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FOREWORD BY DEPUTY RECTOR OF RESEARCH, INDUSTRIAL LINKAGES & ALUMNI

INSIGHT JOURNAL (IJ) has published several issues since its inception in 2018. These have included scheduled publications as well as special issues for international conference proceedings and continue its excellent record by issuing its second publication for 2020. IJ serves as platform for academicians to share their research findings as well as an incubator for knowledge transfer. IJ is open access journal indexed in MyJurnal MCC and abstracted in Asian Digital Library (ADL), hence, ensuring that it reaches out to a wider spectrum of readership. The journal is also served by international reviewers from various prestigious universities, guaranteeing rigorous editorial process in all its articles. This issue of IJ provides the latest research findings from the fields of Social Sciences and, Science and Technology in keeping abreast with the current trend in research. It is hoped that IJ would continue to lead the way in providing up to date research findings and become a major hub of knowledge. Lastly, I would like to thank the Rector of UiTM Johor, Professor Dr. Ismail Ahmad for his distinctive support, IJ Managing Editor for this issue, Associate Professor Dr. Noriah Ismail, IJ Assistant Managing Editor, Dr. Siti Nuur-Ila Mat Kamal as well as all the reviewers and editors who have contributed in the publication of this issue.

Thank you.

ASSOCIATE PROF. DR. SAUNAH ZAINON

Deputy Rector of Research, Industrial Linkages & Alumni
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Drivers of Consumer Staying Intention Towards Islamic Green Hotel Industry: Evidence from Quantitative Findings

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ABSTRACT

This research study is endeavoured to discover the factors that will lead the consumers' staying intention at green hotels, especially of those who practise the Shariah Law (Islamic green hotels). Nowadays, there has been an increase in public concern regarding environmental issues. Consumers are more environmentally aware than they were in past decades. Hotels are among the largest contributors of energy consumers in the tertiary building sector, which contribute to some negative impacts to the earth at the same time. The most obvious negative impact of hotels on environment are solid waste generation and disposal. Therefore, numerous consumers are supportive of green consumption and consider it as a successful method to protect the environment. In Islamic green hotels, Muslim-friendly amenities have also been provided to protect Muslims travellers' welfare that is by providing them a comfortable prayer room, the Holy Quran and Islamic practices booklets, prayer mats and a direction of Qibla. A set of questionnaires was distributed to 256 respondents among the community and tourists in Kuching, Sarawak. The dependent variable in this study was consumers' staying intention while the independent variables were green image, green satisfaction, Muslim amenities and lifestyle and price fairness. This research study also made use of the Statistical Package for Social Science (SPSS) software to analyse the result based on the questionnaires distributed to the respondents. Based on the result of analysis, it is shown that the green image and green satisfaction were found of having a positive significant that influence the consumers' staying intention at the Islamic green hotels. Besides that, Muslim amenities and lifestyle was also found to have a positive significant impact that influences the consumers' staying intention. Most Muslims were likely to choose a destination with Islamic practice to fulfil their daily duties. However, green price fairness did not significantly influence the consumers' staying intention.

This is because if green image, green satisfaction, Muslim amenities, and lifestyle meet the requirements of the Muslim tourists, they would not be affected by the price. As a matter of fact, price may be the least factor of consideration by the tourists in choosing a hotel to stay.

Keywords: *Green hotel; green image; green satisfaction; Muslim amenities and lifestyle; price fairness.*

1.0 INTRODUCTION

Malaysia's tourism industry has turned out to be a national income, hence the government has encouraged the hoteliers to build more hotels in the future. The hotel development should be continued to ensure Malaysia's positive economic growth. In the meantime, consumers' behaviours ought to be tended to. At the end of the day, both hotels and consumers should cooperate in creating a healthy tourism environment. Therefore, to ensure this a success, consumers should make use of the amenities provided by the green hotels effectively while staying at the hotel. This is because waste generation can only be reduced if the hotel consumers are willing to reuse hotel towels, not actively using disposable toiletries and not requiring to change bed linen everyday (Huang et al., 2014). Mathieu (2001) stated that hotel industry can be classified under the service industry. This industry always confronts many different characteristics of customers. The characteristics of customers are extremely fascinating to study such as their response behaviour towards the product, especially in knowing their intention to stay at the hotel that practises green living. In connection to this study, visitors' preferences in choosing the green hotels are influenced by the resources of the hotels such as the hotels' image or the satisfaction that they obtained during their previous stay (Chen & Chen 2012; Lien et al., 2012). Furthermore, consumers are more likely to show their interest towards staying at the hotel when they realise the fair cost of the service or product, hence repeating the purchase (Bei & Chiao, 2001). Therefore, this study intended to discover which factors could influence the consumers' staying intention at the green hotels, especially of those that practise the Shariah Law.

2.0 LITERATURE REVIEW

2.1 Consumer's Staying Intention

The accessibility of green products is quite small in the hotel industry. Previous studies have found that the accessibility of green products is crucial in

order to allow the consumers to practise an environmentally friendly behaviour (Ismail et al., 2008). An increase of company loyalty and job longevity could lead to employees serving the customers better because of their understanding towards the customers' needs and wants. Moreover, it also encourages the employees to work harder in providing a good service to the customers such as being polite while encountering or greeting people. This would influence the consumers' staying intention in a hotel (Naim et al., 2018). Customers would give their first reaction of a service through the job behaviour and performance by frontline employees (Chernatony & Segal, 2003). On the other hand, Nandiri and Tanova (2010) stated the service quality depends on the employee performance in avoiding turnover customers as supported by Griffeth et. al. (2000) on the reflection of job behaviour or services. In this study, consumers' intention refers to an intention that is made to repeat a stay in an Islamic green hotel. This would correspond to various elements such as intentions to spread positive or negative word-of-mouth feedback of the hotel, the willingness or unwillingness to pay for a price given for the hotel room and the customers' intention to revisit or switch to another hotel, resort or green hotel.

2.2 Green Image

Green image is a series of perceptions of a company where each of the perception is related to environmental commitments and issues, resulting from the associations of the company in the memories of the consumers (Keller, 1993; Chen, 2010). Han et al. (2011) discovered that older female customers have a favourable belief towards eco-friendly behaviours and positive images of green hotels and they are more willing to remain at a green hotel, and pay more for it or recommend it to others. As indicated by Kandampully and Suhartanto (2003), conceptual images have a high impact on customers' behaviour in buying or consuming goods and services. According to Wang et. al. (2018), there are relationships between the green hotel image industry and the word-of-mouth intention among consumers. They explored the Stimulus-Organism-Response (S-O-R) framework to understand the relationships concerning the stimuli individuals receive (S), the internal evaluations individuals generate (O), and their subsequent responses or attitudes (R). Such positive image generates a good first impression for the customers. An alluring image that can create good word of mouth from the previous customers and at the same time can attract or gain new customers (Khan, 2013). The success in attracting additional customers and loyalty for the company's products plays an important step in proper marketing strategies. This implies that the reputation and brand image are legitimate reasons that affect an individual's purchasing activities, decisions and behaviours (Muhammad et al., 2016). Therefore, the industry

players should be quick to find space and make full use of this opportunity to boost this sector by ensuring that more existing and future hotels can fully commit in practising green practices. This is to ensure that they can be role models and responsible tourism sector leaders. Among the benefits of green practice are to help save money and build efficiency in running hotel operations, apply corporate social responsibility to save costs and build economic, social and at the same time ensure the environment is always safe and sustainable for living together (Grayson & Hodges, 2017). Green practices and image also allow for new opportunities for collaboration, development of sustainable tourism products and activities that do not pollute the environment as well as add value to the products and services provided to tourists and customers. It can also be a platform for the application of educational elements to all parties involved. They can immediately understand and apply green practices to ensure that all operations are efficient, save costs and do not affect the environment while fulfilling individuals and corporate social responsibility to the local community (Vanclay & Hanna, 2019; Hu et al, 2019.)

