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LEVEL OF APPLICATION OF 3D ARCHITECTURAL SOFTWARE BY ARCHITECTURE STUDENTS IN ARCHITECTURAL PRESENTATIONS

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ABSTRACT

The application of 3 Dimensional Software (3D) in architectural practice has become a necessity in the late 21st century and beyond. Digitalization of documents, presentations in the architecture profession has increased the need for faster, reliable, and accurate 3d modeling and productions. Therefore, in most architectural faculty and schools, the introduction of 3d modeling and production is a must nowadays. The introduction of many 3d software and applications in the architectural study has also tremendously allowed for the users (architects) to choose the best software for their practice.
In this research, the data of each architectural students performance in FABE, IUKL in diploma in architecture program has been collected since 2020 till 2021 has been analyzed and discussed in the research to find out the usability of architecture students after they have learned how to use the 3d software for their advantages in an architectural presentation in their studios and following. The results will be beneficial to educators on how students accept 3d software and apply them in their works other than manual presentation in their early years of study. It will also help educators on how to deliver 3D teaching and learning to the extent the students are able to use the platform for their future careers in the field of architecture.
The first most important discovery in this paper is the trend and effectiveness of 3d architectural usability by students heavily relies upon the delivery method used by the course by the lecturer and the type of software used. Then the second most important discovery is that the students discover their own style of the method of delivery of the 3d software to ensure their 'marketability in the era of digitalization and globalization. It is hoped that the finding of this research will improve the teaching and learning in the architecture field and career.

Keywords:
Architecture, Education, 3D Visualization, Modelling, Animation, Statistic

INTRODUCTION

Architecture education has been discussed and improved throughout time by educators and practitioners all around the globe. Due to the NATIONAL POLICY ON INDUSTRY 4.0[1] announced by the government in 2018, it is crucial that by 2030 all young graduates are capable of fulfilling the needs of skilled workers to boost the country's economy. A lot of 3D software has been launched by software developers in line with the development of hardware advancement and digital collaboration among industry players. This has become a need for architectural education institutions to revamp and update their skills in teaching so that when the students go outside to practice, they are fit to the needs of industry.

The goal of this study is to improve the delivery system of 3D architectural courses skill by institutions so that the students are ready for their careers in the future. A lots of 3D architectural animation by firms attracts a lot of attention and increases the value of their design an ideas.

Therefore, it is important for educators to master the updated skills of the industry to make the students' education in line with the current industry needs. Fast-paced and productive services are needed for each practitioner when they deliver their product and design as the current technology in computer hardware is also evolving and improving each time. This study by lecturers of IUKL in architecture faculty is to discover the improvement needed for methods of teaching delivery, softwares and hardwares needed in order to deliver the best education for future architects. It is important to know that this study only involves those architecture students in IUKL and no other institution that offers the same product.

LITERATURE REVIEW

Designing a building and space is one of the traits of an architect. In architectural studies, 3d modeling and visualization play an important role in delivering a high impact, impressive rendering, and visualization of both static 3d imagery and animation. Students intent to put their interest first to the visual marvel and beauty of 3d rendering and animation. However, lack of structural knowledge, Building Information Modelling (BIM), and other architectural services in the building has 'crippled' student's relevancy in their design (K. Khoshelham a, and L. Díaz Vilariño b, 2014).

The increment of the high-pixel density (HD) index in the latest digital display also encourages designers to increase their abilities to produce high quality and high definition 3d rendering and presentation (W.C. Park; K.W. Lee; I.S. Kim; T.D. Han; S.B. Yang, 2003). This shows how important computer rendering plays its role in 3d architectural visualizations. It does not only improve the 'high-stakes' of the users but also their assets in securing a job for their later prospects in the industry.

Non Photorealistic rendering (NPR) is capable of broadening everyone's ability to communicate thoughts, emotions, and feeling through computers (A Lake, C Marshall, M Harris, M Blackstein, 2000). This is proven when architects utilized the advancement of computer technology to analyze the surface to be colored to designated color or texture that creates shapes and patterns that every human can understand and explore in the design. For example, a rendered 3d image of a building helps viewers to understand its massing, volume of the space, and its physical aesthetic. This is the means for any architectural student to impress their audiences with their skills in computer rendering hence, elevate their design for higher marks and grades for the course. The rendering then will be also compiled as their portfolio when applying for jobs after they graduated.

The use of Graphics Processing Units (GPU) has also improved the immersion of 3d modeling and rendering by architecture students in their works (Wei-Hao Huang, Wei-Jia Huang, Kai-Che Liu, and Ludovic Angot, 2010). The advancement of hardware and software in computer engineering has excelled very drastically in line with the needs for better, powerful, and faster processing pc and gaming platforms. This can be seen in the launch of new generation gaming consoles such as Playstation 5, Xbox One, and gaming computer platforms that offer stunning graphics and visual effects that also can be used in architectural rendering. For example, Lumion uses the GPU same as the gaming rendering engine in Fallout games to be used in real-time rendering by the software users to create their computer rendering immersively like computer games. This factor has improved architecture students towards using 3d rendering in their presentation.

The use of 3d rendering or manual drawing in an architectural presentation by FABE architecture students is optional as 3d study and rendering are only allowed for 2nd-year students in both Diploma in Architecture (DAR) and Bachelor of Science Architecture (BSAR). Therefore, the choice by students whether they use 3d rendering 100% in their works or combine is analyzed. This will also show their understanding and master in using any typical 3d rendering or not.

This paper will highlight the percentage (%) and the ratio of architecture students in FABE that used their skills acquired in their 3d course in their design studio presentation and also for those who are using manual drawings for their architectural presentation.

METHODOLOGY

A digital compilation of architectural students' presentations ranging from semester 5 (2nd year) onwards is done to analyze each presentation on their use of 3d rendering software since the beginning of Movement Control Order (MCO) on the 18th March 2020. Each student's presentations are logged into Statistical Program for Social Science (SPSS) format and get their percentage and ratio versus manual drawing by each student in their works.

The results will then be analyzed and discussed in the paper and to be discussed among 3d course lecturers in FABE on how to improve the deliveries of their teaching in the course and Course Development Program (CDP) meeting. This is also in line with the requirement by Malaysian Quality and Assurance (MQA) on delivering quality and updated courses to meet the industry's requirements.

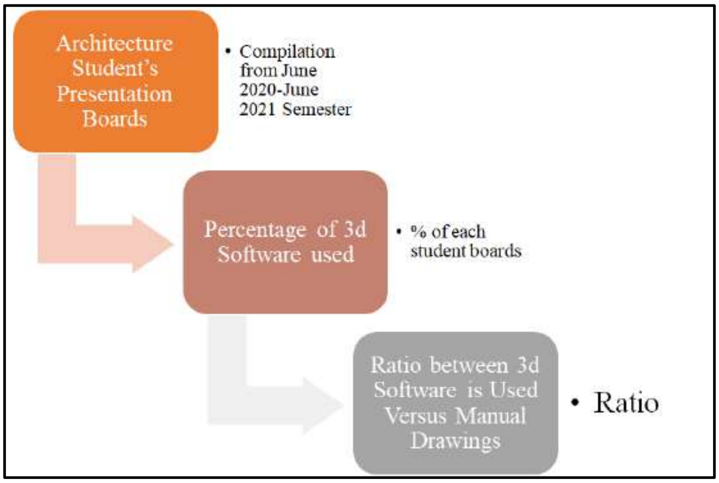

Figure 1.0 Diagram of Research Methodology

FINDINGS

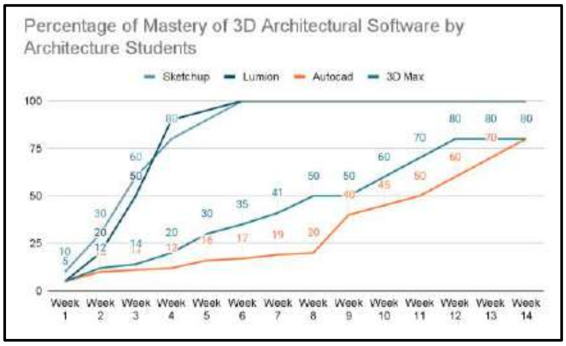

Figure 2.0 Mastery of 3D Architectural software by Architecture Students

The above figure shows the learning curve of students to various 3D architectural software based on questionnaires after each semester ends where they take the 3D software course in FABE, IUKL. It shows that both Lumion and Sketchup software have a faster rate of a learning curve than AutoCAD and 3D Max. The use of GPU technology has greatly increased the immersion of model making and is fun to learn thus, increasing the percentage of skills learned in a short period of time. The capability of the current hardware to impose the 'real-time' modelling and animation has proven increasing the immersion and understanding of the design at the same time of the process of designing in 3D. It also improves the pleasure and satisfaction by students when they use the software since all the processes of 3D modelling are live in front of them when they use it.

The percentage of usability by architecture students in their works after they had mastered their skills in 3d rendering in their presentation is more than 50%. This is because the use of 3d rendering in studio works by architecture students depends also on their confidence level whether it will benefit their chances to get a better grade if they used it. In Figure 3.0, the table shows the amount percentage in 3d rendering versus manual is consistent among semesters batches which is at 60%.

No	Semester	Total Number of Students Presentations	Percentage using 3d Software	Percentage using Manual Drawing	Ratio using 3d Software Vs Manual
1	June 2020	44	61.5%	38.5%	27:17
2	September 2020	25	55.7%	44.3%	14:11
3	June 2021	18	66.3%	33.7%	2:1
TOTAL		87	100%	100%	2:1

Figure 3.0 Percentage and Ratio of 3D Rendering in their presentation boards.

The ratio between 3d and manual is also consistent within the whole 3 semesters, which is relatively 2:1. This shows that even though 3d rendering is a faster and cleaner way to do their 3d perspectives in architectural presentations, manual drawings are still an important aspect in getting better marks by students. This is also because of the fact that manual drawing in 40% did promote the efforts spent on the design apart from 3d rendering.

Student’s performance in design studio through presentations do improve with the level of application of 3D rendering and modelling in their product thus increasing the number of students encouraged to use it in their presentations. This can be seen through the number of students in the same batch that use the software in their presentations. Peer learning is affecting the numbers and level of 3D software used by students.

Apart from that, the availability of a good performance personal computer or laptop also contributes to the better performance in 3d rendering and therefore, affects these numbers (Figure 4.0). Within each number of samples (a total of 87 for all 3 semesters) shows that these are also affected by the percentage of 3d rendering usability by students. It's shown that the more the numbers for each semester students taking design studio within the semester, the more the number of students using 3d rendering in their advantages and therefore influence others who use manual drawings.

More digital submission by students in both their minor and major course classes. The availability and affordability of computer hardware and software have proven to speed up the production process of presentation documents and presentations. This can also be seen in the quality of students' work from September 2020 semester versus June 2021 semester. Although several students in the same course had different backgrounds in the exposure of the 3d rendering software, some students did perform very well in delivering the required product in their presentations. Good delivery of 3d architectural teaching and technique leads to a better understanding of the software and therefore, more applications in future studies. Some of the examples of this are that educators must have proper hardware and software, teaching materials, and a consistent channel of communication to the targeted students. This has also involved proper infrastructure and Information Technology (IT) providers as well. Without it, the teaching and learning of 3D would not be effective to encourage students to use it when it is needed.

CONCLUSION

As education has been evolving quite rapidly in recent years with the addition of more digitalization during the pandemic since 2020, students are starting to adapt more to the needs of receiving and delivering what has been taught in class. 3D architectural visualization has proven its market value when most of the students learn their understanding in the course and apply it in their architectural studio and thus their future career after graduation.

The current delivery of 3D courses by the syllabus provided does improve students' readiness when they apply for their job after graduation. It provides students with basic knowledge of 3D architectural visualization to begin with and lets them explore more on the same method in delivering what they intended to through their design. Therefore it is crucial to maintain 3D courses in this field and improve them according to the rapid improvement of both hardware and software.

A better technique and deliveries during the Computer-Aided Design (CAD) courses will ensure a better production by architecture students in their presentations by choosing the right updated software and method in 3D modelling and rendering. Neglecting the needs of 3D architectural presentations will result in less value and appreciation of the presentations and therefore its marketability. Therefore, current education in software learning and hardware is essential to the survival of students in their careers for the future.

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EFFECT OF DIGITAL FLASHCARD ON LOW FREQUENCY VOCABULARY RETENTION BY GRADUATE STUDENTS

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ABSTRACT

Advance learners of English often put too much effort and energy in learning low-frequency vocabulary most of which they forget and cannot retrieve after a certain period of time. Exposure to multimedia can reduce learning time and cognitive load (Lin & Yu, 2016), but the existing literature is inconclusive in describing the effect of multimedia in the retrieval of low-frequency vocabulary. This study explores the impact of mobile applications on learning, and the retention of low-frequency vocabulary by non-native speakers of English. Research shows that exposure to vocabulary through multimedia creates a mental connection between the verbal and visual information which facilitates better learning outcome (Mayer & Moreno, 2005; Mayer, 2014). The objective of this paper is to identify the difference of learning rate of low-frequency vocabulary between the paper flash card and Mobile Assisted Vocabulary Learning (MAVL) users. In addition, it measures the difference of retention rate of the learnt vocabulary between the paper flashcard and digital flashcard users. The study was conducted on 30 graduate students (divided into two groups: control and experimental). Students in the control group used paper flashcard, whereas students in the experimental group used the digital flashcard through Magoosh Vocabulary Builder- an MAVL application. The collected data of several tests were analyzed using R programming. Findings suggest that mobile application or digital flashcard can enhance both vocabulary learning and retention rate among graduate students. The findings imply that usage of MAVL application can smoothen the process of vocabulary learning with better retention rate, and multimedia models can track the progress of the learner in real-time and reduce cognitive load.

Keywords:
Low-frequency vocabulary, Vocabulary retention, Vocabulary learning, Digital flashcard, Word acquisition, and Multimedia

INTRODUCTION

Learning a second language is a difficult task especially when the word, grammar, and pronunciation of the target language is distinctively different (Shahrom, Halim, & Hoon, 2018). In this connection, technology, especially the usage of mobile phone, is creating a paradigm shift in our education systems. More and more students are enrolling for online courses and using electronic devices (e.g., mobile) for vocabulary learning. Study has found that 32% students took at least one online course while joining higher education in 2013 (Allen & Seaman, 2013; Muljana & Luo, 2019) and a good number of these students were using mobile phones for online courses.

Vocabulary learning is a process of acquiring building blocks in Second Language Acquisition (SLA). As Nation (2011, p.34) says, "vocabulary learning is an indispensable part of learning a new language" and development in technology has made it inevitable to use them in language learning while giving special attention to Mobile Assisted Vocabulary Learning (MAVL) (Gurkan, 2018). In this regard, the usage of mobile/digital flashcard in Vocabulary Learning (VL) is an important area of research (Ramos, 2015). VL has not been given the due space it deservers during 1980s and 1990s, and 30% research on VL was conducted in the last 12 years in Applied Linguistics (Nation, 2011). Nielsen (2002) states, "[S]econd language vocabulary acquisition is a field of investigation that has seen an explosion of experimental research in the past 25 years." It clearly indicates that the roots of VL research is very old; however, the usage of technological material in VL is new which requires further scrutiny.

The popularity of online and multimedia learning is the result of the advantages it provides (flexibility and up-to-date information); yet, it has been found that the retention rate of technological learning is poor (Muljana & Luo, 2019). Existing literature is uncertain in establishing a relation between the use of mobile flashcard or digital flashcard in learning low-frequency L2 vocabulary and the retention of the learnt word by non-native graduate students. Early studies mostly targeted the intermediate level learners (e.g., German undergraduate students) or only studied high-frequency vocabulary. Considering the mentioned circumstances, this study investigates the retention rate of low-frequency L2 vocabulary among graduate students of Bangladesh. The goal is to know whether digital flashcard users score better compared to paper flashcard users in low-frequency vocabulary tests and to know the retention rate of vocabulary among students in both control (paper flashcard users) and experimental group (digital flashcard users).

In addition, this study compares the retention rate of L2 words between paper and digital flashcard using student of Bangladesh. A study of this nature will help both the learners and the software developers to work for more effective models so that low-frequency vocabulary learning will be easier and learnt items will be more perpetual in long term memory. This study aims to contribute in the fields of Second Language Learning (SLL) specially in VL by assisting students in selecting the right tool. A study of this nature is not only helpful for self-assisted learners but can be equally significant in developing and designing technological materials for SLL. The idea of retention of low-frequency vocabulary is not clearly understood in previous researches but after the completion of this study, understanding on the retention rate of low-frequency L2 vocabulary will be more conclusive. The findings of this research can broadly contribute in psycholinguistics and cognitive psychology by raising questions of how muscle memory and long-term memory works specifically in the areas of word recognition and how technology can contribute in enhancing long-term memory.

The research questions guiding this study are:
RQ1: Do digital flashcard users score better in low frequency vocabulary test compared to paper flashcard users?
RQ2: What are the retention rates of digital flashcard users and paper flashcard users in low-frequency vocabulary after certain time interval?
RQ3: What is the difference between the retention rates of digital flashcard users and paper flashcard users after a certain time interval?

LITERATURE REVIEW

The use of multimedia learning has maximized the reservoir of words (Mayer, 2014; Ramezanali, 2017) but the concern in this study has shifted from VL to vocabulary retention because retention helps in using the word in specific context. In this connection, this research has focused on Mayer's (2014) Cognitive Theory of Multimedia Learning which suggests that multimedia learning equipments and methods can enhance and affect the learning process. This research is *critical* to the use of multimedia for learning low-frequency L2 vocabulary because multimedia models help in L2 vocabulary acquisition (Al-Seghayer, 2016) but are they equally competent in enhancing retention rate of L2 words? Multimedia can enhance word knowledge for short term gain but their usage for long term retention is not beyond question. In contrast with the maintained propositions, Cyril's (2016) study on the use of multimedia instruction has found that students who are given multimedia instruction have performed better in retention. Research has found that multimedia platforms like YouTube has an influence on learners' cognitive development and can significantly ease the process of learning English at tertiary level in Bangladesh (Hasan, Ibrahim, Mustapha, Islam & Al Younus, 2018).

Nation (2011) raised the question on the number of words learnt at a particular point of time. In this regard, many foreign language learners especially English language learners are prioritizing the use of digital flashcard via mobile application for word memorization. A mobile device can help in consuming more words in comparatively less amount of time as the device has an inbuilt sophisticated application /software that trains the language learners to consume words in rotate formation. A number of studies (Cavus & Ibrahim, 2009; Gromik, 2012; Motiwalla, 2007; Abbasi & Hashemi, 2013; Agca & Ozdemir, 2013; Chen, 2013) were conducted to check the efficiency, and applicability of using mobile devices for vocabulary and language learning and they have come out with mixed outcomes.

