingencies are highly required. Even though academic attainment seems to be the key factor to determine one's level of income (Hirsch, 1976, as cited in Marginson, 2006) the threat posed by this pandemic has affected many people's employability even the highly educated ones. Many industries were and in fact, are still facing financial stress, and the workers who were laid off are still grappling for new job opportunities. In short, to survive and also to align with the aim in refuelling the country's economy, many of us are critically in need of a new norm of life to secure a new job and continue generating income.

The world's current economic scenarios have caused many people to lose their jobs. This is one of the disruptions that has become the pandemic's part and parcel, besides the rising number of cases and morbidity. A desperate situation like this certainly requires a desperate measure, and people have started normalising the trend of taking jobs outside of their expertise and qualifications. One of the most affected industries is small businesses, which has caused a significant dislocation and worse, closures (Bartik et al., 2020). For instance, one study has found that 42% of the sudden unemployment in the US recently can lead to permanent job loss if no measures taken at all to mitigate the repercussions of the Covid-19 economic crisis (Barrero, Bloom & Davis, 2020).

Many nations have quickly enforced movement restrictions to control the spread of this deadly virus and stopping all airline operations is one of the drastic measures taken. This virus apparently has the power to spread invasively and therefore, putting a stop to all travelling activities is expected to slow down the spread despite the significant economic impacts. In February of 2020, Mhalla (2020) discovered that as soon as China prohibited all of its citizens to travel out and cancellations of flights and booking started to become rampant, many Asian countries' tourism and hospitality sectors were severely affected. It was topped by Japan, followed by Thailand and South Korea. The researcher also provided another example of a German airline whereby the staff were asked to take unpaid leave, and more part-time options were opened to downsize the company.

By August 2020, Korman and Mujtaba (2020) confirmed that 40 million Americans had lost their jobs, and layoffs or dismissal has become a common practice for the affected companies worldwide to minimise their overall expenses. This unemployment issue was also resonated in the food-service industry as people began to alter their eating styles and preferences (Luckstead, Nayga & Snell, 2020). As demands shrank, more restaurants and eateries had to be shut down; affecting those working in this sector.

1.2 Research Objective

Even though we have been living with Covid-19 more than a year now, the perpetual effects of many countries' financial crisis have led to a major unemployment. Thus, this study's objective is clear; we would like to see if creating videos on YouTube can be one of the countermeasures to help those affected to start earning again. Considering that living with Covid-19 poses many movement restrictions, we believe that staying home and creating content could be regarded as the best solution for the unemployed to generate income safely.

1.3 Research Questions

Based on the objective, and before we could confirm if producing videos on YouTube can be profitable, we must first discover a few issues, and thus, our Reseacrh Questions are as follows:

1. What are the respondents' most liked videos on YouTube?
2. What kind of content is preferable to be watched on YouTube; positive or negative?
3. Do videos on YouTube help viewers to continue creating and engendering content to generate income?

1.4 Significance of the Study

This current study presents an impactful gap to see if creating videos on YouTube can help the new jobless community to start earning again in this pandemic era. It also reflects the new normalisation due to this sudden shift of social practice, lifestyle and economy. Covid-19 pandemic changes not only our way of life but also the way we are physically making a living every single day. It is also true that literature discussing the notion of benefiting technology and creating content to be posted online as a promising measure to overcome economic crisis during a pandemic era is rather limited, this study is significant to be explored.

The idea of monetising content on YouTube can benefit many people while letting them to explore and sharpen their talents and skills in video productions (Holland, 2016). Hence, this study can help create awareness that layoffs and limited job opportunities out there should not stand as a barrier for them to start or continue generating income. By presenting the results of types of content that are considered favourable, our society stands a chance to identify their exact talents or skills to be published on YouTube, which can help them make a living in the midst of the Covid-19 pandemic.

2. Literature Review

2.1 The Importance of Social Media Advertisement

Social media is undeniably a powerful advertising tool for entrepreneurs in this era. According to Chan and Yazdanifard (2014), it is essential for organisations to use it in influencing their consumers' behaviour and increase profitability since the social network has become the main platform for companies to communicate with their customers. With only a few clicks and a lower cost than conventional media, social media helps marketers reach an unlimited number of customers, both locally and internationally (Ezeife, 2017). Herhold (2017) surveyed 344 social media advertisers from all across the world to identify the role of social media, the most captivating content to share, common challenges, and the selected social media resources. The findings indicate that 52% of online marketers claim that social media helps improve their sales and profit. Based on the survey, the most influential social networking channels are Facebook (89%), LinkedIn (83%), YouTube (81%), and Twitter (80%). Meanwhile, business leaders usually use blogs and discussion board to promote their services and gain reviews from the customers (Dean, 2019).

Hooda and Ankur (2018) mentioned that social media could be a successful marketing platform as it positively affects online consumer purchase behaviour. According to Connext Digital (2019) as cited in Montgomery (2020), 80% of customers communicated with marketers through social media, while 71% of customers made their purchases based on social media reviews and 31% claimed that they normally studied about brands on social media before buying. Most social media users could easily appraise and identify the products' strengths and weaknesses just by reading the reviews or comments given by other consumers. According to Putter (2017), social networking sites' popularity has the power to increase the public's awareness about the products and intensify the customers' desires to purchase. Social media has drastically transformed the way customers choose, share and assess information, which has led to the changes in marketing communications (Duff, Leung, Bai & Stahura, 2015). Hazem, Len and Kooli (2019) identified four crucial factors shaping the customers' perception through social media advertisement: credibility, information, entertainment, and contentment. These four factors are valuable in assisting consumers with product recognition and consequently shaping their intention to buy (Dehghani, Khorram Niaki, Ramezani & Sali, 2016).

2.2 YouTube and/or Social Media in Generating Income

YouTube is the most popular video-sharing website globally, with millions of users continue uploading videos. Frangoul (2018) reported an interview by the YouTube EMEA's regional director, Ben McOwen Wilson, more than 500 hours of video-based content are uploaded on YouTube every minute. Zote (2020) delineated that YouTube was launched in 2005 and a year after that, it accounted for 60 percent of all online video views and currently the second most visited site after Google. She also highlighted that YouTube is a popular platform for various purposes from gaining information to entertaining themselves. With this engagement, marketers are also utilising it as part of their marketing strategy. In Malaysia Digital Marketing Statistics 2020, the most active social media platform in Malaysia is YouTube, followed by Whatsapp, Facebook and Instagram. It is stated that 98% of Malaysian watched videos online, and 95% of them watched videos on their mobile phones as of January 2019. Some famous YouTubers who have become online superstars use their channels as real jobs due to the massive amount of money they earn from YouTube (Coromina, Matamoros-Fernandez & Rieder, 2020). They added that anyone could generate income by uploading videos on their YouTube channel.

Berg (2016), as cited in Budzinski & Gaenssle (2018) reported that a YouTube Gamer Felix Kjellberg or known online as PewDiePie, received an estimation of USD 15 million in 2016. He rose to fame in 2016 with nearly 79 million views per video and 50 million subscribers. (Socialblade 2017, as cited in Budzinski & Gaenssle, 2018). This has led to the growth of YouTube celebrities who are generating money by just sharing videos online. According to Social Blade website, a Malaysian YouTube Channel related to gaming (PlataBush) has 5.22 million subscribers, and the estimated monthly earnings he has received is USD 4,700 - 75,700. Meanwhile, a famous Malaysian YouTuber, Alieff Irfan has received 3.08 million subscribers with the estimated monthly earnings of USD 3.8K - 61.1K. In a study by Elango (2019), he made a comparison of earning between two videos: video A with 20,000 daily views and an Average Engagement Click Through Rate (CTR) is 25% and video B with 50,000 daily views and an Average Engagement Click Through Rate (CTR) is 50%. The estimated amount of earning for video A creator is USD 7.13 to USD 11.88 daily while the estimated amount of earning for video B creator is USD 71.25 to USD 118.75. According to InfluencerMarketingHub.com, as cited in Elango (2019), the creators got 55% of the earning while Google took 45%.

2.3 YouTube and/or Social Media in Creating New Entrepreneur

New entrepreneurs are considered providential as they could conveniently market or advertise their products online. Online marketing offers opportunities for existing companies and provides opportunities for new entrepreneurs to venture into business (Bahcecik, Akay, & Akdemir, 2019). Due to the advancement of the Internet, more people are having convenient access to different kinds of information through social media sites such as Facebook, Twitter, YouTube and Instagram. An average person can easily become an online celebrity and make a living by sharing his/her daily routine on social media. Johansson (2016) stated the accessibility and wide range of the Internet have allowed millions of people to monetise their skills and expertise through social media. Gothenburg's drop-out business student is earning USD 30 million today by posting videos of himself playing video games on social media sites. This has empowered the current generation of entrepreneurs to generate income through social media (Katsimente & Eldås, 2020).

