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## **Aida Model, Social Media Marketing and Decision to Patronize of Muslim Friendly Hotel**

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### ***ABSTRACT***

AIDA model has been applied widely in marketing activities either in traditional marketing approach or social media marketing. As a growing industry, Muslim friendly hotels need to integrate and develop strategies in promoting their new brand. Therefore, social media as a new acceptable platform among customers need to be utilised strategically to ensure the brand becomes competitive, known, and accepted by the market. The objective of this study is to examine the influence of AIDA model and social media marketing to customers' decision to patronize Muslim Friendly hotel. This study applied quantitative approach through survey method. The findings shows that AIDA Model significantly influence Social Media Marketing and decision to patronize Muslim Friendly hotel.

*Key Words: AIDA Model, Muslim Friendly Hotel, Social Media Marketing*

## **Model Aida, Pemasaran di Media Sosial Dan Keputusan untuk Menginap di Hotel Mesra Muslim**

### ***ABSTRAK***

Model AIDA digunakan secara meluas dalam aktiviti pemasaran sama ada teknik pemasaran tradisional ataupun teknik pemasaran terkini iaitu melalui media sosial. Industri perhotelan yang menggunakan konsep Hotel Mesra Muslim adalah industri yang kian berkembang, perlu menggabungkan semua teknik pemasaran dalam mempromosikan jenama dan perkhidmatan yang ditawarkan. Justeru itu pemasaran melalui media sosial perlu dilaksanakan kerana ianya adalah satu bentuk pemasaran yang strategik dalam bersaing dan mendedahkan sesuatu jenama agar dapat diterima di dalam pasaran. Objektif kajian ini adalah untuk mengkaji pengaruh Model AIDA terhadap pemasaran melalui media sosial dan pengaruhnya terhadap keputusan pelanggan untuk menginap di hotel Mesra Muslim. Kajian ini menggunakan kaedah kuantitatif melalui

edaran borang soal selidik. Kajian mendapati Model AIDA mempengaruhi pemasaran media sosial dan seterusnya mempengaruhi keputusan pelanggan untuk menginap di hotel Mesra Muslim.

*Kata Kunci: Model AIDA, Hotel Mesra Muslim, Pemasaran di Media Sosial*

## **INTRODUCTION**

Muslim Friendly hotel is still considered as a new concept in Malaysia. Most people still confused with the concept of Muslim Friendly hotel. Some people think that this hotel is only for Muslim. The lack of understanding will create a conflict among customers and hoteliers. This is why the numbers of hotel registered under Muslim Friendly concept is still less compared to conventional hotel. Most scholars agree that the slow development of Muslim Friendly hotel concept is because of lack of understanding on Islamic concept among the hotel owner which is most of them are non Muslim (Mohd Hyrul Abu Karim, 2017). This problem is not only on understanding of the concept but it also related to marketing activities which may influence the attractiveness, awareness and acceptance of the brand. The customers need to be educated on the concept and the things that they will gain when they choose to patronize in Muslim Friendly hotel. Therefore the right marketing strategies need to be applied to cater the needs of the market.

Marketing is important sections in organization. Most hoteliers refuse to transform their hotel to Muslim Friendly concept because of the believe that the hotel will not be attractive anymore without the entertainment which is not Shariah compliant such as alcohol in food and beverage section, dress code and others. However this is actually not the issue. Hoteliers should focus on their marketing strategies on how to make sure customers know about their products and brands and how to create the customers desire to come to them.

Marketing nowadays is more easy but challenging with development in technology which open a broad opportunity to explore the market through social media. The social media uprising has transformed the communication setting and this give impact to marketing communication (Areeba Toor, 2017). Social media marketing is innovative marketing approach where brands and customers will be connected without limitation in time and location and this is an opportunity for hoteliers that apply Muslim Friendly concept to market their products effectively and attractively.

To ensure the attractiveness of social media marketing, the AIDA model needs to be adopted in formulating marketing strategies. This marketing communication model focus on how organization create the intention and action from the customers which is in this context of study, customer will patronize Muslim Friendly hotel. The emphasize will be given to brand or service recognition and existence. Rowley (2002) stated that in the digital world, marketing communications stress three important steps which are creating the existance of a product or service, building relationship and creating mutual value with customer (Shahizan Hassan, 2015). Therefore the aim of this study is to examine the influence of AIDA model on social media

marketing and then to analyze its influence on customers' decision to patronize Muslim Friendly hotel.

## **LITERATURE REVIEW**

### **Social Media in Marketing**

Social media refers to a group of internet based applications that builds on the ideological and technological foundations of Web 2.0, and it allows the creation and exchange of user-generated content (Kaplan & Haenlein, 2010). Social media take a variety of forms, including weblogs, social blogs, microblogging, wikis, podcasts, pictures, video, rating and social bookmarking.

Social media marketing on the other hand refers to a connection between brands and consumers, while offering a personal channel and currency for user centered networking and social interaction (Chi, 2011). It is also defined as a form of online advertising that uses the cultural context of social context, including social networks (e.g. Youtube, Myspace and Facebook), virtual worlds (e.g. Second Life, There, and Kaneva), social news sites (e.g. Digg and del.icio.us), and social opinion-sharing sites (e.g. Eopinions), to meet branding and communication objectives (Tuten, 2008). According to (Ahmad Rageh, 2016) social media marketing activities are subset of online marketing activities that complete traditional web-based promotion strategies, such as e-mail newsletters and online advertising campaigns.

In recent years, social media have increased in popularity and have revolutionized marketing practices such as advertising and promotion (Hanna, Rohm, & Crittenden, 2011), have influenced consumer behavior from information acquisition to post-purchase behaviors (Mangold & Faulds, 2009) and influenced patterns of Internet usage (Laroche et al., 2012). Social media allows users to connect with peers by adding them to networks of friends, which facilitates communication, and allows them to interact and share their experiences with any person anywhere in the world (Kozinets et al., 2010). Social media helps connect businesses to consumers, develop relationships and foster those relationships in a timely manner and at a low cost (Kaplan and Haenlein, 2010). It is a medium for consumers to find information about desired products with the best prices (Ahmad Rageh, 2016).

Globally, more than 50 percent of social media users follow brands on social media (Van Belleghem et al., 2011) and 29 percent follow trends and find product reviews and information, and 20 percent provide review and comment on the latest hot and trendy products (Gallup, 2014). In Malaysia social media penetration is 64 percent, which is considered one of the highest in Asia pacific region – second only to Singapore (Ahmad Rageh, 2016).

With all the benefits it has, in addition to the fact that most of the Malaysian population are currently turning to social media platforms (Ahmad Rageh, 2016) this makes social media as a platform of preference by marketers for gaining above average returns and sustainable strategic competitive advantage in the market (Vinerean S., 2013).

### **Muslim Friendly Hotel Concept**

Halal tourism it is one of the fastest development segment in a world-wide tourism. According to Pew Research Centre Muslim population is expected to be 2.8 billion in 2050 (Pew Research Centre, 2011; 2015). As top preferred destination for Muslim travellers worldwide, Malaysia have been received 5.2 million Muslim travellers in 2015 from all around the world. The increasing number of Muslim travellers in Malaysia was partly due to the establishment of Islamic Tourism Centre (ITC) under Ministry of Tourism and Culture (MOTAC) (Mohd Hyrul et. Al., 2017).

In conjunction to that, there is a great need for hoteliers to provide a proper accomodation for Muslim travellers' convenience such as Muslim friendly hotel, good service quality, hospitality and halal foods service which are in line with the Shariah requirement. The Islamic Hotel concept and shariah compliant hotel concept is not only for Muslims, this is because the benefits offered by such hotels in terms of quality service and healthy lifestyle can benefit everyone (Mohd Hyrul et. Al., 2017; Henderson, 2010; Ibrahim & Jamal, 2016) as Shariah is considered as a universal divine law (Zakiah & Noorsalwati, 2014).

In previous literatures, Islamic hotel or Shariah Compliant hotel is used interchangeably. It was justified that the operation of the Islamic hotel is just the same with the existing hotel but the operational aspects of the Shariah Compliant Hotel must be adjusted to adheres with the Islamic principle of Shariah law (Mohd Rizal, 2012). However, recent studies highlighted 3 categories of shariah compliance hotel which is shariah compliant hotels, dry hotel and Islamic hotel (Mohd Hyrul et. Al., 2017; Jaswir & Ramli, 2016).

The shariah compliant hotel can be defined as a hotel establishment that provides all the services in accordance to the shariah principles including food and beverage and all the operation and management (Samori & Rahman, 2013). Norain et al. (2015) defines Shariah compliance hotel as the hotel that is governed by Shariah standard which go beyond the concept of dry and Islamic hotels. Actually, there are no formal criteria for the Shariah Compliant hotel or Halal Hotel. However, there are some attributes of the Shariah Compliant Hotel as explained by some scholars as follows: i) Halal foods and no alchohol to be served in the prmises or hotels, ii) Having the Holy Book Quran, prayer mat and arrow that indicating the direction of qiblat, iii) Beds and toilets positioned not to face the qiblat iv) Prayer room available in the premises and hotels v) No inappropriate entertainment vi) Predominantly Muslim staffs with a proper Islamic code of dresssing g) Separate salon, recreational facilities and swimming pool for men and women vii) Separate room/ floor for unmarried couple between male and female ix) Tourists dressing code x) No gambling and alchohol drinks in the hotel lobby or restaurant xi) No prohibited foods and beverages in the hotel fridge (Mohd Hyrul et. Al., 2017; Junainah & Norazla, 2015; Zakiah & Noorsalwati, 2014; Norzafir et.al., 2014; Suhaiza et al., 2011; Rosenberg & Choufany, 2009).

Meanwhile, dry hotel can be defined as the hotel establishment which does not provide alcohol in its food and beverages outlet while other operations and services are still in the conventional style (Rosenberg & Choufany, 2009). On the other hand, Islamic hotel, or sometimes called as Muslim Fiendly hotel refers to hotel that is in between dry and shariah compliant hotel. Muslim-

friendly hotel provide facilities that are much better than the dry hotel and the needs and wants of the Muslim travellers in the guest rooms and at the public area are also provided. Most non-Muslim hoteliers prefer the Islamic hotel concept since they do not want to be fully shariah compliance. For them Islamic Hotel concept is more marketable and did not scared the non-Muslim customer (Mohd Hyrul et. Al., 2017).

### **AIDA Model**

In 1898, E. St. Elmo Lewis proposed a theory of communication called the AIDA model, the acronym that refers to Attention, Interest, Desire, and Action. Attention stage is aimed at attracting the attention of the customer so that customer will be aware of the existance of products or services offered. In the Interest stage, marketers try to raise customer interest by focusing on and demonstrating advantages and benefits (instead of focusing on features, as in traditional advertising). Meanwhile, in the Desire stage, marketers will convince customers that they want and desire the product or service and that it will satisfy their needs. The final stage is Action stage which is aimed at leading customers towards taking action and/or purchasing (Jiangyu Li & Haibo Yu, 2013).

The AIDA model has different levels. The cognitive level is when the user's attention can be drawn. It is the first step in the communication process where the consumer needs to know about the existence of such a service. At the affective level, consumers have an interest in the services offered and in finding out more about what is being offered. This leads to the desire to acquire the product or service. At the level of behaviour, the action takes place (Shahizan Hassan et. al., 2014).

The AIDA model has been widely adopted in formulating marketing strategies in business. Indeed many studies have confirmed the applicability and feasibility of AIDA model in generating business strategies by using social media marketing. Findings from a study conducted by Shahizan Hassan et. al. (2014) shows that the model can indeed be applied in strategizing the use of social media for marketing purposes. Lagrosen (2005) in similar manner argues that the AIDA model is practical in the context of social media usage especially for the "IDA" components. Furthermore, studies by Ashcroft and Hoey (2001), Hoek and Gendall (2003), and Woodcock and Green (2010) also highlighted that AIDA model application in computer mediated tools has potentials to become effective marketing weapons for business firms.

### **Decision to patronize**

Customers often engage in complex situation when they make choice. They are restricted by economic resources and ability to keep and process information. According to Ernani Hadiyati (2016), consumers always evaluate and compare products to differentiate competitive product based on attribute (value). According to Yusniza et. al. (2012), perceived value may be a better predictor of patronage intentions than either satisfaction or quality. Perceived value is defined as the consumer's overall assessment of the utility of a product (or service) based on perceptions of what is received and what is given.