Undoubtedly, both digital flashcard and paper flashcard help in learning new vocabulary of both high and low-frequency. A study on Indonesian kindergarten students (n=13) found that learners' posttest scores increased up to 30% than the pretest scores after using paper flashcard for a period of three weeks (Seaputri, 2017). A similar study on Japanese undergraduate low proficiency students (n=139) who had used digital flashcard reported that digital flashcard has a significantly higher vocabulary gain compared to paper flashcard (Ashcroft, Cvitkovic, & Praver, 2018). Nikoopour and Kazemi (2014) studied the vocabulary gain of Iranian advanced learners (n=109) using digital flashcard as a tool and found that after a ten-week program, students' posttest score significantly improves.

Gurkan's (2018) assumes that mobile devices are equally beneficial for all learners but Mahdi's (2017) study revealed that mobile devices function better with adult learners compared to young learners and with a moderate word size. Mahdi's (2017) study concluded that mobile devices can provide great advantage in vocabulary learning but learners age, level of anxiety, type of vocabulary, and aspect of vocabulary learning are important factors for VL. Among other reasons, Mahdi (2017) includes that the availability and multi-tasking capacity of a mobile makes it popular over other methods. Mahdi (2017) concludes that both inside and outside classroom convenience, and real-time learning opportunity are enhancing the demand of using mobile device for vocabulary learning. Basoglu and Akdemir (2010) compared the effectivity of mobile and paper flashcard in a target time of six weeks and their study revealed that mobile users can outperform traditional paper flashcard users. Research has also reflected that learners who uses various paper flashcards as a method of memorizing vocabulary fails to recall words after a given period of time.

So, there is a strong correlation between the use of flashcard as a resource and its outcome in vocabulary learning and retention. For vocabulary retention, the environment and resource are as important as the size, and the frequency of vocabulary (Kersten, 2010). Paul Nation, the American-New-Zealander linguist mentions on how the frequency of vocabulary can play an important role in foreign language acquisition and can motivate language learning strategy. Since the arrival of communicative approach in 1980's, the importance of translation has shifted to the acquisition of frequent words in the target language. In this connection, Stephen Krashen's Natural Approach is interlinked with Nation's (2011) vocabulary frequency theory which emphasizes on the acquisition of frequent lexical items for daily communication. Indeed, frequency of vocabulary or frequency of occurrence of a word can serve the purpose of vocabulary acquisition. In addition, Nation (2011) advices learners to move from high frequency vocabulary to low-frequency vocabulary in a gradual process.

Learners gradually move from high to low-frequency word acquisition, a phenomenon also known as *word frequency effect*. Word frequency effect is psychological where the learner frequently recognizes words that appears multiple times. Because low-frequency words appear less in day-to-day activities of reading and listening, the learning and retention rate is also low. Learners acquire new vocabulary in two ways: incidental and intentional learning. As Hung says, "method of learning new words with deliberate attempts is known as the intentional process in vocabulary research" (2015, p. 34). In contrast, much vocabulary is learnt through incidental learning but Elgort (2011) disagrees and concludes that intentional learning is much more effective as it requires long-term and extensive exposure to a word. Because low-frequency vocabulary is learnt less frequently, their retention rate is also lower compared to high-frequency words.

Webb's (2015) research on incidental vocabulary learning emphasizes on the number of times a 'word' is encountered and that encounter determines whether that 'word' would be learnt or not. It is generally assumed that vocabulary that recurs more are often easy to remember. Studies suggest that young learners' retention rate is better compared to adult learners in high frequency vocabulary because of multiple encounter. Roediger and Karpicke's (2010) study found a clear line between short-term gain and long-term retention among learners but Schuetze's (2014) limited study (conducted upon Beginning German Class Undergraduate Students) found that function words are particularly difficult to recall. Empirical evidence according to Chen and Li (2010) suggests that MALL has definitely multiplied the chances of learning new vocabulary and in a recent study by Lin and Yu (2016), it is found that audio representation with high frequency vocabulary can reduce learning time, cognitive load and can enhance chances of retaining the learnt word.

In contrast, no single study has a conclusive evidence regarding the retention of L2 low-frequency vocabulary learnt in a digital medium and studies conducted on high-frequency vocabulary are only limited to non-graduate students. Moreover, the design of most of these researches that target to determine the effectiveness of mobile application in vocabulary learning do not focus on the sustainability of the learnt word.

Research has found that obliteration process of words starts within few minutes of trial and students who feel isolated and unsupported by peers forget more words (Pinchbeck, Jessica, Heaney, and Caroline, 2017). In addition, some students' motivation for using technology is poor or the usage of technology enhances anxiety among others during learning. Study found that low sense of belonging could hamper performance in retention and a positive attitude towards technological material could be an attributing factor in higher retention rate.

Measuring vocabulary retention rate can be an important aspect as Milton (2009) found that students can remember little after two-years of university language program when it comes to vocabulary retention. Although completion rate in blended learning models is significantly higher compared to other modes for leaning (Fridriksdottir, 2018), it is common to many students to forget textbook words after a certain period of time. Textbooks and reading materials recycle high-frequency words but pay little attention in repeating words low frequency (Nation, 2011; Zimmerman, 2010). In this regard, mobile softwares hardly recycle word of any category.

Flashcard is a popular method, tool, or strategy for learning new words (Ngarofah & Sumarni, 2018). VL in digital flashcard (mobile application) do not concentrate on the root word such as <legal> that can generate words like <illegal>, <paralegal>, or <legalities> rather it considers a word (e.g., veneration) as a single unit. As a result, the usage of the 'single unit' in diverse circumstances become difficult for the learner. Webb (2005) argued that words need to be practiced to get attention. Schuetze (2014) studied the retrieval and retention rate of content and function words and concluded that function words could be difficult to recall for learners when given expanded intervals. For future research, Schuetze's (2014) suggests to concentrate on the rate of forgetting and to design tests that can be conducted outside classroom setting (refereeing to online platform or mobile learning application).

High and Low Frequency Vocabulary

Speakers of a language use both high and low-frequency words during conversation and writing but in the beginning, they get command over with high-frequency words and gradually develop expertise over low-frequency words. Learning of high-frequency words are mostly incidental. *Incident* refers to the acquisition of words while doing other tasks such as reading a comprehension. In contrast, low-frequency vocabulary learning is an intentional process. "High-frequency words make up a relatively small, very useful group of words that are important no matter what use is made of the language", says Nation (2011, p.9). Learners quickly learn high-frequency words because of their consistency (appearance in a page). In addition, learning high-frequency vocabulary has better productive outcome compared to learning low-frequency vocabulary. Low frequency vocabulary is "consist of tens of thousands of words that occur very infrequently and, are often restricted to certain subject areas, thus do not deserve any substantial amount of classroom attention" (Nation, 2011, p. 9). So, Nation (2011) suggests teachers to deal with high and low frequency words differently and the best possible way of teaching low-frequency words is to use them with relevant strategies. Nation (2011) emphasizes that if low-frequency words appear more in different mediums (for example in mobile application), the possibility of learning will be higher.

Vocabulary Retention

Vocabulary learning is both an *intentional* and *incidental* process in SLL as mentioned before but MAVL is an approach popularly known as *Deliberate Vocabulary Learning* (DVL). In contrast, reading influences *Incidental Vocabulary Acquisition* or passive learning (Gu, 2003). Words that appear less on paper are considered as low-frequency vocabulary, for example, <transducionalify>. According to Nation, the most frequent word in English language is <the> with 1st position whereas <transducionalify> ranked 1,23,567th position (read Nation, 2011 for details). So, <transducionalify> is a low-frequency word. Vocabulary retention refers to the ability of providing 'meaning' of a learnt word after a certain interval. Vocabulary retention could be of two type: short-term retention and long-term retention. The immediate performance in vocabulary test after instruction is called short-term retention in contrast, recalling of word after certain time interval is called long-term retention (Remezanali, 2017).

METHODOLOGY

This study employs a quantitative approach in research design where "flashcard" is an independent variable, "score" is a dependent variable, and "time-interval" is considered as the treatment. The participants for this study are 30 graduate students of Hajee Mohammad Danesh Science and Technology University, Bangladesh. Participants are divided into two groups (control group and experimental group) and they are given 08 tests (04 pretests and 04 posttests). Each test has 10 questions of low-frequency vocabulary and each test is taken using learning platform Edmodo. Each test has 10 questions (8x10= 80). The average score of the first 04 tests are considered as the mean of the pretest score and the average score of 04 tests after 'treatment' are considered as the mean of the posttest score. The scores of pretest and posttest are collected using Edmodo and the data is compiled using Microsoft Excel (.csv). The statistical analysis, reliability, and consistency of the data are tested using R programming language (version 3.5). Students in the control group used the traditional paper flashcard whereas students in the experimental group used digital flashcards in the mobile application called Magoosh Vocabulary Builder. This research argues that students who are using digital flashcard over paper flashcard for vocabulary learning would perform comparatively better but both groups would forget equal percentage of words after a certain time interval meaning their retention rate is almost similar and digital flashcard does not make any significant impact on the retention rates.

Meara and Miralpeix's book *Tools for Researching Vocabulary* (2017) is considered as a milestone in vocabulary research, gives an idea on how to deal with vocabulary data, measure lexical variations and vocabulary size, and develop models for vocabulary growth (Clenton, & Uchihara, 2018). The primary focus of this study is to know the retention rate of low-frequency vocabulary in L2 and to conduct the study, an experimental design is taken into consideration where digital flashcard and paper flashcard are the independent variables and time intervention is the control. After obtaining ethical permission from the participants, the researcher collected all the required data for analysis.

The first was to collect the pre-test scores using a multiple choice productive recognition test administrated by Edmodo application. Multiple-choice test items are commonly used in standardized testing procedures (Nation & Hunston, 2013; Chen, Grangier, & Auli, 2016) and are able to measure various taxonomies of word knowledge. Each test is time bound (10 minutes). For each correct answer, the binominal score was '1' and for an incorrect answer '0' was applied for all tests. Each student's pretest score (participating in experimental and control group) is the average of score gained in 04 consecutive tests (T1, T2, T3, T4). Perez, Caltreboutm, Peters, and Desmet (2014) suggests the criteria that learners need to remember at least 70% words in retention tests.

After an interval of 15 days (time interval), each participant was given another 04 consecutive tests (T5, T6, T7, T8) and each students' average score was considered as the post-test score. In case of the control group, their test was parallel to the test of the experimental group with similar multiple choice questions but they only used paper flashcards whereas the experimental group used Magoosh Vocabulary Builder mobile application. The difference between the pretest and posttest score and their mean has a descriptive interpretation. Prior to analyzing the data, reliability coefficient of the pre and post-test score was computed using KR 20 (Kuder-Richardson 20) as a measure to check the internal consistency. A comparison of participants' mean scores of vocabulary posttest and pretest shows participants word retention (Ramezanali, 2017). To check the statistical significance and for an inferential interpretation several t-test are conducted. A total of 30 participants were selected for the purpose of this research (see Krejcie & Morgan, 1970). The ratio of the two groups (one experimental group and one control group) was 1:1 and no international student was involved.

The study was conducted in three stages. In the first stage, the vocabulary size of all 30 students were measured using yes/no test (see Meara, 1992). In stage two, the experimental group was asked to use digital flashcard as a stimulus. For the purpose of the study, participants of the experimental group (n=15) used a mobile software called Magoosh Vocabulary Builder and the control group (n=15) uses traditional paper flashcard for vocabulary learning. Both group used flashcard for 15 days. Each group sat for online tests consist of 10 vocabulary questions. The score of the first 04 tests (average of 04 tests was considered as one pretest score) were collected using Edmodo learning application. In stage three, after an interval of 15 days, all students sit for another 04 vocabulary tests (the combined average was considered as one posttest score) and their scores were also collected using Edmodo learning network. A meta-analysis was conducted by Lin and Lin (2019) on time intervention and found that most researches (68%) lasted within a range of 01 to 06 weeks, only 24% of the research lasted for more than 02 months or more, and only two studies lasted for a whole semester for vocabulary research. The general tendency was to keep the research within the range of a short period of time (14 to 30 days) but that would challenge the reliability and validity of the acquired data at times. Considering the time frame of earlier studies, this research was also conducted for a period of 02 weeks. All collected data were automatically transferred into an Excel sheet (.csv format) from Edmodo learning network. Then, the excel sheet was transferred into R programming, a data analysis software (v. 3. 5) for testing the mean, standard deviation, and consistency among data. A comparison was conducted between various scores of various groups to know the changes in retention rate of vocabulary. The design of the study compared the performance of the two groups.

Step 1: Control group's pretest mean was compared with the experimental group's pretest mean using unpaired two sample one tail t-test.
Step 2: Control groups' pretest mean was compared with posttest mean using paired two sample one tail t-test.
Step 3: Experimental groups' pretest mean was compared with posttest mean using paired two sample one tail t-test.

Step 4: Experimental group and control group's posttest mean was compared using paired two sample two tail t-test.

RESULTS

For the purpose of this research, a total of 30 participants formed the study sample among whom 9 were female and 21 were male. The female to male ratio is 3:7. This study found that participants for the research know an average of 23% common words in English language (test conducted using Meara online vocabulary test, 1992).

To answer the research question 01, data was gathered from 30 students (15 in the control group and 15 in the experimental group). Each student was given 04 consecutive multiple-choice test. The average score of the 04 tests were considered as the pretest scores of each group. The mean of the score of the control group was 28.26 whereas the mean of the experimental group is 32.13 which clearly indicates that the performance of the experimental group (participants who have used digital flashcard) in vocabulary learning is better than the control group (participants who have used the paper flashcard). An independent sample two tail t-test was conducted to compare the means of the control and experimental group. The 15 participants who have used the digital flashcard (*M=32.13, SD=4.43*) compared to 15 participants in the control group (*M=28.26, SD=5.75*) demonstrated significantly better score, *t* (28)= -2.06, *p* = .04 (Figure 1)

```
        Two Sample t-test

data:  Modified_data$`Total (Pretest score/ Control Group)` and Modified_data$`Total (Pretes
t score/ Exp. Group)`
t = -2.0617, df = 28, p-value = 0.04863
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -7.70843245 -0.02490088
sample estimates:
mean of x mean of y 
 28.26667  32.13333 
```

Figure 1: Two Sample t. test of Pretest Scores of Control and Experimental Group

To answer the research question 02, data was gathered from 15 students of the control group. Each student was given 04 consecutive multiple=choice tests in pretest and 04 consecutive tests in the posttest. The mean of scores of the control group in the pretest was 28.26 whereas the mean of the posttest was 20.06 which clearly indicates that the performance of the Control group in vocabulary learning reduced after 15 days' time interval. After 15 days' of time interval retention of words reduced and the difference between the mean was -27.12% which indicates that participants failed to retain 27.12% words (on average) after 15 days' interval. A paired sample one tail t. test (Figure 2) was conducted to compare the means of scores of the pretest and posttest. The pretest mean of 15 participants who used the paper flashcard (*M=28.26, SD=5.75*) compared to posttest mean (*M=20.06, SD=7.11*) demonstrates a significant drop in posttest score, *t* (14)= 3.75, *p* = .001.

```
        Paired t-test

data:  Modified_data$`Total (Pretest score/ Control Group)` and Modified_data$`Total (Postte
st score/ Control Group)`
t = 3.7595, df = 14, p-value = 0.001057
alternative hypothesis: true difference in means is greater than 0
95 percent confidence interval:
 4.074833      Inf
sample estimates:
mean of the differences
               7.666667
```

Figure 2: Paired t. test of Pretest and Posttest Scores of Control Group

To answer the second part of the research question 02, data was gathered from 15 students of the experimental group. Each student was given 04 consecutive multiple-choice tests in pretest and 04 consecutive tests in the posttest. The mean of scores of the experimental group in the pretest was 32.13 whereas the mean of scores the posttest was 25.26 which clearly indicates that the performance of the experimental group (participants who have used digital flashcard) in vocabulary learning reduced after 15 days' time interval. After 15 days' time interval retention was visible and the difference between the mean was -22.06% which clearly indicates that participants failed to retain 22.06% words (on an average) after 15 days' interval. A paired sample one tail t-test (Figure 3) was conducted to compare the means of scores of pretest and posttest of the experimental group. The pretest mean of 15 participants who used the digital flashcard (*M=32.13, SD=4.43*) compared to posttest mean (*M=25.26, SD=7.31*) demonstrates a significant drop in posttest score, $t(14)= 4.77$, $p = .0001$.

```
        Paired t-test

data:  Modified_data$`Total (Pretest score/ Exp. Group)` and Modified_data$`Total (Posttest
 score/ Exp. Group)`
t = 4.778, df = 14, p-value = 0.0001473
alternative hypothesis: true difference in means is greater than 0
95 percent confidence interval:
 4.335402      Inf
sample estimates:
mean of the differences
               6.866667
```

Figure 3: Paired t-test of Pretest and Posttest Scores of Experimental Group

To answer the research question 03, data was gathered from 30 students (15 in the control group and 15 in the experimental group). Each student was given 4 consecutive multiple-choice tests. The average score of the 04 tests were considered as the posttest scores of each group. The mean of scores of the control group was 20.06 whereas the mean of scores of the experimental group was 25.26 which clearly indicates that the retention rate of the experimental group (digital flashcard users) in vocabulary learning was better than the control group (paper flashcard users). An independent sample two tail t-test (Figure 4) was conducted to compare the means of the control and experimental group. The 15 participants who used the digital flashcard (*M=25.26*, *SD=7.31*) compared to 15 participants who used paper flashcard (*M=20.6*, *SD=7.11*) demonstrated significantly better score, $t(28)= - 1.77$, $p = .08$.

```
        Two Sample t-test

data:  Modified_data$`Total (Posttest score/ Control Group)` and Modified_data$`Total (Postt
est score/ Exp. Group)`
t = -1.7708, df = 28, p-value = 0.08749
alternative hypothesis: true difference in means is not equal to 0
95 percent confidence interval:
 -10.0650636   0.7317303
sample estimates:
mean of x mean of y
 20.60000  25.26667
```

Figure 4: Two sample t.test of Posttest Scores of the Control and the Experimental Group

DISCUSSION

After the statistical treatments, this study finds that students who use digital flashcard for L2 low-frequency vocabulary learning can perform better compare to paper flashcard users (32.13> 28.26). In addition, digital flashcard users' retention rate is also better compared to paper flashcard users (25.26> 20.06). Control group fail to retain 27.12% words whereas experimental group fail to retain only 22.06%. The findings also show that mobile flashcard users can retain 74.88% vocabulary after certain time interval and the retention of mobile flashcard users (*M=25.26, SD=7.31*) compared to paper flashcard users (*M=20.06, SD=7.11*) is significantly better, *t* (28) = 1.77, *p* = .0437 with 5.06% more retention than paper flashcard users. The findings conclude that the usage of mobile application can enhance performance in both L2 learning and retention.