2.4 YouTube and/or Social Media as A Hub to Disseminate Knowledge & Truth

Baum, Spann, Fuller and Thurridl (2019) identified that social media could promote social networking and online word-of-mouth, particularly for new product introductions. Therefore, it can expand the scope and increase knowledge about any new products. Evans (2016) explained that for as long as one is connected to the Internet, YouTube becomes accessible to everyone to view and share content. Juris (2005) defined social media as a hub that allows users to post audio, video and text files and produce new content, experience technologies and share opinions and resources. YouTube particularly, has also become a centre to spread values and important events where Evans (2016) has categorised three content-sharing methods: empirical, visceral, and both empirical and visceral. Empirical videos include logical arguments such as facts related to rights, historical and economical while visceral videos are related to emotional reactions such as compassion, frustration and hatred.

2.5 Unemployment amidst Covid-19

The unprecedented COVID-19 pandemic has massively impacted economy sectors worldwide, and many people have lost their jobs. It is reported that 43.4 percent of adults are unemployed and have no income due to the impact of COVID-19 on the economy (Acs & Karpman, 2020). Muhamed et al. (2020) highlighted the increase of the world's unemployment rate in 2020 is expected to hit more than 10 percent at the end of 2020, compared to 5.2 percent in 2019. According to del-Rio Chanona, Mealy, Pichler, Lafond and Farmer (2020), the low-income workers face greater impacts than high-income workers. Welsh and Cheng (2020) indicated in Malaysiakini.com that several studies had shown the unemployment rate among youths below 25 years old is high due to skills deficiencies, and COVID-19 could only aggravate the situation as the number of jobs available decreases. The emergence of global unemployment that is linked to significant disease and loss of life has caused an extreme degree of grief and trauma to many people (Blustein et al., 2020).

2.6 YouTube and/or Social Media as a Source of Income Generation During Covid-19 Pandemic

Throughout the COVID-19 pandemic, a lot of small businesses have started to sell their products online. Due to the increased reduction in face-to-face interaction, digital media and online trading have immensely become common (Dannenberg, Fuchs, Riedler & Wiedemann, 2020). Dean (2019) explained that some digital marketing strategies can be used by small business owners to incorporate or strengthen their business through participation, exporting and targeting consumers. To maximise their profits, business owners are implementing new strategies (using social media) that could increase the employment rate and consequently help the local community's economy (Ezeife, 2017). Hou (2019) delineated that the visibility of social media can be considered as an alternate route to becoming popular as it bypasses the role of entertainment and mass media industries. The study demonstrated that ordinary people could gain fame through vlog as social media platforms like YouTube are institutionalised to manufacture instant celebrities. According to Cheah (2020) a couple from Malaysia, S Pavithra, 28, and M Sugu, 29, gained a sudden popularity during the country’s Covid-19 lockdown by sharing cooking videos on their channel. In just a few months, they managed to receive more than 800,000 subscribers and their achievement allowed them to generate new income which has transformed their lives positively. Besides that, Agency (2020) reported that some production houses and artists in Malaysia have already shifted to YouTube during the pandemic to gain income. This can be seen from the YouTube channel of Siti Nurhaliza that earns about RM1,200 to RM18,400 a year, while another popular singer, Shila Amzah, receives about RM9,400 to RM151,000 a year from her account.

2.7 Problem Statement

As of March 18, 2020, the International Labour Organisation (2020) has recorded an unprecedented number of job losses in many sectors and industries. Being able to go out and work serves as a fundamental core of human needs that allows the existence of "need for survival, social connection and contribution, and self-determination" (Blustein & Guarino, 2020). However, as soon as massive unemployment due to this pandemic started to occur, it limits all of these achievements, and as people's morale is deteriorating, so does their saving. As the people's sense of terror in surviving intensifies, especially those who are bound with several life commitments like loans and mortgages, an intervention plan to help them earn again is highly crucial.

Fortunately, living in a consistently developing world and how interconnectedness has become a significant part of our life, leveraging technology is one way to survive through difficult times like this. Losing jobs means fracturing the country's economy and therefore, providing less opportunities for people to continue generating income. Thus, this study is trying to discover if there is a much safer avenue for the unemployed to start earning in this pandemic era without even having to leave their homes too frequently and spending more money unnecessarily. By positioning the study towards this direction and necessitated by this pandemic where many curtailments are present, we would like to see if YouTube can be employed as the first option for the unemployed to explore new job opportunities and start generating income. Therefore, the first thing that we will delve into is to understand the viewers' most preferable content on YouTube, and that insight should facilitate the next step in planning the ideal content to be published. We are also aware that the number of literatures discussing unemployment issues during the Covid-19 outbreak and using YouTube to overcome it is somewhat limited, this current study intends to fill the gap of understanding a new employment opportunity in this pandemic era.

3. Method

3.1 Research design

This research is a quantitative study using questionnaire survey forms. According to Bowling (2002) and Denscombe (2003) as cited in Jones et al. (2008), due to low-cost data collection as well as minimal training needed, questionnaires are deemed to be a more convenient data collection method.

3.1.1 Samples

This study involved 368 Malaysians as the respondents who have voluntarily answered the questionnaire. They consist of both males and females and they are divided into 6 ranges of age; under 19, 20 to 29, 30 to 39, 40 to 49, 50 to 59 and 60 years old and above.

3.1.2 Instrument

The survey was conducted by distributing a questionnaire form to the respondents which consisted of 45 questions and divided into 4 parts. Part A is about the demographic background of the respondents while Part B contains questions related to the favourite YouTube video types, and Part C is about the preferred types of content on YouTube. The last section; Part D gauged the users' readiness in generating income on YouTube. All items in parts A, B, C and D were answered based on 5-point Likert Scale measurements ranging from strongly disagree to strongly agree.

3.2 Data collection & analysis method

The data were collected by distributing the questionnaire virtually via Google form, from 16 to 20 December 2020 to be answered by the respondents online at this link:

https://docs.google.com/forms/d/e/1FAIpQLScw1Qq-QbL0CLxi2jmbTwLo3yxCFw9M1yPxlV1YU01zhnlydA/viewform

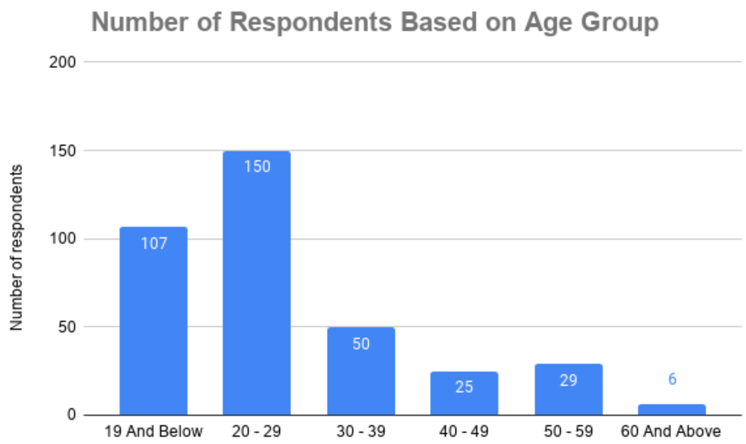
We used the Statistical Package for Social Science (SPSS) version 23 to analyse the data obtained from the respondents. The obtained data are presented in a tabulated form. The data were used to describe the answers to the research questions regarding the most liked videos on YouTube, the types of video content whether positive or negative elements are preferred to be watched on YouTube and whether watching videos on YouTube can encourage respondents to also produce their own videos to generate income.

4. Results and Discussion

4.1 Interest in Using YouTube

Demographic data of the respondents were taken for our reference and will not be discussed further in this study. However, as YouTube has become a universal phenomenon, the age factor must be considered to achieve data's reliability and validity. Therefore, based on the observation of the respondents' age, the result is shown in Graph 1 below.

Figure 1: Number of Respondents Based on AgeGroup



The data shows that age range from 20–29 (150 people = 40.65%) is the highest group who watched YouTube videos, followed by the age group of 19 years old and below (107 people = 28.99%) and age 30-39 (50 people = 13.55%). It can be concluded that teenagers and young adults are mostly familiar with YouTube and prefer to use it for various purposes such as to look for entertainment, to gain knowledge or to generate income. Perrin 2015, as cited in Dehghani et al. (2016) declared that the most frequent users of this platform are youth between 18 and 34 years old who place two-thirds of YouTube and they watch YouTube more than TV channel.