With regards to halal product/service consumption, study conducted by Norazah et. al. (2014) highlighted attitude as plays the biggest role in determining customer decision to patronize. Attitude is defined as the degree to which a person has a favourable or an unfavourable evaluation of a behaviour in question. The findings are similar to previous studies by other researchers (Mukhtar and Butt, 2012; Shah Alam and Nazura , 2011) which disclosed that attitude hold a significant and positive effect on halal food purchasing intention.

In similar manner, Baker (2011) confirmed that attitude of the Muslim consumers is always justified by religion. Consistent with that is findings from Gayatri et al. (2005) which reported that a Muslim who holds Islamic cultural values influence his or her evaluation criteria for restaurant, hotel and airlines service quality and in turn, the use of these services. Norazah et. al. (2014) disclosed that attributes such as ingredients, certified halal logo, and ownership were found to hold significant relationship with consumers' attitude toward halal food.

Therefore, it is marketers' roles to plan and execute all marketing activities that can influence a customer along, and beyond, the entire path of purchase, from the point at which the motivation to shop first emerges through purchase, consumption, repurchase, and recommendation.

## **METHODOLOGY**

The data gathered for this study was obtained using a survey method. The researchers applied accidental sampling technique and chose customers who use social media as their method of buying products and services as research object. The sample of the study consists of 62 respondents. The data were analyzed using SPSS software. The questionnaire has been divided into four part which is part one is for Social Media Marketing, Part two is for AIDA Model, Part three is for decision to Patronize and part 4 is demographic. Eight items for part one adapting from Kim and Ko (2012), Ahmed and Zahid (2014), Eight items for part two adapted from Ernani Hadiyanti (2016) and four items for part three adapted from McKnight and Chervany (2002). All the items used a five point Likert scales ranging from 1=Strongly Disagree to 5=Strongly Agree. Researchers also conducted reliability test and the result shows that all variables have coefficient value Alpha Cronbach bigger than 0.6 which means that instruments of questions used in this study is valid.

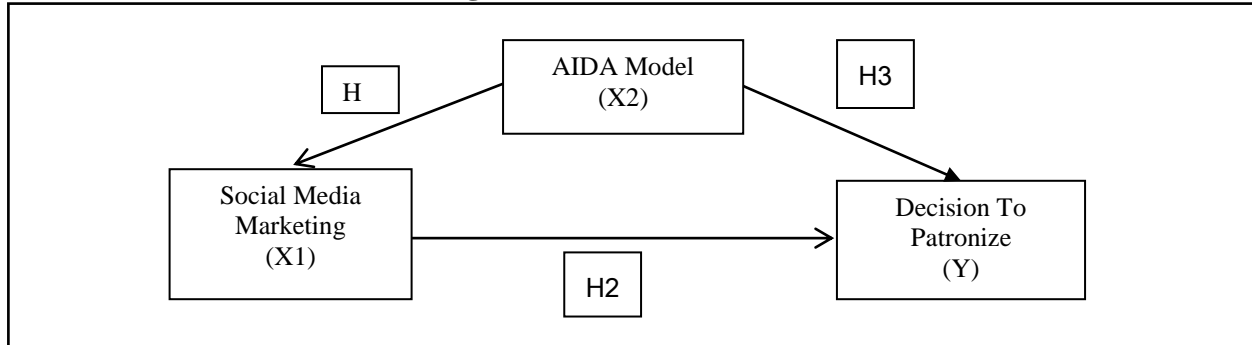
**Table 1: Reliability Test**

<b>Measures</b>	<b>Numbers of Factor Loading</b>	<b>Cronbach's Alpha</b>
X1(Social Media Marketing)	8 items	0.842
X2 (AIDA Model)	8 items	0.887
Y (Decision to Patronize)	4 items	0.840



**Research Model**

**Figure 1: Theoretical Model**



This study test the direct effect of social media marketing to customer decision to patronize Muslim Friendly hotel. Besides, it also tested the influence of AIDA Model to social media marketing and customer decision to patronize the Muslim Friendly hotel. There are two hypothesis for this study:

H1 : AIDA Model significantly influence the social media marketing.

H2: AIDA Model and social media marketing significantly influence decision to patronize.

**FINDINGS**

**Demography of Respondents**

A majority age of the respondents are in 20 to 30 years old which is 58.1% while respondents from age 31 and above is 41.9%. This shows that most people within the age range of 20 to 30 have more positive response to social media activities. In terms of gender, 72.6% are female while male are only 27.4%. For occupation, majority of respondents are from private sector which is 48.4% and only 1.6% are doing business. All of this respondents have experience using social media for buying decision.

**Descriptive Analysis of Variable**

Descriptive analysis shows items distribution of social media marketing (X1), AIDA Model (X2) and decision to patronize (Y). The data is summarized in table 2, table 3 and table 4.

**Table 2 : Social Media Marketing**

Items	Percent	Result
X1.1 (use social media to increase knowledge about the services and brands.)	50.0	Agree
X1.2 (The social media marketing of brands is very attractive)	51.6	Strongly Agree
X1.3 (Using social media in finding brand/ product/ service is fun)	50.0	Agree
X1.4 (Contents shown on social media sites of brands are interesting.)	58.1	Agree

X1.5 (Social media marketing of brands enable information sharing with others.)	45.2	Strongly Agree
X1.6 (Conversation or opinion exchange with others is possible through brands social networking sites.)	46.8	Agree
X1.7 (It is easy to deliver opinion on brands through social media.)	46.8	Agree
X1.8 (Satisfied with the social media marketing sites of brands)	50.0	Agree

Based on the result above, all respondents agree that social media marketing is a good platform in getting knowledge about the services and brand. The decision on the brand and services offered also are easily access through social media marketing.

**Table 3 : AIDA Model**

Items	Percent	Results
X2.1 (Social media provide shocking fact or statistics)	45.2	Agree
X2.2 (Social media use provoking question or elements of surprise)	45.2	Agree
X2.3 (Social media create customer interest on service offered)	46.8	Agree
X2.4 (Social media provides illustration on the usage of service)	51.6	Agree
X2.5 (Social media highlight the features of services)	54.8	Agree
X2.6 (Social media demonstrate how the benefits fulfill needs)	59.7	Agree
X2.7 (Social media create sense of urgency by extending an offer)	41.9	Agree
X2.8 (Social media provide stand out button)	41.9	Agree

According to the tabulated result of study, the researcher found that majority of the respondents agreed that the element of AIDA is a must in social media marketing and this elements may increase or create their attention to patronize services offered by marketers.

**Table 4 : Decision to Patronize**

Items	Percent	Results
Y1 (Using social media sites of brands help in making decisions better before purchasing goods and services.)	54.8	Agree
Y2 (Using social media sites of brands increase my interest in buying products and services.)	58.1	Agree
Y3 (Very likely to choose hotel recommended by my friends on social media.)	53.2	Agree
Y4 (Definitely choose hotel as marketed on brand's social media sites, I follow)	54.8	Agree

According to the result above, most of the respondents agreed that their decision to patronize depends on information highlighted through social media.

**Hypotheses Testing**

This study use path analysis in measuring relationship between the variables. The researcher also used least square method.

**H1 : AIDA Model (X2) significantly influence the social media marketing (X1).**

The result is shown at table 5.

**Table 5 : The result of path analysis of Social media marketing (X1) to AIDA model (X2)**

Variable	Beta	t	Sig t	R Square	Relationship
X2	0.509	3.510	0.001	0.361	Significant

Based on the result above, the value of R Square is 0.361 or 36.1%. This means that AIDA Model variable (X2) influence social media marketing (X1) by 36.1%, while the 63.9% is influenced by other variable out of free variable under this study. The equation of standardized regression is  $Z_Y=0.509Z_X$ . The value of sig t shows that AIDA Model variable has significant value of 0.001 which is less than alpha 0.05. Therefore based on the test, social media marketing (X1) is significantly influenced by AIDA model (X2).

**H2 : AIDA Model (X2) and social media marketing (X1) significantly influence decision to patronize (Y).**

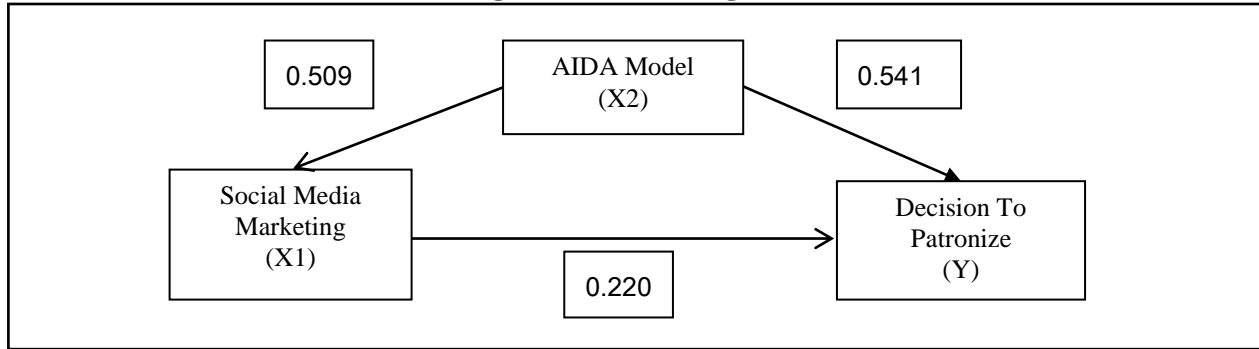
The result is shown below.

**Table 6 : The result of path analysis of Social media marketing (X1) to Decision to patronize (Y)**

Variable	Beta	t	Sig t	Relationship	R Square
X1	0.220	2.116	0.039	Significant	0.396
X2	0.541	5.196	0.000	Significant	

Based on tabulated result, the value of R square is 0.396 or 39.6% which means the social media marketing influences customer decision to patronize by 39.6%. The rest of 60.4% is influenced by other variables out of free variable under this study. The equation for standardized regression is  $Z_Y=0.220Z_{X1}+ 0.541Z_{X2}$ . The significant value for social media marketing variable (X1) is 0.039 which is less than alpha 0.05. Therefore, social media marketing variable (X1) significantly influence customer’s decision to patronize. The AIDA Model variable (X2) on the other hand has significant value of 0.000 which is also less than 0.05. Therefore, AIDA Model variable (X2) has influence towards customers decision to patronize.

**Figure 2 : Path Diagram**



From the above figure, researchers applied Goodness of fit test by using total determination coefficient. The amount of data diversity which can be explained by model is measured as follows:

$$R^2_m = 1 - (P^2_{e1}) + (P^2_{e2})$$

$$R^2_m = 1 - (0.361 + 0.396) = 0.857 \text{ or } 85.7\%$$

The result indicates that the data diversity which can be explained by the model is 85.7% while the rest of data diversity which is 14.3% is explained by another variable which is not tested in the model.

Based on the model, total influence of each variable to dependent variable is as follows:

**Table 7 : Total Influence**

Independent Variable	Dependent Variable	Mediator Variable	Path
AIDA Model (X2)	Social Media Marketing (X1)	-	0.509
AIDA Model (X2)	Decision to Patronize (Y)	-	0.541
Social Media Marketing (X1)	Decision to Patronize (Y)	-	0.220
Social Media Marketing (X1)	Decision to Patronize (Y)	AIDA Model (X2)	$0.509 \times 0.541 = 0.275$
<b>Total Influence = 0.220 + 0.275 = 0.495</b>			

Since the AIDA Model significantly influence Social Media Marketing and Decision to patronize, the relationship between Social Media Marketing to decision to patronize by considering AIDA Model as a mediator is also significant.

## DISCUSSION AND CONCLUSION

This study analyse the influence of AIDA Model in social media marketing to customer's decision to patronize Muslim friendly hotel. Based on the findings, Social media marketing has direct influence to decision to patronize. However without the existence of AIDA model, social media itself could not influence much. This shows that in order to provide information and educate customers as well as attract them to patronize the new Islamic concept, hoteliers need to

focus on the development of marketing strategies and try to make it attractive and interesting for customers. By marketing through social media, the competition is more challenging. Therefore, it is important to adopt the element of AIDA in their marketing strategies.