CONCLUSION

This study aims at investigating the effect of digital and paper flashcard on learning new vocabulary and the retention of the learnt vocabulary items after a certain time interval. The findings of this study claim that learning in both models of flashcard enriches vocabulary but in comparison with the paper flashcard users, the digital flashcard users' performance in both learning and retention of new words is better. This study shows that digital flashcard users retain 5.06% more word than paper flashcard users but that does not indicate a significant change in retention in vocabulary as well. Based on Mayer's (2014) Cognitive Theory of Multimedia Learning, it concludes that multimedia tools work as a catalyst in engraving the process of learning. In addition, multimedia tools help in better retention than traditional tools of learning vocabulary. Multimedia provides exposure to learners with new vocabulary and enhance word retention for both high and low-frequency vocabulary. Previous studies on high-frequency words have found that retention rate of high-frequency vocabulary in digital medium is higher compared to paper flashcard but with the findings of the current study, I conclude that digital flashcard is also better than the traditional formats of vocabulary learning and retention. This study predicts that repeated visualization (multiple exposure) of low-frequency word can help in learning and in retention at least for a brief period of time. The present study has pedagogical implication for the learners, teachers, curriculum designers, and above all, material developers. The limitation includes the time frame used in the design of the study and further investigation can be conducted by focusing on 'time and retention rate' of learnt items (other than vocabulary) in multimedia models and digital formats.

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EXPLORING THE LIVED EXPERIENCES IN FORMAL VOLUNTEERING AMONG PEOPLE WITH MENTAL ILLNESSES (PWMI) IN SELANGOR

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ABSTRACT
Volunteering has been linked to various psychological benefits. However, studies on volunteerism among people with mental illnesses (PWMI) are scarce. The objective of this study is to explore the lived experience in volunteering activities among people with mental illnesses in Selangor. Qualitative phenomenological research design was used and data were collected using semi-structured interviews. Ten informants aged between 20-42 years old who participate in formal volunteering and diagnosed with various mental illnesses were recruited through purposive sampling method. Interview transcripts were analyzed using thematic analysis and revealed that volunteering is a mixed experience for PWMI where they have gained benefits and also face challenges and barriers. Volunteering serves as a therapeutic and productive activity that gives them a sense of self-satisfaction. However, their volunteering experience may also be disrupted by challenges that are contributed by their mental illness, such as burnouts, relapses, and triggers. Furthermore, lack of family support and stigma may pose barriers for PWMI from volunteering. This study reveals the benefits as well as obstacles in volunteering for PWMI. The findings could be used to guide policymakers, mental health professionals, and non-profit organizations in designing supported volunteering programs as an effort to promote social inclusion for this population. Finally, future studies should consider investigating the prevalence of PWMI in formal volunteering.

Keywords:
Volunteerism, mental health problems, volunteer motivation, volunteering challenges, phenomenological study

INTRODUCTION

Volunteering is one of the many prosocial activities which has gained wide interest from scientists of various disciplines, such as psychology, public health, and mental health. According to Omoto et al. (2020), volunteering is a type of prosocial activity where individuals actively and willingly search for opportunities to provide help to other people in need. Volunteers give their time, energy, skills, and resources to benefit the needy without expecting monetary or non-monetary rewards in return.

The benefits of volunteering on the general population has been well established by the robust body of scientific literature. Improved mental health, reduced depression, improved life satisfaction, and having a sense of self-worth are among the many psychological benefits that have been identified (Lawton et al., 2021; Tabassum et al., 2016). However, despite the strong evidence on the general population, there is insufficient data on the benefits of volunteering among specific vulnerable groups which could possibly gain benefits from it, such as people living with mental illnesses (Held & Lee, 2020).

Before discussing further on mental illness, it is crucial to address the issue of terminology in referring to this vulnerable population. Debates arise as to which terminology is best used due to the stigma and discrimination associated with certain terminologies, such as “mentally ill people”, “schizophrenic”, and “autistic person” (Granello & Gibbs, 2016; Jensen et al., 2013). Thus, Granello and Gibbs recommended the use of person-first language which separates “...the identity of the individual from any clinical diagnosis” (2016). For this population, the terminologies “person with mental illness” or “people with mental illnesses” are recommended as they are more appropriate and utilize person-first language. This paper will use the second terminology, “people with mental illnesses”, in its abbreviated form “PWMI” to refer to this population, as done by Pathare et al. (2014).

LITERATURE REVIEW

In this section, an overview of the current literature on mental illness is presented, followed by an explanation of the concept of formal volunteering and its benefits based on the current body of evidence.

Mental Illness

Mental illness is a type of health condition that affects one's emotion, cognition, and behavior and may cause significant impairment in one's ability to function normally in his or her social, occupational, or family lives (American Psychiatric Association, 2013). In Malaysia, around 2.3% or almost half a million Malaysian adults were found to have depression, according to the latest National Health and Morbidity Survey (NHMS) 2019 published by the Institute for Public Health (IPH, 2020). This points to an urgent need to consider a more holistic intervention that may effectively promote recovery and wellbeing (Chieng, 2016).

Apart from medications and psychotherapies, social activities may also help PWMI to recover from their symptoms (Filia et al., 2019). Evidence from various studies suggests that any activities which promote social inclusion of PWMI in the community are reported to have a positive outcome on their wellbeing, which suggests the potential for volunteering as a psychosocial intervention (Held & Lee, 2020; Pérez-Corrales et al., 2019). However, several studies also reported some negative psychological-related outcomes among PWMI when volunteering, including stress, stigma, and discrimination (Farrell & Bryant, 2009; Read & Rickwood, 2009).

In Malaysia, there is paucity of data on the involvement in volunteering activities among PWMI. Local studies are more concerned about the changes in the Malaysian mental healthcare system, stigma, experiences of caregivers, experiences of mental health professionals, and complementary forms of therapy for mental illness (Ainul Nadhirah Hanafiah & Van Bortel, 2015; Naemah Abdul Rahim, 2016; Zul Azlin Razali & M. Faiz Tahir, 2016). Although studies on the social participation of PWMI exist, such studies are limited. For example, a study by Chieng (2016) in Johor Bahru focused on supported employment intervention among people living with schizophrenia only.

Formal Volunteering

According to Omoto et al. (2020), volunteering can be divided into several categories, including formal and informal volunteering. Formal volunteering occurs when an individual performs unpaid, voluntary work in a nonprofit group or volunteer program under the direction or supervision of a nonprofit organization. Examples of formal volunteering includes providing emotional support for PWMI as a peer volunteer, distributing humanitarian aids to Syrian refugees, providing care for the elderly in a nursing home, and fundraising for a local cause. On the other hand, informal volunteering is more spontaneous and is not coordinated by any formal non-profit organizations, such as unpaid babysitting, helping a neighbor with household chores, and donating one's clothes to a local charity.

With regards to the psychological benefits of volunteering, the bulk of evidence comes from studies on formal volunteering (Creaven et al., 2018; Lawton et al., 2021; Tabassum et al., 2016; Whillans et al., 2016). Numerous studies compared the psychological benefits of formal volunteering versus informal volunteering and found that the latter has no effect on preventing depression, whereby formal volunteering has a preventive benefit (Einolf et al., 2016). For example, a study conducted by Rosato et al. (2019) in Northern Ireland revealed poor mental health outcomes in the informal caregiving group, while those who are involved in formal volunteering report better psychological health. Therefore, based on the evidence, this study focused on formal volunteering and excluded informal volunteering.

METHODOLOGY

This study used the phenomenological qualitative research approach to investigate the lived experiences of PWMI who are involved in formal volunteering activities. According to Creswell and Creswell (2018), phenomenology allows the researcher to understand how individuals give meaning to their worldview by looking at the phenomenon through the lens of the individuals' own experiences. This approach has been used in previous studies on volunteerism among PWMI (Pérez-Corrales et al., 2019; Read & Rickwood, 2009).

Data Collection

Semi-structured interviews were conducted through audio calls in October 2020. The interviews were conducted in the span of three weeks with three to four informants interviewed per week. Nine informants were interviewed using Skype application and one informant was interviewed over the phone. Each interview lasted for 35-75 minutes.

The interviews opened with questions about the activities and programs that the informants participate in the NGOs. Then, the questions evolved towards their lived experiences, including: "What do you like the most about volunteering?"; "How does volunteering relate with your illness?"; and "How has your illness changed since you started volunteering?" The informants were then asked to share some of the difficulties that they have experienced while volunteering. Finally, the interviews ended with the opportunity for the informants to share any other information pertaining to their lived experiences that might have not been mentioned previously.

Informants and Sampling Strategies

The study comprised of nine females and one male between the ages of 20-42 years old who have been diagnosed with mental illness and have been or are actively participating in volunteering activities in Selangor, Malaysia. Three individuals were recruited from a peer-led mental health non-governmental organization (NGO) in Petaling Jaya, Selangor, and seven were recruited from advertisements on online peer support groups. Approvals were obtained from the President of the NGO and a staff e-mailed the recruitment poster to all volunteers in their database. For the online support groups, the researchers obtained approvals from the respective groups' administrators who disseminated the recruitment poster to their members. Then, individuals who were interested to participate from the NGO and support groups contacted the researchers and were screened to discern their eligibility.

The inclusion criteria were individuals aged between 18 to 65 years old who have received a clinical diagnosis of any type of mental illness from a licensed mental health professional. They must be currently involved in volunteering work with any NGOs in Selangor, Malaysia and therefore, people who are only involved in informal volunteering were excluded. Additionally, they need to be in stable condition, not currently experiencing major symptoms of their illness, and are able to communicate. These criteria were implemented to ensure that the informants are able to communicate their experiences as best as possible. All informants who have been discerned as eligible were contacted to arrange for the interview and signed a consent form prior to the interview.

The sampling process continued until data saturation was reached, whereby no new information emerged from the data. This happened after seven informants were interviewed. However, the authors decided to continue sampling until 10 informants were interviewed, as recommended by Creswell and Creswell (2018) who suggested up to 10 informants for phenomenological studies. The majority of them are aged between 20-29 years old (8 informants), which represents the young- to mid-adult age group. Only one informant was aged between 30-39 and another one aged 40-49 years old, which represent the minority of the interviewed informants.

Furthermore, most informants are not married or single, while only three informants are married. In terms of employment status, four informants are employed, three are full-time students, two are unemployed, and one is a housewife. The majority of the informants are diagnosed with bipolar disorder (five informants) while three individuals with depression. Only one individual is diagnosed with social anxiety disorder (SAD) and one individual with attention deficit hyperactivity disorder (ADHD). Additionally, the majority of the informants are involved in several NGOs while one informant participates in only one NGO. Table 1 presents a summary of the informants' demographics and diagnosis.

Table 1: Demographics and Clinical Information of the Informants.

Total Number of Informants	10
Gender	● Female (9) ● Male (1)
Age range	● 20-29 (8) ● 30-39 (1) ● 40-49 (1)
Marital status	● Single or never married (7) ● Married (3)
Occupation	● Employed (4) ● Students (3) ● Unemployed (2) ● Housewife (1)
Diagnosis	● Bipolar disorder (5) ● Depression (3) ● Social anxiety disorder (SAD) (1) ● Attention deficit hyperactivity disorder (ADHD) (1)
NGOs Volunteered	● Several *(e.g. mental health, humanitarian, Islamic NGO, etc.)* (9) ● Islamic NGO only (1)

Brief Summary of Informants' Backgrounds

In this sub-section, brief summaries of the informants' backgrounds are presented. Their real names have been replaced with pseudonyms to protect their identity.

Nur is a single, 24-year-old woman who lives with bipolar disorder. She has been involved in volunteering activities since studying overseas where she performed humanitarian work and continued doing so after returning to Malaysia. Now, she is currently doing an internship while volunteering with a mental health NGO in Selangor.

Unais is a 27-year-old married man who had been diagnosed with ADHD since primary school. His involvement in volunteering started while studying overseas where he held several portfolios in an NGO's student club. Now, he is currently pursuing his studies at a local university while serving as a general member of the same NGO.

Yasmin, a single, 29-year-old lady, had been diagnosed with bipolar disorder since high school. She co-founded a local peer support group a few years ago as a platform to share her knowledge and experience on mental health recovery with others. Since then, she has also joined a mental health NGO and served as a volunteer doing mental health advocacy, peer support, and awareness. Now, she is currently working while also volunteering.

Kay is a 24-year-old single woman with Major Depressive Disorder. She had been diagnosed with mental illness three years ago by a psychiatrist. She started volunteering in university and continued to do so at a social enterprise after graduation. In 2020, she began volunteering as a researcher at a newly established mental health NGO. Now, Kay is pursuing her degree in Psychology at a local university.

Nurin is a married, 29-year-old lady who had been diagnosed with bipolar disorder five years ago. She started volunteering 12 years ago with an Islamic NGO where she performed various types of volunteering work such as humanitarian, Islamic preaching, and spiritual guidance. She had also co-founded a mental health NGO which focuses on mental health awareness and advocacy. Now, she is employed at another mental health NGO.

AS is a single 26-year-old lady with bipolar disorder who was diagnosed three years ago. She started volunteering in school where she joined an Islamic NGO. Later, she joined another NGO which focuses on humanitarian work in Malaysia and abroad as one of its board members. Other than that, she also advocates for mental health awareness and shares her experience as a PWMI spokesperson in various programs. Today, she is unemployed and still volunteers at the NGO.

KS, a single, 29-year-old woman had been diagnosed with social anxiety disorder about five to six years ago. Her involvement in volunteering began at university. After graduating, she joins several NGOs and volunteers as a committee member for various events and conventions. Other than that, KS also volunteers for humanitarian causes and mental health awareness. Now, she works as a home tutor and volunteers in her spare time.

Zatie is a single 20-year-old lady who was diagnosed with depression in 2018. She started volunteering in high school. Recently, she joined a mental health NGO as a volunteer for mental health awareness. Today, Zatie is pursuing her degree at a local university while continuing to volunteer with the NGO.

Mika is a married 42-year-old woman who had been diagnosed with mental illness since 2007. Her diagnosis had changed over the years and the latest one is depression with psychosis and anxiety. She started volunteering as an informal peer supporter in online support groups in 2014. Later in 2017, she joined a mental health NGO as a peer supporter and crisis team member. Now, she is a housewife and still volunteers in her spare time.

Zainab, a 31-year-old single lady had been diagnosed with bipolar disorder since 2018. She started volunteering a few years ago and now volunteers actively at a mental health NGO. She helps the NGO with events, administrative work, and supporting other PWMI as a peer supporter. Today, she is currently unemployed while still actively volunteering.

Data Analysis

The audio data were transcribed and transcripts were checked twice against the audio recordings for accuracy. Afterwards, the transcripts were imported into QSR NVivo 10 for thematic analysis. Portions of the texts were then segmented into categories, which were derived based on the ideas that are most frequently repeated by the informants. Then, the categories were refined into a term or code that best represents the idea behind them. Next, the codes were compiled into a Microsoft Word document for review. Redundant and overlapping codes were removed, and potential themes began to emerge at this point. Next, the remaining codes were grouped into several themes that shared a common idea based on the research question. The themes were reviewed thrice and compared against the current literature before finally being defined and named.

To ensure the validity, reliability, and trustworthiness of these findings, the triangulation method was implemented which includes member checking, literature review, and expert review.

Transcripts of the interviews were e-mailed to informants and they were given the opportunity to revise or remove any parts of the transcripts. Only one informant asked for the removal of a small part of her transcript which revealed a personal detail that does not affect the data. The findings were also compared with the current literature on this topic in order to determine their validity. Finally, the results and analysis were reviewed by two experts in volunteerism.

FINDINGS

The following paragraphs present the results pertaining to the research question, which is "What are the lived experiences of PWMI in formal volunteering?" The interviews aim to answer this question by asking the informants about their volunteering experience. Based on the lived experiences shared by the informants, findings revealed two distinct themes. Firstly, the informants shared that they have gained various psychological benefits from this activity. The benefits include finding volunteering as therapeutic, volunteering as a productive activity, and gaining self-satisfaction. Secondly, despite the positive experiences, they also reported having negative experiences in volunteering. These were divided into two subthemes, which are challenges and barriers. The challenges in volunteering as a PWMI include burnout, relapse, and triggers, while the barriers that had been identified are lack of family support and stigma. However, even though both positive and negative experiences have been identified, the majority of them agreed that overall, they have more positive experiences than negative ones from volunteering.

i. Psychological Benefits of Volunteering

The informants described how volunteering is therapeutic, helps them feel productive, and gives them a sense of self-satisfaction. The majority of the informants feel that volunteering is therapeutic as it helps them cope with their illness. For example, Nur shared that volunteering is part of her coping mechanism to keep herself stable. She elaborated:

"... it is part of therapy, part of my coping mechanism, one of the ways that I use to keep myself stable is by joining programs, activities (...) Because to me, mental illness is not just about our thinking but also our lifestyle, our way of life. So when we participate in society through volunteering work, that thing builds our soul, character, and teaches us to be more understanding, empathic, (...) it can help change our perspective towards life and our perception towards ourselves." (Nur)

Nur's viewpoint is agreed by AS who struggles with suicidality. The excerpt below explains how volunteering gives her life meaning and hence, a reason to keep living:

"For me, I feel like I have to continue volunteering as long as I live because when I do it, I feel motivated to live. Because if I don't do it, I would feel like, "What is the point in living?" (...) So when I join volunteering programs, it gives me a reason to live (...) [I keep questioning] why every time I had a suicidal thought, am I still not dead? Maybe God hasn't allowed me to die yet because I haven't finished helping others." (AS)

The concept of "healing through helping" was also dominant. For Zainab, volunteering helps to rebuild her self-esteem because it gives her a purpose in life. She elaborated:
"...people say [that] charity is a good way of healing. So, that's when I started to be like, in hope of helping others, I could help myself as well. Yeah, and it's kind of like, I supposed that's how God plans (...) it was then to help myself to give some sort of a purpose to build back my self-esteem and now I'm more motivated to help people." (Zainab)

Several of them also mentioned that it feels alleviating to know that they have contributed positively to someone's life through volunteering. Mika explained:

"So when I help other people, my depression is actually not that severe anymore. It's like, once [in] a while I do get depressed still, but it's just that the severity is not that high because after helping people, after volunteering, by the end of the day I would know that I did something good. I helped someone." (Mika)

Furthermore, the informants also described volunteering as a productive activity that keeps them occupied and busy. In the excerpts below, some of them attributed this to their preference to keep an active lifestyle:

"...I don't like to leave my days or weekends empty [without any programs]. [If I find any volunteering programs,] I would immediately apply and join." (Nur)

"...maybe I'm the kind of person who doesn't know how to sit still. (...) I mean, I like to do something instead of doing nothing, and I prefer to step into the society instead of just staying at home." (Nurin)

The concept of "being busy" is also attributed by some informants to having a meaningful activity that resembles a job or occupation. This is especially dominant among the informants who spend long hours volunteering at the NGO and performing multiple kinds of tasks, including administrative work. Even though they were not paid, they still consider it as a significant work, quoting:

"...right now is at a point where I kind of see it almost like a job, except that we don't get paid [laugh] (...) I know that societal standards define job as a 9-5 and something that gives you money. (...) [but], you cannot disregard this volunteering work. I mean if you cancel out "volunteering", it's still "work" at the end, isn't it? [laugh]. So, what I mean is that it's important for me so that I don't feel useless. Just because I don't get paid by it, that this is not significant work that doesn't contribute to society." (Zainab)

In addition, they also feel that volunteering prevents them from engaging in harmful coping mechanisms or unproductive activities. For example, AS noted that she does not think about her illness as much anymore since being busy with volunteering programs. She continued to explain that this is because she is always surrounded by other people:

"To me, that's one of the benefits, it's good lah because those who have mental illness can't be alone. If they're alone, they'll be even more inclined to follow whatever they feel, like hallucinations or whatever. So when they're surrounded by other people, they'll be distracted from constantly thinking [about their illness]." (AS)

Lastly, most of the informants reported that they get a sense of self-satisfaction when volunteering. It makes them feel good and relieved from the burdens of their illness. For Kay, she felt that volunteering makes her feel fulfilled with her life because she has "devoted a lot of time for it". As for KS, volunteering helps to relieve her from her symptoms. She considers it as a good progress, even though the effects of relief only lasts for a short while. She elaborated:

"Even if I could get a little bit of progress in healing myself, that would make me so happy. Because even though [the journey to healing] is still far, still difficult, but once in a while I could get that

feeling, like "Oh, so this is how it feels like to not having depression on anxiety." I'd feel so relieved, like "Ah, this is what I wanted." (...) I still want to feel it, even just for a fleeting moment." (KS)

Seeing the positive impacts that they have made on other people through volunteering also gives them a sense of self-satisfaction. Zatie explained:

"...the best moment is when I could see them grow, see the growth in them. For example in mental health [cases], before this they were so depressed, but after receiving my support, help, and guidance, they are now in the recovery phase (...) When they tell me how happy they are because I have helped them, (...) that makes me so happy." (Zatie)

ii. Challenges in Volunteering

Interestingly, despite the psychological benefits, the act of volunteering itself may cause adverse effects on mental illness. These were classified under the subtheme 'challenges' and include: burnout, relapse, and triggers.