4.2 Respondents' Most Liked Video on YouTube

To address the problems of this research, a questionnaire form was distributed to the public. The items of the questionnaire were administered for the purpose of studying the content of watched videos on YouTube. There are 45 questions in total. 368 volunteered respondents had answered the questionnaire. These 45 questions were divided into 3 categories; 1) contents that viewers preferred to watch on YouTube, 2) the respondents' most liked videos on YouTube, (positive or negative content) and 3) the readiness of the viewers to create videos in order to generate income. The evaluation employed a Likert Scale question ranging from point 1 to 5 (strongly disagreed to strongly agreed). The results were analysed quantitatively to evaluate the categories accordingly. The details of the result were segregated into 3 tables as follows:

Table 1: Respondents' Most Liked Video on YouTube

	1		2		3		4		5	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
1) I like to watch videos about cooking and food on YouTube.	13	3.5%	26	7.1%	77	21.0%	118	32.2%	133	36.2 %

2) I like to watch videos related to carpentry and electronics on YouTube.	50	13.6%	83	22.6%	116	31.6%	71	19.3%	47	12.8 %
3) I like to watch videos about fashion tutorials and self-appearance on YouTube.	40	10.9%	81	22.1%	105	28.6%	82	22.3%	59	16.1 %
4) I like to watch videos about home decoration tutorials on YouTube.	32	8.7%	52	14.2%	90	24.5%	106	28.9%	87	23.7 %
5)I like to watch videos related to product reviews on YouTube.	41	11.2%	51	13.9%	112	30.5%	101	27.5%	62	16.9 %
6) I like to watch professional singers' singing videos on YouTube.	28	7.7%	35	9.6%	80	21.9%	100	27.3%	123	33.6 %
7)I like to watch the videos of non-professional singers' singing on YouTube.	54	14.7%	80	21.8%	96	26.2%	89	24.3%	48	13.1 %
8) I like to watch heart-warming sketches on YouTube.	52	14.2%	65	17.7%	105	28.6%	95	25.9%	50	13.6 %
9) I like to watch comedy sketches on YouTube.	34	9.3%	31	8.4%	79	21.5%	103	28.1%	120	32.7 %
10) I like to watch parody /prank videos on YouTube.	79	21.5%	59	16.1%	79	21.5%	73	19.9%	77	21.0 %
11) I like to watch videos about video games on YouTube.	129	35.1%	62	16.9%	38	10.4%	51	13.9%	87	23.7 %
12) I like to watch videos related to current issues/news on YouTube.	36	9.8%	59	16.1%	101	27.5%	113	30.8%	58	15.8 %
13) I like to watch videos on YouTube to get health-related information.	27	7.4%	61	16.6%	105	28.6%	112	30.5%	62	16.9 %
14) I like to watch motivational and religious videos on YouTube.	27	7.4%	30	8.2%	116	31.6%	99	27.0%	95	25.9 %
15) I like to watch videos related to political issues on YouTube.	144	39.2%	80	21.8%	76	20.7%	39	10.6%	28	7.6%
16) I like to watch videos related to tourism destinations on YouTube.	19	5.2%	35	9.5%	79	21.5%	127	34.6%	107	29.2 %
17) I like to watch videos related to entertainment and celebrity gossip on YouTube.	83	22.6%	76	20.7%	100	27.2%	60	16.3%	48	13.1 %

It was stated earlier that there are three purposes of the research questions and Table 1 answered the research question no.1, ‘What are the respondents' most liked videos on YouTube?’. There are 17 questions in this section that were answered by the respondents. Table 1 shows the most liked video gained from item no.1, ‘I like to watch videos about cooking and food on YouTube’ (133 people = 36.2%), followed by no.6, ‘I like to watch professional singers' singing videos on YouTube’ (123=33.6%), and no.9, ‘I like to watch comedy sketches on YouTube’ (120=32.7%). The analysed data also revealed that the respondents strongly disagreed with watching videos about video games or political issues. These are exhibited by item no.11, ‘I like to watch videos about video games (gaming) on YouTube’ (129=35.1%), and no.15, ‘I like to watch videos related to political issues on YouTube’ (144=39.2%). Another 12 items concluded that the respondents fairly watched the videos on YouTube. Thus, based on the Respondents’ Most Liked Videos on YouTube, the public prefers videos which are beneficial and related to the users' lifestyles and daily practices. This coincides with a study by Ferchaud, Grzeslo, Orme and LaGroue (2017) where video blogs (vlogs) were more preferable than any other video genre given that vlogs are, in fact, diary entries, in which a person on screen interacts directly to the camera. The values of ordinariness, tenderness, and equality shown by social media celebrities have created a sense of genuineness that characterise their videos (Hou, 2019). .

4.3 Preferable Videos to be watched on YouTube (Positive or Negative Content)

Table 2 is presented to answer research question no. 2) ‘What kind of content is preferable to be watched on YouTube; positive or negative?’ The discussion based on the findings shown in Table 2 below:

Table 2: Preferable to be Watched on YouTube, Positive or Negative Issues.

	1		2		3		4		5	
	Count	Row N%	count	Row N %	count	Row N %	count	Row N %	count	Row N %
1) I like to watch videos on YouTube about the story of smart children helping their father in business.	44	12.0%	67	18.3%	113	30.8%	101	27.5%	42	11.4%
2) I like to watch videos about the story of ingenious and articulate children on YouTube.	41	11.2%	64	17.4%	107	29.2%	102	27.8%	53	14.4%
3) I like to watch videos on YouTube about the story of children who are good at cooking and managing their siblings.	46	12.5%	66	18.0%	98	26.7%	105	28.6%	52	14.2%
4) I like to watch videos on YouTube that can help me to do things better and efficiently.	9	2.5%	16	4.4%	61	16.6%	137	37.3%	144	39.2%
5) I like to watch videos on YouTube to get knowledge of various fields, especially about new knowledge.	7	1.9%	4	1.1%	64	17.4%	134	36.5%	158	43.1%
6) I like to watch videos on YouTube to get information on advertisement and reviews about products and services.	17	4.6%	41	11.2%	106	28.9%	119	32.4%	84	22.9%

7) I like to watch videos on YouTube related to true stories about people who go through hardships and eventually succeed in their lives.	17	4.6%	40	10.9%	103	28.1%	105	28.6%	102	27.8%
8) I like to watch videos on YouTube regarding social issues that need people's attention and help.	21	5.7%	43	11.7%	106	28.9%	126	34.3%	71	19.3%
9) I like to watch videos on YouTube that revolves around the heart-rending society's tragic life.	34	9.3%	67	18.3%	118	32.2%	88	24.0%	60	16.3%
10) I like to watch videos about the life stories and daily activities of celebrities and their family on YouTube.	76	20.7%	78	21.3%	101	27.5%	70	19.1%	42	11.4%
11) I like to watch videos on YouTube that are related to gossip about famous celebrities.	111	30.2%	83	22.6%	90	24.5%	51	13.9%	32	8.7%
12) I like to watch horror and supernatural belief videos on YouTube.	98	26.7%	63	17.2%	84	22.9%	69	18.8%	53	14.4%
13) I like to watch videos about crimes on YouTube.	73	19.9%	55	15.0%	103	28.1%	79	21.5%	57	15.5%
14) I like to watch videos on YouTube that condemn and disgrace famous people.	199	54.2%	77	21.0%	55	15.0%	19	5.2%	17	4.6%
15) I like to watch videos on YouTube about the downfall of influential, gorgeous and rich public figures due to their own mistakes.	157	42.8%	87	23.7%	73	19.9%	26	7.1%	24	6.5%
16) I like to watch YouTube's political parodies because the critics and sarcasms are delivered negatively.	182	49.6%	84	22.9%	57	15.5%	19	5.2%	25	6.8%
17) I like to watch YouTube videos related to politicians arrested or accused of taking bribes or involving the abuse of power.	160	43.6%	88	24.0%	62	16.9%	32	8.7%	25	6.8%
18) I like to watch videos on YouTube that centre the subject of 'can live a luxurious life without skills and academic'.	149	40.6%	91	24.8%	67	18.3%	32	8.7%	28	7.6%

There are 18 questions in this section and 368 respondents had answered them accordingly. The data revealed that item no.5 'I like to watch videos on YouTube to get knowledge of various fields, especially about new knowledge' (158=43.1%) has the highest percentage and this represents the public's interest in selecting videos on YouTube. Item no.4 'I like to watch videos on YouTube that can help me do things better and efficiently' (144=39.2%) is the second-highest followed by item no.7 'I like to watch videos on YouTube that are related to true stories about people who go through hardships and eventually succeed in their life' (102=27.8%). These results indicated that the respondents were motivated to discover and learn about new knowledge and agenda as well as feeling responsible towards the community. This corresponds to Berger and Milkman (2013) who reported that online contents which are positive, interesting, informative and inspiring could easily be viral. They also highlighted that the emotional aspect of the content could highly catch viewers' or netizens' attention.

7 out of 18 items were unpopular and the respondents strongly disagreed to watch these videos on YouTube. They come from items no.11 (111=30.2%), no.12 (98=26.7%), no.14 (199=54.2%), no.15 (157=42.8%), no.16 (182=49.6%), no.17 (160=43.6%) and no.18 (149=40.6%). Based on the evaluation above, it is evident that the respondents preferred to watch positive videos on YouTube. We can surmise that our respondents substantially disapproved the negative content on YouTube.