Result also shows that customers will decide to buy products or decide to patronize hotel when they are attracted with marketing information and design of communication in social media. This indicates that hoteliers who consider AIDA elements in their social media marketing will be able to create public attention to their website or advertisement. It is not easy to make customers focus and read our advertisement when a lot of competitors also doing the same things. Besides, the social media marketing also must be able to create customers' interest to know more and keep searching for the information that are provided. It is an advantage if the social media marketing is able to create desire and finally motivate them to patronize or purchase the products or services. This is why Muslim friendly hotel owners or potential owners need to consider in designing their social media marketing strategies. Marketing requires a lot of cost which need to be properly and effectively managed so as to ensure favourable returns on investment.

As a conclusion, hoteliers need to give attention to everything that they want to communicate and share with customers. The successful of marketing activities is not only depends on how much information that you provide to customers or how many promotional tools that you gave but it needs a proper strategy to ensure all effort give the expected returns. As a new products in hospitality industry where the market is competitive and a lot of misunderstanding on the concept such as the rise of Islamicphobia, hoteliers need to change their marketing strategies by using creative and innovative ideas which may help in creating people awareness towards their brands and service offered. Indeed, it is not easy to market Muslim products but with the addition of Muslim Friendly terms and attractiveness marketing communication which may portray the efficiency, professionalism and value proposition to the brands, Muslim friendly hotel may gain competitive advantage and able to compete and sustain in the market.

There are some limitations in conducting this study. The sample size is quite small which might not represent the whole population involved. However the sample is targeted to those who have experience in making decision in buying products and services through social media. Future research may consider other methods such as deep interview to clarify more on the social media strategies. This study may become a reference for those in the industry especially for Muslim friendly hotel to consider AIDA elements in their social marketing strategies.

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## **Firm's Structure and Profitability: An Empirical Evidence from Malaysia Construction Sector**

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### **ABSTRACT**

This study investigates the effect of firm's internal characteristics on profitability of construction sector in Malaysia for 10 years. A panel data of 38 public listed companies from year 2006 to 2015 has been used. Firm's profitability as measured by return on asset (ROA) was analyzed against four variables which are firm size, firm age, debt ratio and directors' ownership. The results were generated using Ordinary Least Square (OLS) method. The empirical finding based on the random effect model (RE) suggests that firm size and debt ratio appear as the important factor affecting profitability. On the other hand, directors' ownership and firm age has no significant effect on profitability. The finding further reveals that an increase in firm size will increase ROA while an increase in debt ratio will reduce ROA.

**Keywords-** Directors' Ownership, Profitability, Return on Asset (ROA), Construction Sector

## **Struktur dan Keuntungan Firma: Bukti Empirik dari Sektor Pembinaan Malaysia**

### **ABSTRAK**

Tujuan kajian ini dijalankan adalah untuk mengkaji kesan ciri dalaman syarikat terhadap keuntungan sektor pembinaan di Malaysia untuk 10 tahun. Sebanyak 38 data dari syarikat panel awam digunakan bermula dari tahun 2006 hingga 2015. Keuntungan firma diukur dan dianalisis dengan melihat pulangan atas aset (ROA) terhadap empat pembolehubah iaitu saiz firma, umur teguh, nisbah hutang dan pemilikan pengarah. Analisis dibuat dengan menggunakan kaedah Ordinary Least Square (OLS). Penemuan empirikal berdasarkan model kesan rawak (RE) menunjukkan bahawa saiz firma dan nisbah hutang merupakan faktor penting yang mempengaruhi keuntungan. Sebaliknya, pemilikan pengarah dan umur firma tidak memberi



kesan yang signifikan ke atas keuntungan. Dapatan kajian mendapat bahawa peningkatan saiz firma akan meningkatkan ROA sementara peningkatan nisbah hutang akan mengurangkan ROA.

*Kata kunci:* Pemilikan Pengarah, Keuntungan, Pulangan atas Aset (ROA), Sektor Pembinaan

## **INTRODUCTION**

The relationship between firm structure and performance cannot be ignored. A firm depends on the improvement in performance in order to sustain in the market. The examples of performance include efficiency, profitability as well as growth and in this research we decide to choose profitability to represent firm performance. The firm structure is defined as the overall system in the workplace that explaining the rules and regulations, roles and responsibility of worker and how they are controlled and coordinated. In other word, the firm structure can be measured by firm size, firm age, ownership structure, and debt ratio. We are interested to conduct a study on construction sector because this sector is vital for Malaysia to achieve a developed country status by 2020. According to Khan, Liew and Ghazali, (2014) the construction sector has been playing a significant role in aggregate economy of the country that enable to support the gross domestic product (GDP) and sosio-economic development in Malaysia. This sector can give contribution through Gross Domestic Product (GDP), Gross Net Income (GNI) and Gross Fixed Capital Formation (GFCF), creation of job opportunities, generation of income and re-distribution, as well as strategic tool to achieve sustainable development. More than half of GFCF comprises of construction output (Olanrewaju & Aziz, 2015). Outputs of construction sector are home, offices, shopping mall, roads, and factories. Looking at these crucial roles of construction sector in growth development in Malaysia, it is necessary to give attention and focus on this sector.

The construction sector in Malaysia generally falls into three sectors namely residential construction, non-residential construction, and civil construction. The residential construction includes the condominiums and houses construction whereas the non-residential is construction of all building other than residential like industrial and commercial buildings. Other category is civil construction or civil engineering which refers to the construction of public infrastructure such as bridges, railway, school and highways. Malaysia tends to develop this sector since its independence on 1957 after realizing its significance. The transformation of the economy structure intensively involves in reaching year 2020. The government is responsible to outline an economic road map to ensure the country is transformed to developed country and being recognized. Target of country by 2020 is to sustain the robust growth and specifically this entails average growth of 6.0% in GDP annually during the Tenth Plan Period. The economy sectors are the important player in order to realize this target especially the construction sector that active and features obviously in terms of policy formulation and implementations.

### **Problem Statement**

Construction sector in Malaysia, is in the growth phase and show the better performance year-by-year. Nevertheless, some facts state that the construction company facing the problem in term of profitability. Based on the article titled "Malaysia's construction sector to keep growing," (2016) the 47 listed construction companies brought a different performance in year 2015. They

only generated RM3.6 billion of profit before tax and it is generally satisfactory, with only a handful boasting margins on earnings before interest and tax, depreciation, amortization (EBITDA). It shows only marginally more than half of them recording a better year on year performance. In addition, Master Builders Association Malaysia (MBAM); (as stated in Wahida, 2014) belief that the weaken ringgit has been a distress to many construction firms. This is due to the cost of production will be higher than usual. The president of MBAM said that the profit margin for construction sector just begin to tight and would have be more tough for some construction firms with the weakening of ringgit (Wahida,2014). The situation was, where they had tender company project when the ringgit is stronger but once the ringgit was falling, they are in difficult when it comes to accepting the grant.

The falling in ringgit resulting in the increasing of production cost as raw material price is more expensive and lead to higher price of finished goods, then the volume of sales may have affected as well. Based on the annual report for year 2015 of one of construction company, they suffered a loss on the current year that caused by the lower business volume as well as the fixed expenses incurred. Therefore, this research is interested to investigate whether firm structure as represented by firm size, firm age, capital structure and ownership structure affect profitability of Malaysia construction companies from year 2006 until 2015. The study also aims to see the most significant variables that provide contribution towards profit.

### **Scope of study**

This research focuses on the construction sectors in Malaysia. The data like ROA, firm size, firm age, ownership structure, and capital structure will be obtained from 38 construction companies that were listed on the main market of Bursa Malaysia covering 10 years of financial statement beginning 2006 to 2015.

## **LITERATURE REVIEW**

The relationship of firm size, firm age, ownership structure and capital structure are usually related to the firm's profitability. Review on previous researches will provide a more complete view and better understanding on this topic.

### **Profitability**

According to Ang (1997), profitability is the measurement for company performance because it indicates the earnings that companies are able to produce in future through their main activities which are operating and investing activities. Agus, (2001) explains that profitability is the company's capacity to achieve incomes related to revenue, total assets and capital of the company. Therefore, the profitability is important to both long term and short term investors before initiating an investment in a particular company. Investors would make an analysis regarding profit of company so that they are able to minimize the risk and get high return or dividend.

### **Firm Size and Profitability**

Firm size is an important variable to determine the profitability of the organization. The idea known as economies of scale which can be found in the traditional neo classical perspective of the firm. Firm size is the amount and variety of production and services firm provides along with to its customers. Haliland Hassan, (2012) did a study on 143 companies listed on the Istanbul Stock Exchange from year 2005 to 2011 and found that bigger firms earn a higher return. Other than that, John and Adebayo, (2013) also found the positive relationship between firm size and profitability of companies listed on the Nigerian Stock Exchange market from 2005 until 2012. Velnampy and Nimalathasan, (2010) investigate the relationship between firm size and profitability of all branches of Bank of Ceylon and Commercial Bank in Sri Lanka over the period of 10 years from 1997 until 2006 and discovered that larger bank size will result in a higher profitability. Based on the fixed effect model result, Vinasithamby Sritharan, (2015) shows that firm size is positively related to profitability of Sri Lankan hotels and travel sector firms. (Ilaboya and Ohiokha, (2016) also support the previous findings where there is a significant and positive relationship between size and profitability of Nigerian listed companies. On the other hand, a negative relationship has also been established between firm size and profitability. It means that smaller firm will earn a higher return than a bigger firm. Goddard, Tavakoli and Wilson, (2005) focused on 4 European countries from 1993 until 2004 and found a negative relationship between firm size and profitability of manufacturing and service sector. According to Becker, Kaen, Etebari and Bauman, (2010), small firm has a greater earnings. The research focused on the firms operating in manufacturing sector in USA using the data of years 1987 until 2002.

### **Firm Age and Profitability**

Firm age also influence the organizational structure. The older the firm will make it more stable in nature. When the firm is more stable it will give many advantages such as developing more business activities, and earn greater profit from the business. The relationship between firm age and profitability can be in a positive or negative way. Coad, Segarra, and Teruel, (2013) reported a positive relationship between firm age and profitability of firm. The study used a sample of Spanish firms from year 1998 until 2006 and found the profit of the firm increase with the increase in the firm age. It also can be proved by Basti, Bayyurt and Akin, (2011) who conducted a comparative performance analysis of foreign and domestic manufacturing companies in Turkey using the sample of 160 listed firms covering the period from 2003 to 2006. However, the relationship of the firm age and profitability can also be proven otherwise; the older the firm, may reflect lower level of productivity and profitability. Doğan, (2013) used return on assets running a multiple regression on data from 200 listed companies between years 2008 to 2011 and found a negative relationship between firm age and profitability.

### **Ownership Structure and Profitability**

The main objective of a corporation is to maximize shareholder's wealth through expanded firm profitability. Salvatore, (2005) pointed out that assets management, financing and investment decision are the wealth of company and shareholder. The purpose is to maximize growth rate and the profit of the company because the position of the company can be maintained by maximizing profit and growth rate. There is various measurement of ownership had been applied on determining a firm's profitability. Sugiarto, (2009), used managerial share ownership and

institutional ownership as proxy for ownership structure, in which the company having a going public status, the management is separated into two; becoming institutional ownership and managerial ownership functions. Sugiarto, (2009) defines institutional ownership as companies of insurance, investment and banks that have proportion of share in the firm. However, it excludes the institutions that have special relationship with the firm or affiliated firm such as subsidiaries. According to John and Servaes, (1998), larger institution ownership will result in higher profit. It also can be proved by Fauzi and Locke, (2012) who found the positive results which are the larger the board of directors, institutional ownership and board committees will result in the better firm performance using companies listed in New Zealand. Irsa and Naveed, (2016) investigating financial performance of companies listed on the Philippine Stock Exchange (PSE) over the period of 2009 to 2014 show a different result which is the larger institutional ownership will lead to lower firm's profitability. Besides that, other researchers also use government ownership structure. For example, Irsa and Tariq, (2016) discovered that the government ownership is significant and negatively related to the firm profitability. Tran, Nonneman, and Jorissen, (2014) also indicates government ownership, reduces the firm profitability.

### **Capital Structure and Profitability**

Eugene and Houston, (2007) defined the capital structure as the composition of the company's capital which is seen from its particular source, showing the portion of the company's capital coming from debt sources (creditors) and at the same time also showing portion of capital from the owners of the capital itself. Capital structure is very important in order to achieve the company's goal. Capital structure is divided into two which is debt and equity.