2.3 Green Satisfaction

Green satisfaction is a feeling of pleasure arising from the ability of a product or service to satisfy needs, wants, and desires in a manner that is environmentally sound, sustainable, and eco-friendly (Martinez, 2015). Satisfaction can be referred as “a pleasant level of sensation emerging from a product’s or service’s capacity to fulfil the needs, wants and desires of consumers” (Yoon & Uysal, 2005). Darian et al. (2001) stated that the marketing exchange process has put customer satisfaction as a key element as it certainly contributes to the provision of successful services. Besides, customer satisfaction is one of the fundamental factors to foresee the consumers’ behaviour and more explicitly could lead to a purchase repetition (Martin-Consuegra et al., 2019). Part of what motivates guests to visit the same hotel often is their positive feelings and satisfaction to apply pure values to environment (Nor Rabiatal Adawiyah & Nor Azam (2015) and Granquist, Nilsson, & Angerbjörn, (2019). Zaidi SMMR et al. (2019) put forward that green trust had a significant mediating effect among green satisfaction while strengthening trust positively and influenced customers’ loyalty towards green approaches. Nowadays, tourist behavior is constantly changing, therefore tourist demand and supply need to be changed accordingly. It is concurrent with the support and efforts to create a healthy environment and quality of life because finding a hotel with an environmental initiative has never been easier, but knowing which hotel is really worth it. Nowadays, tourist behaviour is constantly changing, therefore tourists’ demand and supply need to be changed accordingly. The “Green Hotel” can easily lead to visitation of socially responsible users, and the formation

of benign interaction mechanisms. At the same time, this strengthens conservation awareness and energy saving implementation of new technologies. The success of the Islamic green hotel industry does not simply depend on campaigns and promotional activities. This success can also be extended from 'stories' on positive experiences of consumers who had visited the hotel. Consumers who have a good experience with their stay will certainly come back and tell their friends. This is the best campaign and promotion. Complaints from consumers must be seen as the best way to further develop the industry. An attitude shift should occur in providing the best treatment towards satisfaction.

2.4 Green Price Fairness

Green price fairness is an assessment made by a consumer and related emotions as to whether the difference between the price of a seller and the price of another party's comparison is sensible, acceptable or justifiable (Xia et al., 2004). Extend research has also proposed on using price fairness judgement in common scenario (Nguyen & Meng, 2016). Furthermore, the perception of visitors regarding price fairness can increase satisfaction and loyalty with the service provided (Gumussoy & Koseoglu, 2016). To be exact, price fairness could affect customers' intention to stay at the Islamic green hotels. They are willing to pay for the price if it is fair enough and worth it according to the type of room. Grewal et al. (2004) stated that when the price differences are unfavourable to them, customers would probably react to it and it will lead to negative emotions, reduction of demand and negative word-of-mouth. At the same time, it would affect the hotel operators when the customers decided not to make the purchase (Cockrill & Goode, 2010; Grewal et al., 2004). If refined, many things need to be repaired and corrected. In the previous practice, there is no specific price level adjustment for programs accommodation involving accommodation facility service providers (Singh et al, 2020). Therefore, market research information should be gathered to ensure consumers to be more prudent in spending and get a fair green price. Revenue management can increase revenue without affecting customers' satisfaction. Abdul Malek Abdul Rahman & Karam M. Al-Obaidi (2018) stated that it can be applied to hotels that have a relatively fixed volume of demand compared to those with variable of uncertain, pricing structure, and varying customer price sensitivity. Islamic green hotels are portrayed to be a conducive energy efficient with a competitive price.

2.5 Muslim Amenities and Lifestyles

‘Muslim amenities and lifestyles’ in this study refers to catering for and providing Islamic hospitality to Muslim tourists (Collins & Tisdell, 2002). Opportunities for hotels in Malaysia to provide facilities as well as activities that are in line with Islamic principles have indirectly come to existence. Some hotels are even promoting a traditional halal food for the Muslims, organising Ramadan Bazaar and buffet during fasting month and also providing prayer rooms for tarawih prayers (Pitra et al., 2018). Like what has been stated in Shariah Law, the main objective is for the protection of human beings who are ruled throughout the ages on “the basic of things of permissibility” as appeared to be in the Qur’an. Hence, the life decision in Islam is mostly based on the principle of Shariah Law that prohibits the consumption of pork and other forbidden food that may cause harm to the human body, gambling, adultery, drinking liquor, dressing inappropriately, sharing of room between unmarried couples, doing forbidden physical contact and breaking fast during fasting month (Zamani & Henderson, 2010). It is important to take into account to provide separate facilities by gender, install an ablution tap in the bathroom, provide a comfortable prayer room, a copy of the Holy Qur’an and Islamic practices booklets, prayer mats, direction of Qibla, prayer call in the hotel rooms, halal toiletries and prohibit non-Islamic entertainment (Majid et. al., 2015). Most hoteliers are still unclear with this and do not understand the Shariah-compliant concept and also the needs of Muslim travellers. In the end, it leads to misinterpretation. There are some hotels that claim themselves as Muslim-friendly for the sake of attracting more customers (Che Ahmat et al., 2012).

3.0 METHODOLOGY

3.1 Data Collection

Primary data was selected to be used for the data collection method in this research study. The survey was conducted in the form of online survey which was through Google Form, and also by distributing printed questionnaires. The 300 respondents were targeted among the community and tourists in Kuching City, Sarawak using simple random sampling method. Data were obtained using structured questionnaire through survey. There are two sections which were Section A and Section B. Section A involved demographic profile with five questions on gender, age, working status, educational level and income level. Section A used a nominal and interval scale that required the respondents to answer the questions by only selecting the options in the box provided. Section B was about the dependent variables and independent variables which were “Green Image” consists of the four

items that were adapted from Wang et. Al (2018). “Green Satisfaction” consists of the three items that were adapted from Wang et. Al (2018), “Green Price Fairness” consists of the four items that were adapted from (Martin Consuegra et al., 2019). “Muslim Amenities and Lifestyle” consists of the six items that were adapted (Nassar et al., 2015). “Consumers’ Staying Intention” consists of the four items that were adapted from (Adaviah & Thoo, 2013). All the independent variables have different types of questions which discussed the elements that influence the consumers’ staying intention in the Islamic green hotels by using a five-point Likert scale, also known as an interval scale. The scale can range from Strongly Disagree (1) to Strongly Agree (5), Not at all Important (1) to Very Important (5) and Never True (1) to Always True (5). Analysis of data was done using statistical analysis from SPSS version. Further analysis included Descriptive Statistics, Correlation and Regression testing.

4.0 FINDINGS

4.1 Survey Response

The total of 300 sets of questionnaires were sent out to the targeted respondents. However, only 256 sets of questionnaires were filled by the respondents for the analysis purposes. The response rate for the questionnaires distributed and filled were 85.3% for this research study. This research study received a good response since the minimum sample size needed to be achieved based on G-Power analysis was 138 respondents.

4.2 Descriptive Analysis for Independent and Dependent Variables

Table 1 : Summary results of descriptive analysis for variables under investigation

Variables	Min	Max	Mean	SD
Green Image	2.00	5.00	4.09	.6397
Green Satisfaction	2.00	5.00	4.11	.6553
Green Price Fairness	1.75	5.00	3.78	.6659
Muslim Amenities and Lifestyle	2.17	5.00	4.31	.6536
Customer’s Staying Intention	2.00	5.00	4.11	.6861

Note: SD = Standard Deviation; M = Mean; Min = Minimum; Max = Maximum

This section highlights the results for descriptive analysis in percentage for the independent variables and dependent variables. This analysis showed that on

average, the respondents tend to agree on the terms of Customers’ Staying Intention (M = 4.11, SD = .6861). From the independent variables perspective, the analysis from Table 2 stated that on average, the respondents tend to agree in the terms of Green Image (M = 4.09, SD = .6397), Green Satisfaction (M = 4.11, SD = .6553), Green Price Fairness (M = 3.78, SD = .6659), and Muslim Amenities and Lifestyle (M = 4.31, SD = .6536).

4.3 Correlation Analysis

Table 2 : Pearson’s Correlation analysis variables under investigation

Variables	(1)	(2)	(3)	(4)	(5)
(1)	1				
(2)	.793**	1			
(3)	.544**	.575**	1		
(4)	.515**	.523**	.486**	1	
(5)	.572**	.586**	.463**	.613**	1

Note: (1) = Green Image; (2) = Green Satisfaction; (3) = Green Price Fairness; (4) = Muslim Amenities and Lifestyle; (5) = Customer’s Staying Intention; n = 256; **p < .01

Based on the result of the correlation analysis, Green Image [r(256) = .572, p < .01], Green Satisfaction [r(256) = .586, p < .01], Green Price Fairness [r(256) = .463, p < .01], Muslim Amenities and Lifestyle [r(256) = .613, p < .01] there is a positive correlation between these factors to Green Staying Intention. According to Cohen (1988), these types of strengths can be considered having a low to medium strength. Therefore, if the level of Green Image, Green Satisfaction, Green Price Fairness and Muslim Amenities and Lifestyle were high, then the level of Customers’ Staying Intention was also high. Moreover, all independent variables were positively significant bivariate correlated to each other since all the probability values were also significant at least 99.0% at confidence level (all p’s < .01). Plus, the power of the correlation between the independent variables can also be regarded as small to medium strength (Cohen, 1988). To conclude, the bivariate relationship between the variables engaged in this research study is in a positive relationship with a highly significant relationship (p < .01). So, this implies that the measurements that were used in this research study had a good nomological validity.