Firstly, burnout seems to be one of the main challenges the informants faced in volunteering. For example, the symptoms of mental illness itself could lead to burnout like what Nur, who was diagnosed with bipolar disorder, has experienced:

"...I don't know how to balance my energy. I have bipolar, so when I went all out outside, I would come home feeling exhausted (…) I would absorb the energy around me, I would feel extremely happy (…) So when I come home, I would feel exhausted [because] my energy had been depleted. So yeah, I don't know how to balance that yet." (Nur)

The causes of burnout can be complex for PWMI, as reported by the informants. For Yasmin, who volunteers as a peer support facilitator at the mental health NGO, it is her passion in mental health advocacy that has driven her towards burnouts. According to her, she felt pressured to exert herself to spend more time and effort in volunteering work, to the point of neglecting her own needs. She explained:

"...if I don't think of myself as a professional [social worker], it's very, very easy to just keep on continuing giving and giving and giving, and it reaches a burnout state and at that point it's very hard. It takes a longer time to recover. (...) I think that's the initial part of the burnout, where you start feeling guilty for having these symptoms. (...) And that guilt manifests differently when you're in this space because you start feeling like you need to do more because this is a space that's very near and dear to you and people's lives are at stake. And also having gone through the darkness alone before, and having a deeper, higher sense of purpose to get the work done, it's easier for your symptoms to manipulate that guilt in even like a sense of shame so that you ignored self-care in order for you to do the work." (Yasmin)

Other than burnouts, the majority of the informants also struggle with relapsing when volunteering. When their symptoms reappear, it would disrupt their volunteering work and cause a lot of troubles with other volunteers or organizations. The excerpts below demonstrate how relapsing would force them to stop doing their volunteering work and its ugly consequences:
"...my problem is, [I find it] hard to manage. Let's say [when] I'm in the depressed phase [and feeling] down, I will stop everything and will not do anything at all. In terms of the ups and downs of my mood, sometimes I myself don't know how it happened." (Unais)

"…when depression hits, that's the hardest part (…) You just don't feel like doing anything. You just feel like lying [on the] bed and do nothing. At that time, I would get scolded by others, "What's wrong with you? You don't want to do your part?" (…) So in a way it affects my work too (…) the mind keeps on doubting (…) It's not like you're being negative but you think of thousands of possible outcomes (...) It's crazy hard to control it." (KS)

Relapsing often leaves the informants feeling guilty as they feel like a burden to others, yet unable to control or improve the situation. They shared:

"...[once], I had to be warded [and] I couldn't proceed with the program, so I felt guilty with the organizer. Because they have had everything planned and suddenly I had to cancel. And [the news of] cancellation came from the doctor, not from myself. So, I felt guilty but the doctor would not relese me from the ward. So that is one of the challenges."(Nurin)

"...in the early stages of volunteering, it's normal for you to get a bit upset. Upset in the sense of when you have high hopes, like you want to help someone. You go volunteer, then suddenly you feel like you relapse, (...) so you feel as if you're useless. You are burdening other people who are volunteering." (Mika)

Lastly, doing volunteering work and being in the community would expose the informants to various factors that could trigger them. Within the context of mental illness, a trigger refers to any event, person, sensation, or thing that cause symptoms to resurface. KS, who was diagnosed with social anxiety, described how exposing herself to social situations while volunteering would sometimes trigger panic attacks. She shared:

"...because I want to release myself from this illness, right? So, one of the challenges is that before I join a program, I thought that I could do it. But when I'm there, that was when I realized that it was actually really hard, because in that situation, I'd suddenly feel panicked, my palms were sweaty, or I'd suddenly feel like crying. Or sometimes I have meetings to attend, but I'd feel like I want to find a thousand excuses to not join (...) So those things make me feel like, 'Oh, I want to be a hermit, I don't want to meet anyone today.' (...) at that time, I'd feel the anxiety, the palpitation. My heart would race so fast, and I'd feel like crying right there and then." (KS)

Conflicts or negative attitudes among other volunteers could also become a trigger. For AS, seeing people quarrel at the NGO could trigger her symptoms:

"I can't meet people who like to raise their voices or cause troubles or like to annoy others. It's hard for me (…) Because I don't like to be in a situation where I have to watch people quarrel. Means fighting or raising their voices (…) Usually when other members are not on the same page, that could lead to fights." (AS)

iii. Barriers in Volunteering

Barriers refer to external factors that make it difficult for the informants to participate in volunteering activities. Two barriers were identified from the interview, which are lack of family support and stigma.

Lack of family support is one of the strongest themes in terms of barriers, especially in the beginning of their volunteering participation. For Nur and KS, their families were reluctant to see them going out to attend volunteering programs during the weekends due to the perception of them not spending enough time with their family, being 'busy', and 'always away'. However, they become more supportive after a while, quoting:

"At first, when I first started volunteering, it occupied my weekends. So during weekends, I'd be away from home due to volunteering, then on Monday till Friday I'd be at work. So my parents commented that I am always outside and missing from home (...) So in the beginning, they didn't really support me because I'm always away. But now they're okay with it." (KS)

Meanwhile, for AS, the support seems partial where her siblings are supportive but her parents are sometimes supportive and sometimes not. As for Kay, her family considers volunteering as a waste of time because there is no financial benefits:

"...they think volunteering is something like wasting of time because you get no money [despite spending] a lot of time." (Kay)

Another barrier that is worth mentioning is stigma, which was brought up by Unais. He reported having to face stigma in his NGO due to his diagnosis. He finds it difficult because people struggle to understand his mental health condition. However, when some of them tried to understand him, his symptoms would worsen and made him incline towards supressing himself. He explained:

"When stigma exists, it makes it a bit difficult for me to advance myself. So the barrier is due to stigma (…) Sometimes they try to understand, but instead, that becomes a factor for me to suppress myself. It makes me feel more depressed, tired, more anxious." (Unais)

Based on the insights shared by the informants in this study, even though both positive and negative experiences have been identified, the majority of them agreed that overall, they have more positive experiences than negative ones from volunteering.

DISCUSSION

Interviews with the 10 informants revealed that volunteering is a mixed experience for PWMI where they not only gained psychological benefits, but also faced various obstacles and barriers. The informants unanimously agreed that they have gained numerous psychological benefits from volunteering, which is congruent with the themes in the recovery literature (Pérez-Corrales et al., 2019; Provencher & Keyes, 2011). Some of them described volunteering as being therapeutic as it helps to reduce the severity of their symptoms and keeps them stable. This finding aligns with the research by Myers et al. (2016) who suggested that performing meaningful activities like volunteering helps PWMI to achieve stability. Similarly, Yeung et al. (2017) reported that volunteering may help to reduce the symptoms of depression, which confirms the findings of this study. Findings also suggest that volunteering keeps the informants productive and provides them a sense of self-satisfaction. According to Fegan (2014), this could be due to the attainment of a new role as a beneficial and contributing member of society. In line with this, Juliana Rosmidah Jaafar et al. (2019) also supported the idea by suggesting that involvement in voluntary activities could enhance positive image in an individual's networks.

Participation in volunteering programs is not only beneficial for PWMI, but may also pose negative impacts on their recovery process. This finding supports previous studies which reported stress, stigma, and discrimination as some of the negative impacts faced by PWMI volunteers (Farrell & Bryant, 2009; Read & Rickwood, 2009). Our findings suggest that burnouts could be caused by their own symptoms and difficulties in balancing priorities. This is congruent with the research by

Allen and Mueller (2013) who found that burnout is a common phenomenon in volunteering work among the general population. However, the causes of burnout found in this study differ from Allen and Mueller's who suggested lack of voice and role ambiguity as the contributors to burnout. These contrasting findings could be due to the unique needs of PWMI which are influenced by their illness and recovery process. Other challenges found in this study that are unique to PWMI are relapse and triggers, which is supported by previous studies. For example, Thomas et al. (2019) found that relapse among people with schizophrenia would hinder them from keeping their jobs as they would either resign or were fired due to it. In the same vein, Sweeney et al. (2018) reported that PWMI often had experienced some sort of trauma in the past, thereby making them prone to be triggered by interpersonal conflicts that may resemble past traumatic experiences.

The informants experienced several barriers in volunteering. Some reported that their families are not very happy to see them volunteer. This finding is consistent with research by Haug and Gaskins (2012) and Kramer et al. (2013) which reported that conflicts with family roles or schedules can negatively impact volunteering motivation and participation. Family support is crucial for PWMI because their illness may cause difficulties for them to access volunteering opportunities, hence the need for extra encouragement and support from their loved ones. Another barrier reported by the informants is being stigmatized by other volunteers in the organization. Despite stigma being one of the most widespread barriers for PWMI in all contexts (not just in volunteering), only one informant reported experiencing it in the volunteering context. This could be due to the fact that this informant only volunteers at a non-mental health NGO, which may expose him to individuals with low awareness of mental health. For the general population, social support from significant networks is crucial in supporting individual well-being and self-development (Dong & Siti Maziha Mustapha, 2018). This could also be applied to specific groups such as people with special needs and disability and therefore, underscores the importance of an environment that is supportive of PWMI in NGOs and nonprofit organizations.

With regards to the mixed experience, this finding supports previous studies which suggest that volunteering may not only promote benefits but also has adverse effects for PWMI. For example, Read and Rickwood (2009) reported the benefits and negative experiences of volunteers with mental illness who advocate as consumer educators. Similarly, Farrell and Bryant (2009) suggested that volunteering may promote social inclusion and social exclusion simultaneously for PWMI through occupational apartheid. This mixed experience could be due to the fact that PWMI are often considered as having lower social status or value, which causes them to be treated unfairly and being denied opportunities. Nevertheless, involvement in diverse settings could be seen as a potential platform for positive interaction and hence, should be encouraged for this population (Norzita Yunus et al. 2016).

LIMITATIONS

Three limitations apply to this study. Firstly, the data collected and analyzed was limited to saturation and the research objective only. Therefore, the findings may not be able to explain the phenomenon of volunteering among PWMI beyond the boundaries of the research question. Secondly, samples in this study only represent PWMI from specific mental disorders only and therefore, the findings may not resonate with all PWMI who are involved in volunteering. Lastly, the results are limited to the types of NGOs that were represented by the informants, which means that different results may possibly be achieved should the samples represent different types of NGOs.

CONCLUSION AND RECOMMENDATIONS

This study aimed to explore the lived experiences of PWMI who are involved in formal volunteering activities. Findings revealed the pros and cons of formal volunteering for this population. The informants unanimously agreed that they have gained psychological benefits from this activity, which supports their recovery process. However, setbacks that are related to their mental illness were also reported, which underscores the need to provide a supportive environment that could enhance their experience and promote sustainability and prolonged engagement in volunteering. Furthermore, actions should be taken to prevent the barriers that may hinder them from participating in volunteering programs.

This study contributes to two major areas. Firstly, in the body of knowledge on volunteerism, this study extends the knowledge to a particular group of people, which is PWMI. Prior to this study, there is a paucity of research on the participation in volunteering among PWMI in a local setting. Therefore, findings from this study contribute to the understanding of the benefits, barriers, and challenges of volunteering among PWMI. Secondly, this study contributes to the body of knowledge on psychosocial interventions for PWMI in a local setting. Prior to this research, the bulk of literature on PWMI in Malaysia revolves around biomedical interventions. Although studies on psychosocial interventions exist, there is a lack of research on volunteerism as occupational therapy for PWMI. Findings from this study have demonstrated that volunteering may promote social inclusion and recovery by helping them feel productive, giving a sense of healing, as well as a sense of self-satisfaction.

Findings from this study revealed that lack of family support and stigma may pose as barriers that may prevent PWMI from volunteering. Therefore, families of PWMI and the community must be educated on the importance of involvement in socially inclusive activities like volunteering to encourage their participation. Furthermore, this study found that mental illness itself may disrupt the volunteering involvement of PWMI through burnouts, triggers, and relapses. Therefore, NGO members should be informed of these possible disruptions. A module guideline on how to support PWMI volunteers during times of crisis (e.g. burnouts, triggers, and relapses) should be drafted by policymakers through strategic collaboration. This may include the Department of Social Welfare, Ministry of Health, Ministry of Women, Family and Community Development, and Registrar of Societies. Inputs from various perspectives are crucial to produce a holistic and trauma-informed module that addresses the different needs of PWMI, which will eventually help to guide the NGOs in supporting PWMI's involvement in volunteering. NGOs should also be encouraged to be socially inclusive of PWMI in their volunteering programs. To do this, the government could provide incentives to the NGOs that are socially inclusive and adhere to the module guideline.

Additionally, findings from this study may help guide mental health professionals in designing psychosocial intervention programs for PWMI, such as supported volunteering. Current interventions are missing the insights from PWMI themselves, which may hinder their effectiveness and prevent successful recovery. With the inputs from this study, such programs would be more in tune with the needs of PWMI and align with their aspiration for holistic recovery. Collaboration between mental health practitioners and NGOs could also be helpful in preparing a safe and supported environment for recovery.

To better understand the implications of these findings, future studies could expand the study settings to include PWMI from different localities and not just the state of Selangor. The insights from PWMI volunteers from other localities could possibly support the findings from this study, as well as reveal different perspectives and therefore, would paint a richer picture on this under-investigated topic. Additionally, future studies should also consider investigating the prevalence of PWMI in volunteering activities. Data on this prevalence could help the policymakers and mental health professionals in strategizing their efforts to encourage more participation in volunteering among PWMI.

In conclusion, this study has provided insights on the lived experience of PWMI who participate in formal volunteering. Prior to this study, the voices of PWMI were missing from the social and health policies in Malaysia with regards to their needs to achieve full participation in the society. The findings from this study support the potential of volunteering as an effective psychosocial intervention for PWMI to encourage social inclusion and therefore, promote holistic recovery. The results may inform policymakers, mental health professionals, social workers, as well as NGOs on the significance of volunteering in the recovery process of PWMI, as well as guide them in designing supported volunteering programs that encourage social inclusion.

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SHIFTING VOLUNTEERISM FROM THE REALITY INTO THE DIGITAL WORLD: PERSPECTIVE FROM YOUNG MILLENNIALS

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ABSTRACT

Volunteerism means the practice of providing time and skills for the benefit of other people and causes rather than financial incentive. This noble action could unite people of different races, ages, religions, and localities or a common cause. This paper aims to explore the concept of digital volunteerism among young people in a higher learning institution through a qualitative design study. A total of six informants were interviewed. A convenience sampling method comes from people that are the easiest to reach or contact; while it provides a wealth of qualitative information **(**Gaille,2020). The interviews revealed that involvement in digital volunteerism by these young people were rooted in the practice among family members. Data were gathered through single session and analysed using thematic analysis based on the protocol interview, an instrument of inquiry—asking questions for specific information related to the aims of a study (Patton, 2015). Thus, in the present day, the actions of volunteerism have broadened to the digital platform. In short, based on the opinions of past researchers, the description of digital volunteerism in this study could be defined as those who are involved in digital world, either online or offline in order to create and disseminate information to the networks. Future studies could aim to extent the views of "digital volunteers" among digital volunteerism.

Keywords:
volunteerism, digital, technology, young people, humanity

INTRODUCTION

Interaction among people nowadays has been strongly influenced by modern technology. According to Tully (2003), the interconnection between technology and social interaction creates new form of human relations where tools and gadgets served as a part of communication. Furthermore, these tools were not only served as a platform of communication, but also acted as a source of information as well as entertainment. Apart from the presence of gadget, another aspect that could affecting human dependency to the technology was the level of sophistication of the device (Susilawati, 2019). Social media such as You Tube Video work as a tool for motivation, entertaining and engaging way of learning for the tertiary learners (Hasan & Ibrahim, 2017), particularly the young.