Miller's and Modigliani, (1958) work had been an inspiration for many researchers for years. Researchers are trying to analyze and find the existence of an optimal capital structure. Optimal capital structure can be defined as "the capital structure at which the weighted average cost of capital is minimum and thereby the maximum value of the firm." The difference of opinion between researchers can be observed about the effect of debt on profitability.

Abor, (2005) did a study on the effect of capital structure on profitability of the Ghana stock exchange listed firms and found that smaller shareholding will cost return on equity and total assets to improve the short term debt. The same result can also be found in Gill, Biger, and Mathur, (2011) whom investigating a sample of 272 service and manufacturing firms listed on New York. Another research on capital structure, equity ownership and firm performance also found the positive results, and proved that debt ratio positively affect the profitability of the firm where firm in high debt ratio will have a high profit. In contrast, a negative effect of debt on profitability was also confirmed. Shubita and Alswalhah, (2012) used a sample of 39 Amman Stock Exchange based companies and analyzed the role of debt in profitability. The result indicated significant but negative relationship between short-term debt, long-term debt, total debt, and return on equity (ROE). Kebewar, (2013) performed a study on French companies totaling to 2325 trade sector companies over a period of eight years between 1999 to 2006 and found that debt have negative effect on profitability.

Based on the review of the previous researches, we formulate the following hypotheses:

Hypothesis 1: Firm size affects profitability

Hypothesis 2: Firm age affects profitability

Hypothesis 3: Ownership structure affects profitability

Hypothesis 4: Capital structure affects profitability

## **RESEARCH METHODOLOGY**

The methodology provides a brief description of the model, estimation method, data source, and measurement of the variables. This study will explain more about the profitability of Malaysia construction companies and it might be influenced firm structure like firm size, firm age, ownership structure and capital structure. A panel data method will be employed in this study.

### **Population and sample set of the study**

The target population for this study is the construction firms listed on the main market of Malaysia Stock Exchange; the Bursa Malaysia. Based on the equity section in Bursa Malaysia website as at October 2016, there were 46 listed construction companies. The following conditions must be met for the companies to be selected as sample:

- The companies should be listed before 2006 and still operating in the year 2015
- The annual report of the company must be available in the website.

After the screening process, eight companies were excluded, some of them were newly listed companies and for some companies, the financial reports were not available in the website. Finally, our sample consists only 38 companies representing 83% of the total population.

### **Measurement of Variables**

The dependent variable in this study is profitability while the independent variable is firm structure which is represented by firm size (SIZE), firm age (AGE), ownership structure (OWN), and capital structure or Debt Ratio (DEBT). The next section will explain the measurement of each variable.

### **Return on Asset (ROA)**

There are various measurement of profitability, for example Angela, Komala and Nugroho, (2013) used return on equity (ROE) and claimed that it is one of the important indicators that are often used by investors to assess the profitability of the company before investing. Shaskia, (2012) used ROA that is calculated as net profit divided by total assets. Mahmoud Abu-Tapanjeh, (2006) employed both ROE and return on investment (ROI) as the dependent variables for firm structure of Amman Stock Exchange. Salim and Yadav, (2012) took up four dependent variables which are ROE, ROA, Tobin Q and earnings per share (EPS) for the case of Malaysian companies. ROA or also known as ROI which is return on investment for the company, measuring the performance of the company to generate income based on their total assets (Ichsani & Suhardi, 2015). This study measures firm profitability by Return on Assets (ROA) and it is calculated as net profit divided by total assets:

$$ROA = \text{Net Profit} / \text{Total Assets}$$

### **Firm Size**

Previous researchers measure the firm size in a different way such as total sale, market capitalization, total assets and other measurements. Vijaykumar and Tamizhselvan (2010) used the sales and total assets while Vjih and Yang, (2013) used the sales, total assets, and market

value of equity to measure the firm size. In this research, firm size is represented by taking up the total sales of the company for the current year.

### **Firm Age**

Firm age also have a different measure. Mahmoud Abu-Tapanjeh, (2006) and Shumway, (2001) defines firm age as the number of years of establishment of the company even though some researcher (for example (Loderer & Waelchli, 2009) believe that listing age, should define the age of the company and listing age is more economical since listing is a defining moment in the company's life. We decided to follow measurement used by Mahmoud Abu-Tapanjeh, (2006) and Shumway, (2001).

### **Ownership Structure**

Mahmoud Abu-Tapanjeh, (2006) measured the ownership structure by Government Ownership, Non- government ownership, and director's ownership. This research will take directors ownership as proxy for ownership structure. Board of directors is a group of individuals that are elected as, or elected to act as, representatives of the stockholders to establish corporate management related policies and to make decisions on major company issues. Every public company must have a board of directors. Some private and non-profit companies also have a board of director. The director ownership means the person who has the ownership's title in the company, they hold the company's shares. The director ownership is calculated as follow:

$$\text{Director Ownership} = \text{Total shares held by directors} / \text{total company shares}$$

### **Capital Structure**

Capital structure is source of financing that raised up by company like debt or fund from shareholders. Capital structure for this research is represented by debt ratio. Debt ratio is calculated as percentage of debt over total assets:

$$\text{Debt Ratio} = \text{Total debt} / \text{Total Asset}$$

All the data for dependent and independent variables are obtained from the annual report of the selected companies from the year 2006 to 2015.

### **Data Analysis**

This research has modified the mathematical model that has been employed by Aman, (2011) as per below:

$$ROA_{i,t} = \beta_0 + \beta_1 SIZE_{i,t} + \beta_2 AGE_{i,t} + \beta_3 OWN_{i,t} + \beta_4 DEBT_{i,t} + \mu_{i,t}$$

Where,

$\beta_0$  = Constant term

ROA = Return on Asset

SIZE = Firm Size (companies sales for the current year)

AGE = Firm Age (number of years of establishment)

OWN = Ownership structure (Director Ownership)

DEBT = Capital structure (Debt Ratio)

$\mu_{i,t}$  = Error term

### **Descriptive Statistic**

Statistical software Eviews9 is used to compute all the data gathered. Descriptive statistic is used to describe the basic features of the data in a study. It presents quantitative descriptions in a manageable form.

### **Correlation coefficient**

Correlation coefficient is to measure the degree of two variables movements. The range of value is -1.0 to 1.0. If the result is greater than 1.0 or lower than -1.0, a mistake has been make. A correlation of -1.0 indicates a perfect negative correlation, while a correlation of 1.0 indicates a perfect positive correlation.

### **Regression analysis**

In order to get the best result, this research employs three regressions which are Pooled effect model, Fixed Effect Model and Random Effect Model. In order to select the most preferable result from those three methods, the diagnostic tests then will be applied which are likelihood ratio (LR), Lagrange multiplier (LM) and Hausman test.

### **Likelihood Ratio**

Likelihood ratio is conducted to differentiate between Pool and Fixed Effect Model. The hypothesis is as follows:

H<sub>0</sub>: Pool Effect Model is appropriate model

H<sub>1</sub>: Fixed Effect Model is appropriate model

### **Lagrange Multiplier**

Lagrange Method is employed to differentiate between Pool Effect Model and Random Effect Model. The hypothesis is as follows:

H<sub>0</sub>: Pool Effect Model is appropriate model

H<sub>1</sub>: Random Effect Model is appropriate model

### **Hausman Test**

Hausman Test is employed to differentiate between Random Effect Model and Fixed Effect Model. The hypothesis is as follows:

H<sub>0</sub>: Random Effect Model is appropriate model

H<sub>1</sub>: Fixed Effect Model is appropriate model

## **FINDINGS AND DISCUSSION**

### **Descriptive statistical analysis**

**Table 1: Descriptive statistical analysis of ROA and firm structure**

	<b>ROA</b>	<b>Size</b>	<b>Age</b>	<b>Own</b>	<b>Debt</b>
Mean	4.1	5.8	23	12.65	62.81
Maximum	1105	60	55	61.73	1040
Minimum	-301	0	3	0	2.1

Std. Dev.	63.44	9.22	13	14.67	95.51
<b>Observations</b>	<b>387</b>	<b>387</b>	<b>387</b>	<b>387</b>	<b>387</b>

Table 1 presents the descriptive statistics for the ROA and firm structure (firm size, firm age, ownership structure and debt ratio) of the selected companies. The statistical data reveals the ROA varies as low as -301% to the highest value at 1040%. Along the 10 years period, there is a company suffers a pretty bad loss on 2006 and the company achieved a rare profit on 2007 with small value of assets. Minimum value for ownership structure is 0, reflecting that some companies directors do not have any equity shares and some of them more than half is denominated by director ownership as the maximum value is 61.73%. The youngest firm in our sample has 3 years of establishment since 2006 and the oldest is 55 years. This shows variety of company background both new and well established. The mean of debt ratio is 62.81% implies that companies in construction sector relies heavily on debt capital.

### Correlation Analysis

**Table 2: Correlation Matrix**

Variables	Log ROA	Log Size	Age	Own	Log Debt
<b>Log ROA</b>	1.000000				
<b>Log Size</b>	0.384266	1.000000			
<b>Age</b>	0.151060	0.245475	1.000000		
<b>Own</b>	0.089769	0.061796	0.041461	1.000000	
<b>Log Debt</b>	-0.213798	0.088142	0.228222	0.066320	1.000000

Table 2 presents correlation analysis for ROA and the firm structure. The data suggests that all independent variables except for debt ratio are positive and weakly correlated with ROA. The high profit of the company is contributed from the large value of revenue earns, the longer period the company in the market and the higher percentage of ownership held by its own director. Debt ratio is weakly and negatively correlated to ROA, means that more debt is risky for the company and lead to poorer profit due to higher cost of borrowing. All independent variables are correlated to each other and fortunately, values of correlation matrix among independent variables are less than  $r=0.80$ , thus it can be concluded that there is no of multi-collinearity problem.

### Regression results

This research employs three regression methods to examine the effect of firm structure on profitability. Table 3 shows the statistical results of Pool, Fixed and Random effect model.

**Table 3: Regression Results of Pool, Fixed and Random Effect Model**

	<b>POOL</b>	<b>FIXED</b>	<b>RANDOM</b>
<b>Variables</b>	Coefficient (std. error)	Coefficient (std. error)	Coefficient (std. error)
<b>Log size</b>	0.964957**	1.036241**	0.976379**



	(0.110144)	(0.230551)	(0.160434)
	-0.001251	0.009545	0.001152
<b>Age</b>	(0.005447)	(0.020751)	(0.009161)
	0.009974*	-0.018222	-3.79E-05
<b>Own</b>	(0.004558)	(0.011181)	(0.007001)
	-1.200324**	-1.627375**	-1.454386**
<b>Log debt</b>	(0.229532)	(0.332247)	(0.281868)
	-6.341117	-6.122955	-5.943400
<b>C</b>	(0.939975)	(1.933005)	(1.355813)
<b>R<sup>2</sup></b>	0.219329	0.482717	0.138809
<b>Adjusted R<sup>2</sup></b>	0.211133	0.419376	0.129768
<b>F-statistic</b>	26.76045	7.620957	15.35270
<b>Prob(Fstatistic)</b>	0.0000	0.0000	0.0000

Note: \* and \*\* Significant at 5% and 1% levels respectively.

In order to select the best regression that fits with our data, we have conducted three model specification tests namely Likelihood Ratio, Lagrange Multiplier, and Hausman test. The results are shown in the following table:

**Table 4: Model specification test results**

Model Specification Test	Result	Decision
Likelihood Ratio	Significant	Accept H <sub>1</sub> : Fixed Effect Model is appropriate model
Lagrange Multiplier	Significant	Accept H <sub>1</sub> : Random Effect Model is appropriate model
Hausman Test	Not significant	Failed to reject H <sub>0</sub> : Random Effect Model is appropriate model

Based on the above results, Lagrange Multiplier and Hausman Test suggest that the Random Effect Model is most preferable for this research. Therefore, in the next section we will interpret the regression result of Random Effect Model.

### Ordinary Least Square (OLS) Random Effect Model

Based on table 3, (Random Effect Model) the R<sup>2</sup> is about 14%. It indicates that 14% variations of firm's ROA can be explained by the variations in independent variables which are firm size, firm age, ownership structure and capital structure (debt ratio) while another 86% were explained by other factors that are not included in this study. F-statistic describes the overall fitness of the model. The test statistics is F (15.35) with p-value (0.0000) which is less than alpha,  $\alpha$  (0.05), indicating that the overall model is significant.