4.4 Regression Analysis

Table 3: Summary Results of Regression Analysis

Variables	B (SE)	beta	t-statistic	TOL, VIF
Constant	461		1.920	
IV: Green Image	183 (0.82)	.171	2.244**	.352, 2.844
IV: Green Satisfaction	.225 (.082)	.215	2.751**	.335, 2.989
IV: Green Price Fairness	.062 (.060)	.050	1.042 (NS)	.611, 1.636
IV: Muslim Amenities and Lifestyle	403 (0.58)	.384	6.888**	.659, 1.517

Note: Dependent Variable = Consumer’s Staying Intention; R2 adjusted = .479; Standard Error of the Estimate = .49538; Model Fits = F (4, 256) = 59.550, p < .01; B = Unstandardized Coefficient; beta = Standardized Coefficient; SE = Standard Error, TOL = Tolerance; VIF = Variance Inflation Factor; IV = Independent Variable; NS = Not Significant; **p <.01

Regression analysis was used in this research study to measure the percentage of the dependent variables which can be explained by the independent variable (Sundram et. al., 2016). Basically, multiple regression analysis was performed between the set of targeted variables (Green Image, Green Satisfaction, Green Price Fairness and Muslim Amenities and Lifestyle) towards Customers’ Staying Intention. Table 3 showed that the Green Image (B = .183, t = 2.244, p < .01), Green Satisfaction (B = .225, t = 2.751, p < .01) and Muslim Amenities and Lifestyle (B = .403, t = 6.888, p < .01) were positively significant which influence the Customers’ Staying Intention. However, Green Price Fairness (B = .062, t = 1.042, p < .299) did not significantly influence the Customers’ Staying Intention. The analysis also indicated that if the average level of Green Image was high, then the average level of Customers’ Staying Intention was also high while controlling to balance the other factors. The same goes to Green Satisfaction: when the average level of Green Satisfaction was high, then the average level of Customer’s Staying Intention was also high. If the average level Muslim Amenities and Lifestyle was high, then the average levels of Customers’ Staying Intention would be high by controlling other variables. Hence, the increase or decrease of Green Price Fairness did not give any significant effect towards Customers’ Staying Intention.

5.0 CONCLUSION

Basically, this research study discussed the factors that influence the consumers' staying intention in the Islamic green hotels. It also highlighted the environmental public concern that are increasingly becoming an issue in which most of the consumers are aware about it. According to previous studies, it was shown that hotel operations give the most negative impacts to the environment through its solid waste generation and disposal (Radwan et. al., 2012). Thus, the hoteliers build hotels that practise the concept of green hotel which is an eco-friendly hotel that follows the practices of green living and at the same time, provide the Muslim consumers Islamic amenities and lifestyles. Based on the discussion, it seems like most of the tourists especially Muslims were satisfied with their holidays or business trips when the products and services meet or exceed their needs. At the same time, the tourists also can reduce their concern on the environmental issues by choosing to stay at the green hotels. Thus, hoteliers should bear in mind that by developing beneficial services on the idea is essential to improve the intention of the consumers staying at the hotel (Che Ahmat, et al., 2015).

Based on the result of analysis, it is shown that the green image and green satisfaction were found of having a positive significant influence on the consumers' staying intention at the

Islamic green hotels. This result was basically supported by the previous research study (Wang et. al., 2018). The development of Islamic green hotels is a good initiative to increase the awareness in this matter even though some Malaysians are still not aware about the existence of these Islamic green hotels.

Besides that, Muslim amenities and lifestyle was also found to have a significantly positive result that influences the consumers' staying intention. Most Muslims were likely to choose a destination with Islamic practice to fulfil their daily duties. This result can be supported by the previous research study of Nassar et. al. (2015). However, green price fairness did not significantly influence the consumers' staying intention. This is because if the green image, green satisfaction and Muslim amenities and lifestyle meet the requirements, the tourists especially the Muslims would not be affected by the price. As a matter of fact, price may be the least factor of consideration by the tourists in choosing a hotel to stay.

5.1 RECOMMENDATIONS

After the research was conducted, there were various suggestions that could be considered for improvement. In terms of the hotel industry itself, the hoteliers need to find the best way to accommodate the needs of the tourists especially the Muslims in a mutually satisfactory way by providing a Muslim-friendly amenities and lifestyle so that they could accept the concept of a green hotel. Besides that, the guests' feedback also plays an important role on showing their satisfaction while staying at the Islamic green hotels. This is because, when the hoteliers themselves actively respond to the guests, this shows that they value their guests' opinions and are willing to go the extra mile in providing a better customer service.

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Factors Associated with Customers' Satisfaction in Online Purchasing: A Study in a Malaysian Public University

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ABSTRACT

E-commerce has transcended the traditional way of shopping into a new and more efficient way of purchasing. Through this approach, businesses are conducted through the internet in which activities such as information searching, information sharing, products and services purchasing are performed. There are many reasons why online purchasing has become one of the most preferred channels for customers to purchase goods or services. This study is conducted to examine crucial factors related to customers' satisfaction in online shopping and specifically looking at four factors: information quality, service quality, security/privacy and website design and their relationship with customers' satisfaction in online purchasing. 320 questionnaires were distributed through purposive sampling techniques to students from a public university in Malaysia. The findings revealed that website design and information quality were the most impactful factors that influence customer's online purchasing. These findings are useful for online retailers and marketers to understand consumers' behaviour when purchasing online, thus enabling them to develop more effective marketing strategies. For future research, this study suggests that the population of the study should be expanded and other types of variables should be included such as mediating and moderating variables to obtain more accurate and precise findings. It is also suggested that the research could be conducted using random samplings so that the findings can be generalised.

Keywords: e-commerce, customers' satisfaction, online shopping, information quality, service quality, security and privacy, website design.

1. INTRODUCTION

The number of internet users in Malaysia has significantly increased from year to year. In a 2018 survey conducted by the Malaysian Communication and Multimedia Commission, the percentage of internet users in 2017 mounted up to 87.4%, which was 10.5% higher than in 2016 (76.9%). There were approximately about 28.7 million internet users in 2017, and it was an increase from 24.5 million in 2016. With the increasing number of internet users, the number of people who shopped online also increased exponentially. Gupta, Bansal and Bansal (2013) defined online shopping as a form of electronic device for purchasing without any intermediary services

Online shopping allows customers to shop 24 hours a day/7days a week from any location where customers have the internet access. The benefits of online shopping have resulted in an increasing number of internet users for this purpose. According to Jhe (2014), this growing number of online shoppers is a sign of the increasing sense of comfort with the use of the internet for shopping. Customers felt that it is more comfortable to shop online as conventional shopping is usually attributed with anxious, crowded, traffic jams, limited time and parking space (Jarvelainen, 2007). Online shopping also has various open opportunities for the online businesses to grow.

The e-Commerce market in Malaysia, for example, showed a positive trend, with gross value added contributing 6.3% to gross domestic product (GDP) in 2017. Furthermore, value-added for e-Commerce had increased from RM75.0 billion in 2016 to RM85.8 billion in 2017 (MCMC 2018). Companies are extensively using this sales channel to compete with their competitors in the e-commerce market.

In an online environment, customer satisfaction is one of the essential keys, leading to the increasing customers' loyalty, and long-term growth of online stores. Customers must be satisfied with their online shopping experience; otherwise, they will exit the website without buying anything (Kim & Stoel, 2004). Although there are numerous studies have been conducted to determine the factors of customer satisfaction in online shopping activities (Jun, Yang & Kim, 2004; Ballantine, 2005; Cappelli, Guglielmetti, Mattia, Merli & Renzi, 2011), there is still a need for a closer examination on customer satisfaction in specific countries such as Malaysia. This study outlines explicitly four key factors which are information quality, service quality, security/privacy and website design to understand the factors that will determine the satisfaction of the customers in their online purchases. The main objective of this study is to identify the relationship between those four factors and

their satisfaction in online purchase.

2. LITERATURE REVIEW

2.1 Customers Satisfaction

Customer satisfaction is one of the essential factors that will determine an enterprise's survival. Customer satisfaction in the marketing terms describes how products or services supplied by a company meet or exceed a customer's expectation (S, Praveen, 2015). Studies have shown that those businesses with high customers' satisfaction are likely to generate revenue up to 18 times higher compared to those companies with low satisfaction rates.

According to DeLone and McLean (2003), a satisfactory purchase experience would appear to be one requirement that might lead to repurchasing. Nawawi, Al Mamun and Raston (2015) further stated that customers' satisfaction would lead to not only repurchase intention but also recommendation of mouth to mouth and loyalty in the long term.

2.2 Information Quality

Gao, Zhang, Wang and Ba (2012) define information quality as how much information is available about the attributes of a product, how brand or company is useful for the customers, and what helps them evaluate such objects. Information plays a vital role in customers' decision-making process, as it would guide them due to the absence of physical interaction with the product in the online environment (Ghasemaghahi and Hassanein, 2013). Customers are not able to deal with a significant quantity of information, considering that the excess of information might not be processed, and a part of the information may be lost, because of the bounded capability of people in processing an excessive amount of data (Zheng, Zhao and Stylianou, 2013). Providing and presenting updated information adequately, appropriately, and correctly, about the products and services are found to have a direct effect on customer's satisfaction and trust towards online purchasing.