Young people with sophisticated gadget would likely spend more time on it. This is due to the speed of the gadgets internet and support from the gadgets to share information and as a search engine; social media gadget is easily accessible, portable, less costly (Hasan & Ibrahim, 2017) resulting to the likeliness of sharing personal information such as photo, news or story through media social among young people (Gniezdilova, 2021; Fauzi, 2018). For some researchers, the dependency on the internet and social media could be seen as an addiction that has negative impact on young generations (Ashraaf & Othman, 2019; Susilawati, 2019). Conversely, Bayanova et al. (2019) suggested that knowledge and information sharing among young people has been highlighted to bring positive outcomes. For these millennials, gadgets and internet are a part of their life, and using the tools to interact with either intact or broader networks, helps to stay connected with the people globally. This could also be a part of a new mechanism of interaction to keep them in the mainstream for a better chance of human interaction. The change of technology in our modern world is rapidly growing and impacted not only our lifestyle but also the way humans interact. According to Adha, Budimansyah, Kartadinata, and Sundawa (2019), information is stored digitally and for that, there is a dependency on the internet connection. Nevertheless, reliance on the internet should not be seen as a challenge to healthy human interaction.

In a growing body of research, digital volunteerism has started to gain interest from prosocial researchers (Naqshbandi et al. 2020; Adha et al. 2019; Whittaker, McLennan & Handmer, 2015; Jaafar, Kamarudin & Zakaria, 2017). However, the definition of digital volunteerism is yet to be finalised. Numerous researchers coined the term based on the scope of studies. As mentioned by Adha et al. (2019) digital volunteerism refers to those who volunteer online, as well as offline activities via social media. This group of people provides information, as well as news to their networking. For Whittaker et al. (2015), digital volunteerism involves the usage of social media to create and disseminate information to other people, involving close and broader networks. In a recent study by Max (2021), he defined digital volunteerism as informal volunteers that resemble the same qualities of formal volunteers, in which they use their capacity and link in the digital world. In short, based on the opinions of past researchers, the description of digital volunteerism in this study could be defined as those who are involved in the digital world, either online or offline to create and disseminate information to the networks.

A study conducted by Seddighi et al. (2020) on exploring the challenges and opportunities faced by online volunteers stated that due to circumstances such as a pandemic, people are shifting from offline to online volunteerism. In the study, they conducted an open-ended interview with the management of Red Crescent and reported numerous motivation factors for online volunteerism. As an example, based on the management's point of view, an online platform could serve as an option to recruit more people to become volunteers. Furthermore, by this platform, less cost is needed for the recruitment and promotion of new volunteers. However, this study also highlighted the challenges faced by the management when volunteers display non-accountability with their tasks. In their discussion, Seddighi et al. (2020) suggested that online volunteers were much dependent on their internet access and as well as intrinsic motivation.

Other than looking from the managerial point of view on digital volunteerism, a study on crowdsourcing in this area was reported by Starbird (2011). The study done by Starbird (2011) emphasised the development of syntax to tweet using media social based on the incident of Haiti's earthquake. She strongly believed that crowdsourcing was a powerful tool to spread awareness and help among the public with the use of social media, in this case, it was Twitter. Other than relying on media social, Starbird (2011) highlighted the impetus to crowdsourcing any information also relied on an individual's motivation to help other people. Jaafar, Kamarudin, and Zakaria (2019) supported the statement that involvement in volunteerism promotes healthy and positive well-being. In other words, the action to spread help and awareness via media social depends on intrinsic values among internet users.

In the same vein, Pal (2018) also emphasized media social as a platform to build connection and social capital among internet users could lead to volunteerism, connectivity as well as prosocial motivations. Furthermore, Pal (2018) argued that culture served as an influence in motivating people to engage with the internet. In his arguments, he proposed that for collectivism culture, people are prone to engage in prosocial activities due to other people's recognition. On the other hand, as for people who are living in an individualistic culture, the drive towards prosocial behaviour is more on personal goals such as self-satisfaction and self-esteem. In sum, this research done by Pal (2018) underlined the importance of understanding a human culture that shapes individual prosocial behaviour in the context of media social.

The engagement of young people with internet and media social was discussed in a previous study (Uhls, Ellison & Subrahmanyam, 2017). The engagement in this platform could be channelled into a positive outcome, which is volunteerism. To date, most of the research done in the area of digital volunteerism highlighted on helping behaviour during natural disasters via the internet. However, at the same time, a previous study reported on the involvement of young people and media social. Therefore, to have more understanding about the involvement of young people in prosocial behaviour via social media, this study aims to explore the perspective of digital volunteerism among millennials.

METHODOLOGY

This study was conducted in a private university in Selangor due to the availability of massive technology and hubs for gadgets in such area; 42 from 70 universities are located here. A total of six (6) informants participated in the study using convenience sampling; this method comes from people that are the easiest to reach or contact; their agreement to become part of the study while it provides a wealth of qualitative information (Gaille, 2020). The number of participants follows the suggestion made by Dworkin (2012) that for a qualitative basis research, the number of participant range from five to fifty as adequate. The informants matched the inclusion criteria designed for this study which are:(i) ages between 12 and 24 years old, (ii) they were familiar with social media, and (iii) they were using any platform of social media. In this study, the researcher follows the age range of young people as university students by National Centre for Educational Studies (2016), for degree level ranging from 18 to 24 years old. Specifically, the age of informants in this study are between 20 to 24. Two interview sessions were conducted separately, three persons in each group with the duration between 30-60 minutes. Topics covered in the interview were informants' experiences in online activities and their understanding of volunteerism. The interviews were audio-recorded and transcribed. Data were gathered through single session and analysed using thematic analysis based on the protocol interview, an instrument of inquiry—asking questions for specific information related to the aims of a study (Patton, 2015) as well as an instrument for conversation about a particular topic (i.e., university student's life or certain ideas and experiences). This thematic analysis provides a purely qualitative, detailed, and nuanced account of data (Braun & Clarke, 2006). Themes were developed based on previous literature. Explicitly, Creswell and Miller (2000) asserted that 'the qualitative paradigm assumes that reality is socially constructed and it is what participants perceive it to be'. This was reiterated by Smith (2018) who pointed out that 'often the qualitative researcher believes that reality is multiple and dependent on them' as well as that 'knowledge is constructed and subjective.'

RESULTS

In total, six informants were interviewed in this study. Three female and three male informants respectively were involved in the interviews. Their age ranged from 21 to 24 years old. Based on the interviews, the findings reported the informants' involvement in online activities, physical volunteerism, and their digital volunteerism.

i. Involvement with Internet and Media Social

For the informants, they admitted that they were involved in online activities based on their interest and the types of engagements were various. For example;

> *"I don't think it is only limited to social media, it is also involving yourselves in activities online like quizzes, sometimes we have activities like online quizzes or online question and answer sessions. For social media, yes I think I'm very frequently online. I message every hour; I scroll on IG every hour. So I think my involvement is quite high".* *(INAM, female)*

As for the other informant, INADE, she shares that she did not use the internet on a frequent basis to check on social media, but more playing online games;

> "*For me, Facebook and Instagram not every hour because sometimes quite busy with the assignments. So I don't have time to check. Most frequent use of the internet is maybe two or three days a week. [However], recently I played a game name 'Call Me Emperor' the game".* *(INADE, female)*

As for the male informants in our study, they also reported that they spent three to four hours a day doing online activities, as stated below;

> *"Mostly, I go to IG; but most of the time gaming and WhatsApp. Three to four hours in a day but I take breaks in between".* *(INSA, male)*

As for INDIV, he explained that he played online games for up to four hours per day. However, the activity could be expanded to more than that during the semester break or after examination;

> "*I spent 4 hours per day. If holidays I play more than 4 hours during the term break or after examination".* *(INDIV, male)*

In short, the informants demonstrated different activities involving internet usage.

ii. Physical Volunteerism among the Young People

Based on the interview, the informants share that they were also involved in physical volunteerism. The behaviour differs in terms of type as one of the informants shared that he also helped to do house chores;

> *"I help to feed cats to eat and also help around the house if my mother needs to do something".* *(INDIV, male)*

As for INAM, she admitted that she prepared herself to join an activity at the campus as one way of volunteering;

> *"Last semester I was asked to join the faculty representative council but I wasn't prepared. So this time when there was another chance I wasn't asked by anyone to join, but I was prepared for it and I volunteered to enter the election. So that's another kind of voluntarism for me". (INAM, female)*

Interestingly, one of the informants mentioned that he would make sure that the donation would be done by him or even his family members;

> *"I donate money. If I don't have it, I will ask dad to give the donation online".* *(INKAV, male)*

Other than viewing donation as a personal deed, informants in this study expanded their activities to a bigger network. For example;

> *"I went to church that provides help from house to house. Then, sometimes, when there's a prayer, I will help them to". (INADE, female)*

These findings suggested that the informants in this study displayed helping behaviour when with the family members. They also shared that they helped other people in different settings such as in the university, people in general, and church.

iii. Internet and the Digital Volunteerism

Derived from the interview, it shows that the informants in this study perceived themselves as doing their part as a volunteer in the digital setting. The activities varied based on their involvement in the digital world. For them, participating in online video games is also an example of volunteerism. As mentioned by INAM;

> "*When it's a group there's a group of four and sometimes you don't know who you are playing with you are just playing with three other people. So, you have to volunteer yourself to save the other person so sometimes in PUBG you have this thing when you play in a group". (INAM, female)*

In the same vein, INED also agreed that playing the online game could also serve as volunteering;

> *"Yeah. It's when people invite you to play, then you join. That is also volunteerism for me". (INED, female)*

However, not all informants in this study preferred online gaming as their activity in the digital world. For some, they were involved in online business such as INTAN and INDEV. For example, INDEV mentioned that;

> *"Yes, I help my friends to sell things online, help to find advertisements online for friends". (INDEV, male)*

Because the age of our informants falls under the category of young people, the influence of an artist or a band as one of their preferences could be seen in the interview. As reported by INADE;

> *"You read news on entertainment, then you could see the members of the band. You comment on that band". (INADE, female)*

From that, INAM also mentioned that when someone comments during an ongoing conversation in social media, it is also considered as involvement in volunteerism;

> *You're supporting the person's comment and I think it's voluntarism as well. Voluntarily supporting someone's comment". (INAM, female)*

On the other hand, the male informants connected their voluntary aspect in the digital world with sharing information from the internet to their friends, while doing the assignments. For example;

> *"I go online to search info for assignments, such as sharing the info with friends".* (INKAV, male)

For the informant, the sharing process in doing the assignment using digital technology was quick and effective;

> *I could use my knowledge in Electrical Engineering to share with others. It could be done online, especially using IG (Instagram) and Twitter as it is more effective and faster".* (INSA, male)

The informants demonstrated digital volunteerism in such an exclusive approach. They exhibited helping behaviour from the online game networks, digital advertisements up to their university classmates.

DISCUSSIONS

Young people in the modern world witness the impact of technology in their daily activities, ranging from personal needs to the mechanism of socialization with other people. In our study, these young people spent up to four hours a day engaging in online activities. However, this case is not exclusive as the informants in this study were university students. They used the internet to search for information as well as media social for sharing knowledge with other classmates while making assignments. Besides that, this activity is also using a virtual platform which allows the circulation of knowledge and information faster among the university community.

These kinds of activities played a significant role in promoting linkages among the virtual communities (Hussain, 2012; Karunagaran & Saimin, 2019). As for the 21st century learners, having a healthy relationship with other students could promote social and psychological support while in the learning process. In line with our findings where the informants reported using social media to discuss the assignment, Hussain, Cakir, and Candeger (2018) also reported that this platform has enhanced the learning experiences and promoted chances to collaborate as virtual teams. In other words, using the internet in doing the assignment is also reflecting mutual help among university students.

Other than looking at the social media as a learning tool, the informants also used this platform as a gaming activity that was closely related to digital volunteerism. The involvement in online games among young people has been documented in previous literature (Tham, Ellithorpe & Meshi, 2020; Wong et al. 2020). These studies highlighted both positive and negative effects of gaming. Isolation, lower level of communication skills in the real world, and depression are some of the negative effects due to the massive involvement in online gaming. Yet, as suggested by Cole and Griffiths, (2007), the online networks could also mimic interaction in the real-world, thus leading to friendship ties and social support among the users. In the same vein, a study done by Zhang and Kaufman (2017) reported that online gamers displayed the same level of trust as much as for their real-life friends. Hence, playing online games that requires cooperation between the players demonstrates positive values among the young millennials.

In this recent study, the informants revealed that they were involved in real-world volunteerism activities. The involvement took place at home with their other family members doing house chores. This finding suggested that young people do provide social support in helping their closest networks. Interestingly, an interview with one of the informants reported that if this person was not capable of giving money to the needy, support from other family members would be asked. This interaction displays a positive value and mutual understanding in helping behaviour among the young people and their families. One possible explanation that could describe the finding is the impact of role models among the family members. Parents that practice volunteerism and do charity could transfer the value to the other family members (Sablina & Trusevich, 2019). Thus, the practice of doing good deeds to a broader network could strengthen the ties among family members.

As described by the informants, they also expend their helping behaviour to a wider network such as joining the university activities. This could be due to the fact that volunteering with a close network has enhanced the inner value to the other community. This finding contradicts from the study done by Normah and Lukman (2020) which reported that university students were reluctant to get involved in volunteerism activity in the community due to interpersonal barriers. However, Normah and Lukman (2020) supported the idea that the influence from the environment such as good examples from the parents could encourage the development of positive values among young people. In other words, the family could become the breeder of positive values among young people, thus leading to involvement in the real-world helping activity.

Based on the digital volunteerism perspective, this study found that informants perceived that they were involved in helping through online activities. Young people who were involved in online games reported that they felt cooperation between online players existed during their virtual interaction. Besides that, the interaction also resembles a form of social support among online gamers. The importance of social support among the online community has also been highlighted by Nick et al. (2018) in which he mentioned that this aspect covers emotional, social companionship, informational as well as instrumental support. Other than showing support among the online players, our study also revealed that young people perceived digital volunteerism also covers the act of commenting on the product advertised on the internet. They felt that their action was done on a voluntary basis and without rewards. Moreover, the group of participants involved in this study was young people who have been exposed to the internet in their daily activities.

This study demonstrated that from the informants' perspective as young people, their actions on helping behaviour existed in the real world and virtual platforms. They were reported to give aids to the other family members and in other settings such as the church. In addition, their helping nature extends to help other friends in providing material**s** for assignments via the internet search. However, it seems crucial to mention that the young people in this study exhibited volunteerism both in the real world and online. These findings demonstrated the importance of healthy role modelling by parents to their children in shaping good values of helping others. The process of strengthening good value could exist in the earlier phase of childhood (Oesterle, Johnson & Mortimer, 2004). Even though these informants were in their early stage of adulthood and as university students, they were still consistent in their physical volunteerism, as well as in online platforms. In short, this study suggested that volunteerism among young people could be a stable trait and exposure to the internet and media social may well strengthen this inner value to a wider community.

CONCLUSION

The involvement of young people in volunteerism in this study suggested that it is rooted in the family's influence. They were encouraged and supported in helping family members, thus led to the action to a wider community. This sense of helping others provides an essential value in helping other people via the internet and social media. They have not only developed trust in the real world but also time towards their online counterpart to promote understanding of good values among the new generation. Although we have been shifted to be more independent towards the gadget and technology, there are still good values in this scenario. Apart from being critical of the well-being and interaction skills among modern young people, this study highlighted that spending time with the media social could also lead to digital volunteerism. This study suggested that the emergence of volunteerism value among the young people is rooted in the family's influence, driven by the parents. Among implications of this study include parents as role model**s** in shaping volunteerism among their family members. Establishing community programs that could promote ‒'helping behaviour' among family members which could serve as a tangible platform to build trust and reciprocity among a wider community, as an example the neighbourhood area. In addition, this study also suggested that using more online platforms could create and reinforce digital volunteerism. This study showed that the digital volunteerism behaviour among young people was circulated among the networks, either through social media or online gaming. Therefore, having an established internet application could help to provide a digital volunteerism platform. Internet applications that could be downloaded on the smartphone could provide quick information about the needy such as the location, types of help, and the channel of helping aid. Despite the limitation in this study where the information is gathered from a single university, the result highlighted the involvement of volunteerism among the millennials. Also, it is worth mentioning that the data in this study cannot be generalised into the other setting of young people (i.e adolescent in general, school students or young employee). This is in line with the recommendation by Polit and Beck that a qualitative study is not to generalize but rather to provide a rich, contextualized understanding of some aspect of human experience. Therefore, for future research, it is recommended to explore in-depth the involvement of young people in different settings of digital volunteerism. Such research is vital to improve the understanding about digital volunteerism among young people as it could help to provide a guideline for volunteerism management in the future. In summary, the young generation demonstrates a unique way of volunteerism as it involves interaction not only with people in the real world but also via the digital world.

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PUBLIC'S PERCEPTION AND FRAMING OF SALES AND SERVICES TAX 2.0 (SST 2.0): A MALAYSIAN CASE

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ABSTRACT
The prominence of the interplay between news frames and individual frames in relation to the implementation of Sales and Services Tax 2.0 (SST 2.0) in Malaysia is the core research of this study. The concept of news slants, news sources, and the functions of generic news frames were engaged to manifest the significance of media effects and its correlation with public perception towards SST2.0. The research methodology involved survey research on 402 respondents in the Klang Valley. The research findings confirmed that public awareness was high on the issue of SST 2.0 policy, whereby the elements of information transparency were important in influencing public opinion and decision-making on the subject. The findings showed that generic frames, news sources, news slant, policy implementation and knowledge were moderately related to Public's Perception. The findings of this research have given much insights into media impact which effectively influenced public perception of a public policy issue. The findings serve as an important framework and reference for the government when launching future public policies, and, at the same time encapsulate the contribution of framing effect by the media. In conclusion, the study implied that framing on the implementation of SST 2.0 policy would be easily accepted by the people if they are knowledgeable and informed of the policy and the SST information came from credible news sources.

Keywords:
Framing, Perception, SST 2.0, Policy implementation, News Sources

INTRODUCTION

In democratic societies, the relationship between mass media and politics is important and the two are inseparable. Media function serves as an important communication channel for government to deliver its political ideology and policy information (McCombs, 2004; Soroka et al., 2012). The media role is prominent in educating, informing and shaping public discourse and thoughts which will effectively influence policymaking decisions. Mass media plays an integral role within the context of government legitimising and implementing the policy process. The importance of its role had earned it the title of the 'fourth branch of government,' after legislature, executive and judiciary (Whitten-Woodring & James, 2012).

Mass media is deemed to be effectively influencing public discourse by setting the news agenda on a particular issue that is of public interest. According to Soroka et al. (2012, p.5), "Media matter to policy. It's an inevitable thing, surely - it is nearly impossible to imagine modern politics and policymaking without some kind of media involvement, after all." The intimate relationship between mass media and policymakers is strongly interdependent, especially when politicians need the influential platform of mass media to promote their political ideologies while media outlets need political information as input for their news reports. Under this symbiotic relationship, the policymakers tend to feed legislative information to the media and anticipate their words to be 'mediated' via media outlets (Happer & Philo, 2013).