The following equation model has been generated for this study:

$$ROA = -5.9434 + 0.9764SIZE_1 + 0.001152AGE_2 - 3.79OWN_3 - 1.4543Debt_4$$

The equation model reveals that firm size (total sales) and capital structure as represented by debt ratio is significantly affecting firm's return on assets at 1% significant level. Therefore,

hypothesis 1 and 4 is supported. On the other hand, hypothesis 2 and 3 was not supported because firm age and ownership structure (director ownership) is not significant. Furthermore the result indicates that firm size affect ROA in a positive direction. Firm with higher sales will generate higher return for the business. Whereas debt ratio affect ROA negatively, implies that company with higher debt capital will earn a lower profit. This may due to the burden of interest expenses.

## **CONCLUSION AND RECOMMENDATION**

This study aims to investigate whether firm structure which represented by the firm size, firm age, director ownership and debt ratio will affect profitability of construction companies in Malaysia. The model specification tests suggest the Random effect model to estimate the effect of firm structure on profitability. There are two significant variables which are firm size and debt ratio. The most significant variable that influencing the profit is debt ratio at coefficient value of -1.4544; higher than coefficient value of firm size which is at 0.9794. This implies that debt ratio must be considered as the most important factor in determining the companies' profit. The debt as one of the sources of financing for large company like construction firm cannot be denied. However, the firm will face the problem of decreasing in profit if the debt is not well managed. The revenue will decrease when the company have to pay high interest expenses. In addition, if the company cannot meet the obligation, it will be worsening and risk of bankruptcy will be high. Therefore we would like to suggest the construction firms with high debt capital to use it efficiently to avoid cash flow crisis and lower rate of return. Total sales have been proved in this research as a reason of a better profitability. The company has a chance of getting high income if they are talented in selling many homes under their construction, get the tender or entitle for big projects that available in Malaysia.

This study makes significant contribution to the management of construction company where it assists them in identifying which factor they must concern to generate better profitability. Besides, results of this study will also aid as a reference for researchers who undertaking a related field.

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# **The Effect of the Board of Directors' Characteristics on Corporate Sustainability Reporting**

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## ***ABSTRACT***

This paper explores the corporate sustainability reporting by Public listed companies of Bursa Malaysia. Specifically the objective is to examine the effect of board characteristics on corporate sustainability reporting (CSR) disclosure. This study postulates that board characteristics (board size, board independence, CEO duality, women director) influence the level of CSR. Development of research hypotheses are based on legitimacy theory. Sample consists of 260 companies listed on the Main Board of Bursa Malaysia. Results show a positive significant association between board size, board independence and women director and CSR disclosure. Duality CEO has no significant association impact on CSR disclosure among listed firms in Malaysia. This study suggests the need for improving the current practice of corporate governance for public listed companies by focusing on the board of directors' characteristics. The findings of this study are useful for policy makers in evaluating the present corporate governance standards and whether these requirements are sufficient for users of CSR, such as investors in making investment decisions

**Keywords:** *Corporate governance, Board of directors' characteristics, VCorporate sustainability reporting*

## **Kesan Ciri-Ciri Lembaga Pengarah Mengenai Pelaporan Berkelanjutan Korporat**

### ***ABSTRAK***

Kajian ini dilakukan bagi menguji kesan ciri-ciri ahli lembaga pengarah ke atas pelaporan kelestarian korporat oleh syarikat tersenarai di Malaysia. Kajian ini menjangkakan bahawa ciri-ciri ahli lembaga pengarah (saiz lembaga pengarah, kebebasan pengarah, CEO dua peranan, pengarah wanita) akan mempengaruhi pelaporan kelestarian korporat oleh syarikat tersenarai di Bursa Malaysia. Hipotesis dibangunkan berdasarkan teori legitimasi. Sampel kajian terdiri daripada 260 buah syarikat tersenarai di Bursa Malaysia. Hasil kajian mendapati bahawa saiz

lembaga pengarah, pengarah bebas dan pengarah wanita mempengaruhi pelaporan kelestarian korporat. Manakala CEO dua peranan didapati tidak mempengaruhi pelaporan kelestarian korporat oleh syarikat tersenarai di Malaysia. Kajian ini mencadangkan supaya terdapat penambahbaikan dari segi tadbirurus korporat syarikat tersenarai di Malaysia terutama dari segi ciri-ciri lembaga pengarah. Hasil kajian adalah berguna kepada pembuat polisi dalam menilai standard tadbir urus dan adakah keperluan penyenaian di Bursa Malaysia mencukupi bagi penggunaan CSR terutama sekali pelabur dalam membuat keputusan pelaburan

***Kata kunci:*** *Tadbir urus korporat, Ciri-ciri Lembaga Pengarah, Pelaporan kelestarian korporat*

## **INTRODUCTION**

Corporate sustainability reporting (CSR) is attracting the attention of governments, business communities, academia, stakeholders and society as a whole. Sustainability issues have captured the public's interest as well as business organisations (Sharifah 2010). Companies have reported on their Corporate Sustainability Reporting by addressing the needs and expectations of stakeholders such as investors, customers and suppliers, regulators and society (Deegan 2013). CSR is costly and voluntary in nature but the companies still embrace in CSR and the number of companies that informing their stakeholders of their CSR performance is increasing. . Investors look for evidence of sound business strategy and effective management of risk, some customers are concerned with product origins and the conditions under which they are manufactured, and employees want to work for organisations that visibly account for their responsibilities to society and the environment (Belal & Owen 2007). These have all led to an increased prevalence in corporate sustainability reporting (Lee 2008). CSR has been accepted as a business strategy and a way to gain legitimacy from society (Jamali & Mirshak 2007).

CSR has been described by Marrewijk (2003) as demonstrating the inclusion of social and environmental. Sustainability also means as business strategies that meet the needs of the enterprise today and its stakeholders while sustaining the resources, both human and natural, which will be needed in the future" (KPMG 2011). Sustainability practices in corporations revealed the interrelationship between society, environment and economic development (WCED 1987). Providing more sustainability reporting on the annual report is expected to increase firms' chances to attract investors and analysts to give better analysis. This study define CSR as commitments undertaken by the firms, which covers the non-financial aspects, such as the economic, environmental and social disclosures with the intention to preserve a sustainable future for the rights of the stakeholders. Providing more sustainability reporting on the annual report is expected to increase firms' chances to attract investors and analysts to give better analysis.

The term of CSR can be explained as follows:

### 1. Economy

The impact on the economic conditions of stakeholders (procurement practices, community investment) and the interaction or relationship with the economic systems at local, national and global levels. It does not merely focus on the financial condition of the organisation.

### 2. Environment

The interaction with living and non-living natural systems, including land, air, water and ecosystems.

### 3. Social

The interaction or relationship with social systems within which firm's operate. These may include their relationships with communities, employees, consumers, etc.

(GRI G4 Guidelines)

Corporate governance (CG) in particular board of directors can play a significant role in enhancing corporate sustainability reporting (CSR) performance (Zahra, 1989). The shareholders are unable to engage in management when there is a separation of ownership between the owners-shareholders (principals) and the managers (agents), thus, it is the task of the board to represent the shareholder's interest, monitor the effectiveness of management and to ensure that managers of corporations use the assets to maximize shareholders' value. Good corporate governance is required to safeguard the interest of various stakeholders (Al-Malkawi et al. 2014) as it can improve public faith and confidence in the business environment (Güler & Crowther 2008). The companies need to contribute for the well-being of the communities by considering the financial and non financial needs on setting the company's objective. Thus, this study aims to examine the influence of good corporate governance (CG) specifically board characteristics on sustainability reporting. This study extend prior studies by investigating the effect of board's characteristics on the level of CSR in public listed firms in Malaysia. To compliment these prior researches, the current study provides relevant input in these two contributions: (1) using a more recent data, which is the CSR in the 2016 annual reports (2) examine the effect of board's characteristics on the level of CSR by using more comprehensive CSR dimensions (economic, environment and social).

Issues such as pollution, waste, resources depletion, product quality and safety, the rights and status of workers and the power of large corporations have become the focus of increasing attention and concern (Hussainey & Walker 2009). In order to cope with such issues, sustainability engagement has become a vital plan in dealing with such matters. (Muttalib et al.2014).It is crucial to examine if the CSR in Malaysia is comply with reporting regulation imposed by the Malaysian government and Bursa Malaysia and what are the board of directors' effect on corporate sustainability activities in their annual reports in Malaysia. This paper proceeds with literature on corporate sustainability reporting in the next section. Section two will discuss literature review and Section three will discuss hypotheses development. The methodology will be presented in section four. Section five will present results and discuss research findings and finally section six will conclude overall paper.

## **LITERATURE REVIEW**

Many of the corporate sustainabilityreporting (CSR) studies have been carried out in developed countries(Clarkson et al 2008, Isaksson 2009; Sutantoputra 2009; Zeng et al 2010; Suttipun & Stanton 2012, Hahn & Kuhnan 2013). These studies provide insight on the types of sustainability information reported and understanding the development of CSR in those countries. Similar study need to be carried out in Malaysia, since the social, economic, and political environment in Malaysia are different from other countries. In recent years the interests in CSR have been partly

contributed by the increased awareness on corporate accountability. Corporate governance became an attractive issue for Asian researchers especially after financial crisis in 1997. The Malaysian Institute of Corporate Governance was established in 1998 and subsequently the Malaysian Code on Corporate Governance was released in 2000. One of the best practices in corporate governance included in the Code is that the board should receive information that is not only financial-oriented but other performance indicators such as customer satisfaction, product and service quality, and environmental performance. (Esa & Ghazali 2012). Finance Committee on Corporate Governance in Malaysia has defined corporate governance as ‘the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability.

A few studies have investigated several corporate governance and sustainability reporting issues in Malaysia. Amran and devi (2008) investigate the influence of government and foreign affiliates particularly; multinational companies on (CSR) development in an economy, where CSR awareness is low coupled with weak pressure group activism. Saleh et al. (2010) explore corporate social responsibility (CSR) disclosure and its relation to institutional ownership (IO) of Malaysian public listed companies (PLCs). Results which confirmed earlier estimations indicated that there are positive and significant relationships between CSR disclosure (CSR D) and IO.

Esa & Ghazali (2012) investigate whether there has been a change in the level of corporate social responsibility (CSR) disclosure and to determine whether corporate governance attributes influence CSR disclosure in corporate annual reports of Malaysian government-linked companies (GLCs). They analysed the annual reports of 27 GLCs for two years (2005 and 2007) using content analysis. Multiple regression analysis was performed to identify factors influencing CSR disclosure in annual reports. Their findings showed that the extent of CSR disclosure was increase and the multiple regression analysis revealed that board size was positively associated and statistically significant with the extent of CSR disclosure.

## **THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT**

Legitimacy theory is widely used in the literature to explain CSR reporting practices. According to legitimacy theory, a corporation discloses CSR information in order to establish or sustain its legitimacy by obtaining the community acceptance of its actions (Deegan 2002). Legitimacy theory looks at the “society” within which an organisation operates. There are many groups of individuals who may be interested in the organisation’s social and environmental activities, such as shareholders, creditors, employees, customers and suppliers. These groups have been identified as stakeholders who may affect or be affected in the process of the achievement of the organisation’s objectives (Freeman 1984). Stakeholders have the power to influence managerial strategic decisions in the form of control over resources required for the survival of the companies (Ullmann 1985). CSR reporting is expected to be an effective firm management strategy for developing and maintaining satisfactory relationships with various stakeholder groups within the society so as to legitimise the firm’s operation. Based on the legitimacy theory, a corporation must disclose more social activities following changes in the marketplace. Therefore, the corporate governance structure of board of directors (board



independence, board size, CEO duality and women director) is expected to play an important function in reducing the legitimacy gap by expanding the disclosure of CSR. Thus, managers are motivated to disclose more information to support their claim on legitimacy (Shamil et al. 2014). Many studies adopted this theory to examine the movement of CSR responding to incidents (Donovan 2002; Tsang 1998; Haniffa & Cooke 2005; Esa & Ghazali 2012, Monfardini et al. 2013).