4.4 The Readiness of the Viewers to Create Videos to Generate Income.

The findings of this section answered the third research question, 'Do videos on YouTube help viewers to continue creating and engendering content to generate income?' The results are as follows (Table 3):

Table 3: The Readiness of the Viewers to Create Videos in order to Generate Income

	1		2		3		4		5	
	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %	Count	Row N %
1) I know that uploading videos on YouTube with many viewers and subscribers can generate income.	6	1.6%	7	1.9%	44	12.0%	102	27.8%	208	56.7%
2) I know that not only sellers who have goods, products, or services can upload their videos on YouTube for promotional purposes or reviews.	4	1.1%	4	1.1%	57	15.5%	108	29.4%	194	52.9%
3) I know anyone can upload their songs, dramas and films on YouTube.	9	2.5%	13	3.5%	46	12.5%	110	30.0%	189	51.5%
4) I know that uploading videos on YouTube does not need any capital or down payment.	18	4.9%	29	7.9%	72	19.6%	90	24.5%	158	43.1%
5) Videos on YouTube have given me a source of inspiration to highlight and promote business, talent, skills, experience and knowledge that I own.	20	5.4%	35	9.5%	110	30.0%	109	29.7%	93	25.3%

6) When I know many people have started to generate income on YouTube, I am also excited to produce my own videos.	54	14.7 %	53	14.4 %	111	30.2%	72	19.6%	77	21.0%
7) I am confident with the talent, skills, experience and knowledge that I have, I can also generate income like other YouTubers who are already successful.	38	10.4 %	75	20.4 %	107	29.2%	72	19.6%	75	20.4%
8) I am confident that producing beneficial and interesting YouTube videos in terms of language, content and performance can gain high numbers of viewers and subscribers.	19	5.2%	44	12.0 %	77	21.0%	99	27.0%	128	34.9%
9) I am convinced that YouTube is among the medium which can generate my income, my family's income and the society's income too.	22	6.0%	33	9.0%	100	27.2%	103	28.1%	109	29.7%
10) I always encourage people around me to upload videos on YouTube for income-generating purposes.	39	10.6 %	69	18.8 %	104	28.3%	74	20.2%	81	22.1%

From the results, we found that item no.1, 'I know that uploading videos on YouTube with many viewers and subscribers can generate income' has the highest percentage. 56.7% of the respondents strongly agreed with the statement and this followed by item no.2, 'I know that not only sellers who have goods, products, or services can upload their videos on YouTube for promotional purposes or reviews' at 52.9%. 6 out of 10 items indicated that the respondents strongly agreed to use YouTube as a platform to upload videos and generate income. In conclusion, we found that the respondents were fully aware that YouTube is not only the most popular and frequently visited video platform among the public, but it is also beneficial for generating income. Bahcecik et al. (2019) suggested that the Internet offers a viable business atmosphere and enables entrepreneurs to experiment and develop their ideas at a minimal cost, low operating cost and easily accessible.

5. Conclusion

This study has presented the public's responses on three different perspectives about watching videos on YouTube. The first one focused on the most liked videos on YouTube, the second one highlighted whether positive or negative issues preferred to be watched on YouTube and lastly, the viewers' readiness to create videos on YouTube to generate income. Overall, results showed that the public commonly approves videos that disseminate knowledge and benefit the users in running their daily activities. Findings also illustrated that positive videos are considered more powerful and far-reaching than the negative ones and thus, watching them on YouTube has become a common social practice. It is also evident that young adults (39.4%) and teenagers (29.6%) are the groups who frequently watched videos on YouTube, and this result aligns with Duffet's (2020) findings that confirmed YouTube has already become an integral part of many young people's daily lives. As elucidated in the previous section, the public strongly agreed that everybody has the potential to generate income by producing videos on YouTube platform. This is also mentioned by Holland (2016) that the idea of monetising content on YouTube can benefit many people while letting them explore and sharpen their talents and skills in video productions. Linking this notion to the current global situation and understanding that this virus had affected many people's employability (Acs & Karpman, 2020), YouTube may be considered as a contingency to quickly help people who have lost their jobs start earning again. Thus, in the present study, it can be concluded that YouTube is an effective avenue for the users to produce influential and compelling content to generate income, especially during pandemic era like Covid-19.

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INVESTIGATING THE CORRELATION BETWEEN VOCABULARY LEARNING STRATEGIES AND VOCABULARY SIZE: NON-NATIVE SPEAKERS OF MANDARIN

Yee Chin Yip[1], Noor Saazai Mat Saad[2], Hazleena Baharun[3], Mikail Ibrahim[4] and Nurul Ain Chua[5]

[1 2 3 4] Faculty of Major Language Studies, Islamic Science University of Malaysia, MALAYSIA

[5] Centre for Fundamental and Continuing Education, University Malaysia Terengganu, MALAYSIA

*Corresponding author: cyyee_cool@yahoo.com

Abstract: *This study is targeted to ascertain (1) the types of vocabulary learning strategies employed by USIM students, (2) the different vocabulary learning strategies employed by USIM students based on their course of study and (3) to justify the relationship between vocabulary learning strategies and Mandarin vocabulary size of USIM students. The present study employed a correlational research design, and there were six classes from different programmes: Arabic language and linguistic, Quranic and Sunnah studies, and Economics and Muamalat were targeted as respondents in the present study, the respondents were attained by random sampling technique, and there were 145 respondents in the present study. The USIM students' data vocabulary learning strategies were acquired by Schmitt (1997) questionnaire, and Mandarin vocabulary size was obtained from the Mandarin vocabulary test. Both questionnaires were adopted and adapted to suit to context of the present study. The collected data was analysed using SPSS 21, which focused on descriptive and inferential statistics. The results displayed that the USIM students employed the following vocabulary learning strategies: cognitive strategies, memory strategies, social strategies, determination strategies and metacognitive strategies. Besides, the data result also revealed a correlation between vocabulary learning strategies and Mandarin vocabulary size.*

Keywords: Vocabulary learning strategies (VLS), Mandarin vocabulary size, University Sains Islam Malaysia (USIM).

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1. Introduction

In recent times, Mandarin has been promoted as an important international language since the China country has launched the "One belt, one road" policy. In order to grasp this golden opportunity, it aroused students' interest to learn Mandarin as a foreign language (Ghauth, 2012: See & Ching, 2013). However, mastering a foreign language is not a simple task because students should explore many aspects of language to achieve a high degree of language competence (Samira, 2014). Among these language aspects, vocabulary can be considered the most important aspect that should be mastered by learners (Mofareh, 2015). According to Wilkins (1972), there are very little can be conveyed if without grammar, but nothing can be conveyed without vocabulary. In other words, vocabulary plays a key component to support other language skills, such: speaking, reading, writing and listening; without sufficient vocabulary, it is very difficult for an effective conversation between speaker and listeners to happen (Subon, 2013).

To date, there are plenty of studies that mentioned vocabulary learning skills can be considered as the drawbacks of the students (e.g., Annisa, Dian, Estina & Intan, 2017; Baharudin, 2019). Many learners were unable to implement the four skills of language (speaking, writing, reading and listening) due to insufficient vocabulary size (Subon, 2013). Students are always confronted with obstacles or stumbling blocks in speaking Mandarin because of a lack of linguistic support, especially vocabulary (Lam & Kuan, 2019). To communicate in Mandarin effectively and comprehensively, students have to master sufficient vocabulary size of Mandarin since vocabulary can be considered central or fundamental of language (Nation, 2001). In the case of students without sufficient vocabulary, they are unable to express their thinking in both oral and written form. This will indirectly hamper the progress of Mandarin language learning (Fauziati, 2015: Lam & Kuan, 2019).

1.1 Research Objectives

This study intended to ascertain the correlation between Vocabulary learning strategies and Mandarin vocabulary size of USIM students. Thus, the research objectives that guided the study are listed as follows:

1. To identify the types of Mandarin vocabulary learning strategies that students of University Science Islamic Malaysia (USIM) employ.
2. To ascertain the differences in Mandarin vocabulary learning strategies employed by the students of University Science Islamic Malaysia (USIM) based on the field of study.
3. To ascertain the relationship between Mandarin vocabulary learning strategies and Mandarin vocabulary size of University Science Islamic Malaysia (USIM) students.

2. Literature Review

2.1 Vocabulary Learning Strategies (VLS)

According to Ming Wei (2007), vocabulary can be considered a significant aspect of second or foreign language learning. Gass and Selinker (2008) also mentioned vocabulary is more crucial than any other language component because, without sufficient vocabulary, students are unable to support other language skills (listening, speaking, reading and writing (Subon, 2013). According to Oxford & Scarcella (1994), the role of vocabulary learning strategies become more significant for novice students because they need a particular system or skill to store a huge amount of new vocabulary in their long-term memory within a short period. Thus, vocabulary learning can be considered as one of the most laborious and arduous section. To address this issue, there are plenty of studies conducted and the findings have revealed that the tremendous vocabulary can be obtained with the assistance of vocabulary learning strategies (Gu & Johnson, 1996; Schmitt, 2000; Nation, 2001: Greene & Coxhead, 2015).

Research findings have revealed that students of Roman alphabetic-based languages favour when learning vocabulary, such as interacting with native speakers, using newly-learnt vocabulary in daily activities, and utilising a monolingual dictionary (Mustapha & Hatta, 2018; Asgari & Mustapha, 2021). In addition, they also are more inclined to use social, memory, and determination strategies. However, this finding cannot be generalised in learning Mandarin as the Mandarin language features differ (Chu & Wang, 2013). Shen (2005) pointed out that orthographic knowledge-based students always used cognitive strategy as the most preferred, and metacognitive strategies as the least preferred, and these findings were supported by Liu (2013), Tan and Hoe (2010), and Wang (2018). In other words, the alphabetic-based languages students and Mandarin language students differ in terms of their vocabulary learning strategies.