There are four dimensions of information quality according to a study conducted by Guo et al. (2012), namely accuracy, content, format and timeliness. These four dimensions of information quality will give satisfaction to customers, especially to those with time constraints and also to impulsive buyers (Kristiano et al., 2012). Thus, the higher quality information provided by the retailers, the better the decisions could be done by the customers in purchasing the products or services. According to this, the first hypothesis for this study is developed as below:

H1: Information quality has a positive relationship with customers' satisfaction towards online shopping.

2.3 Service Quality

Service quality is one of the vital determinants of the success of retailers. Service quality significantly influences customers' satisfaction and intentions to shop online (Cai & Jun, 2003). According to Kotler (2004), the quality of service is a form of consumer assessment of the level of perceived service with the level of service expected value. Service quality has a direct impact on customers in keeping a loyal and robust relationship with the online retailers (Zeithaml, 2002). Online retailers fail primarily due to low-quality services, which are rendered to their customers. Online retailers with excellent service quality have the advantage of learning about their customer's expectation, thus improving their satisfaction (Kristiano et al., 2012).

H2: Service quality has a positive relationship with customers' satisfaction towards online shopping.

2.4 Security and Privacy

Website security is defined as the ability of a website to safeguard any unauthorised use of customers' personal information during an electronic transaction (Guo et al., 2012). In the online shopping world, online buyers are concerned about online payment security, reliability, and privacy policy of the online store (Gefen, D., 2002). When a customer trusts the online sellers, he or she trusts the sellers' capability to protect their privacy, and it is safe to complete an online transaction. The measure of website security, privacy and trust include the protection of private information, safety usage of credit card, security features, trust, and positive experience of online purchasing (Arif et al. 2013; Shergil & Chen 2005). Previous studies have shown that these factors influenced how online buyers rate quality of online sellers, and subsequently affect their online purchase intention (Arif et al. 2013; Shergil & Chen 2005; Niranjnamurthy & Dharmendra, 2013).

H3: Security and privacy has a positive relationship with customers' satisfaction towards online shopping.

2.5 Website Design

In online purchasing, when a customer is satisfied with the quality of the online sellers' website, it will increase his or her involvement in online purchasing

(Boudhayan Ganguly et al., 2010). Online shopping is pleasant and satisfactory to customers when the shopping websites are neat and more comfortable to read and navigate (Pastrick, 1997). Liu et al. (2008) found that a website with good design could lead to better customer impression, recognition and positive attitude towards the website and its goods. Effective website design takes account of navigation capability or visual appeal of the website (Cyr, 2008). Well-designed websites will reduce the time of information search, and avoid the possibilities of mismatch (Luo, Ba and Zhang, 2012). They further pointed out that an excellent website adds value to customers' experience and helps the low visibility retailers on post-purchase satisfaction which in turn, increases the customers' satisfaction.

H4: Website design has a positive relationship with customers' satisfaction towards online shopping.

3. CONCEPTUAL FRAMEWORK

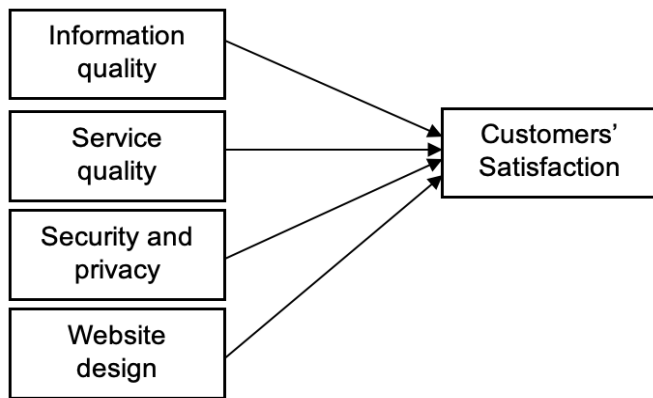


Figure 1: Conceptual Framework (Adapted from Liu, 2008)

4. METHODOLOGY

This study utilised the quantitative research method. Correlational research design was used in order to establish the presence of relationship among variables. This research was conducted in the field study with a non-contrived setting and minimal researchers' interference. Data were collected through a questionnaire survey. The questionnaire's questions used to measure the constructs were adapted from Liu et al., (2008). The researchers used the Likert-type scale to examine how strong the respondents agree and disagree with the statement in the questionnaires. 320 questionnaires were distributed through purposive sampling to 320 postgraduate

students in a public university in Melaka. The respondents were asked whether they have experience in online purchasing before they were given the questionnaire, and only those who have experience in online purchasing at least once were chosen as the respondents of this study.

5. RESEARCH FINDINGS

5.1 Respondent Profile

Table 1 displayed the results of the demographic profile of the respondents. Majority of the respondents of this study were female (75.6%). Majority of them aged between 21-23 years old (60.6%) and had made at least one online purchase (53.1%) in a month. They preferred to make purchases through commercial online websites such as Lazada (53.1) also other online websites.

Table 1: Respondent Profiles

Item		Frequency	Percentage
Gender	Male	78	24.4
	Female	242	75.6
Age	18-20	108	33.8
	21-23	194	60.6
	24-26	13	4.1
	27 and above	5	1.6
Frequency of online purchasing in a month	Once in a month	206	64.4
	2-4 times a month	102	31.9
	5-7 times a month	8	2.5
	More than 8 times a month	4	1.3
Favourite online shopping websites	Lazada	170	53.1
	Zalora	81	25.3
	Mudah.com	63	19.7
	Sephora	44	13.8
	Hermo	53	16.6
	Others	182	56.9

5.2 Correlation Analysis

The findings indicated that the quality of information in an online website is strongly associated with customers’ satisfaction ($r = 0.578^{**}$, $p = 0.01$) suggested that if the customer is satisfied with the content provided through the online website, they would somehow be satisfied with their online purchasing. Another factor which is the quality of services of an online website was also strongly associated with customer satisfaction ($r = 0.559^{**}$, $p = 0.01$) suggested that if the customers are

satisfied with the quality of services provided through online websites, the higher their satisfaction will be in online purchasing . Security and privacy of an online website was also strongly associated with customers' satisfaction ($r = 0.489^{**}$, $p = 0.01$). The findings suggested that the trust of customers towards security in online shopping websites will make them feel satisfied with their online purchasing. Website design also showed strong association with customers' satisfaction ($r = 0.648^{**}$, $p = 0.01$) suggested that if the customers are satisfied with the design of the websites, they will probably feel satisfied with their online purchasing.

Table 2: Correlation Analysis

		Info Quality	Service Quality	Security/privacy	Website design
Customers Satisfaction	Pearson Correlation	0.578**	0.559*	0.489**	0.648**
	Sign (2-tailed)	.000	.000	.000	.000
	N	320	320	320	320

5.3 Multiple Regression

Multiple regression analysis was conducted to analyse further on the most significant factors that contributed to customers' satisfaction in online purchasing. According to table 3, all the independent variables (information quality, service quality, security/privacy and website design) together explained about 49% of the variance (R Square) in customers' satisfaction, as indicated by F-Value of 78.426 in the ANOVA table. From the result of standardised coefficients (Beta), only two out of the four attributes were the significant contributors ($p < 0.05$) to customers' satisfaction which were the website design and quality. Website design was the major contributor to the customers' satisfaction which was about 42.6% and followed by information quality 25.4%. Thus, h1 and h4 were accepted.

Table 3: Multiple Regression

Variables	Beta	t.	Sig.
Info Quality	0.254	4.392	0.000
Service Quality	0.87	1.411	0.159
Security/Privacy	0.56	1.025	0.306
Website Design	0.426	8.015	0.000
R-Square	0.499 (49.9%)		
F – Value	78.426		
Sig	0.000		

6. DISCUSSION AND CONCLUSION

Based on the results of this study, only two out of the four variables were significantly correlated with customers’ satisfaction in online shopping, that is Information Quality and Website Design ($p<0.05$). Website design was identified as the highest factor or the major contributor to customers’ satisfaction in online shopping (42.6 %). A study done by Sanchez et al. (2006) found that the accuracy of the information was a vital component in delivering information in online business. Thus, it is crucial that an online shopping website has complete information the customers need for their purchase decision-making. A study conducted by Hassan and Nik (2010) had similar findings in which online shopping activity and website features were positively correlated. If a website is designed with high quality features, it can help the customers for successful transactions, thus attract the customers to revisit the website (Li and Zhang, 2002).

Another factor which is the information quality of the website contributed about 25.4% to the satisfaction of customers in online purchasing. Online shoppers mostly depend on the information on the website to complete their purchase decision because customers can only evaluate products or services based on the website’s presented information (Kim and Nieh, 2009).