### **Hypotheses Development**

This section discusses the development of hypotheses in this study. This study postulates that board of director's characteristics influence the level of sustainability reporting (SR) among firms in Malaysia. The overall theoretical framework of this study is based on the legitimacy theory (Freeman 1984). Seven hypotheses are developed in this study to determine the effect of board of director's characteristics on corporate sustainability reporting in Malaysia. Therefore, the corporate governance structure of board of directors (board size, board independence, CEO duality and women on board) is expected to play an important function in reducing the legitimacy gap by expanding the disclosures of CSR. The control variables are profitability, company size and leverage.

#### **1. Board size**

Jensen (1993) argued that larger board size may result in disagreements while proponents of board size suggest that more board members would lead to wider exchange of ideas and experiences. On the other hand, larger boards offer more expertise and increased monitoring capacity (Belkhir, 2009). Large boards could also offer different backgrounds, knowledge, different ideas, Different backgrounds and expertise that can inspire firms to undertake socially responsible activities, especially in times of crisis and regulatory changes. Several studies have examined the relationship between board size and CSR disclosures (Said et al. 2009; Esa & Ghazali 2012; Rao et al. 2012). While Said et al. (2009) did not observe any correlation between CSR disclosures and board size. Rao et al. (2012) and Esa and Mohd Ghazali (2012) both documented a significant positive relationship between the extent of CSR disclosures and board size in Australia and Malaysia, respectively. In the Malaysian context, the Code (revised 2007) does not specify the number of board members rather let the board decide taking into consideration the impact of size on board effectiveness. Therefore, the hypothesis is as follows:

Hypothesis 1: There is likely a significant positive relationship between board size effect on CSR disclosure

#### **2. Board Independence**

The presence of independent directors in the board is considered to be a major corporate governance mechanism. It is generally believed that independent outside directors will strengthen the board by monitoring the activities of the management, and ensure that interests of the investors are protected (Petra 2005). In a corporate governance context, independent directors are expected to perform a monitoring role ensuring that shareholders' interests are taken into consideration when arriving at board decisions. In Malaysia, the Code requires that independent directors to be at least one-third of the board membership. This requirement can be interpreted as expecting more independent boards to be more effective in its monitoring role. However, the

relationship between independent directors and the extent of CSR disclosure is unclear. (Cheng & Courtenay 2006; Donnelly & Mulcany 2008) found a significant positive association between independent directors and voluntary disclosure (Cheng & Courtenay 2006; Donnelly & Mulcany 2008). Eng and Mak 2003 and Barako et al. 2006) found a negative association between independent directors and the extent of disclosure. Haniffa and Cooke (2002) and Mohd Ghazali and Weetman (2006) did not find independent directors to be a significant variable influencing voluntary disclosure in Malaysia. The hypothesis is as follows:

H2. There is a significant positive association between independent directors and the extent of CSR disclosure in Malaysia.

### **3. CEO Duality**

In Malaysia, it is common to find that the chairman of the board is also the chief executive officer. Considering this, the Malaysian Code on Corporate Governance recommends that there needs to be a balance on the board of directors with at least one-third of the members being independent. Their inclusion is based on (i) their experience and knowledge, (ii) their contacts, and (iii) their independence from the CEO. Empirical evidence on the relationship between role duality and corporate performance is mixed. Chau and Gray (2010) reported a positive association between dual leadership and voluntary disclosure. Forker (1992) and Gul and Leung (2004) had reported a negative association between CEO duality and voluntary disclosures previously. Haniffa and Cooke (2002) and Barako et al. (2006) found no evidence of an association between dual leadership and voluntary disclosures. Based on the above arguments and empirical evidence, the following hypothesis is proposed:

Hypothesis 3: The separation roles of the CEO and chairman has a significant influence on CSR

### **4. Women Directors**

The board diversity is associated with high intensity of social performance and CSR disclosure (Ibrahim & Angelidis 1994). Women directors are less economically oriented and more philanthropically driven than male directors (Ibrahim & Angelidis 1994). Presence of women directors in board tend to engage in more charities as compared to the firms having smaller proportion of women on boards (Williams 2003). However, empirical evidence on the relationship between women directors and CSR is mixed. Barako & Brown (2008), Bear et al. (2010) and Zhang (2012) found a positive link between boards with female directors and CSR disclosures. Ntim and Soobaroyen (2013) found no relationship between gender diversity and CSR disclosures and Post et al. (2011) found having three or more women on board did not relate to social and environmental disclosures. Based on the above arguments and empirical findings, it is hypothesized that:

H4. There is a positive association between boards with female directors and sustainability reporting.

### **5. Company size**

Larger companies can be expected to disclose more CSR information to show or portray their corporate citizenship, thereby legitimizing their existence (Mohd Ghazali 2007). According to

Cowen et al.1987, larger companies that usually undertake more activities will make a greater impact on society and the annual report can be an efficient means of communicating this information (Cowen et al. 1987).Evidence from previous studies supports the existence of a positive relationship between company size and disclosure level (Mohd Ghazali 2007, Said et al.2009).A similar finding was also reported by (Musteen et al.2010, Lu et al.2015). Based on the empirical results of prior studies, a positive relationship is expected between company size and CSR disclosure. The hypothesis is as follows:

H5. There is a significant positive association between company size and the extent of CSR disclosure.

### **6. Profitability**

Socially responsible companies can be expected to be more profitable as these companies would have the necessary ingredients of a successful company (Belkaoui & Harpik 1989). However, investment in CSR activities may require additional costs and hence reduce the profits of a company (Balabanis et al., 1998).In the Malaysian context, empirical results on the association between profitability and the extent of CSR disclosure are mixed. Company size and profitability did not have significant relationship (Abdul Hamid 2004; Esa & Ghazali 2012).CSR has a significant positive relationship with profitability (Haniffa & Cooke 2005; Said et al.2009). The hypothesis is expressed as follows:

H6. There is a significant association between profitability and the extent of CSR Disclosure.

### **7. Leverage**

Firms with high debt levels are expected to incur high monitoring costs. Therefore, managers of high debt firms may seek to reduce these costs by disclosing more information in annual reports (Ahmed and Curtis, 1999). In other words, highly leveraged companies are expected to disclose more information to assure creditors that shareholders and management are less likely to bypass their covenant claims. Leverage has been found to be significant and positively associated with the extent of disclosure by Naser et al. (2002) and Ferguson et al. (2002). In contrast, Ho and Wong (2001), Chau and Gray (2002) and Sa & Ghazali (2012) did not find leverage to be significantly associated with voluntary disclosure. Haniffa and Cooke (2005) did not find leverage to be a significant factor influencing corporate social disclosure. As the empirical evidence is inconclusive, no expectation is formed regarding the direction of association between leverage and the extent of CSR disclosure. The hypothesis is as follows:

H7. There is a significant association between leverage and the extent of CSR disclosure.

## **RESEARCH METHOD**

The first aim of this study is to examine the effect of board's characteristics on corporate sustainability reporting. The dependent variable is the CSR which is measured based on a disclosure index. The sample of this study comprise of 260 companies listed on main board of Bursa Malaysia using stratified random sampling and data was collected from the company

annual report for the year 2016. This approach is consistent with previous studies by Clarkson (2008) and Aras et al. (2010).

### **Measurement of Variables**

The dependent variable in this study, corporate sustainability reporting (CSR), is measured based on Global Reporting Initiatives (GRI) performance indicator. The indicator is considered to be a valid and suitable measure of CSR because it contains comprehensive measure of social and environmental performance (Sutantoputra, 2009). This study adopts CSR disclosure rating by Santantoputra (2009) and Clarkson (2008), which has 83 total score of disclosure items for social performance, 95 total score for environmental performance and 19 total score for economic performance. This rating system is developed based on GRI 2002 guidelines which categorized the score based on two categories: hard disclosures and soft disclosures. The CSR score in this study was obtained by content analysis of annual reports of selected sample companies.

### **Regression Model**

The aim of the regression model is to provide empirical evidence on the effect of board of directors' characteristics on corporate sustainability reporting. Therefore the dependent variable is the corporate sustainability reporting or CSR. The independent variables of interest include board size (BSIZE), board independence (BIND), CEO duality (DUAL) and women Director (WD). We include three control variables commonly found significant in prior studies examining disclosure level issue, that is, firm size (SIZE), profitability (PRFT) and leverage (LEV). Below is the full regression model utilised in this study:

$$SR_{it} = \beta_0 + \beta_1 SIZE_{it} + \beta_2 BIND_{it} + \beta_3 CEODUAL_{it} + \beta_4 WD_{it} + \beta_5 PRFT_{it} + \beta_6 LEV_{it} + \varepsilon_{it}$$

Where:

- $SR_{it}$  = Level of CSR for firm i at time t
- $BSIZE_{it}$  = Board size and is measured by number of directors on the board (Nazli et al 2010) for firm i shareholders at time t
- $BIND_{it}$  = Board independence is measured by Proportion of INDs to total directors
- $CEODUAL_{it}$  = Duality of CEO is measured by percentage of shares owned by shareholders at 5 % or more (Mustarudin et al 2010)
- $WD_{it}$  = Women director is measured by Proportion of women on the board of directors
- $CSIZE$  = Firm size is measured by Total assets
- $PRT_{it}$  = Profitability is measured by Return on asset (ROA) Nazli et al. 2011
- $LEV_{it}$  = Leverage is measured by Debt Ratio
- $\varepsilon_{it}$  = is error term for this regression model

### **Multicollinearity Issue**

To check for multicollinearity issue, Pearson correlation was undertaken among independent variables. Table 1 shows that all variable did not have multicollinearity problem.

Multicollinearity issue is considered under control because it is still below 0.80 (Cooper & Schindler, 1998; Griffiths, Hill & Judge, 1993).

**Table 1 : Pairwise Correlation among All Variables (N=100)**

	CSR	Bsize	Bind	Dual	wdir	Csize	prft	Leve
<b>CSR</b>	1							
<b>Bsize</b>	0.038*	1						
<b>Bind</b>	0.112	0.000	1					
<b>Dual</b>	0.208	0.071	0.071	1				
<b>Wdir</b>	0.000**	-0.028**	0.074	0.071	1			
<b>Csize</b>	0.035*	0.000**	0.002**	0.341	0.233	1		
<b>Prft</b>	0.032	0.063	0.331	0.065	0.000**	0.035*	1	
<b>Lev</b>	0.45	0.519	0.165	0.081	0.566	0.530	0.089	1

\*\*, \*Statistically significant at the 0.05 and 0.10 levels, respectively.

**Table2 :Result of Regression Analysis on Independent Variables**

Variables	Pred Sig	Beta	t	Sig	Collinearity Statistics	
					Tolerance	VIF
CSR						
BSIZE	+	0.145	2.428	0.010***	0.832	1.202
BIND	+	0.110	1.921	0.050**	0.893	1.120
CEODUAL	NO	0.073	1.322	0.187	0.979	1.021
WDIR	+	0.456	9.928	0.000***	0.892	1.121
CSIZE	+	0.064	1.087	0.278	0.860	1.162
PRFT	+	0.010	0.167	0.860	0.877	1.141
LEV	+	0.066	1.203	0.230	0.991	1.010
F value	12.434					
Adj. R <sup>2</sup>	0.236					
N	260					

\*, \*\*, \*\*\* Denote significance at the 10%, 5%, and 1% (two-tailed) levels, respectively

## **EMPIRICAL RESULT AND DISCUSSION OF FINDINGS**

Table 2 presents the empirical findings of regressing the independent variables on the CSR. The coefficient of R<sup>2</sup> is 26 percent, and the adjusted R<sup>2</sup> is 24 percent, indicating a reasonable variance proportion. The table also shows that the p-value of the model is significant at 0.2 percent. The values of Tolerance are higher than 0.10, and the variance inflation factor (VIF) for all independent variables did not exceed 10, indicating that there is no multicollinearity problems between the variables (Kennedy 1998). Table 2 also shows that board size, board independence and women director have significant effects on CSR disclosure at the 0.01, 0.05 and 0.00 levels, respectively. This means that both variables are considered important factors by public listed

companies in deciding whether to disclose CSR information. Board size has positive significant effect on CSR disclosure, and thus supporting hypothesis 1.