2.2 Vocabulary Size of Mandarin

Vocabulary size can be defined as the number of words in a learner's mental (Kalajahi & Pourshahian, 2012). According to Hàn yǔ Shuǐ píng Kǎo shì (HSK- Chinese Proficiency Test), Mandarin students should master 200 words for each level and eventually acquire 600 words. If students acquire 600 Mandarin words, they can use Mandarin to fulfil all the requirements of their personal lives, work, studies and conduct most communication tasks. However, the Common European Framework of Reference for Languages (CEFR) proposed that Mandarin students hold at least 500 words per level and achieve 1,500 words for three levels (Hsiao & Peter, 2013). 500–600 words can be considered as the minimum threshold to perform well in speaking and writing. In a nutshell, to support the four language skills, it is critical for Mandarin students to have sufficient vocabulary (at least 600 words or above) to fulfil the basic requirements, especially in speaking and writing.

2.3 Schmitt's Taxonomy of Vocabulary Learning Strategies

Schmitt's (1997) created Taxonomy of Vocabulary Learning Strategies based on Oxford's (1990) Strategy Inventory for Language Learning (SILL). The taxonomy consists of two main strategies; the discovery strategies and the consolidation strategies. Discovery strategies refer to the strategies that learners employed to acquire the meaning of new words, whereas consolidation strategies refer to the effort the learners employed to store the meaning of new words and implement them in the long term (Schmitt 1997; Ahmad Iskandar, 2008). The discovery strategies comprise two main sub-strategies, namely determination and social strategies, while consolidation strategies have four sub-strategies, namely social, memory, cognitive, and metacognitive strategies.

Determination strategies refer to how learners employ their basic apprehension of the language to guess the meaning or reference materials or context background (Schmitt 1997). Meanwhile, social (discovery) strategies refer to the learners' interaction with third parties to explore the meanings of new words (Schmitt 1997). However, social (consolidation) strategies differ from social (discovery) strategies. Social (discovery) strategies are exerted to acquire the meaning of words that are confronted for the first time, while the social (consolidation) strategies are utilised to enhance or expand the learners' vocabulary knowledge such as by practising meanings of words in discussion groups, requiring someone to inspect flashcards or word notes, and communicating with native speakers.

Memory strategies refer to storing and retrieving newly learnt words (Oxford, 1990) by interconnecting them to any existing knowledge by using some form of imagery or grouping. Cognitive strategies refer to the methods manipulated by learners to help them understand new words (Schmitt 1997). These techniques comprise the usage of repetition and iteration to do something, such as repeating words in written form, taking notes and repeatedly reviewing a vocabulary book. Meanwhile, metacognitive strategies can be considered as strategies that are intentionally employed to manage language learning, such as: planning, monitoring and evaluating one's vocabulary learning through natural exposure and language experiences in the process of learning (Schmitt, 1997).

3. Methodology

In the present study, the researcher has employed the correlational research design. There were 145 students from six classes of Mandarin level 3 students involved in this study. These respondents came from three majors: Arabic language and linguistic, Quranic and Sunnah studies, and Economics and Muamalat. The survey questionnaire was adopted from Schmitt's (1997) and translated to the Malay language since the respondents share the same mother tongue, which is the Malay language (Lee, 2014, Lam & Kuan, 2019). The questionnaire used a five-point Likert-scale and with a total of 70 items. The respondents were given 45 minutes to answer the questionnaire. SPSS 21 was used to analyse the data from the survey focusing on descriptive and inferential statistics.

4. Findings

4.1 To identify the types of Mandarin vocabulary learning strategies that students of University Science Islamic Malaysia (USIM) employ

In the present study, the data of vocabulary learning strategies concerns the frequency of the students employing vocabulary learning strategies in obtaining a new vocabulary. Therefore, the mean, standard deviation (S.D.), and rank of vocabulary learning strategies of USIM students were calculated as shown in Table 4.1.1 below.

Table 4.1.1: Mean, Standard Deviation (S.D.) and Rank

Strategies	Mean	Standard Deviation (S.D.)	Degree	Rank
Cognitive	3.52	.52	High	1
Memory	3.49	.63	Medium	2
Social	3.11	.54	Medium	3
Determination	2.98	.62	Medium	4
Metacognitive	2.38	.63	Low	5
Total Score	3.09	.47		

In table 4.1.1, the findings of the descriptive statistical analysis for the entire score illustrated the overall strategy use (M = 3.09). In the present study, USIM students exhibited the highest rank of the cognitive strategy (3.52), a medium rank of the memory strategy (3.49), the social strategy (3.11), the determination strategy (2.98), and the lowest rank is the metacognitive strategy (M=2.38). These findings are similar to those from previous studies. With regards to the findings, it can be concluded that the most frequent strategy used by USIM students was the cognitive strategy. The cognitive strategy can be considered as "thought processes used directly in learning which enable learners to deal with the information presented in tasks and materials by working on it in different ways" (Hedge, 2000, p.77). The cognitive strategy encourages the students to make written and verbal repetition, note-taking, flashcards and inferencing. The metacognitive strategy is reported as the least employed strategy among the respondents. The metacognitive strategy is the least employed strategy among the USIM students since most of the students were at the elementary level, and the vocabulary in their repertoire is limited. Thus, they are unable to judge and evaluate themselves at the elementary level. They needed specific methods to facilitate them to direct analyse the problems and transform or synthesise the learning materials (Rubin, 1987).

4.2 To ascertain the differences of Mandarin vocabulary learning strategies employed by the students of University Science Islamic Malaysia (USIM) based on the course of study

The table below showns the frequently employed vocabulary learning strategies (VLS) based on the course of study of USIM students:

Table 4.2.1: Variations in USIM students' vocabulary learning strategies employed in five different categories according to the course of study

Vocabulary Learning Strategies (VLS)			Course of Study			
	Arabic language and linguistic		Quranic and Sunnah studies		Economics and Muamalat	
	Mean	S.D	Mean	S.D	Mean	S.D
Cognitive	3.35	.35	3.36	.42	3.38	.39
Memory	3.32	.38	3.37	.37	3.26	.42
Social	3.27	.41	3.25	.46	3.23	.44
Determination	3.21	.43	3.28	.49	3.18	.41
Metacognitive	3.17	.48	3.23	.52	3.13	.55

As displayed in table 4.2.1, the Arabic language and linguistic students employed cognitive strategy the most (M=3.35), followed by memory, social, and determination, and the metacognitive as the least frequent strategy employed (M=3.17). While students of Quranic and Sunnah studies employed memory strategy the most (M=3.37), followed by cognitive, determination, social, and the least was the metacognitive (M=3.25). In addition, the Economics and Muamalat course students employed the cognitive strategy the most (M=3.38), followed by memory, social, determination and metacognitive was the least employed (M=3.13).

4.3 To ascertain the relationship between Mandarin vocabulary learning strategies and Mandarin vocabulary size of University Science Islamic Malaysia (USIM) students

4.3.1 The USIM students' Mandarin vocabulary size

USIM students' Mandarin vocabulary test score is illustrated in Table 4.3.1.

Table 4.3.1: The frequency and percentage of USIM students' Mandarin vocabulary test scores.

No	Classification	Score	Frequency (F)	Percentage (%)
1	Excellent	91-100	0	0
2	Very Good	76-90	2	1.370
3	Good	61-75	19	13.83
4	Average	51-60	69	47.58
5	Poor	26-50	31	21.37
6	Very Poor	0-25	23	15.85
Total			145	100

In Table 4.3.1 above, only two USIM students (1.37%) achieved very good classification and 19 (13.83%) achieved good classification. Meanwhile, 69 (47.58%) USIM students achieved average classification, 31 (21.37%) were classified as in poor classification, and 23 USIM students were classified as very poor (15.85%). The classifications were further grouped into three main stages: high level (Excellent and very good classification), medium level (Good and average classification) and low level (Poor and very poor classification). Findings show that only two USIM students were categorised in high level, 88 students grouped at medium level and 54 students at low level.

In addition, the findings of the mean score of USIM students' Mandarin vocabulary test are tabulated as below:

Table 4.3.2: The Mean score and Standard Deviation of USIM students' vocabulary test score

	Mean score	Standard Deviation (S.D.)
Mandarin Vocabulary Test Score	55.37	11.67

As per the above table, the mean score of the USIM students' Mandarin vocabulary test score was 55.37 and the standard deviation is 11.67 which can be considered at a medium level.

4.3.3. The correlation between Mandarin vocabulary learning strategies and Mandarin vocabulary size among the USIM students

This section will focus on the correlation between USIM students' vocabulary learning strategies and Mandarin vocabulary size. In the present study, the correlation coefficient is represented by the value "r". According to Bruce (2009), the r-value between 0 and 0.3 or 0 and -0.3 indicates a weak positive or significant negative correlation, a value between 0.3 and 0.7 or 0.3 and −0.7 indicates a medium or moderate positive or significant negative correlation, and a value between 0.7 and 1.0 or −0.7 and −1.0 indicates a strong positive or negative linear relationship.