7. RESEARCH LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

This research was conducted only at a public university in a state of Malaysia; therefore, it is difficult to be precise about the actual factors that lead to customers’ satisfaction in online shopping. The study is expected to come out with follow

up studies to expand the range of the sample; thus, the findings will be more representative. Since the study is conducted through convenience sampling, we look forward to adopting random sampling in the future so that the selected sample would be unbiased and generalisable. This topic of the study is still current where online shopping is said to offer many opportunities to not only the customers but also enterprises. It is hoped that it will continually expand and explore in other dimensions and contexts such as behavioural context that could also be tested on a broader range of constructs.

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Students' Experience in Learning Accounting via Open and Distance Learning (ODL)

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ABSTRACT

Covid-19 is an unprecedented crisis that has affected almost all industry players including education. It has transformed our way of life and introduced a new normal to how things are done. As an effort to contain the outbreak of pandemic Covid-19, universities have shifted to online learning. In line with this, Universiti Teknologi MARA (UiTM) has decided to execute open and distance learning (ODL) for the current semester until 31 December 2020. ODL introduces a different learning environment as compared to the traditional classroom that requires students to be self-reliant in learning new things. Hence, the purpose of the study is to explore students' experiences in the process of knowledge transfer through ODL specifically for accounting subjects. A questionnaire was distributed to students who were taking the subject of Introduction to Financial Accounting and Introduction to Cost Accounting in UiTM Pahang Kampus Raub and a total of 206 responses were received. The study found over half of the students enjoy learning through ODL but only one-third were looking forward to having ODL for the next semester. Poor internet connection is the main reason found in the study that makes ODL not preferred by the students. At the same time, few features were highlighted by the students about ODL such as the advantage of pre-recorded video to catch up the new material and flexibility for them to learn at their own pace.

Keywords: Accounting, Covid19, Online learning, Open and distance learning (ODL), Technology

1. INTRODUCTION

The outbreak of pandemic Covid-19 has affected almost all industry players worldwide; the education landscape is not exempted from the situation. The unprecedented crisis with no vaccine available at the time of writing has changed the normal way of how things are usually executed. Nevertheless, the Health Director General of Malaysia, Datuk Dr Noor Hisham Abdullah has continuously advised the public to practice social distancing as well as to avoid 3Cs area namely: crowded or confined space and close conversation to mitigate the spread of Covid-19. A crowded and confined space describes the exact situation in a classroom. Therefore, universities have taken precautionary measures in discharging the duty of care held towards the students without compromising the rights of students to get the best education by offering a flexible way of teaching and learning.

The movement control order (MCO) in Malaysia was announced by the ninth Prime Minister of Malaysia, Tan Sri Muhyiddin Yassin, which commenced on March 18, 2020 in four phases until 3 May 2020. MCO halts almost all non-essential activities to encourage the public to stay indoors and thus curbing the outbreak of Covid-19. The unpopular and bold decision made by the government showed positive results. This was then followed by a conditional movement control order (CMCO) from 4 May 2020 to 9 June 2020 with some sectors permitted to resume operation. Education is not listed as one of the sectors allowed to resume normal operation. The Ministry of Higher Education made an announcement on 27 May 2020 for public and private universities to conduct teaching and learning activities via online platforms until 31 December 2020 (Landau, 2020).

Universities were prompted to take the initiative to respond to the current situation, even before the announcement made by the authorities (Ying, 2020). UiTM has shifted to open and distance learning (ODL) for teaching and learning activities for the current semester (Karim, 2020). A new academic calendar was also issued to suit the current situation. Both lecturers and students needed to adapt to the new way of teaching and learning being conducted especially when UiTM is carrying a title of teaching university instead of research university.

During the early stages of the ODL implementation, UITM conducted a survey regarding the execution of the ODL on the students and a report was released dated May 2020. Based on the results, a few platforms were suggested to reach the students, among those being WhatsApp, Telegram, i-Future, Google Classroom, Google Meet and many others. Lecturers were given flexibility to opt for the most suitable platform after taking into consideration student access to the teaching material,

especially due to quality and availability of internet connection. There are two methods of delivering knowledge to students during ODL: asynchronous (without real-time interaction) and synchronous (real time interaction) (UiTM, May 2020).

Both asynchronous and synchronous methods involve technology. Hannafin and Land (1997) mentioned in their study that technology may encourage a student-centered learning environment. This is pertinent to ODL that requires students to learn new knowledge virtually with minimum guidance from the lecturers when compared to the traditional classroom. Thus, it has initiated the study to explore students' experience in the process of knowledge transfer through ODL specifically in the context of accounting subjects, which are financial accounting and cost accounting.

2. LITERATURE REVIEW

2.1 Technology in Education

Technology advancement has changed almost every aspect of our life in a good way increasing productivity and efficiency. No exception applies to education. Technology caused a significant effect on education by making it available to everyone (Herold, 2016). Emergence of technology in education to support teaching and learning activities in schools and colleges are carried out with the aid of digital learning tools including computers, smartphones, educational software, and online platforms.

Nowadays, knowledge is at one's fingertips. Technology creates a new method in knowledge transmission from teacher-centered to student-centered education. Hence, the role of student has changed to researcher, while the teacher acts as moderator in this learning setting (Pate, 2016). Virtual classrooms being accessible 24/7 hinders the time constraint factor for long life learning (Herold, 2016). This phenomenon creates opportunities for a new learning experience, increases student independence and encourages self-learning.

The use of online platforms in the 21st century is not uncommon even if it is not extensively adopted. According to Isaias (2018) this modern way of learning is anticipated to be fully implemented by 2025. Therefore, all parties involved should anticipate the shift from traditional classrooms to online learning. But the question is: are we ready? The process of adoption will for certain take some time.

Online learning seems to be parallel to Gen-Z, individuals born between 1996 and 2012 that have grown up with technological gadgets as part of their zeitgeist and lifestyle (Lyapina, Sotnikova, Lebedeva, Makarova, & Skvortsova, 2019).

Currently, most of them are in tertiary education. A study by Schwieger and Ladwig (2018) reviewed literature related to Gen-Z characteristics and proposed a model of their expectations about the learning process in higher education and future employment. They concluded that Gen-Z who have grown up with technology have no idea how they would live without smartphones, tablets, and YouTube. Most of them are more likely to socialize online rather than face-to-face. Gen-Z are also independent, self-reliant and self-starters who prefer to study on their own. In this case, online learning will be much easier to be implemented and the acceptance rate among students will have no big issue.

Nevertheless, online learning is only possible with a stable and adequate internet connection (Isaias, 2018). Limitations of electronic devices like battery life can be solved by having a power bank, for instance, but it is not possible to overcome limited internet access. Students, especially those who live in rural areas, either do not have any internet or may have a weak, unstable connection. Those who come from poor families often need to share electronic devices with their siblings or parents to participate in online learning. In Semporna, a rural area in Sabah, a student who lives in a plantation area took about four days to submit one assignment, as reported by Bernama (2020). This challenge worries academics and parents who fear that it will result in unequal access to knowledge and widen the performance gap between students who live in rural versus urban areas (Herold, 2016). In mitigating this issue, ODL is a viable option for those involved.

2.2 Open and Distance Learning (ODL) Phenomena

ODL is a method of learning that combines open and distance learning. Open learning system makes education available to anyone not limited to certain entry requirements or age, some charge a fee, some at no cost (Simpson, 2018). On the other hand, distance learning allows classroom interaction to take place even when the student and teacher are at a distance from each other (Raymond, 2000). ODL wishes to spread learning over diverse means especially for those living in inaccessible areas to promote education equity (Paliwal, 2019). By integrating open and distance learning, perhaps limitation of internet connection in online learning can be mitigated.

One helpful innovation is the development of multimedia technology via audio and video communication (Selvaras, 2020). Teachers can make pre-recorded video related to a particular topic to transmit the knowledge and upload it on any online platform. This is a more flexible learning method which allows students to view the content of the pre-recorded video at any possible time depending on their internet connection. On top of that, students can revisit the content by

replaying the video and studying at their own pace. Social media is also very useful to facilitate the learning process. The use of chatting applications like WhatsApp and Telegram really made a difference between online and traditional learning. Plus, the availability of diverse functions like camera, voice recording, file attachment and polling have added value to ease effective communication.

A study by Luaran, Jain, and Abd Rahman (2016) demonstrates a positive response among students on the use of WhatsApp groups in academic information sharing. Students found learning sessions becomes attractive over WhatsApp discussion and it encourages active participation in voicing out their idea thus helping students to be more confident. It also makes instant discussion possible in the need of clarification on any topic. By utilizing these facilities, effective education is possible even over ODL regardless of the constraint about time location and internet connectivity.