This finding is consistent with previous studies (Haji 2013; Said et al., 2009). The same applies for board independence which shows a positive relationship with CSR disclosure. Thus, hypothesis 2 is accepted. This result is also supported by previous studies (Esa & Ghazali 2012). Women director also shows a significant positive effect on CSR disclosure. This is also supported by previous literature (Devi et al. 2016). Further, the result shows no significant relationship between CEO duality and CSR disclosure. It implies that the separation of function between the CEO and the chairman does not affect CSR disclosure, thus supporting hypothesis 3. This finding is consistent with the studies by Li et al. (2008; Said et al. 2009). Company size, profitability and leverage are not significant which means that decision to disclose CSR information in the annual reports is not influenced by these three factors. The non-significance of profitability is consistent with Esa & Ghazali 2012 ; Abdul Hamid (2004).

## **CONCLUSION**

The objective of this study was to examine the effect of board of directors characteristics (board size, board independence, CEO duality, and women director) on CSR disclosure by public listed companies in Malaysia. The study found that Board size, board independence and women directors have an impact on CSR disclosure. As predicted, CEO duality has no effect on CSR disclosure. The findings of this study can help Malaysian policy-makers and business leaders to formulate strategies to make firms more socially responsible and reputable. It is suggested that the government and policy makers need to make continuous efforts by providing more detailed guidance regarding CSR behaviours and reporting to assist firms to become socially responsible by communicating their CSR activities effectively to regulatory bodies and other stakeholders. This study fills a void in the contemporary research on the influence of board characteristics on CSR reporting in the context of a developing country. This study also adds to the research on board characteristics as important governance signals influencing corporate sustainability reporting by investigating this issue in the context of Malaysian public listed companies. However, it should be acknowledged that the use of a single year's data for testing the relationships hypothesised in this study can restrict generalisability of findings. The above limitations and findings of our study can provide a springboard for further research. For instance, a future study may continue to examine CSR reporting, board characteristics and their influence on corporate social sustainability reporting under different theoretical frameworks and over several reporting periods.

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## **A Survey of Preventive Maintenance Practices in Malaysian SMEs Manufacturing Organizations**

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### ***ABSTRACT***

Maintenance of machines has become critical aspect in the manufacturing environment. The new technology leads to lesser maintenance works which can improve daily operations and production. Maintenance programs must be given a priority in order to prevent unscheduled production stoppages. Preventive maintenance can help to avoid any potential stoppages and disruptions of equipment from occurring in their daily operations. Preventive maintenance (PM), utilises total employee involvement in the maintenance activities. Operators and all employees should be actively involved in a maintenance programme to avoid any disruptions, breakdowns, stoppages and failures. Thus, the involvement in maintenance programs can help to improve manufacturing performance. In the highly competitive manufacturing industries, the ability and reliability of equipment that well-maintained is very important in order to achieve desired performance. Some studies argue that further research is required in the area of maintenance and operations management. This study investigates the extent of PM practices in the Malaysian Small and Medium Enterprises manufacturing organizations and the relationship between PM practices and performance. The hypotheses were analysed using Smart PLS and some important findings were discussed. The results imply that PM practices significantly improved manufacturing performance. For instance, PM strategy was positively and significantly related to financial, innovation and organizational capabilities. Few insignificant findings found, i.e. planned maintenance is insignificant with financial and organizational capabilities.

*Key Words:* Preventive, Maintenance, SMEs, Performance, Manufacturing

## **Satu Kajian Amalan Penyelenggaraan Pencegahan di Organisasi Pembuatan PKS Malaysia**

### **ABSTRAK**

Penyelenggaraan mesin telah menjadi aspek kritikal dalam persekitaran pembuatan. Teknologi baru membawa kepada kerja-kerja penyelenggaraan yang lebih rendah yang dapat meningkatkan operasi dan pengeluaran harian. Program penyelenggaraan mesti diberikan keutamaan untuk mengelakkan penghentian pengeluaran yang tidak berjadual. Penyelenggaraan pencegahan boleh membantu mengelakkan sebarang halangan dan gangguan peralatan yang mungkin berlaku dalam operasi harian mereka. Penyelenggaraan pencegahan (PM), menggunakan jumlah penglibatan pekerja dalam aktiviti penyelenggaraan. Pengendali dan semua pekerja harus terlibat secara aktif dalam program penyelenggaraan untuk mengelakkan sebarang gangguan, kerosakan, stoppages dan kegagalan. Oleh itu, penglibatan dalam program penyelenggaraan dapat membantu meningkatkan prestasi pembuatan. Dalam industri perkilangan yang sangat berdaya saing, keupayaan dan kebolehpercayaan peralatan yang terpelihara dengan baik adalah sangat penting untuk mencapai prestasi yang diinginkan. Sesetengah kajian berpendapat bahawa penyelidikan lanjut diperlukan dalam bidang pengurusan penyelenggaraan dan operasi. Kajian ini menyiasat tahap amalan PM dalam organisasi perkilangan Perusahaan Kecil dan Sederhana Malaysia dan hubungan antara amalan dan prestasi PM. Hipotesis dianalisis menggunakan Smart PLS dan beberapa penemuan penting dibincangkan. Hasilnya menunjukkan bahawa PM mengamalkan prestasi perkilangan yang lebih baik. Sebagai contoh, strategi PM secara positif dan signifikan berkaitan dengan keupayaan kewangan, inovasi dan organisasi. Beberapa penemuan tidak penting yang ditemui, iaitu penyelenggaraan yang dirancang tidak penting dengan keupayaan kewangan dan organisasi.

*Kata Kunci:* Pencegahan, Penyelenggaraan, PKS, Prestasi, Pembuatan

### **INTRODUCTION**

Malaysian government has identified Malaysian manufacturing sector has great potential, thus in its Vision 2050 blue print the Malaysian government was allocate more incentive to boost the manufacturing performance for up-scaling (Ahmad and Ahmad, 2015 and Aun, 2017). The manufacturing organizations are looking forward to produce products that can be delivered to the customers timely. On other hand manufacturing organizations always ensure their products must be in good quality and meet all the requirements set by the customers. In adding, Wang, (2002) and Sloan, (2008) has state that the goal of every organization is to deliver goods or deliver services through efficiency of the production or service delivery process. This because if the manufacturing organization was using an expensive asset such as machine or any equipment that used to produce goods or service and those machine was break down due to unsuspected it can significantly slow down production or increase the number of defective products (Sloan, 2013). Machines and equipment used in the production floor must be in good condition thus eliminate the possibility of unnecessary stoppages and affect the quality of products produced. In order to avoid such incidents, therefore proper maintenance strategy must be adopted. Preventive

maintenance is one of the strategy that can be very useful for manufacturing organizations in order to ensure all machines and equipment are working to their best condition (Nahas, 2017). Preventive maintenance is one of the widespread maintenance activities that have been apply by many industries. These maintenance has been identified as “activities that conducted on predetermined intervals or based on stipulated conditions that intended to diminish or prevent the chances of failure or the degradation of the functioning of an inventories” (Chen, 2013). Basically, the preventive maintenance concepts involve the activity to extend the performance of maintenance activities toward the prior situation that will thwart the breakdown of equipment (Barone, and Frangopol 2014). On other hand Kobbacy and Murthy (2008) express the key target of maintenance as "optimization of total asset life cycle of the machine or engine which maximizing the stability and durability of the resources and equipment to produce the desired level of products, with the mandatory quality and specifications, in a timely manner”. Manufacturing organizations must work systematically to avoid any disruptions in the productions lines thus unable them to fulfill customers’ demand. The advancement of new technology and globalization affect manufacturing organizations in ensuring smooth daily operations. The pressure to ensure equipment operates without breakdowns, stoppages, failures and so forth has become a major concern for maintenance staff in the manufacturing organizations (Carannante, Haigh and Morris, 1996). Breakdowns of equipment can be considered to be a precarious maintenance issue than can hinder smooth daily operations. The environment of maintenance work has changed significantly in recent years, especially in manufacturing companies where more maintenance tasks have been given to operators especially basic daily cleaning, checking and lubricating (Panayides, Andreou and Louca, 2015). Waeyenbergh and Pintelon (2007) highlighted that maintenance has now become a strategic tool to increase competitiveness rather than simply an overhead expense that must be controlled. Moreover, maintenance spending constitutes a large part of the operating budget of companies with large investments in equipment (Salonen and Deleryd, 2011). Nourelfath and Châtelet, (2012) has stated that the preventive maintenance is an tactical production planning approach that employed to handle product integration and also could be use for the use of parallel system integrated with dependent components. In adding Yu-Lan et al.,(2009) has stated that the preventive maintenance is an efficient solution to the optimal production and maximize the organization profit under certain demand. In a study did by Lo and Yu,( 2013) and Kim, Lim and Park, (2015) found that the preventive maintenance activity was successfully minimize the total operating cost of organization and also upgrade and optimize the second-hand machine trough periodic inspection/upgrades and the optimal improvement that constantly maximize the profit of the Manufacturing organization. Generally there are two types of maintenance it was corrective and preventive maintenance (Stenström, Norrbin, Parida and Kumar, 2016). The weakness of corrective maintenance it’s don’t have explicit decision on when to schedule next maintenance and this maintenance activity only carried out after machine failure and this strategy was basically ignoring the possibility of machine breakdowns (Basten and Van Houtum, 2014).

## **LITERATURE REVIEW**

Performance is a measuring tool that helps us to understand what are the current status about our products, services, and the processes that help us to take an necessary action and intelligent

decisions on understand, manage, and improve in the organizations (Nelson and Coopriider, 1996; Bial, 2004). On other hand, Cua, McKone, and Schroeder (2001) and Pont, Furlan, and Vinelli (2008) have confirmed that the performance has the capable to measure both financial and non-financial improvement in lean environment. Withidyothin (2014) identifies whether the performance of a machine affects production capacity, at the final outcome he declare that firm's has a same production capacity with the existing machine which is an important part of a supply chain network.

After review of various study the researchers found that most scholars and companies are use the performance to measure on costs, quality, quantity, cycle time, efficiency, productivity of products, services, and processes as long as ways to measure those things have existed. To address this matter Goold and Quinn (1990) argued that performance help to evaluate the effectiveness on the speed of change and the measurability of performance. In addition, Camp (2013 ) and Schechner (2013)state that performance is a process of measurements for a specific process of stimulate ideas and reinforce the notion.

Moss, Alho, and Alexander (2007) stated that performance measurement was used to quantify the efficiency and effectiveness in order to improve the productivity. On other hand, Neely (1999) classified performance measurement into four it was cost, time, flexibility and quality. However there were only two indicators that mainly used in make decision it was cost and non-cost. The cost was purposely used to measures strategic decision meanwhile non-cost was measures vital effect of day-to-day operation. However Tangen (2003) stated that cost measures are the most popular measurement which used to indicate business performance.

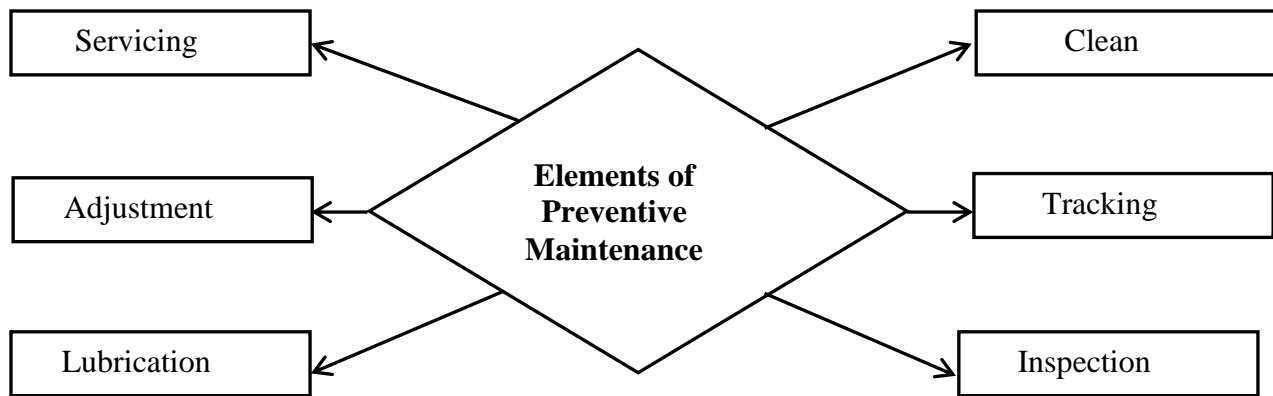
Preventive maintenance (PM) is a regular and systematic inspection, cleaning, and replacement of worn parts, materials, and systems. Preventive maintenance helps to prevent failure of parts, materials, and systems by ensuring that they are in good working order. A preventive maintenance plan is developed based on the needs of the equipment. In PM, the system which is highly likely to exhibit a demobilising fault is replaced before that failure is allowed to occur. The most common forms of this policy are scheduled PM and condition-based maintenance (CBM) (Eti, Ogaji and Probert, 2006). In scheduled PM policy, some components may be over maintained that is replaced prematurely. Thus, if the condition of the item can be monitored continuously or even frequently, PM actions will be implemented only when failure is judged to be forthcoming. Performance-parameter analysis, vibration monitoring, thermography, oil analysis or ferrography are some condition-monitoring techniques that are involved in CBM.