Table 4.3.3: Correlation of overall Mandarin vocabulary strategies and Mandarin vocabulary size

		Mandarin Vocabulary Learning Strategies	**Mandarin Vocabulary Size**
Mandarin vocabulary learning strategies	Pearson Correlation	1	.548
	Sig. (2-tailed)		.002
	N	145	145
Mandarin Vocabulary Size	Pearson Correlation	.548	1
	Sig. (2-tailed)	.002	
	N	145	145

***correlation is significant at the 0.05 level**

Results show the Pearson correlation (r) = .548, and it denotes that the degree of correlation is a moderate positive significant, and the sig. (2-tailed) is .002, which is considered lesser than $\alpha = .05$. In other words, there is a significant correlation between USIM students' vocabulary learning strategies and Mandarin vocabulary size, which is considered as moderate positive correlation.

Table 4.3.4: Correlation between vocabulary learning strategies and Mandarin vocabulary size

Correlations		
		Mandarin Vocabulary Size
Cognitive	Pearson Correlation	.746
	Sig. (2-tailed)	.006
	N	145
Memory	Pearson Correlation	.436
	Sig. (2-tailed)	.032
	N	145
Social	Pearson Correlation	.252
	Sig. (2-tailed)	.048
	N	145
Determination	Pearson Correlation	.172
	Sig. (2-tailed)	.104
	N	145
Metacognitive	Pearson Correlation	-.138
	Sig. (2-tailed)	.239
	N	145

Table 4.3.4 displays the correlation coefficient between the five vocabulary learning strategies and the Mandarin vocabulary size of USIM students. Based on the table, the preferred strategy is the cognitive strategy. Finding displays that r = .746, where this figure is greater than .70, and p-value = .006 which is lower than α = .05 (p < α). In other words, the result implies that the cognitive strategy has a strong positive correlation with the Mandarin vocabulary size of USIM students.

For the memory strategy, result shows that r =.436, which is higher than .30, or p-values = .032, that is lesser than α = .05 (p < α). Thus, the result indicates that the memory strategy has a medium positive correlation with the Mandarin vocabulary size of USIM students. Meanwhile, for the third strategy is social strategy, finding shows that r=.252, where this figure is lesser than .30, and p-value =0.48 is lesser than α = .05 (p < α). This shows the social strategy has a weak positive correlation with the Mandarin vocabulary size of USIM students.

The following strategy is the determination strategy. Analysis displays that r=.172 which is lower than .30 and p-value=.104 is greater than α = .05 (p >α). Hence the findings show that the determination strategy does not correlate with the Mandarin vocabulary size. The last strategy is the metacognitive, based on the data analysis, which displays that r= -.138, where this figure is lesser than .30, and p-value=.239 was higher than α = .05 (p >α). Therefore, it can be considered that the metacognitive strategy also does not correlate with the vocabulary size of USIM Mandarin' learners.

5. Findings and Discussion

The present study shed new light on the insights of vocabulary learning strategies of USIM students. The first objective of the present study is to identify the types of vocabulary learning strategies of USIM Mandarin students. The findings show that Mandarin vocabulary learning strategies employed by USIM students correspondingly from the most preferred to the least preferred as 1) cognitive strategy, 2) memory strategy, 3) social strategy, 4) determination strategy and 5) metacognitive strategy.

Based on table 4.2.1, the respective vocabulary learning strategies used by the students of three main courses were displayed as means and standard deviation (S.D.). The analysis showed that the Arabic language and linguistic course, and Economics and Muamalat course students most preferred the cognitive strategy, followed by the memory strategy, social, determination, and the last strategy was the metacognitive strategy. In contrast, the Quranic and Sunnah studies students employed the memory strategy as the most preferred, followed by cognitive, determination, social strategies and metacognitive. These findings are supported by Soner (2012) in his research which found that elementary students need the memory strategy to establish new vocabularies and to remember them in the long term. Thus, novice students should be trained about the memory strategy even implement it in learning new vocabulary.

In addition, the present study has shown that the Pearson correlation (r) =.548, and this denotes the extent of correlation is moderate positive and the sig (2-tailed) p-value is .002, which is lesser than $\alpha = .05$. In other words, there is a moderate significant positive correlation between USIM students' vocabulary learning strategies and Mandarin vocabulary size. These findings are similar to Filiz & Yunus (2012) which pointed the vocabulary learning strategies could facilitate the students to manage and develop vocabulary by checking different means, even create a new opportunity to explore new vocabularies.

6. Conclusion

The present study revealed that USIM Mandarin language students were inclined to employ the cognitive strategies followed by the memory, social, determination and, the least were metacognitive strategies. The result also showed Arab language and linguistic, and Economics and Muamalat students prefer to use the cognitive strategy, while Quranic and Sunnah students preferred the memory strategy. Besides, findings also revealed a moderate significant correlation between USIM students' vocabulary learning strategies and Mandarin vocabulary. Thus, it is important for Mandarin language lecturers to know more about the vocabulary strategies that students prefer, in order to take the necessary action to assist the students, prepare adequate language materials or assignment to facilitate them, which indirectly can reinforce or strengthen the Mandarin language students' skills in using the vocabulary learning strategies. This will ensure that the Mandarin language students could learn the new vocabulary more efficiently and successfully.

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THE STATUS OF TOURISM VILLAGE SUSTAINABILITY IN INDONESIA: MULTIDIMENSIONAL SCALING RAPFISH APPROACH

Yetty Nurhayati[1], Pudjihardjo[2], Susilo[3] and Marlina Ekawaty[4]

[1 2 3 4] Faculty of Economics and Business, University of Brawijaya, Malang, INDONESIA

*Corresponding author: yettynoerhayati01@gmail.com

Abstract: *Tourism in Indonesia especially those related in natural beauty and culture is starting to be recognized by the public. One of the tourism type that has very well sustainability potential and its benefit can be enjoyed for a long term is Rural Tourism (Tourism Village) in Kabupaten Malang, Indonesia. This Research focus on sustainability status of Pujonkidul, Gubugklakah and Sanankerto in Kabupaten Malang. The method used in this study is Multidimensional Scaling Rapfish using Judgement Expert. The result showed that the sustainability status of each village in ecology, socio-culture, accessibility and utility, as well as institution dimension was quite good, including the economic dimension. The only difference is economic dimension in Pujonkidul shows a very good sustainability status.*

Keywords: rural tourism, sustainability, sustainable tourism development, village tourism, multi-dimensional scaling, RAPFISH.

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1. Introduction

Tourism has been regarded as one of the most contributed industries toward local and national funds/assets. Seeing the big potential in tourism, therefore continuing tourism is very crucial. Sustainable tourism prioritizes the economic, social, culture and environment aspects. According to (WTO, 2001) sustainable tourism is the management toward any natural resources in some areas as well as possible so that it can keep the cultural integrity, ecology, and fulfil the need of socio-cultural and economical aspects.

Indonesia itself is well-known in having natural scenery. The still-natural place can be found in almost any village. One of them is located in Malang regency with total 130 tourism villages. The potentials are as following; (a) Exotic and scenic nature, (b) Local ingenuity, (c) The number of tourists, either domestic or foreign. Therefore, it is very important to develop tourism villages into sustainable tourism. The researcher focuses on tourism villages in Pujonkidul, Gubugklakah, and Sanankerto. Those three are chosen in order to observe the sustainable status.

There are four reasons why those three tourism villages were selected in this research. First, those villages have been designated as independent villages according to the mapping result from the Tourism Bureau Office of Malang Government (2019) and supported by village funds. Secondly, the institutions inside those three villages have certain roles in managing the independent villages and help them to reach the sustainable status of a tourism village. Third, those villages have significant tourism attractions to keep the tourists interested. It can be said that those places have similar advantages in agrotourism, so the experience of ‘blending’ with nature is still strong. Fourth, Pujonkidul, Gubugklakah, and Sanankerto belong to small scope, have special asset and have entry obstacle which is efficient to protect the competition and attract loyal customers (in this case, visitors) therefore a certain place can be seen as sustainable (Toften, Hammervol, 2013). Although those three villages have certain and special attractions, there are only four tourism factors which must be filled in order to increase the quality of a tourism spot especially rural tourism, which as follows: attraction, amenities, accessibilities, and ancillary (Cooper, 1993).

The research done by Siti et. All (2019) in Batu tourism village shows that there is a need to plan a growth strategy and create tourism management in order to develop the tourism village in Batu. Meanwhile, the research done by Siti Mujanah, Tri Ratnawati, Sri Andayani (2015) in Bromo Mountain stated that rural tourism strategy is supported by local residents, local government, private business, small and middle business (SME), local investors and educational institutions. Susilo, et. All (2018) studied on how the effect of the tourism toward the regional income in Malang. The result was that the number of tourists and the in-stays level have significant effect on regional income. Vitasurya (2016) who decided Kalibiru and Lopati village, Special Region of Yogyakarta as research targets stated that the local ingenuity is the basis of development in sustaining rural tourism.

2. Literature Review

Sustainable Development

Development and sustainability concepts are intended to benefit the development of future generations without harming the existing natural balance. This could be realized in the form of policies focused on achieving the balance among various sectors, such as economy, social, and environment. According to UNESCO, sustainable development is the development to fulfil the needs nowadays without lowering the future generation’s ability to satisfy those needs. It is also explained that the sustaining process is a long term purpose, while sustainable development is how many processes and flows to achieve the sustainable status itself. Sughandy, et al (2009) explained that sustainable development should be able to meet the recent needs without having to sacrifice the needs in future time. The process of development consists of field, business, city, and societal development.