For a real-time interaction like in a physical classroom, “live” sessions (Raymond, 2000) on Facebook, Instagram and Google Meet can be employed. Instantaneous responses could be expected in the discussion between teacher and student or among students by making full use of video call or chat room functionality. Unfortunately, this method is very dependent on the internet connections of both lectures and students. Students with limited internet connection are prevented from joining this virtual class. A study conducted by Selvaras (2020) in Sri Lanka discovered that the majority of Bachelor of Degree in Law students have access to technology largely through mobile phone and personal mobile data but they prefer to learn through integrated blending learning by combining traditional and online learning rather than 100% ODL. The main reason is because of lack of exposure on entirely online courses and preference to use printed material in the learning process. In short, they are still in the transition phase between blended learning and fully ODL.

Despite all the challenges of ODL, the benefit embedded therein should not be disregarded especially due to the current situation due to the pandemic Covid19. ODL provides students with soft skills especially related to time management. Knowing themselves better, they could arrange their learning activities to be customized to their own preference. Besides, ODL also promotes self-reliance and self-independence in preparing themselves for the workplace.

3. METHODOLOGY

The study intends to explore students' experience in learning accounting via ODL, which was implemented in UiTM due to the outbreak of pandemic COVID-19. A questionnaire was distributed to students who are taking accounting subjects

in UiTM Pahang, Kampus Raub. It was distributed to students after all the syllabus had been covered via ODL which in the Week 14 of the semester by taking into consideration feedback received from the students throughout the semester when the ODL was carried out. A total of 206 responses were received which consist of students from the Faculty of Business and Management, Faculty of Computer Science and Mathematical Sciences and Faculty of Administrative Science and Policy Studies who were taking the subject of Introduction to Financial Accounting and Introduction to Cost Accounting.

The questionnaire has three sections: Section A (Demographic), Section B (Students' Perceptions towards ODL) and Section C (Suggestion and Recommendation). The study is using Google Form as a platform to distribute the questionnaire and thereafter Statistical Package for the Social Science (SPSS) Statistic was used to analyze the data collected. Besides reporting on the descriptive findings, where the nature of the data fall under categorical data the study was also carried out cross-tab analysis to explore the students' experience in the process of knowledge transfer through ODL for accounting subjects.

4. RESULTS AND DISCUSSION

Demographic information in Section A showed that 67% of the respondents were female (n=138) and the remaining 33% were males (n=68). The highest number of respondents came from the Faculty of Business and Management (67%), followed by Faculty of Computer and Mathematical Sciences (25%) and Faculty of Administrative Science and Policy Studies (8%). Most of the students were registered for Introduction of Cost Accounting (76%) which mostly involves calculation compared to Introduction of Financial Accounting, which covers a more comprehensive knowledge of preparing financial statements. In addition to that, 76% from the respondents were also sitting for the subject on the first attempt meanwhile 22% were at their second and third attempt.

Table 1: Students' Preference for ODL

			Do you wish to have ODL for next semester?		TOTAL
			Yes	No	
Do you enjoy learning through ODL for this semester?	Yes	Frequency (n)	45	79	124
		Percentage (%)	36.30%	63.70%	100.00%
	No	Frequency (n)	9	73	82
		Percentage (%)	11.00%	89.00%	100.00%
TOTAL		Frequency (n)	54	152	206
		Percentage (%)	26.20%	73.80%	100.00%

Table 1 shows the students' preference for ODL in the current semester as well as their expectation for the upcoming semester. It shows from the survey that 60% (n=124) of the students enjoy learning accounting through ODL but out of the students, only 36.3% (n=45) are looking forward to having ODL in the next semester. It shows that some of the students are embracing ODL due to the current situation of pandemic COVID-19 outbreak and prefer to have face-to-face sessions in the process of knowledge transfer for the next semester. The results in support of the survey done by UiTM (May 2020) with 51.3% are positive to have the lecture through ODL. Surprisingly, there are students who prefer to have ODL in the next semester of 11% (n=9) from those who are not enjoying ODL. The results also show a significant number of students who are neither enjoying ODL in the current semester nor expecting ODL in the current semester of 89% (n=73).

26% (N=32) of the students who enjoy learning accounting via ODL were repeaters and most of them think ODL offers easier assessment compared to face to face meeting. This is understandable considering that they have sat for the subject before and they know well the differences between these two methods of assessment. However, the president of Malaysian Association of Private Colleges and Universities (MAPCU), Datuk Parmjit Singh mentioned that assessment made by universities under online learning should be aligned with the guidelines issued by the Higher Education Ministry and Malaysian Qualifications Agency (MQA) (Arumugam, 2020). This could give assurance that the approved alternative assessment for ODL is at par with the traditional examination methods.

Table 2: Factors That Affect Students' Preference for ODL

	YES		NO	
	<i>Frequency</i>	<i>Percentage (%)</i>	<i>Frequency</i>	<i>Percentage (%)</i>
Excessive work given by lecturer	53	25.7	153	74.3
Limited time given by lecturer	61	29.6	145	70.4
Not enough guidance by lecturer	32	15.5	174	84.5
Poor internet connection	127	61.7	79	38.3

Table 2 shows that lecturers had given enough guidance during the ODL that constituted 84.5% (n=174) of the students who do not agree that not enough guidance was provided by the lecturer. In a study conducted by Bouhnik and Marcus (2006), interaction with lecturer is among the factors that may affect the effectiveness of online learning. With the inclusiveness of technology in the learning process, interaction with students can be conducted using special tools (Bouhnik & Marcus, 2006) such as monitoring the students' participation using various online interfaces or applications. Teräs, Suoranta, Teräs, and Curcher (2020) mentioned in the study that varied wearable technology as well as the availability of Internet of things (IoT) is the development that the instructor should look into when implementing the online learning where this may improve the interaction with the learners.

The study shows that more than half of the students were having poor internet connection, and this is the major problem found in this study that hinders the execution of ODL. A further analysis in the study shows that the majority of the students who were facing the problem of poor internet connection are staying in the urban area which constitutes to 53% (n=67) while the remaining 37% (n=60) are staying in the rural area. This is consistent with a study conducted by Perreault, Waldman, Alexander, and Jensen (2002) who reported that among the issues found in the online learning delivery is minor technological glitch or temporary malfunction such as server problems or transmission problems. The study is in support of a study conducted in Pakistan by Adnan and Anwar (2020), which reported that the majority of the students were having trouble accessing the internet for online learning due to technical and monetary issues.

Though technology has long been integrated with education through the idea of blended learning or flipped classroom, this is not something that university could solve alone. Integrated efforts must come from few relevant parties to address the issue. In an article by TheStar (2019), it was reported that a plan called National Fiberisation and Connectivity Plan (NFCP) was announced in September 2019 and among the targets embedded in the plan is to ensure 98%

of Malaysian can get access to the internet at an average speed of 30mbps. In a separate manner, with the spread of COVID-19 in Malaysia, the country has seen almost all telco service providers are giving free data to their customers with some offering unlimited data for educational resources (Yeoh, 2020a, 2020b). Recently, with the opening of the new semester in October 2020, UiTM has also participated in the initiative taken by YTL Foundation to provide free mobile data to the students as an effort to enable online learning from home.

However, ODL as adopted by UiTM involves both asynchronous (without real-time interaction) and synchronous (real time interaction) medium of learning. Hence, it offers more room and flexibility to students and lecturers to execute the learning and teaching process (Banas & Emory, 1998). Lecturers could give extra time for students to view the teaching contents while students may repeatedly access the learning material at their own times. The findings from the study also shows that despite the students not preferring to have ODL for next session, 87% of them think that pre-recorded could help them to catch up the new knowledge.

The above findings are strengthened by the result that shows among the features embedded in ODL that were appreciated by students are the effectiveness of the pre-recorded video to help them to catch up the new knowledge that constituted to 32.5% and 16.3% of the students discovered that ODL enable them to learn the new knowledge at their own pace. Though this is the opposite to the suggestion made by Knouse (2010) that says online courses would require in-live interaction but the reason for different state of technology for countries may affect the findings.

5. CONCLUSION

In conclusion, there are drawbacks for the execution of ODL but with the phenomena of disruptive technology, the shift from traditional education is necessary. However, one should not ignore the benefit of conducting face-to-face classroom towards the students. Regardless of any method of learning adopted, it must focus on the use of technology to ease the learning process but not to be a barrier that blocks student potential for education in this changing world. For a sustainable delivery of education in ODL, continuous transitions are required. Such attempts for transitions should always consider the stakeholders situation involved in its success.

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Applying Project-Based Learning In Teaching Statistical Methods

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ABSTRACT

Teaching and learning processes can be effectively improved when the learning activities encounter an individual's experience and interaction with their surrounding environments. Such interaction is highly significant throughout the learning process due to its role in enabling student participation and learning knowledge integration. This paper presents the option of teaching pedagogy for statistics teaching via project-based learning. This teaching method conduces cognitive development during the learning process by fostering active learning as it implements the application as opposed to the memorisation of statistical concepts. Therefore, a project was carried out with underpinned a common topic by all groups of students. The approach was incorporated in an undergraduate Statistical Methods class consisted of 34 business economics students in which they were to evaluate the learning process at the end of the course. Data collection consisted of closed-form and open-ended questions directed to the students for them to express their perceptions of project-based learning. The results showed that throughout the phases of project-based learning implementation, the students found that the processes of data presentation and analysis and research result discussion were challenging phases. They revealed the need for adjustment while carrying out a project, which was in line with the insight regarding the benefits and limitations faced by population. In particular, the aspect of limitations included the complexity of group work relationships and accessibility of resources applied in the project, while the benefit aspects are an increased level of student engagement in the learning process and their understanding of statistical concepts.