Public policy is a complex area of research as it covers all sorts of issues related to the well-being of a nation based on its government's decisions and actions. As such, it is correlated to political decision-making processes. In order to execute a comprehensible public policy, the department or ministry concerned should present the issue clearly to the nation. One of the common approaches that government agencies often practise is to engage the media to relay their proposed policy moves by enticing and capturing public attention through headline-grabbing information in the media. Such news coverage attracts media attention and ensures the framing of the subject by gaining a high impact on public perception.

The news making and dissemination processes allow different media outlets to frame the subject from different perspectives, and therefore resulting in the dissimilarity of interpretation and understanding of the subject by the public. Chang and Lee (2010) suggested that an individual's judgments and decision making can be influenced greatly by the way information is presented or framed.

The Framing Theory proposed by Semetko and Valkenburg (2000) was employed as the fundamental underpinning theory in this study.

BACKGROUND OF STUDY

The implementation of Sales and Services Tax 2.0 (SST2.0) taxation system was a major tax legislative reform imposed by the Malaysian government and which inevitably attracted extensive media attention. The function of media and how it framed the SST 2.0 issue had effectively agitated public discourse, and thus, this framing effect on public perception and responses is the focus of this study.

Tax revenue refers to the compulsory and unrequited income gained by government via an effective taxation system (OECD, 2014). According to George (2016), taxes are levied money in modern taxation systems. It is an important fiscal instrument conferred by law for the government to raise the revenue in order to fund national expenditure. These imposed tax rates significantly impact the ratio of tax revenue generation and thereby contribute to the Gross Domestic Product (GDP) and economic growth of a country.

SST 2.0 is not a new taxation system to Malaysia as the country had exercised it since early 1970s up to the date of GST implementation in 2015. The transition of GST to SST 2.0 took exactly a three-month period (01^{st} June 2018 – 31^{st} August 2018) to accomplish the preparation and implementation of the entire policy. Under such a short timeframe, the new government (PH – Pakatan Harapan) indeed fell into a critical situation of inadequate information and frequent public debates over the issue. Henceforth, the authorities desperately needed the media to carry out the dissemination of information for public understanding.

PROBLEM STATEMENT

Media has become an important centre for public information dissemination and formation of perception. It plays a dominant role in integrating government functions and public interest through its capacity to draw and sustain public attention to particular issues including public policy making processes and thereby, informing public about government policies, as well as highlighting public reaction towards enforcement of the policies by government officials (Soroka et al., 2012).

News media exerts its power to influence public perception of an issue by transforming prominent media agenda into prominent public agenda (McCombs, 2004). This is the agenda setting process that involves transfer of news salience from newsmaker to the public on key issue. Media was said to be able to influence the priority of public interest.

Theoretically, framing theory has been well explored in researches over the years. Public policymaking is a complex process and the media plays a pivotal role in it. Many researches have been done on the framing of public policy (Keeney, 2004; Chang & Lee, 2010), but the effectiveness of media framing in shaping public perception is an area that is rarely explored.

The literature on political communications has mainly focused on public agenda studies, and which oftentimes omits the critical link between media role and public policy. Wolfe et al. (2013) interestingly highlighted that most researches have delved on how media affects public opinion, but in essence there is very little knowledge on how media directly affects public policy, and there are even less connections to public, media, and policy. As such, this study attempts to explore the gap of media role in framing SST 2.0 issues and influencing public perception within the Malaysia context, especially the venture path of changing the old SST system to the GST system, and again reverting back to SST 2.0.

The power of framing effect to select, manipulate, and heighten certain issues to influence audience perception is left to be debated. The reintroduction of SST 2.0 is mainly to ease public resentment and to reconstruct tax administration in the country. Media reporting on selective messages is the key instrument undertaken by the government to conduct information dissemination. Therefore, it is interesting to examine how news directions on SST 2.0 policy is framed by media outlets to significantly influence audience's perception.

The framing theory is often viewed as an extension model of the agenda setting theory. It is designed to explicate mass media effects on public perception, which conceptually emphasises the selection of projected news issues that subsequently influences the targeted audiences' thought (McCombs, 2004). The fundamental of this theory hasn't been consistently used to testify the implementation process of public policy, especially the linkage between the local traditional printed newspapers and audience frames in relating to the economic and policy framing issues. As such, the question of to what extent media framing and selected variables such as news slant, news sources, knowledge and policy implementation influence audiences' perception towards SST 2.0 issues within the Malaysia context has yet to be explored in depth.

Semetko and Valkenburg (2000) assert that most studies focus on limited news frames analysis and are confined within the interaction of media frames and audience frames in a narrow scope of issues on perspectives, especially those issues in relation to public perception. To what extent the five generic frames by Semetko and Valkenburg (2000) influence audience perception on SST2.0 was also explored.

RESEARCH OBJECTIVES

This study is important to address the gap of knowledge that exists within the framing theory and public perception towards the reintroduction of SST 2.0. It is important to address the gap within the framing theory to understand framing effect on public perception, especially in public policy dissemination. In order to solve the above research gap, this study underlined two objectives as follows:-

a. To identify the relationship between the selected independent variables (News Slant, News Sources, Knowledge, Policy Implementation and News Frames) and public perception on SST 2.0.
b. To identify the extent of the relationship between generic news frames and public perception on SST 2.0

LITERATURE REVIEW

Numerous researches have been conducted relating to media framing effect on public perception. Brewer & Gross (2005) asserted that politicians and political activists usually frame the political events based on the essence value of an issue, such as sentiment values of equality, rights, and compassion towards a societal problem. Their finding showed that the public exposure towards a value frame can produce two types of media effects; firstly, the ability to invoke public's thought and understanding about an issue; secondly, the consequence to lead the public to express their thoughts about the related issue. Under the study, 'public exposure' had significantly influenced public thought by allowing audience to narrow down their focus and judgement on a specific policy issue.

Jackson (2011) found that strategic news framing or news generic increased the tendency to focus on political games. It effectively motivated the political movement in promoting public policy. High frequencies of strategic news reporting on policy announcement significantly induced political judgement by the public and in addition succeeded in attracting certain segment of voters, outflanking political opponents, and solving societal problems effectively.

Kornhouser (2007) highlighted that framing effect is most relevant to manifest the consequences of tax compliances by public. The direction of news framing on tax issues shall greatly impact the public's attitude towards tax provision, especially in influencing how people hold the risk-averse in regards to gains, and in turn hold the risk-seeking in regards to loss. This means that people might refrain from risk taking under the positive news framing, and adversely might take risks when exposed to negative news framing.

Kroon et al. (2017) in their policy framing on workforce across Europe countries' study found that the intensified opposition against the policy reformation in regards to financial crisis has strongly driven the change in framing. Specifically, the economic framing issues that relates to societal concerns are likely to attract the public interest, such as the finding from Jacoby (2000) about framing on government spending issue had essentially justified the existence of framing effect on subsequent distribution of public opinion and affected attitudinally change. Another interesting finding from this study showed the differing framing effect could influence people responses towards a single issue. Albeit the ultimate aim of framing effect by media is hope to shape the public thought over certain issues, however, cognitively differences among public are ingrained with dissimilarity of self-values and self-experiences, therefore different frame can be meaningful to different people as publics are not the homogeneous entity (Merilainen & Vos, 2013).

In regards to the conception of five news generics proposed by Semetko and Valkenburg (2000), their pioneering research explicated different types of media outlets such as television and print newspapers might engage different function of news generic to present for a news story. For example, Responsibility prominence frame carried high mean score for government to highlight certain issues that are related to the element of causing or solving social problems. Their research finding also suggested Responsibility Attribute was mainly framed by the influences of political culture and social context.

Under the same study, it was found that Conflict frame was the second common conception that largely employed by press and television to report on the political issues, mainly news coverage about the coalition among political parties or conflict between government and opposition. Besides, both television program and newspapers outlets will also apply some soft approaches by engaging economic consequences and Human Interest frames to report on sensational news event. Meanwhile, in terms of morality issues, the study showed that the news appearance on television program will be more prominence compared with newspapers coverage.

In the Malaysian context, the uniqueness of multi-ethnic has been axiomatically made to accommodate different media languages in representing multivariate voices by citizen, therefore, news framing policy by each media outlet is obviously distinctive between one to another. Generally, the local study on framing theory tends to scrutinise on social issues. For example, Chang et al. (2011) highlighted the role of Chinese newspaper in regards to relationship between Government and Non-Governmental Organisation (NGO) on education issues. Its result showed that media stance had prominently crafts the news directions and successfully established the public perception. Power of journalist in framing news sources is important to shape the frame building process and therefore influenced news contents, and of course, it also depends on the media institution's policy and news worthiness.

Chang et al. (2012) further proved that the importance of news sources carry a greater impact on news generic such as Responsibility, Conflict and Human Interest frames. Whereas, the effects of news media were more applicable to Economic Consequences and Morality frames.

The news sources integrally influence the news slant presentation. Subsequent research conducted by Chang et al. (2013) continuously showed the advocacy by different media institutions brought differing impact on news effects. For instance, their study on riot 'Bersih 3.0' found that pro-governmental news outlets such as *Utusan Malaysia* had clearly commented that the said riot as an outrageous illegal social movement. However, anti-governmental online media such as *Malaysiakini*, on the other hand, reported the said riot as a rightful social movement and was well received by the people.

In terms of news generics presentations, the prioritisation of issue framing engagement by both news outlets were different; for example, *Utusan Malaysia* highlights Responsibility frame as main focuses, whereas, *Malaysiakini* presents Conflict frame as the main news coverage. Under such circumstances, editorial policy of each respective media outlet will be an important measurement to justify the news direction and ultimately influence what and how people think about an issue.

Faridah Ibrahim et al. (2012) used the same five news generics of Semetko and Valkenburg (2000) to study framing of the H1N1 flu pandemic issue. It investigated the intervention of Malaysia authority in disseminating the news of prevention flu pandemic information. The result showed the Responsibility frame received the highest score, and was followed by Morality frame, Human Interest frame, Conflict frames and lastly Economic Consequences frame. This finding clearly explicated the importance of media as gatekeeper and journalist in providing a balanced view on the pandemic issue and to guide its readers to make an accurate decision after the news judgement.

In terms of media effects on ethnic issue, Faridah Ibrahim et al. (2012) examined the difference of generic news frames between two different ethnic media (a Chinese newspaper and another ethnic-based newspaper) when it comes to issues pertinent to nation building such as 1Malaysia, Economic Transformation Programme, Politics, Religious Issues and Public Safety. Their findings found that the Chinese newspaper prefers using the Responsibility frames when it comes to reporting nation building issues. The other newspaper are similar to the Chinese newspapers except that the other newspaper uses more Conflict frame in reporting political issue.

Fong and Kit (2016) also employed the same five news generics to highlight the inter-religious conflict issue in Malaysia. The issue studied was concerning the aggressive movement by some minority groups of Shah Alam's Muslim residents who participated in a contentious protestation by throwing a cow's head into the Selangor State secretariat building. The demonstrators were against the demand for the relocation of a 150-years Hindu temple as requested by Indian community. Their findings indicated that different media reported the dispute with different intensity and prominence. It also noted that albeit conflict generics was the most salient frame under the study, somehow, the aspect highlighted by the different media were varied due to different political beliefs and institutional practices. This result was synergised to the earlier research conducted by Fang and Md Sidin (2012) on the issue of Hindu Rights Action Force (HINDRAF) movement which found that the same impact of political stances, cultural assumptions as well as media ownership and practices greatly determined the varied points of publication.

The missing flight MH370 became a big shock to the world due to its mysterious disappearance and involved the death of multi nationalities. Bier et al. (2017) similarly uses five news generics to study how media frame the issue attribute across three different countries covering Malaysia, China, and United States. Based on the research, responsibilities frame was the prime attribute in common and widely engaged by all media from three different countries to report on the issue. Meanwhile, Conflict and Human Interest frames were treated as secondary attributes and framed differently by news media of three different countries. The finding of this research demonstrated different interest by different countries will have the differing evaluation on societal risk. However, on the other hand, Lim et al. (2020) zoomed in the news reporting between *The Star* and *Malaysiakini,* which found that both the news media prioritised the news generic differently, i.e. *The Star* provided general and limited viewpoints that focused on Human Interest frame, whereas, *Malaysiakini* had more critical news coverage that focused on Responsibility frame.

A study by Mohammad Noorhusni Mohd Zaini and Abd Rasid Abd Rahman (2017) presented media impact on Malaysia national 2017 budgeting. They highlighted the contention of two different media ownership i.e. *Sinar Online* and *The Star Online* that portrayed different news directions and put different weights on the five news generics.

In addition, *Sinar Online* representing private owned media projected the five news generics in a different sequence but to measure the same attributes. The prime news generics was led by Responsibility frame and followed by Conflict frame, Economic Interest frame, Morality frame and Human Interest frame. In addition, the news direction by *Sinar Online* politicise the budget issues, by which the conflict frame was not directly linked to the budget content, and instead engaged the opposition party members as their news sources.

The impact of framing effect that were generated by the five news generics as proposed by Semetko and Valkenburg (2000) typically lean on the nature of media outlets and how they frame the particular issue presentation. For instance, those issues that relates to political movement will be posted under Conflict frame or Responsibility frame as priority, while issues related to health factor will be posted under Responsibility frame or Moral frame. The attitude by media shall determine the link between issue priority and the sequence of news generics. In conclusion, the conception of these five news generics is to integrally guide the audience to assess an issue presentation in a wide perspective and subsequently lead for issue judgement.

Framing Theory

Framing theory is a compelling paradigm that is apparently famous among communication researchers in evaluating media effects of the mass communication process. It has been classified as the extension theory of media agenda setting and to be known as second level of agenda setting theory. The fundamental value of this theoretical perspective involves cognitive psychology which focuses on 'news salience selection' processes.

The integration of agenda setting and framing is important to manifest the media effects on policy agenda, especially publics' interaction and controversy about public policies (Dekker & Scholten, 2017). Both theories present different ways of media effects, but in essence the integrations are able to bring out the entire outlook of media influence towards public perception via the transfer of news salience from policy agenda to media agenda and subsequently influence public agenda. The prominence of this theories integration is to highlight the news framing process and focus on the reintroduction of SST 2.0 policy for public thought and debates.

Conceptually, the first level of agenda setting is referred to as agenda setting theory. It was introduced by McCombs and Shaw (1972) to answer the first part of media effects by telling its audience what to think about an issue, meanwhile, framing theory acts as the second level of agenda setting and functions to answer the second part of media effects by telling its audience how to think about an issue's attributes.

The key concept underlined by Lippmann (1922) heighten what public perceived about the world is largely depended on what the media intend to tell them. Based on this axiom, the basis of powerful media effects was successfully established because media is equipped with strong functions to influence publics' believing and thought. The prominence of media coverage ultimately become the prominence of public perception.

Public judgement and believe over an issue is based on the 'stereotype' concept, which has been defined as a societal position defencing system that is derived from the personal traditions and cultures according to Lippmann (1922). It is a pseudo image that is stored in the public mind that is often used to guide audience to understand the outside world and thus build up their perception and values on certain news issues.

Cohen (1993, p.13) had interestingly highlighted "the press may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about". This statement has clearly spelled out that media function might have some minor influences towards audiences thought, but literally it is more powerful in guiding audiences on issues of interpretation and judgement.

Two of the famous communication scholars namely McCombs and Shaw (1972) were profoundly influenced by Cohen's earlier ideology and therefore worked on a new theoretical framework called 'Agenda Setting Theory'. Both of them opined that audiences might not solely learn about a given issue, but it is also important to analyse and understand the news positioning and content of issues. They claimed that media function will significantly determine the importance of issue salience that is intentionally heightened by politicians, and thereby setting up 'news agenda' to highlight the valence of event and report to the public attention (McCombs & Shaw, 1972).

Literally, framing theory is also known as attribute agenda setting, where it concerns the behavioural conduct of media information processes that mainly emphasize on selection of issue salience. D'Angelo (2017, p.1) quoted media frame as a written, spoken, graphical, or visual message that is used by the communicator to contextualise a topic or issue, within a text transmitted to receivers by means of mediation. It is an important communication process that effectively links the news generator and news receiver.

Framing theory was first set forth by Goffman (1974, p.21), who was the progenitor of this concept, and it is found to highlight individuals' schemata which employs their instinct primary framework to recognise or evaluate particular events that they experienced. 'Primary framework' has been referred to as schemata of interpretation that carry the function of translating some meaningless scenario into something meaningful to an individual. This concept assumes that the individual is lacking in knowledge about the real world and thus, attempts to interpret the surrounding environment accord to their life experiences. Therefore, it is a guideline for individuals to locate, perceive, identify, and label the information they receive.

Framing theory has widely been applied to examine the communication process and its effects on media. Entman (1993, p.53) pointed out communication text would be powerful to transfer information and reach to consciousness of audiences precisely. He is also in the opinion that framing concept involves the selection of issue salience, and refers to it as "to select some aspects of a perceived reality and make them more salient in the communication text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and or treatment recommendation."

McCombs (1997) opined framing as the highlight of attribute agenda setting. He argues that media has oftentimes focused and discussed on some selected issue out of many others issue agendas. The process to pick and choose vying contentious issues is generally conducted by the media management or journalist to promote certain topics that they perceive important for public knowledge, and therefore are characterised as framing of "selection of - and emphasis upon – particular attributes for the media agenda when talking about an object" (McCombs, 2004, p.87). The integration between framing and attribute agenda-setting is seen as important in calling audience's special attention towards the news issue coverage by media and thus, guide the audience to map the picture or object in their mind and subsequently influence the attitudinal change.

Scheufele & Tewksbury (2007, p.11) quoted "framing is an assumption of how an issue is characterised in news reports can have influence and how it is understood by audiences". As such, the way how media processes and presents a given story or frames the given information is important in influencing public thoughts and discourses (Scheufele & Iyengar, 2012). In other words, framing is not only to increase the salience of news topic, instead, it is more important to evoke audience thinking about an issue that is relevant to their pre-existing cognitive schema (Scheufele, 2000) by translating a symbolic message to a meaningful structure of the social world (Reese et al., 2001).

In the communication perspective, framing theory construes how media function shapes the public perceptions, particularly to invoke public discourses and attitudinal reactions after being exposed to certain selected news information.

Media attention towards public policy has been considered as key to influence the signification of policy agenda (Helfer, 2016). The quantities of media coverage on specific policies issue will likely attract the attention of law makers and increase their intention to prioritise policy making processes (Melenhorst, 2015).

News Sources

News is an outcome of the interaction between media organisation and social-political environment (Tiffen et al., 2013). The reciprocation between journalists versus bureaucracies is a 'tug of war' game which interestingly involves the activities to supply, demand and dissemination of news information. Literally, the function of news sources is to attempt to manage and control the issue contents and information supply, whereas, journalists act as information receiver and reserve the right to choose and extract information from news bundles, and they also serve to meet their media outlet's interest (Gan, 1999). As such, the assessment of news content is not on the priority of what to be considered as newsworthy, but of what information is available to be published (Tiffen et al., 2013).