The Sustainable of Tourism Development

The sustainable of tourism is the management toward any natural resources in a certain area or region without neglecting the economy, socio-culture, and aesthetic side by still keeping the cultural integrity, important ecology process, biodiversity along with all life-support without removing the needs in the future (WTO, 2001). According to Sharpley (2009), the sustainability of tourism is the balanced relationship among the tourism target area, the people around it, and the habitat, tourism packet, and tourism industry.

Rural Tourism

There are various definitions of rural tourism in different points of view. Clear definitions of 'rural tourism' can be very tricky and difficult as it is similar to the rural area which is free from urban effect (Lane, 1994:910). However, the characteristic of the countryside is also quite different from rural tourism in general. Therefore, rural tourism can be defined as every tourism activity which happens in rural countryside, or, limited in categories or specific form of tourism such as agricultural tourism or agrotourism (Flannigan, et al. 2014). Sometimes tourism in forests, jungles or staying at houses in rural areas is put into the rural tourism category, sometimes it is not.

Lane (1994) defined rural tourism as a form of tourism happening in countryside or rural villages, which is marked by low population density and open fields; small-scaled settlements with population density lower than 10.000 residents and land usage mainly dominated as agriculture, wildlife or forest, and natural preservation. But it is also similar to 'Rural Plurality' (Lukić 2013). Rural tourism is a way to sustain and develop the region with abundant natural resources and scenery (Jeong et al., 2014). The purpose of sustainable tourism is ecologically to increase the social welfare of local residents, to preserve biodiversity around the area, to protect ecology system, and to assure the cultural integrity needed for the development of rural tourism, ecotourism, green tourism which illustrated the tourism activities in countryside (Komppula, 2014). Rural tourism which develops well will be a new source of job opportunities and can remove the social gap. Rural tourism also has several negative effects such as seasonal workers while the construction of the rural tourism, the decreasing of agricultural fields because of the planning and development of rural tourism (Bramwell B, Lane B 1994). Therefore certain measurement should be done before branding a rural area with Tourism Village.

Community-Based Tourism

According to ASEAN Community-Based Tourism Standard (2016), CBT is a form of tourism which empowers local communities to improve the local tourism and reach the same purpose along with those communities. The elements include economy, social and environmental aspects with sustainable growth and not forgetting the local culture and customs. Traditionally, CBT is regarded as a way of interactions among private developers, government planners, and local residents in the process of tourism development. This process involves the local villagers and society, not only as "essence of tourism products" (Simmons, 1994 :98), but also as active participants in the development process. The level and involvement of the society in the tourism development dramatically vary from tokenism to societal full control (Tosun, 2006). Taking socio-economy approach, CBT moves the society's role from one of the participants to a process pointed by private interests or from government to one of entrepreneurships.

2.1 Problem Statement

The study about village tourism is crucial because the empirical reality shows that the tourism village in Malang based on community has not become the main focus in the developing tourism sector. According to (Sharpley, 2009), sustainable tourism focuses on how sustainable a tourism spot is as an economic activity and sustainable development policy in the economy and environmental field. However, in the process of establishing a tourism village, it is not impossible that the ecological condition will not be preserved, the gap and field-overtaking will decrease the existing agricultural fields. The next reason is there is a difference of study result by previous researchers. Therefore, the purpose of this research is (1) to know the sustainable status of Pujonkidul, Gubugklakah, and Sanankerto tourism villages in Malang regency.

3. Method

3.1 Materials

This study used interview method to obtained certain data from judgemental experts. The questionnaire used in the interview focused on several aspect from each dimension. Researcher met up directly with the informants for better result. the questions asked are in accordance with the resource's field and expertise. The obtained data and information would be used in statistical measurement using MDS Rapfish.

3.1.1 Samples

For this study, information would have been obtained from 25 respondents with five people per dimension criteria. These respondents have the following roles: (a) Enviromental services; (b) The owners of the small businesses around the tourist village; (c) Social Service; (d) Tourism services; and (e) Rural Community Institution, including the Chief of each Village.

3.1.2 Site

Researchers focused on independent tourism villages in Pujon Kidul Tourism Village, Gubugklakah and Sanankerto Tourism Villages because these villages became independent villages based on the mapping results of the Malang Regency Tourism Office (2019). Next, the institutions in the three villages play a role in managing independent tourism villages. Finally, the tourist attractions of the three villages are equally integrated with nature

3.1.3 Procedures

Design: A quantitative approach is used to determine the sustainability status of Pujonkidul, Gubugklakah, and Sanankerto tourism villages by using the Multidimensional Scaling (MDS) method with RAPFISH approach and Expert Judgment done by respondents.

The dimensions of sustainable tourism development using MDS with the RAPFISH approach are as following:

Table 1: Dimensions of Sustainable Tourism

Dimension	Atributes
Enviromental	(a) vegetation type; (b) cleanliness; (c) dangerous biota; (d) land use take-over, (e) wide range of the area, and (f) pollution or waste.
Economic	(a) increase in family income; (b) regional economic contribution; (c) job opportunities; (d) business diversification; (e) local product development; (f) tourist services; (g) retribution; and (h)enhance the purchasing power of tourists.
Socio-Cultural	(a) the level of community education; (b) unemployment rate; (c) cultural preservation; (d) educational content; (e) community participation; (f) application of science and technology; (g) tourism education and training; (h) environmental cleanliness; (i) social conflict; and (j) security level
Accessibilities & Utilities	(a) tourism facilities and infrastructure; (b) access to transportation; (c) access to information; (d) communication access; (e) accommodation; (f) clean water; (g) electricity; (h) health facilities; (i) tourism promotion and (j) tourism marketing.
Institutional	(a) central government regulations; (b) local government regulations; (c) customary norms or laws; (d) the role of government institutions; (e) the role of the private sectors; (f) the role of LITBANG (Bureau of Research and Development); (g) the role of NGOs or academics organizations; and (h) the role of local community institutions.

3.2 Measurement

Based on the interview results with experts in their fields (including officers in Malang Regency, tourism village managers, village heads, and tourists), there were obtained various results. From the interview, there were obtained the best 3 categories for each attribute. Whereas 3 is the best score, 2 is medium and 1 is the lowest score (bad). The rating categories to see the sustainability status of each dimension are as follows:

Table 2: Category of Sustainability Status

Index Value	Categories
0,00-25,00	Worst (not sustainable)
25,01-50,00	Bad (less sustainable)
50,01-75,00	Sufficient (quite sustainable)
75,01-100,00	Good (very sustainable)

Source: Thamrin et al (2007)

3.3 Data Analysis

The MDS RAPFISH method shows the level of sustainability of each dimension under the studies based on the constituent attributes and in accordance with the availability of information obtained from the character of the research object (Pitcher and Preikshot, 2000). The general model of MDS RAPFISH is as follows:

$$£\ \{S\} = D2+E$$

£ is defined as a monotonic transformation, E is the residual matrix and D is the Euclidician matrix. Then, the goodness of fit process is carried out. It is determined through s-stress with a value below 0.05. And it is regarded as a good model when the stress value is lower. Here is the equation:

$$\text{S-Stress} = (\text{Stress})^{1/2}$$

3.3.1 Validity and Reliability

In this study, the data collection method used included questionnaires, namely giving questions and written statements to respondents to be answered. Next, Observations are observations on objects and research subjects that are considered relevant.

4. Results and Discussion

Index and Status of Environmental Dimension Sustainability

The environmental dimension refers to the development of a tourist village that maintains environmental sustainability, aside from providing the added economic value and having sustainability so that it can contribute in improving the economy of the village.

Table 3: Sustainability Status of Environmental Dimension

Tourism Village Area	Enviromental Dimension	
	Index	Status
Pujonkidul Village	71,73	Sufficient sustainable
Sanankerto Village	61,97	Sufficient sustainable
Gubugklakah Village	62,6	Sufficient sustainable
Stress (S) of Pujonkidul		14,97% (goodness of fit)
Stress (S) of Sanankerto		17,99% (goodness of fit)
Stress (S) of Gubugklakah		16,55% (goodness of fit)
Squared Correlation (RSQ) of Pujonkidul		93,84% (almost 100)
Squared Correlation (RSQ) of Sanankerto		90,29% (almost 100)
Squared Correlation (RSQ) of Gubugklakah		92,3% (almost 100)

Source: Processed Data (2020)

The estimation results have been shown in the table above, it appears that the sustainability of Pujonkidul village is sufficiently sustainable with a value of 71.73 (highest score). The status for Sanankerto village is also sufficiently sustainable. The same thing also happened in the village of Gubugklakah, with a sufficiently sustainable status and a value of 62.60. As an illustration, the land use take-over carried out to build a rice field cafe is only a little, in 6 hectares wide when compared to the total area of the rice field cafe which is 7800 hectares (Interview with Manager of the Cafe Sawah at Pujon Kidul Village, 2020).