Keywords: Project based learning, Statistical Methods

1. INTRODUCTION

In the modern age of big data, demands for statistical knowledge and skills for data analytic purposes are consistently rising. Past studies have reached a consensus wherein it is important to apply effective educational practices in the statistics teaching and learning process (Da Silva and Pinto, 2014). To this end, the main challenge typically faced in teaching the statistics course is the process of triggering interaction, reasoning, and collaboration across different disciplinary boundaries (Dierker, Evia, Freeman, Woods, Zupkus, Arnholt, & Rose, 2018). In particular, Dekard (2017) has found that students generally express negative views on introductory statistics courses and elicit merely a few useful skills from their participation.

Regardless, teaching and learning processes can be effectively improved should the learning activities are designed to encompass an individual's experience and interaction with their surrounding environments. Such interaction is significant in the learning process as it enables the students to participate and thus integrate the learning knowledge obtained. Therefore, the importance of implementing teaching practices and strategies that incorporate the interaction between student experience and environment cannot be denied (Maturana & Varela, 1992; da Silva & Pinto, 2014). As a result, Bailey, Spence, and Sinn (2013) have proposed the effectiveness of inquiry-based project as a learning approach towards developing an analytic statistical thinking among this population. In particular, project-based learning is an inquiry-based instructional approach that focuses on the student's application of disciplinary concepts, experience, and technologies to solve authentic real-world problems (Krajcik, & Blumenfeld, 2006). By ensuring their interest and engagement throughout the learning process, project based learning can increase students' understanding of statistical concepts and thus enhance their analytic skills further.

Project-based learning is a teaching pedagogy that infuses a student-centred project for the purpose of facilitating student learning (Mergendoller, Markham, Ravitz, & Larmer, 2006), which is achieved by improving their problem-solving and thinking skills and engaging them with active learning. Furthermore, the collective and query extended in the projects allocated to the students to work for in a group can nurture their metacognitive skills (Gijbels, Dochy, Van den Bossche, & Seger, 2005), participation in learning process (Dochy, Segers, Van den Bossche, & Gijbels, 2003), and intrinsic motivation. Group learning activities in statistics courses, in particular, have been recommended by Garfield (1993), wherein an educator's role is transformed from being the mode of delivery information to the guiding source for the students' learning process. Project based learning also one of the meaning models in developing collaborative skills (Safarini, 2019). Hallermann

et al. (2011) noted that more research is needed on project based learning effects.

This paper presents an alternative for teaching pedagogy in statistics through project-based learning, which can conduce the development of cognition in the learning process. Besides, it can foster active learning among the students as the method involves conceptual application as opposed to the memorisation of statistical concepts or techniques. Therefore, the targeted students can envision the phases of a statistical research project spanning from its planning and data collection stages to analysis and presentation of research outcomes. Henceforth, the current paper aims to investigate the significance of project-based learning in statistics course in order to develop the cognitive, affective, and psychomotor domains of students in line with the course learning outcomes stated. This approach is implemented in the Statistical Methods course participated by undergraduate BBA (Hons) Business Economics students.

2. LITERATURE REVIEW

The Theory of Cognitive Development developed by Piaget (1976) asserts that a student experiences imbalance and rebalance both in their learning process towards yielding the spiral of knowledge. As such, an exchange of experiences that occurs during the learning process can increase their proficiency and literacy of basic statistical concepts such as descriptive statistics, probability, estimation, and inferential statistics in the decision-making process (Gal, 2002). Furthermore, the development of statistical concepts involving the students and their interactions with the surrounding environment can further enhance the learning process. In particular, Galiazzi (2003) has indicated that learning via research can spur them towards developing "a dialogue between theory and practice, weaving a network of connections" (p.52) (cited in da Silva, & Pinto, 2014).

Accordingly, project-based learning integrates the act of knowing and doing both during the learning process, whereby it is a pedagogy that initiates the topics of interest for the students following their derivation from their own prior knowledge (Fagundes, Sato, & Laurino-Macada, 1999, cited in da Silva & Pinto, 2014). This will lead to an effective learning process as it triggers an intensive interaction response between theory and practice: here, students will actively explore for answers, think critically and configure coherent arguments, and learn the art of learning by embodying the project that they are conducting. Additionally, validating any provisional certainty or clarifying a provisional doubt encountered in the project can be achieved by the occurrence of an intensive learning process, which is developed by collecting and analysing information and

hosting discussions about the project (da Silva & Pinto, 2014). As a result, new knowledge and understanding will be generated in the process of project-based learning, thus bringing forward the construction of new knowledge and recognition.

Timothy (2016) found that guided project based leaning instructional methos was an effective method in improvig college students' attitudes and academic performance for statistics subject and more effective than traditional lecture methods.Using meta analysis, Chen and Yang (2019) findings shwed that project based learning has a medium to large positive on students academic achirvement compare with traditional teaching methos. Safarini (2019) found that project based learning was effectively increase students' ability in applying statistics consepts through data collection, dataa representation and data analysis and further it developed students' collaborative skills to level 5 of the 21st Century Learning Design rubric.

3. METHODOLOGY

The methodology behind da Silva and Pinto's (2014) learning project was adapted for implemented in study and carried out in the Statistical Methods course enrolled by undergraduate Business Economics students. Initially, teaching was conducted to introduce and deliver various statistical topics and concepts to the students in an expository manner. Subsequently, the introduction of project-based learning as a teaching and learning method was carried out by incorporating the functional interests of students in the project.

The first step of the process required students deciding on a project title during their brainstorming session. At this stage, the educators acted as the "provocateur", who were tasked with conveying the students' interest by carrying out the issues of the topic chosen. Following this, the subsequent step necessitated further research on the topic chosen, which was completed by referring to newspapers, web sites, journal articles, and books.

Based on the bibliographic results, the students carried out a data collection instrument by constructing a set of questionnaires for the purpose of the study survey under the guidance of the educators. The survey instrument consisted of various variables matching the course contents, such as nominal and ordinal qualitative, discrete, and continuous quantitative variables. In this stage, the students would search for in-depth information detailing the chosen topic in groups and then share it in order to spark a discussion in the class as a whole so as to generate the research questionnaires based on the research title.

Next, the project was carried out accordingly for data collection purposes, namely by applying the knowledge of sampling methods. Following this, the students undertook data analysis in groups according to the data collected. In this stage of the learning project, the educator was tasked with guiding them regarding the application of statistical concepts and techniques appropriately. Here, the related statistical concepts and techniques incorporated were data organisation and description, data analysis, and data interpretation. Their application in data analysis was aimed to enhance the statistical cognitive, affective, and psychomotor levels of students as stated in the course learning outcomes. Such learning approach is important in developing student-student and student-educator interactions to develop the students' problem-solving skills and statistical competencies (da Silva & Pinto, 2014).

After the project completion, each group of students presented a written report on their assigned topics. Every report consisted of an introduction to the topic on-hand; the study objective; characterisation of the population and sample; statistical analysis of the collected data; and a discussion of its results, conclusions, and references. Lastly, each group made oral and visual presentations both regarding their respective learning project to be broadcasted to the whole class.

A total of 34 students enrolled in the Business Economics programme participated in the project-based learning and all contributed to the evaluation process. At the end of the course, the students were asked to evaluate and provide their views about the project-based learning approach. This was conducted by asking them to fill out an anonymous survey containing the closed-form and open-ended questions designed. In particular, the closed-form questions required the students to evaluate the eight phases of the learning project on a scale from 0 (very difficult) to 10 (very easy), per its utilisation by Da Silva and Pinto (2014) and the effectiveness of the PBL method. Meanwhile, the open-ended questions were geared towards discerning the role of PBL method in shaping their understanding of statistical concepts, as well as the major difficulties they faced.

Accordingly, the data compiling the closed-form questions of statistical PBL stages and the student evaluation responses regarding the approach were presented by using standard summary statistics, namely boxplot and descriptive statistics. Moreover, a multiple regression model was employed in identifying the stage of the statistical learning process posing the highest influence on the overall evaluation. The resulting analysis of the open-ended questions was performed via a qualitative research technique; in particular, the implementation of data transcription was geared towards identifying the key ideas, which were then applied in a discourse analysis to generate a summary of such ideas.

4. ANALYSIS RESULTS

The scoring per the student evaluations for various phases involved in project-based learning for the statistical methods course is illustrated in the form of boxplots as shown in Figure 1.