Sources are considered as one of the most influential external factors of frame building process, as the journalists choose their news based on their communication with other actors. These actors can be the politicians, organization or social movements. The news sources are vied to influence media decision in framing the news stories they supplied and thus, the expected outcomes are the messages that are framed consistent with their preferred framing effect (Hallahan, 1999; Kerner, Bohm and Sack, 2014).

In the realism of news making processes, the integration between journalists and news source is important in affecting news frames, as stated by De Vreese (2005) news source is a process of building the structural qualities of news frames. In addition, Entman (1993) further argued that to some extent, source is the story. Therefore, news source is characteristically acted as the authority that prominently assured the supply of plausibility and reliability news content, and thus determined the outcome of news presentation. Chang et al. (2012) found that news sources carry a big role in influencing frame-building process against the function of media workers.

The credibility of news source is important to justify the accuracy and reliability of news information, as the fact that journalists heavily rely on them to obtain news story and facts of an event (Faridah et al., 2012). The function of the editorial board is equally important in managing news issue information, especially their role as news gatekeepers, and their roles to frame, segregate and disseminate news events. As such, in order to avoid media bias on news issue coverage, it is important to engage the balance facts from multilevel sources about an issue and not solely rely on a single risk of news source.

News Slant

News slant is about the bias in reporting of an issue and reflecting the ideology of media outlets or author on certain news issues. It is a vitally important element that can influence audience attention towards certain news issue and media consumption. The bias reporting by different media outlets on a single issue would resultant to differing version of beliefs and perceptions by readers (Wang et al., 2014). Mohammad Noorhusni & Mohd Zaini (2017) have the same quote that issue standing or political ideologies differences by media outlets could be causing the media biases towards the public policy issues.

News slant is based on the premise “when a news reporting emphasises one side’s preferred frame in a political conflict while ignoring or derogating another side’s” (Entman, 2010, p.392). Selective one-sided news framing meant audience is paying a specific attention towards certain news topic according to their news’ favouritism while less focus on another side of news. Hayakawa (1940) was the first scholar brought up the ‘slanting’ conception, and it has defined as a process to select some details that are favourable or unfavourable towards the described subject. This concept is in line with the ‘news framing’ process operated by news makers, which the media outlets focus on certain selection of attribute salience and objectively telling people ‘how to think about issue’.

METHODOLOGY

Using Klang Valley as the targeted locality, the researcher used stratified data sampling in order to get a balanced and representative samples for this study. Overall this study applied the disproportionate stratified sampling. Stratified sampling is a probability sampling procedure in which the target population is first separated into mutually exclusive, homogeneous segments (strata), and then a simple random sample is selected from each segment (stratum). Disproportionate stratified sampling is a stratified sampling procedure in which the number of elements sampled from each stratum is not proportional to their representation in the total population (Salkind, 2010).

The method of sampling ensured that the researcher had a balanced representation from different ethnicity, different age groups, different income bracket as well as education level. This is important seeing that the researcher was gauging public perception on taxation system that affects all level of society. Stratified sampling was used for this research context because it is able to represent a diverse population, and reasonably reflective of general public perception.

Using Krejcie and Morgan (1970) sampling frame, a total of 422 questionnaire was administered and the returned usable questionnaire of 402 representing 95.2% were used for the final data analysis. For the Pilot test of the survey questionnaire, about 100 respondents were taken to check the reliability of the instruments among local students and staff from Infrastructure University Kuala Lumpur and residents in Bangi, Selangor. The reliability test using alpha Cronbach recorded values between .80 to .90 indicating a high and acceptable level.

Findings: Demographic Profiles

A total of 402 respondents in the Lembah Klang answered the survey questionnaire. Four zones were targeted to collect data from the survey namely Kajang, Shah Alam, Lembah Pantai and Ampang. Data was collected using stratified sampling. Out of the total 402 respondents, 51.5% (207) were female and 48.1% (195) were male. In terms of age, a big group was from the age of below 25 years, 37.5% (150). This was followed by those in the age group of 36-45 years, 21.8% (87) and closely followed by the age group 26-35 years which made up of 21.2% (85) of the respondents. The 46-55 years age group made up 11.9% (48) and the smallest group was the 56 years old and older which made up 8.8% (32) of the respondents.

In terms of ethnicity, a big majority were Malays, 65.9% (265), followed by Chinese, 23.6% (95) and Indian, 10.5% (42). Indeed, these numbers well represent the actual scenario of ethnic percentage in the Malaysian population. Education wise, a big group came from those with Bachelor’s degree and Diploma holders, 50.4% (202). So, it could be said that the respondents for this study came from the educated group. About 25.9% (104) had SPM/SPVM, followed by those with MA and PhD, 15.2% (61). Two smaller percentages in terms of education, were from STPM, 6.2% (25) and those with lower secondary education, LCE/SRP and below, 2.5% (10).

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The majority of the respondents were employed in the private sectors, 35.1% (141), followed by the government sectors, 26.6% (107). About 27.1% (109) were students. A small percentage of 4.5% (18) had their own businesses and about 6.7% (27) were not working.

In terms of income, the data showed that a bigger portion of the respondents, 21.9% (88) were getting about RM2001-RM3000, about 13.9% (56) were getting RM3001-RM4000, and 7.0% (28) were getting RM4001-RM5000, and 11.9% (48) were getting RM5001 above. These data showed that almost half of the respondents can be categorised as belonging to the middle class in Malaysia (Ali Salman 2008). About 21.9% (88) earned between RM2001- RM3000, and those earning RM1001 to RM2000 were about 13.4% (54) and a small percentage of 4.2% (17) earned a minimal amount of less than RM1000. Since the bigger group of respondents in this study was students, hence 27.6% (111) recorded no income.

The demographics shown in Table 1 clearly depict the realistic representation of entire Malaysian population, especially the income has significantly reflected the truthful of household income that energised the spending power and henceforth direct facing the effects of SST 2.0.

Table 1: Demographics Data of the Respondents (N=402)

Variables	Frequency	Percentage
Gender		
Male	207	51.5
Female	195	48.5
Age		
25 below	150	37.5
26 – 35	85	21.2
36 – 45	87	21.8
46 – 55	48	11.9
56 above	32	8.8
Ethnic		
Malay	265	65.9
Chinese	95	23.6
Indian	42	10.5
Education Level		
SRP/PT3/PMR and below	10	2.5
SPM/SPMV	104	25.9
STPM	25	6.2
Diploma/BA	202	50.4
MA/PhD	61	15.2
Employment Status		
Government	107	26.6
Private	141	35.1
Own business	18	4.5
Not working	27	6.7
Student	109	27.1

Income		
Less RM100	16	4.2
RM1001-2000	54	13.4
RM2001-3000	88	21.9
RM3001-4000	56	13.9
RM4001-5000	28	7.0
RM5001 above	48	11.9
No income	111	27.6

A question was asked regarding why do the people need to pay tax in the form of indirect tax (SST 2.0) or income tax and others, and a majority, 57.5% (231) responded that it is because of their obligation. About 23.3% (94) said that the tax is important to help the government finance public utilities, 13.7% (55) said it is because they want to avoid punishment. A small percentage of 5.5% (22) admitted they were unsure why tax is important (as shown in Table 2). The data in Table 2 also indicate that a majority of the respondents was aware of the existence of taxes and why they need to pay tax. On a positive note, the respondents felt that they were obligated to pay taxes and this include indirect tax of SST 2.0.

Table 2: Reason for paying tax

	Frequency	Percentage
Avoid punishment	55	13.7
Finance public utilities	94	23.3
Obligations	231	57.5
Don’t know	22	5.5
Total	402	100.0

Hypothesis 1:
Several selected independent variables (News slant, News sources, Knowledge, Policy Implementation and News Frames) have positive relationship with public perceptions on SST 2.0.

To test Hypothesis 1 through the sub-hypotheses, a Pearson Correlation was used. The results of the correlation is presented in Table 3 It could be seen that all independent variables are significantly correlated with the dependent variable, public perception on SST 2.0. The correlation results showed that Implementation of SST policy as well as knowledge and understanding of the SST issues showed significant relationship with Public Perceptions with value of $r = .537$ and $r = .528$ respectively, at $p<.01$. According to Guilford Rule of Thumb table (1973) the study can conclude that there is a moderate relationship between the dependent variable (Public Perception) and the independent variables (Implementation and Knowledge of SST 2.0).

The findings in Table 3 also shows that news framing from the media in terms of news sources, news slant and news frames were significantly related to the Public’s Perception on SST 2.0. The findings showed that news frames ($r =.446$, $p<0.01$), news sources ($r = .436$, $p<0.01$) and news slant ($r = .407$, $p<0.01$) were moderately related to Public’s Perception.

The results showed that there was a significant correlation between the dependent and the selected independent variables. These findings are consistent with the research finding by Azahar Kasim & Adibah Ismail et al. (2018), which quoted the powerful role of journalist and government owned media tends to control news content that advocated its self-interest along the frame building process. Some imperative media framing approaches including news sources, news slants and generic frames are objectively designed to gain the positive thinking and positive perception towards an issue by the audience. In addition, it is also in line with the research done by Chan et al. (2017), that proven the knowledge conception is significantly impact the public perception towards taxation issue especially influencing the attitude and morality of tax payable by publics.

Hence, the sub-hypotheses on the selected IVs were supported. The study indicated that the respondents' perception regarding SST 2.0 were influenced by the implementation of the SST policy, their knowledge and understanding towards the issue and how the media framed the issues from the perspective of Semetko and Valkenburg (2000) generic news frames as well as news sourcing and news slant. Results from the correlation test provide ample evidences that all sub-hypotheses under Hypothesis 1 were supported.

Table 3: Correlations of selected Independent Variables and Public Perceptions on SST 2.0

	News slant		News sources		Knowledge		Implementation		News Frame	
	r	p	r	p	r	p	r	p	r	p
Public Perceptions	.407	.000**	.436	.000**	.528	.000**	.537	.000*	.446	.000**

N= 402; **p<.01

Hypothesis 2:
News generics (Responsibility, Human Interest, Conflict, Morality and Economic Consequence) based on framing of SST 2.0 will have a significant impact on public's perceptions.

In Hypothesis 2 via sub-hypotheses, the study aimed to look into the relationships in terms of the different generic frames (Responsibility, Human Interest, Conflict, Morality and Economic Consequences) with Public's Perception. The aim was to find out which of the generic frames have a strong influence on the Public's Perception pertaining to SST 2.0 issues. The results in Table 4 indicated that among the five generic frames, Responsibility frame showed the highest correlation ($r = .367$, $p<0.01$), followed by Economic Consequences frame ($r = .358$, $p<0.01$). Based on Guilford Rule of the Thumb table (1973), the study can conclude that there was a significantly low to moderate relationship between Responsibility and Economic Consequences frames with Public's Perception on SST 2.0 issues.

Human Interest ($r = .335$, $P<0.01$) and Morality ($r = .324$, $p<0.01$) recorded significantly low relationship with Public's Perception. While Conflict ($r = .125$, $p<0.05$) showed a significantly negligible relationship with Public's Perception on SST. 2.0.

The results indicated that the respondents were concerned about how the SST 2.0 issues were handled responsibly by the authority. Responsibility frame also showed a group of people and certain sectors in the government are responsible in handling the SST issues. Economic consequences include clarity in information regarding the economic consequences of SST on the people as well as realistic talks about profit and losses due to SST. The perspective of SST from the angle of human interest and morality only had a slight influence on Public's Perception, hence showing a low strength relationship. However, conflicting issues of SST were not considered much by the respondent, and hence showed negligible relationship. The data from the correlation tests showed significant relationships between the selected independent and dependent variables and hence all sub-hypotheses in Hypothesis 2 were accepted.

It is understood that the prominence of news generics engagement by news media are asymmetrically due to various issue specific. Responsibility frame has seemed to be most famous generic frames in this study, in which consistent with the research that pertaining to the major public

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interest issues in Malaysia, such as pandemic HINI issue (Chang et al., 2010); education issue (Chang et al., 2012); and national budgetary issue (Mohammad Noorhusni & Abd Rasid. 2017).

Table 4: The correlation between Public's Perception and the five generic news frames

	Responsibility		Human Interest		Conflict		Morality		Econ. Consequences	
	r	p	r	p	r	p	r	p	R	p
Public Perceptions	.367	.000**	.335	.000**	.125	.013*	.324	.000*	.358	.000**

N= 402; **p<.01; *p<.05

DISCUSSION

As regards to the survey analysis on public perception towards SST 2.0, the researcher collected 402 respondents from varying demographic profile that comprises balanced demography in terms of gender, race and locality. Generally, the data analysis showed that the public perceive issue SST 2.0 as a complicated taxation system and the government should educate the public before the implementation. This opinion reflects the importance of how the government engages media agenda to transmit the issue salient (SST 2.0) to the nation by means creating public awareness and public knowledge in comprehending the issue and make to be understood by the public. Due to citizens' obligation to the country, the survey result showed that the public were of the opinion that people who are non-compliant to pay for tax should be punished.

On the economic perspective, the public seems to have a lack of confidence of SST 2.0 which could be allayed to household expenditure commitment, as such, the public is perceived to disagree that SST 2.0 would contribute to the stabilisation of goods prices and curb spending that lead to savings by consumers. Considering the low confidence towards the SST 2.0 policy, the public further perceived a low level of agreement to the importance of SST 2.0 to the economy of the country, and similarly perceived low agreement that the revenue collected from SST 2.0 would be shared equally among the nation.

Muhammad Azahar Abas (2019), in reflecting on what is good governance, highlighted that for any public policy that uses the top-down approach, it often fails to consider the significance of past actions in the same policy area. In the same way, this research showed that the public scepticism and lack of confidence resulted from top-down approach of the SST 2.0 policy without active and constant consultation with public stakeholders on the changes from GST to SST 2.0.

In the context of understanding the appropriate role by news slant in framing the issue of SST 2.0, the survey result found that the public disagreement about media can be trusted and reliable in reporting the news. In fact, the statement with the lowest level of agreement was that "*news on SST in the media is not bias*". This shows that the public perception is negative towards the news slant and orientation of the media which they deem to be bias. However, it is interesting to note that the public trust SST 2.0 news on television more than they do social media and print media. This shows that television news are perceived to be more factual and less biased.

The survey on public's knowledge and awareness yields with encouraging result as the public showed a high awareness of how SST 2.0 works. The government must take note that albeit public sentiment show of a high agreement that the SST 2.0 revenue should be channelled towards welfare assistance to the nation, however, they disagree that this new taxation policy is protecting the interest of the lower income groups.

This finding directly correlates with the data of public perception towards policy implementation. The result has clearly indicated that public highly agreed the government should be more transparent in exercising the SST 2.0 implementation, besides setting up proper communication channel and feedback channel for the public to deal with the issue. The survey data also showed that the public do not feel their involvement and are not satisfied with the policy implementation, therefore, the sentiment of scepticism has resulted a low level of trust among the public towards the government work culture especially concerning the process of implementing policy SST 2.0.

In terms of media consequences by both news slants and news sources, it has found that both the conception having positive relationship with public perception on SST 2.0. Further to that, public knowledge of SST 2.0 towards the policy implementation is also having positive relationship with how public perceive the issue. In this study, news sources, news slants and public knowledge prevailed to shape the public perception towards issue SST 2.0.

As such, the result findings were in line with the previous researches that expounded the contexts of prominence media effects influences public thought and judgment over an issue. For example, in the research of Kleinnijenhuis et al. (2019), the researchers found that the mass media do shape political preferences and ideas.

In the context of news generic engagement, all the five generics frames namely Responsibility frame, Human Interest frame, Conflict frame, Morality frame and Economic Consequences frame, do have significant impact on public perception towards SST 2.0. The research data showed that Responsibility frame has secured the highest correlation value among all other news frames, this means that the public strongly agreed that government should be responsible to the implementation of SST. In this case, the responsibility by the government in rationalising the equality of wealth among the nation and helping the poor would be highly anticipated by the public.

CONCLUSION

The study concluded that the main variables that carried positive relationship with public perception on issues of SST 2.0 would be policy implementation, knowledge and awareness as well as the generic news frames generated by the media. On the novelty of the study, the study implied that framing on the implementation of SST 2.0 policy would be easily accepted by the people if they are knowledgeable and informed of the policy and the SST information came from credible news sources. Hence, the policy makers need to provide sufficient, clear and well-defined information to the people before implementation of certain policies in the future.

The news generic frame that is most effective on public perception towards SST 2.0 would be responsibility and economic frame. The human interest, conflict and morality frame seems to be less effective in framing the public perception on issue SST 2.0. News slant and news sources are proven to be negligible.

In sum, the finding of this research had given much insight of media impact which effectively influenced public perception on policy issue. The significance of frame setting in leading public judgement can be a validated thought provoking by the Government, especially involving the establishment of public policy exercises. Besides, media outlets can benefit from this research finding as they would be able to justify the characteristics of each news generics and what are the most effective means to be engaged in disseminating economic related information.

Last but not least, the researchers believed that this study has paved a comprehensive theoretical explication of first level and second level agenda setting theory. The significance of framing theory and news generics justify to serve for future studies that is relevant to the economic related issues. As such, engagement of framing theory in different media platforms which play the role in shaping public perception on economic policy should be further refined.

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SUSTAINABILITY AND ETHICAL CONSIDERATIONS DURING THE COVID-19 PANDEMIC

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ABSTRACT
The COVID-19 pandemic is regarded to be among the most major global health crisis of the century and the biggest threat facing the world since the Second World War. Infectious diseases, especially those that have been declared by the World Health Organisation (WHO) as a global pandemic such as COVID-19 can lead to frightful multifarious impact. It has spread rapidly all over the world, presenting the entire human population with immense health, social economic, educational and environmental challenges. These are some of the critical areas that made up sustainable development. The notion of 'sustainability' brings forward the idea that wealthier, more technologically sophisticated societies would have to contribute materially and through a wide range of assistance program to increase the well-being of poorer nations. So the questions of obligation and responsibilities come into play which are within the realms of ethical principles. Under these circumstances one can see that the application of sustainability framework requires a better understanding of ethical concepts. In this conceptual paper we discuss the challenges and implications of sustainability in a pandemic situation and provide some ethical practices and solutions to manage these challenges.

Keywords:
Sustainability, Ethical Considerations, COVID-19, Pandemic, Global Health

INTRODUCTION

The COVID-19 pandemic is regarded to be among the most major global health crisis of the century and the biggest threat facing the world since the Second World War. Many researchers have argued that "the world is becoming increasingly complex and hazardous" (Seeger and Reynolds, 2008). Infectious diseases, especially those that involve unexpected outbreaks such as Severe Acute Respiratory Syndrome (SARS in 2003), Swine flu H1N1 (2009) Middle East Respiratory Syndrome (MERS in 2012), Ebola (2014-2016) and present Covid-19, can lead to frightful psychological, physical, economic, and social impact. Considering that each outbreak is at least to some extent different than its predecessors (Coombs, 1999), the emergence of new infectious diseases is marked by uncertainty, amongst scientists and the public alike.