Meanwhile, the other two villages were not as large as Rice Field Cafe in Pujon Kidul Village, and there were not many land take-overs either. The importance of the environmental dimension to tourism is also explained by Revina et al. (2020) who stated that the Pantai Panjang natural tourism area is very suitable for tourism activities, although the economic, institutional and social dimensions are less sustainable, but the environmental dimension is quite sustainable. It is hoped that these three tourism villages can increase their sustainability status by carrying out the theory of sustainable developments. One of the theories of sustainable development is based on the principle of environmental preservation, where sustainable development must adapt to the ecology of an area and biodiversity (Angelevska, Najdeska & Rakicevik, 2012).

Index and Status of Economical Dimension Sustainability

Economic dimension refers to the development of tourism villages which have economic sustainability, long last additional value, give economic benefits, especially for tourism village. Table 4 below contains of the results of economic dimension sustainability status with the MDS Rapfish method.

Table 4: Sustainability Status of Economical Dimension

Tourism Village Area	Economical Dimension	
	Index	Status
Pujonkidul village	79,72	Sustainable
Sanankerto village	63,07	Sufficient sustainable
Gubugklakah village	59,87	Sufficient sustainable
Stress (S) of Pujonkidul 13,90% (goodness of fit)		
Stress (S) of Sanankerto 18,54% (goodness of fit)		
Stress (S) of Gubugklakah 18,87% (goodness of fit)		
Squared Correlation (RSQ) of Pujonkidul 95,70% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 92,77% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 91,43% (almost 100)		

Source: Processed Data (2020)

Table 4 shows that Pujonkidul tourism village has sustainable status with highest score from the economic aspect. On the other hand, the status of Sanankerto dan Gubugklakah is quite sustainable. The excellence of Pujon Kidul village is influenced by “live in” unit of this village. Live in is a tourism program which included in one of *Badan Usaha Milik Desa* (BUMDESA, businesses which belong to the village) Sumber Sejahtera unit. From the data, the researcher knows that *live in* unit contributed towards the village economy in the amount of Rp1.558.817.800 (Data of Rice Field Omset, 2019). Not only live in, but also a strawberry garden exists in this village. The visitors can pick the fruits fresh from the garden.

The sustainability of Gubugklakah is lower than another village. Hence, the development of a local economy is needed to enhance sustainability. Leigh dan Blakely (2016) expressed that the development of local economy is a process which maximize the utilization of human resources and natural resources. It is used to conserve and upgrade the living standard of peoples or local community based on equity and sustainability principles.

Index and Status of Socio-Cultural Dimension Sustainability

The development of tourism village on socio-cultural dimension refers to an understanding that establishment of tourism village has to keep up and respect the social value, local culture, conserve the cultural heritage, and contributed on the tolerance enhancement. Table 5 below contains of result data using MDS Rapfish.

Table 5: Sustainability Status of Socio-Cultural Dimension

Tourism Village Area	Socio-Cultural Dimension	
	Index	Status
Pujonkidul village	68,4	Sufficient sustainable
Sanankerto village	60,19	Sufficient sustainable
Gubugklakah village	60,52	Sufficient sustainable
Stress (S) of Pujonkidul 16,69% (goodness of fit)		
Stress (S) of Sanankerto 16,02% (goodness of fit)		
Stress (S) of Gubugklakah 18,57% (goodness of fit)		
Squared Correlation (RSQ) of Pujonkidul 93,70% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 92,25% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 91,60% (almost 100)		

Source: Processed Data (2020)

The sustainability grade of Pujon Kidul is the highest (68,40). Whereas, Sanankerto village is only 60,19 and Gubugklakah is 60,52. This is the impact of cultural village tourism existence in Kafe Sawah, Pujon. The visitors could enjoy the art shows from the large stands with only Rp 5000. On the other hand, in the rest area of Gubugklakah, the visitors could look at the traditional dancers as they practiced. The dancers are not only practicing dance in their village but also invited to various events.

The last tourism village is Sanankerto. Cultural activities are held on special days. Welfare socio-cultural life is expected to attract tourists to come. It is similar to the local culture of Kalibiru and Lopati village in Yogyakarta. It becomes the foundation of sustainable tourism through the people who have active roles (Vitasurya, 2016). The attraction of culture and nature are recognized as considerations and motivation for tourism. The most developed segments of tourism industries are cultural and historical sites (Timothy dan Nyaupane, 2009).

Index and Status of Accessibility and Utility Dimension Sustainability

Development of tourism village on accessibility and utility dimension refers to the infrastructures. Complete facilities and infrastructures will enhance the utility of tourists and their retention to keep coming. Fadila dan Darmawan (2018) stated that transportation is important in the establishment and development of tourism in Pramuka Island. The result from sustainability can be seen at Table 6.

Table 6: Sustainability Status of Accessibility and Utility Dimension

Tourism Village Area	Accessibility and Utility Dimension	
	Index	Status
Pujonkidul village	70,03%	Sufficient sustainable
Sanankerto village	66,86%	Sufficient sustainable
Gubugklakah village	65,40%	Sufficient sustainable
Stress (S) of Pujonkidul 15,59% (goodness of fit)		
Stress (S) of Sanankerto 17,77% (goodness of fit)		
Stress (S) of Gubugklakah 18,68% (goodness of fit)		
Squared Correlation (RSQ) of Pujonkidul 91,99% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 93,01% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 92,50% (almost 100)		

Source: Processed Data (2020)

Estimation using Rapfish shows that the sustainability index of Pujon Kidul village is sufficient sustainable with the highest value of 70,03 than other villages. The sustainability index of Sanankerto village is 66,86 while Gubugklakah village has a value of 65,40. The sustainability value of Pujon Kidul village is caused by the enhancement of accessibility and utility, such as special budget allocation for gift centers and medical isolation rooms (Interview with Pujon Kidul Headman, 2020). Sanankerto, especially in Bonpring also has some gift centers, but the amount is lower than Rice Field cafe in Pujon Kidul. It is the same with Gubugklakah rest area. There is no various souvenir sold. Based on the theory of attractiveness, infrastructure is needed by the visitors in their travel activity (Cooper et all, 1995:81).

Index and Status of Institutional Dimension Sustainability

Development of tourism village on institutional dimension refers to the understanding that it needs help from the regional government, the headman as executor and controller of its processes. The project also needs the privates, academics, and people's participation actively. The importance of institutional especially the government has stated in the previous research that took place at Wonokerto Beach, Pekalongan. Although the beach management is done by related stakeholders, it will be better if collaborative institutions are on hand. Wonokerto beach potencies will be more developed (Kuhaja, 2014).

Table 7: Sustainability Status of Institutional Dimension

Tourism Village Area	Institutional Dimension	
	Index	Status
Pujonkidul village	62,71%	Sufficient sustainable
Sanankerto village	55,63%	Sufficient sustainable
Gubugklakah village	66,53%	Sufficient sustainable
Stress (S) of Pujonkidul 15,77% (goodness of fit)		
Stress (S) of Sanankerto 17,84% (goodness of fit)		
Stress (S) of Gubugklakah 16,36% (goodness of fit)		
Squared Correlation (RSQ) of Pujonkidul 93,02% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 94% (almost 100)		
Squared Correlation (RSQ) of Pujonkidul 92,50% (almost 100)		

Source: Processed Data (2020)

The results in table 7 show that Pujon Kidul sustainability is sufficiently sustainable with a value of 62,71. The status of Sanankerto village is sufficiently sustainable with the lowest value of 55,63. The last, Gubugklakah village with the same status has the highest value of 66,53. It is caused by tourism that is controlled by the tourism village institution, LADESTA. The members of LADESTA become part of POKDARWIS at the same time (Interview with Gubugklakah Management,2020). Another developed tourism service in that area is tourism package of Bromo mountaineering, cattle farm, *gunung sari intan*, et cetera.

The next village which has institutional is Pujon Kidul. It is recorded that rice field cafe (the part of BUMDESA) could give income for its village of Rp. 9.904.658.997 (Interview with Pujon Kidul Headman, 2020). Furthermore, Pokdarwis has an important role in promoting tourism village in Sanankerto. Not only acting as management, Pokdarwis also doing marketing activities which promotes the tourism village. The main attraction in Sanankerto tourism village is Bonpring.

5. Conclusion

Based on the data results, the conclusions can be drawn as follow: (1) Pujonkidul tourism village has quite sustainable status for environmental dimension, socio-culture, accessibility and utility, and institutional. The status of economic dimension is very sustainable; (2) Gubugklakah tourism village has sufficient sustainable status for all dimensions (environmental, economy, accessibility and utility, and institutional); (3) Sanankerto tourism village is the same as Gubugklakah. This tourism village has a quite sustainable status for its five dimensions.

According to the conclusions in this research, there are some suggestions which can be done to enhance sustainability of the tourism village. The suggestions as follow: (1) To enhance the sustainability status of three important villages, some aspects need attentions. The aspects are environmental (related to AMDAL), economy, accessibility and utility, socio-culture, and institutional dimension; (2) The synergy of village apparatus and POKDARWIS (private sector) to enhance the sustainability status is done by doing the tourism package. It will be better if institutional structures do not have double positions.

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