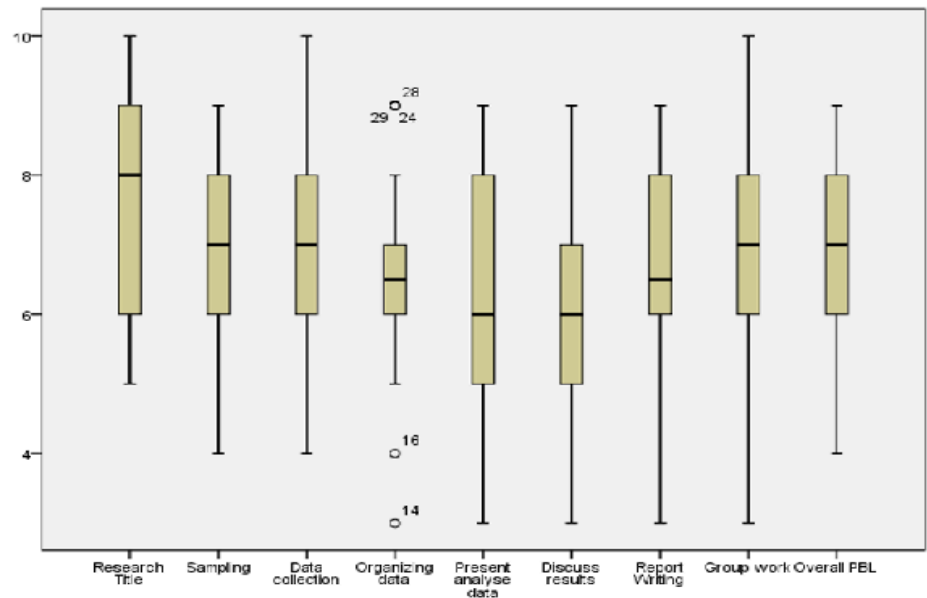


Figure 1: Boxplots of Scores for the Phases of Project-Based Learning

Overall, the scoring as rated by the students for all phases of the process yielded marginally average scores between 6.0 and 7.6. The mean and standard deviation of project-based learning phase scoring is shown in Table 1. In particular, the students found that the discussion of results ($M = 6.177$, $SD = 1.507$) was the most difficult phase, followed by presentation and data analysis ($M = 6.324$, $SD = 1.628$). In contrast, the choice of research and title were rated by the students as the easiest phase ($M = 7.559$, $SD = 1.561$).

Table 1: Mean and standard deviation of Project-Based Learning Phases

Phases	M	SD
Research title chosen	7.559	1.561
Application of appropriate sampling	6.941	1.369
Data collection	7.059	1.556
Organisation of data collected	6.618	1.393
Presentation and analysis of data	6.324	1.628
Discussion of results	6.177	1.507
Writing the report	6.618	1.371
Working in groups	7.118	1.737
Overall evaluation of PBL in your learning process	7.147	1.480

Furthermore, a one-sample t-test was conducted to investigate the students' perception of project-based learning as an effective teaching method with the rating of higher than 5 is considered as high preference towards the learning method. The results indicate that there is statistically significant the rating higher than 5 ($t = 5.161$, $p < 0.01$, $M = 5.684$, 95% CI on mean difference = 0.413 to 0.951). This indicates that students were likely prefer and consider project based learning is an effective learning method in improving statistics knowledge.

Table 2: Results of One-Sample t-test and Descriptive Statistics for Students' Perception of Project-Based Learning in Statistical Methods Course

Outcome	M	SD	n	Comparison Value	95%CI for Mean Difference	t	df	Sig.
Preference for Project Based Learning	5.681	0.771	34	5	0.413, 0.951	5.161	33	P<.001

Summary of the key ideas generated of the open-ended questions included in the instrument regarding the benefits and difficulties faced by students in project-based learning process is presented in Table 3.

Table 3: Open-ended Questions Results

	Question 1: Did the research help you to improve your understanding of statistical concepts involved in collecting, organising, and presenting data? Explain.
Key idea:	The project helped me to understand the statistical concepts regarding collecting, organising, presenting, and analysing data. I was able to know more about statistical concepts and enhance my statistical knowledge through real-life cases. I am able to apply the related concepts and knowledge learned in class. I am looking forward to the project-based learning method in other courses.
	Question 2: List the main difficulties encountered in carrying out on the research.
Key idea:	Lack of communication with the group members and the group member not giving their full participation. Face difficulties to meet the group members, whereby they can only can apply the software (SPSS) in the lab.

5. DISCUSSION

The processes of result discussion and data presentation and analysis were successfully identified as the two most difficult phases in project-based learning for students' statistical methods, whereby they generated the lowest means despite the varying scores.

In general, students have to be analytically and critically thinking in order to analyse their obtained research results. As a result, project learning improves their statistical literacy due to the analysis result discussion phase itself was capable of increasing the students' ability in interpreting and evaluating the analysis results. Furthermore, it increased their ability to carry out discussion and partake in communicational interactions by using the statistical information. As mentioned by Moore (1990), "data are not merely numbers, but numbers with a context (p.96)". Therefore, the application of statistical concepts in interdisciplinary areas may induce students to grow their ideas, wherein these applications would engage with the students in spite of the challenge associated with planning the analysis development itself.

During the phase of data presentation and analysis in a project learning process, students would still be able to investigate the statistical skills studied in the course and the way to describe data effectively in a concurrent manner. This might involve the graphical and tabular presentation of the data and the application of descriptive statistics concepts, such as relative frequency, the measures of central tendency, and the measures of dispersion. In this phase, they were also allocated the opportunity to investigate and apply various statistical analysis techniques and knowledge in

order to analyse the data obtained. Such methods included the t-test, chi-square test, ANOVA test, and other statistical analysis methods in the course. The act of selecting and applying a suitable graphical and tabular presentation for data information delivery to the readers and applying the correct analysis techniques on data analysis might potentially lead to good decision-making regarding a research effort. Besides, students underwent challenges to present and analyse the data as this phase mean was low.

The perception of project-based learning on statistics has been significantly recognised by students as an effective learning method. It plays the key role of developing and improving their understanding of statistical concepts and applications in real-life cases.

Contrastingly, students who were facing difficulties in managing their group meeting schedule might complain of the lack of communication within group members and these group members not giving full participation. Thus, the implementation of project learning will be highly significant to develop successful learning processes among students (Sisto & Petcz, 2012). Besides, they also faced the difficulty to obtain the software, namely SPSS, used to analyse data.

Typically, the benefits of project-based learning through research were able to develop the students further so as to have real-life applications on statistics processes, such as data collection, data organisation and presentation, data analysis, and data interpretation. Collectively, they could improve and develop the students' statistical literacy and thinking skills and ability embedded inside themselves. Similarly, collaborative group work will enhance the students' communication skills and build up their team workability, as well as enhancing the students' understanding of statistical concepts (Garfield, 1993, 2013 as cited in da Silva & Pinto, 2014). Maturana (1993) asserted that educational space is a social space and transformation space with the involvement of students and educators in the teaching and learning process through continual interactions is prevalent.

6. CONCLUSION AND RESEARCH IMPLICATION

The findings of the study showed that performing a dedicated learning project provided an opportunity for the sampled students to develop a range of generic statistical thinking skills. In the process, students faced unpredicted situations and doubts and they had to overcome the problems occur in the learning process. Students' engagement in realistic activities (Moore, 1998) and research-based activities (Garfield Ben-Zvi, Chance, Medina, Roseth, & Zieffler, 2008) are recommended pedagogical approaches in statistics course teaching. This is able

to heighten up one's interest in statistics, wherein a greater intensity of learning and conveying the skills to a new situation is similarly homebody (Hmelo-Silver, Duncan, & Chinn, 2007).

Students' interest in statistics increased with the application of real data and involvement in carry out a project. Students' feedbacks on the difficulty of the stages in the project work provide constructive inputs to the instructor to improve the teaching and learning process. Exposing students to project make them appreciate the relevance of statistics to better understand the descriptive and explanatory research in business and social sciences. Project based learning also give implication in enhance students' understanding and applying basic statistical methods with the aid of appropriate software (e.g. SPSS) and communicate effectively their research findings.

In general, the study contributes to the research of university teaching practices and specifically teaching of university statistics. The challenge for teaching and learning of statistics include identifying the methods that enable lecturers deliver statistics to students as meaningful knowledge. This study contributed to statistics education literature by providing an alternative effective teaching way practically to enhance the teaching practice of university statistics to business students especially in Malaysia. As teaching activities are modelled and influenced by the histories and cultures of the university in which activities carry out by the lecturers are used to be nested within regions, countries and the world. This study offers different perspective in the importance of explanations, motivations and insights specific to statistics teaching and learning in a teaching university.

Future study can be done with bigger sample size in which including all students in Business Economics programme. The effectiveness of the project based learning may be tested related to the academic performance and collaborative skills and further the application of the methods through the online distance learning.

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