A new infectious respiratory disease emerged in Wuhan, Hubei province, China in December 2019 and was called coronavirus disease 2019 or COVID-19 by the World Health Organization (WHO, 2020). It has spread rapidly all over the world, presenting the entire human population with immense health, social, economic, educational, and environmental challenges. These are some of the critical areas that made up sustainable development.

The global economy is being significantly affected by the coronavirus outbreak. Countries are trying to slow down disease transmission by testing and treating patients, quarantining potentially infected individuals by touch tracking, banning large meetings, enforcing full or partial lock-down, etc. (Chakraborty & Maity, 2020).

During the pandemic, the focus of public interest was the protective health care products such as masks and hand sanitizers. In many affected countries, masks were recognizably the 'must-have' item following news about COVID-19, and the Google search soared following the announcement of the first case of COVID-19 in Malaysia (Lim, Ong, Xie, & Low, 2020).

According to Lim, Ong, Xie and Low (2020), with the realization of the need for hand hygiene and handwashing, the interest in hand sanitizer subsequently grew. There was also concern from the public about the suitability of the supply and the affordability of the health care products since the prices of the products had risen at some point.

The COVID-19 outbreak presents major regulatory and ethical problems for those in the supply chain of these goods to procure suitable pharmaceutical and health care products and diagnostic medical devices. People with concerns about their health often turn to the internet for knowledge, and because of the accessibility that the internet provides people in this time and age it would be easy to retrieve that information (Lim, Ong, Xie, & Low, 2020).

There has been an influx of sellers online and the options available to online shoppers have been rapidly increasing. However, not all sellers are trusted and some of them take advantage of the ongoing pandemic to sell low quality health care products that can do more harm than good (Fairgrieve, Feldschreiber, Howells, & Pilgerstorfer, 2020). People seek transparency in their online transactions (Aronczyk, 2020).

Transparency and trust are important principles in ethics. And ethics or morality has to do with the principles, standards, rules, norms of conduct that make cooperation, justice, and freedom possible.

Currently the pandemic has exposed several sustainability and ethical challenges to the society at large. Clearly, we are at a significant crossroads, with consequences of climate change, the persistent problem of the COVID-19 pandemic and depletion of resources on the horizon which are in the domain of sustainability. The question of our responsibility to the future looms large and it is an ethical responsibility that should be addressed and better understood. This paper attempts to highlight the meaning of sustainability and to what extent it is applied in the period of a pandemic and how does ethical consideration go in line with sustainable development.

SUSTAINABLE DEVELOPMENT

In effect, sustainability forces us to face the consequences of our behaviour. And as a result, developing an understanding of the ethical underpinnings of sustainability is fundamental to applying it as a solution for the many problems that societies are facing and will be facing in the future. On a general basis, sustainable development is defined as “development” that meets the needs of current generations without compromising the ability of future generations to meet their needs. The Brundtland definition of sustainable development was a broad ethical principle with two key components namely The Social Equality and Equity as pillars of sustainable development that focus on the social well-being of people.

Sustainability is now a well-known and commonly accepted framework for guiding a wide variety of choices. Sustainability suggests that in the decision-making process, societies that have a good Quality of Life (QOL) have an obligation to ensure that both future societies and contemporary, and less well-off societies are also able to achieve a standard of living in which their basic needs are met (United Nations General Assembly, 1987, p. 43).

The main features of sustainable development are:

- it respects and cares for all kinds of life forms.
- it improves the quality of the human life.
- it minimises the depletion of natural resources.
- it enables the communities to care for their own environment.

Communities are applying sustainability to solving urban areas and reinvigorating the local economy. Corporate companies are using the concept of sustainability to expand the measure of success for their endeavours from the financial bottom line to triple bottom line. Whilst universities are applying sustainability to guide changes to their campuses, curriculum, governance, investments, procurement policies and relationships with their local communities. Hence, sustainability is a framework upon which specific strategies could be used to guide decision making.

Inherent in the definition, the notion of 'sustainability' is the proposed responsibility of contemporary society for the QOL of today's population plus the preservation of resources, the environment, and the ingredients needed for future populations to also experience a good QOL. This is a disheartening task that requires enormous changes in thinking, policy and basic assumptions about the economy for its full implementation. In the field of agriculture, the word 'sustainable' implies the relationship to an ecological balance such as conserving an ecological balance by avoiding the depletion of natural resources (Zakaria et al. 2017). Maintaining an ecological balance will help the country to stay within the boundary of sustainable development.

One may question why there is a need to apply the sustainability framework? To answer this, then several terms need to be considered such as rights, obligation, and interdependence.

Currently, this notion of sustainability brings forward the idea that wealthier, more technologically sophisticated societies would have to contribute materially and through a wide range of assistance program to increase the wealth of poorer nations, to help them to develop their capabilities to provide basic needs to their population. So, the question of obligation comes into play. Does the present generation have an obligation to the future generation? Who is controlling the fate of poorer countries and everyone else?

Hence one can see that the application of sustainability framework requires a better understanding of ethical concepts. At its core, sustainability is about ethics because it calls on present people to consider the condition of future populations who are at the mercy of our current production and consumption patterns (Kilbert et al. 2012). Citizen of the world will have their rights to question whether their countries and other countries of the world are taking care of the well being of the current generation and the interest of future generations. They would want to know whether the countries of the world are practicing sustainability to the fullest in normal time and during a crisis period, such as in a pandemic.

ETHICAL CONSIDERATIONS

Ethics is basically one of the most important branches of philosophy – the theory of right conduct which deals with all sorts of day-to-day decisions.

In the field of journalism for instance, the concept of ethics lies on whether or not the media carry out their obligation with responsibility; how accurate the events are presented to the readers; and how far journalists separate factual and opinionated type of stories. This view undoubtedly is shared by the public as well.

Under the current pandemic situation, fake news is rampant, and the public is thrown into a dilemma of whether to believe or not to believe information from the various media. The presence of social media made matters more difficult. The search for authentic and believable information and news became much harder. The credo of journalism expected professional journalists to produce the "truth", but it turns out the other way round in which the credibility of the mass media is gradually disappearing brought by the onset of globalisation and new media technology with the social media championing the plight of societies.

While people must rely on authentic data, the news spread through social media platforms often masks the original news and statistics. The tsunami of incorrect information and rumours has appeared as a major concern. The focus should be on awareness regarding SARS-CoV-2 and not on overburdening people with psychological distress which may lead our way to a psychological pandemic.

From Plato and to the present-day scholars and philosophers, the question of ethics has been hotly debated and has absorbed the attention of thoughtful persons in all cultures and religions. This has been the case because the question of right and wrong is so fundamental towards a lawful and sustainable society.

Ethics is synonymous with human behaviour – what is good and what is evil, what is right and what is wrong, what is valid and what is invalid, what is moral and what is immoral – these are ethical issues within the realm of sustainability. Moral obligation has been discussed at great length by Western thinkers like Immanuel Kant. Everyone is expected to do what is right. For instance, a journalist's duty is to produce the truth not because the democratic system needs him or her to do as such, but by his or her own human nature; his moral obligation must function as a "rational man" properly. However, Kant's ideas are ephemeral or evanescent and short lived or momentary because today, such an ethical maxim "duty for duty's sake" is impractical or unworkable due to the existing of various political and economic thoughts which are suppressing media activities and therefore journalists fail to carry out their moral duty (Ibrahim, 2015).

Another philosophical perspective related to moral obligation is promulgated by Eric Fromm. Fromm views ethics as man's own responsibility towards man's existence. Fromm sees that ethical obligation should be universal and valid to and for mankind (Ibrahim, 2015).

In sum, virtue, rightness, consequence, and context are all ethically important in navigating sustainability. A sustainable society lives within its natural and social system which emphasize rules and incentives that promote replenishing and limit depletion, and pollution. A sustainable society builds upon the commitment of its members to conform to these rules voluntarily, and it enforces them when necessary.

The above observation coincides with the famous sayings by communication and industrial psychology scholars, Katz and Kahn who aptly said: *What you are today is what you will be tomorrow*. The question of our responsibility and moral obligation to the future generation poses a great challenge that needs to be addressed immediately, i.e. today. This is a daunting task that requires enormous changes in various aspects of life including changes in the mindset, behaviour, attitudes and policy implementations. With the current situation that is being challenged by a pandemic, sustainability would mean that everyone has the right to having their basic needs met. For the present, it would also imply that wealthier societies need to assist poorer nations with the provision of basic needs for the populations to survive (Kilbert et al. 2012). Hence, the current generation has an obligation for future generations through ethical conduct and practices.

PANDEMIC

A pandemic is the worldwide spread of a new disease (WHO, 2010). Pandemics happen when new (novel) viruses emerge which are able to infect people easily and spread from person to person in an efficient and sustained way (CDC, 2017). An epidemic becomes a pandemic when there is widespread geographical distribution of the disease (Green, 2020).

The coronavirus or COVID-19 has impacted the lives of millions of people all over the world. All the countries in the world, without exceptions, are affected by the COVID-19 pandemic since December 2019. Most countries have employed various methods to control the spread of COVID-19 including travel ban and restrictions, immunity passport, contact tracing, quarantine and at the extreme, lockdowns of cities, regions, and whole countries (Isfeedvajani et al. 2020). By exposing global interconnectedness and human frailties, it has changed the world in unimaginable ways. It has become clear that not only is the pandemic a planetary public health issue, but also a business issue. Not only has it affected the world by becoming a major health concern, but it also negatively impacted many economies. Online shopping used to be more of a luxury, but due to the pandemic it has turned to a new norm that places it as a necessity (Aronczyk, 2020).

People all over the world are staying in their homes to quarantine and to curb the spread of COVID-19. Therefore, people are turning to the internet to acquire things that they might not find in their immediate vicinity.

Furthermore, the extreme uses of social media have progressed worldwide. Since words can mean differently in different settings, social media has been noted in allowing users to disperse their ideas, opinions, interests, programs, and others (Mohamed, M.T.S. et al. 2021). Anyone can utilize social media platforms such as Facebook and become a provider or seller online which is why it has become harder to identify the ones that are trustworthy**.** The quality of products, especially health care products, must be good because they could easily be a double-edged sword – they could help and could also cause harm to the consumers. They could provide suggestions for immediate remedies, but too much of them would cause health problems. Despite the increasing range of data examining social media in health contexts, including communication, promotion, and surveillance of public health, little insight has been allocated into how the usefulness of social media will differ based on the specific goals of public health regulating an intervention (Fairgrieve, Feldschreiber, Howells, & Pilgerstorfer, 2020).

When it comes to health information, the power of the Internet to promote quick, inexpensive, and worldwide publication is also a weakness. It is difficult to make distinctions between qualified medical practitioners and quacks, validated medicines and untested substances, and ads and content (Cho, 2000). In addition, based on unverified health statements, the global existence of the Internet defies most existing nation-specific laws governing the practice of medicine or sales of health-related products.

Factors such as attitude, benefit awareness, corporate reputation, and celebrity endorsement influence the consumer's decision to buy when exposed to social media advertising (Mekawie & Hany, 2019). For example, consumers with a positive attitude to a product are likely to take steps that reflect their positive attitude and are thus expected to act positively in social media advertising; buy social media-promoted products; or search for additional information.

In general, pandemics are not simply severe global health problems, but could also cause devastating socio-economic and political issues in affected countries. The World Health Organization reported that Coronavirus disease 2019 or COVID-19, is a novel pneumonia disease emerging in Wuhan, on January 12, 2020, before becoming a pandemic throughout all parts of the world. The global economy is being seriously affected by the coronavirus outbreak. In addition to being the biggest threat to global public health of the century, COVID-19 is seen as a symbol of inequity and stagnation in social development (Chakraborty & Maity, 2020).

Confirmed COVID-19 cases have been reported by more than 200 nations/regions (WHO, 2020). On the one hand, the very high infectivity of the virus is accountable for its global spread, and on the other hand, the advancement and convenience of international travel and tourism may be a cause for its further spread worldwide. Several religious, socio-cultural, scientific, sport, and political major gathering festivals are organized every year in different parts of the world and these activities are equated to mass spread of the disease (Chakraborty & Maity, 2020).

Chakraborty and Maity (2020) argue that these kinds of public gatherings are likely to sensationalize many of COVID-19's risk factors and have traditionally been correlated to disease outbreaks at both local and international levels. A global pandemic threat is the emergence and spread of COVID-19 from Asia to the Americas, Africa, and Europe.

Almost all the countries are attempting to decelerate the spread of the disease by monitoring and treating patients, quarantining associated individuals by exposure tracing, prohibiting large gatherings, implementing full or partial lock downs etc.

PRACTICES AND IMPLICATIONS

As part of efforts to tackle COVID-19, a multitude of medical products are being produced and manufactured. In the face of the current pandemic, there has been a massive global demand for a range of products, including test kits and pesticides, personal protective equipment, hand sanitizers and other biocidal products, ventilators, and the like, as well as medications, therapies, and vaccines (Fairgrieve, Feldschreiber, Howells & Pilgerstorfer, 2020). Due to the urgency of the situation and the sudden rise in demand generated by the pandemic, the design, testing and manufacture of many of these products varies from production in normal times.

According to Fairgrieve, Feldschreiber, Howells & Pilgerstorfer (2020) the COVID-19 pandemic raises major regulatory challenges for those in the supply chain of these products to procure suitable medical products and diagnostic medical devices. Special regulations found in the Public Readiness and Emergency Preparedness (PREP) Act 27 in the United States allow the Food and Drug Administration (FDA) to take action to speed up marketing authorization approval and assist with the implementation of clinical trials endorsing products related to Covid-19.

The coronavirus has already created serious problems in global markets with a lack of supply of hand sanitizers, face mask counterfeiting, and many other supply chain disturbances (Fairgrieve, Feldschreiber, Howells & Pilgerstorfer, 2020). The manufacturing, distribution, and management of required medical equipment inventories have been greatly affected by disruptions in the health care supply chain.

Resource scarcity has become a challenging issue. Resource allocation should be ethical, transparent, and based on scientific evidence. In this regard, the primary obligation is to protect the front liners as the entire health care depend on these individuals. Equal health opportunities for all should also be the focus of all health policies by the state actors.

However, health care facilities have begun stocking up available goods as a response to supply chain shortages. Furthermore, such unregulated buying puts financial pressure on the health care system, which is already suffering from challenges such as inadequacies in procurement and excessive expenditure. This has contributed to the development of compromised quality of care as well (*Straits Research*, 2020).

However, the advertising of health care products on social media can be done by anyone from well-known manufacturers to small business owners. A variety of legal concerns emerge from the manufacturing and distribution of health care products in the context of a pandemic. Firstly, the intentionally deceptive or counterfeit goods that unfortunately arise when the corrupt are attempting to benefit from an emergency situation can be detected. There is a rise in fraudulent products that claim to cure, treat, or prevent COVID-19 (FDA, 2020). With the rampant usage of internet and social media, fraud and fake information could easily find their way in the media and product promotional content. Spread of rumours and fake news on social media is becoming more common in Malaysia and all parts of the world. The increasing internet penetration and the high trust given to online information was seen as one of the contributing factors to the widespread of rumours and fake news (Muhammad Noor et al. 2014).

By April 2020, more than 2,000 online scams, including 471 fake online stores selling fraudulent coronavirus-related products, had been removed by the National Cyber Security Centre (NCSC) in the UK (NCSC, 2020).

Current manufacturers scale up production of existing products to meet demand. This may simply be a case of a manufacturer doing more of the same, but in times of pandemic, the pressure will come at a cost to generate supply quickly (Fairgrieve, Feldschreiber, Howells & Pilgerstorfer, 2020). Some may be forced to use alternative raw materials to raise production rates if there is no ready supply of the average, additional production/quality control workers, various production, or quality control techniques, etc. Both may potentially lead to the manufacturing of products that differ from the specification, leading to production defects or products that are "non-standard." (Burton, 2001).

Resource scarcity may also be encountered at the global level. Lower- and middle-income countries may face more scarcity than developed countries in countering COVID-19 spread. Hoarding of important medical supplies such as personal protective equipment and inaccessibility of vaccines and treatments should be discouraged by developed countries or the producer countries.

Besides the financial and economic perspectives, ethical aspects must also be considered in COVID-19 pandemic research at the academic and scholarly levels. It is an ethical obligation to conduct research in infectious disease outbreaks needed to address pertinent research questions ranging from health sciences including risk assessment, risk management, vaccine development and modelling studies for improved data analysis to social sciences fighting discrimination, violence, information seeking and dissemination, uncertainty and anxiety reduction, issues on human rights et cetera.

Furthermore, the COVID-19 pandemic has taken a toll on education systems around the world, affecting approximately 1.6 billion students in over 200 countries. More than 94% of the world's student population has been affected by school, institution, and other learning facility closures (Pokhrel & Chhetri, 2021). This has resulted in significant changes in every part of our life. Traditional educational techniques have been considerably disrupted by social distancing and restricted movement regulations. The reopening of schools once the restrictions have been lifted is another challenge, as many new standard operating procedures will need to be implemented.

CONCLUSION

COVID-19 is a worldwide pandemic and has become a significant global public health problem. It can have long-lasting impacts on countries with already weak health care systems. Outbreaks in a pandemic situation evoke fear-related behaviours among health care professionals and an elevated risk of mental health problems is often present.

The health crisis of COVID-19 has brought new challenges to the effective delivery of health information around the world. In the context of COVID-19, this is amplified by misleading information and disinformation on social media. Past studies have shown that self-efficiency plays an important role in predicting public health behaviours. However, in the event of a pandemic, there is an increased dependence on the government and the health authorities to manage the problem. The key to disease mitigation and control is the need to provide clear, consistent, and credible information about the COVID-19 pandemic.

In order to ensure that public health remains the highest priority on the government agenda, the control of information during a pandemic is of vehement significance. Similarly, to keep up with the COVID-19 news and the required preventive measures, the public must also be provided with reliable and timely details. Social networking platforms are widely used worldwide by the WHO, health care providers, and regulatory agencies to discuss important public health concerns.

They can be used to educate the public and health care practitioners on a wide variety of subjects, from anti-microbial resistance issues to topics such as reporting of adverse reactions. Awareness-building strategies that take advantage of the broad scale, breadth of scope, and immediacy of social media platforms to connect efficiently, easily, and effectively represent the central focus of these initiatives. It is hoped that the aftermath of the pandemic may provide a meaningful platform for the current generation to plan and strategize the futures to be not only sustainable, but also more ethical.

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