Qualified and well-trained machine operators and maintenance technicians are the driving force behind any effective maintenance measurement system. Mostly, preventive maintenance tasks are handled directly by operators instead of the on-site maintenance technical staff. Thus, flexible, co-operative and a shared responsibility approach among production and maintenance personnel is required to promote operator ownership and free up maintenance personnel to perform more technically challenging maintenance works (Yam et. al, 2000). The human factor represented by maintenance technicians and other related staff is the backbone of the maintenance system in any organization. The effectiveness of the different facets of the performance system is very much dependent on the competency, training, and motivation of the

overall human factor in charge of the maintenance system (Ljungberg, 1998). In this context, factors such as, years of relevant work experience on a specific machine, personal disposition, operator reliability, work environment, motivational management, training and continuing education, are all relevant factors which tend to impact the effectiveness of the performance of the maintenance system (Cabahug, et al., 2004). The close cooperation and coordination between the maintenance technicians and machine operators is very critical, as it influences service quality and, in turn, the extent of satisfaction with the rendered services. In this context, repeated visits to repair equipment for the same problem result in operator dissatisfaction (Ardalan et al., 1992). The attitude, conduct and personality of maintenance personnel are critical to the effectiveness of the maintenance effort (Goh, and Tay 1995; and García Arca, and Carlos Prado Prado 2008). Preventive maintenance, therefore, is a very important ongoing accident prevention activity, which should be integrate into the operations/ product manufacturing process. Furthermore, to be competitive on both a national and a global basis, organizations must adopt a forward-thinking approach in developing their preventive maintenance management strategies. Maintenance strategy will help an organization to better control its processes and also provide a guidance how the quality of the end product. Applying superiority maintenance strategies will not only support and sustain quality and productivity, but also become a drive for continuously improving the effectiveness of organization operation. According to Fredriksson, and Larsson (2012), maintenance strategy is “the management method used in order to achieve the maintenance objectives”. Bergman and Klefsjö (2010) assert the content in the maintenance strategy is a mix of techniques and/or policies which depends on factors such as the nature of the plant, the maintenance goals or the equipment that will be maintained, the work environment and the work flow patterns. Rastegari and Salonen (2013) highlight that “the strategy reflects the organizations conception of its intended long – term goal and the approach to achieve it”. Maintenance strategies are a means of transforming business priorities into maintenance priorities (Salonen, 2011). Planned maintenance has two loops: Planning, scheduling, Execution and Follow up make up the first loop while second loop consists of work identification and performance analysis elements (Muchiri et al. 2011). Planned maintenance process is measured by schedule compliance i.e. the percentage of work orders completed during the scheduled period before the late finish or required by date. World class maintenance should achieve more than 90% during execution (Kumar et. al, 2013). ).The aim of the planned maintenance is to allow equipment operators and maintenance engineers to analyse the cause of equipment failures and develop a planned maintenance system to repair or modify the equipment to improve maintainability and planned maintenance typically involves the work conducted by skilled maintenance engineers, but the aim is to transfer the tasks to the equipment (Baglee and Knowles 2010). There are various concepts associated with effectiveness of maintenance activities has been developed, but the two common concepts discussed in literature as, Reliability Centered Maintenance (RCM) and Total Productive Maintenance (TPM) (Rastegari and Salonen, 2013). TPM was established to maximize equipment effectiveness or improving overall efficiency through a comprehensive productive- maintenance system covering the entire life of the equipment, spanning all equipment related fields and the participation of all employees from all levels, to promote productive maintenance through motivation management or voluntary small- group activities (Al-Turki, 2011). Meanwhile Reliability Centred Maintenance is the process of determining the most effective maintenance approach. It is developed to ensure that systems continue to do what their users require in their present operating context and generally

used to achieve improvements in fields such as the establishment of safe minimum levels of maintenance. Successful implementation of RCM will lead to increase in cost effectiveness, reliability, machine uptime, and a greater understanding of the level of risk that the organization is managing. Takada et al., (2017) suggest the error prediction system that enable employees to operate preventive maintenance function on a real time basis. Maintenance in its narrow meaning includes all activities related to maintaining a certain level of availability and reliability of the system and its components and its ability to perform to a standard level of quality. It includes activities related to maintaining spare part inventory, human resources and risk management (Al-Turki, 2011).

**Figure 1: Elements of Preventive Maintenance (Dhillon, 2002).**



Based on Figure 1 we can see that there is six elements in preventive maintenance was indicating that these was lead to the Preventive maintenance applications that vary in the practical execution. However the practical execution of the elements heavily depended on importance and types of the machine. Principally, the frequent scheduling of machine maintenance is essential to the production process and economically sensible (Mobley, 2002). The years of a component corresponded with total up-time. The decisions to identify the optimal policies are suitable for a component with severe of failure modes, where the failures will incur huge losses and the unit replacement required at each failure situations (Nakagawa, 2006; Mobley 2002). The unnecessary repairing tasks can be diminish or eliminate, the serious machine failures can be inhibited and the negative impacts towards maintenance operation also could be reduced (Mobley, 2002). Preventive maintenance is one of the feasible technique to prevent the defects and faults due to the expenses spent on preventive maintenance are lower than the faults and defects costs has to borne by the organization. Scholar have been debated on the right figure percentage from total maintenance task should be bound by preventive maintenance. Many authors possess heterogeneous opinions and suggestions on the topic, but there are general agreements among them that opined that preventive maintenance should form a major fraction from overall maintenance tasks.

## **METHODOLOGY**

This study employed a cross-sectional approach in order to examine the relationship of PM practices and performance among SMEs in Malaysia. The sampling technique utilized for the present study is simple random sampling. A total of more than 250 self-administered questionnaires were distributed through enumerators to respondents who were managers of quality, operations, plants, engineering and those who were familiar with PM in the SMEs. This study was conducted in a non-contrived setting following Sekaran and Bougie (2016), who stated that: ‘correlational studies are always conducted in the non-contrived setting’ (p.204). As an effort to increase the response rate the study increased its amount of questionnaire sent and personal telephone calls were made to the respective respondents to participate in this study by the enumerators. The research team also sent out reminder notes to the respondents reminding them to participate in the present study. Some field trips were made and notes were taken based on observations to strengthen the discussion of the results obtained. This helps to explain certain phenomenon better and ascertain the findings. The quantitative based study very much depends on the representativeness of the samples therefore sampling was done with caution. The population of this study was drawn from the manufacturing companies registered under the Federation of Malaysian Manufacturers’ (FMM) Directory 2014. The sampling procedure for this research is based on the sampling frame of manufacturing companies in the (FMM Directory, 2014) directory and the number of SMEs were decided using the total of permanent staff in that particular organization. For instance, Small Medium Corporation (2014) has given definition of SMEs in manufacturing sector, sales turnover not exceeding RM50 million or full-time employees not exceeding 200 workers. The respondents of this study were maintenance, productions, operations and quality managers as well as persons who were able to provide answers to questions on PM related practices and performance. Brah and Chong (2004) state that operations and quality management managers are the most appropriate individuals to provide maintenance related information, especially PM or total productive maintenance.

## **FINDINGS**

There were 142 of questionnaires returned for analysis out of the 250 questionnaires being distributed which resulted in 56.8% response rate. Out of the 142 retrieved questionnaires, nineteen were not usable due to poorly fill and did not have adequate data suitable for further processing. According to Bryman and Bell (2007); and Fowler et al., (2002) these questionnaires can be discarded. The final 123 responses were used for further analysis which resulted in 49.2% response rate for final analysis. This rate is considered adequate because it agrees with some underlying assumptions for data analysis. Firstly, the total number of usable questionnaire agrees with Bartlett et al., (2001) suggestion that for a regression type analysis, the sample size should fall between five and ten times the number of independent variables. Secondly, for the Partial Least Squares (PLS) program that is to be used for the main analysis, Chin and Newsted (1999) suggested a minimal number of between 30 and 100 cases. Therefore, this sample size is good for further analysis. TABLE 1 illustrates the response rate of the study.



**Table 1: Response Rate of the Study**

Description of Samples	Number	Percentage
	Size of Companies	
<b>Small</b>	15	12.20
<b>Medium</b>	108	87.80
	Types of Industries	
<b>Electrical and Electronics</b>	20	16.26
<b>Automotive</b>	96	78.05
<b>Rubber based and Plastics</b>	7	5.69
	Years of Operations	
<b>Below 10 years</b>	101	82.1
<b>More than 10 years</b>	22	17.9
	Type of Companies	
<b>Local Owned</b>	68	55.28
<b>Joint Venture</b>	55	44.72

Based on table 1 above we can see summary of descriptive statistic of respondent. There are total 123 usable questionnaire was identified. From this response rate majority of the respondent was from medium size company which total 108 (87.80%) company meanwhile only 15 small size company was participate in this study. On other hand when refer to type of industry the automotive industry was major participator in this survey which 78.05% form total response rate and followed by Electrical and Electronics industry which total 20 company and Rubber based and Plastics 7 company. However when refer to years of operation the researcher found that 82.1% company has less than 10 years of operation experience in this country. Despite only 17.9% or 22 company has stated they operate more than 10 years. In addition summary of type of companies was indicating that half of the respondent was locally owned which was 55.28% or total 68 company and only 55 company form total response rate was identified as Joint Venture Company.

**Table 2: The Response Rate**

Status	Number of Questionnaires	Response Rate
<b>Distributed</b>	250	100.00%
<b>Returned</b>	142	56.8%
<b>Usable</b>	123	49.2%

The process of data screening and cleaning/treatment is required and involves checking for errors in the data collected (Pallant, 2007). These errors take the form of missing data or out of range data (values that fall outside the range of possible values for a scale). It was therefore important for the researcher to check on these and handle them accordingly. According to Ma and Zhong (2016) it is recommended to handle missing values with imputation by replacing missing values using the remaining values of the data. To obtain accurate model specifications, the mean can be used for the imputation (Sekaran, and Bougie 2016). Using the mean to replace missing values

also leads to more reliable results than casewise deletion (Parwoll and Wagner, 2012). ). Based on this recommendation, a few cases of missing values which were identified were replaced accordingly using the mean values of the items. This was done as the number of missing values did not pose any statistical threat to the analysis phase of this study. In addition to the above treatment, tests on normality was not done because the PLS is a distribution-free approach. It also uses the usual maximum likelihood estimation method, which assumes multivariate normality (Lohmöller, 1989). Since the PLS factors are orthogonal, the issue of multicollinearity is not a problem. Factorial validity is another important in the context of establishing the validity of latent constructs (Gefen and Straub 2005). According to Anderson and Gerbing (1988), two elements of factorial validity can and must be measured when using PLS for data analysis. These two elements are convergent validity and discriminant validity, which Straub et al., (2004) described as components of a larger scientific measurement concept known as construct validity. Construct validity affirms to how well the results gotten from the use of the measure fit the theories around which the test is designed (Sekaran, and Bougie (2016). The issue to be addressed here is if the instrument explains or has a strong connection with the concepts as theorized. The researchers examined the factor loadings and cross loadings in TABLE 3 to ascertain if there are problems with any particular items. A cut off value of 0.5 (being significant) as suggested by (Hair et al., 2016) was used in this regard. In view of this, if any items which has a loading of higher than 0.5 on two or more factor, then they will be deemed to be having significant cross loadings. Therefore, based on TABLE 3, it is concluded that construct validity is confirmed. The next analysis done by the researchers was to test the convergent validity.

**Table 3: Construct Validity**

<b>Construct</b>	<b>Item</b>	<b>Loadings/ Weight</b>	<b>AVE<sup>a</sup></b>	<b>CR<sup>b</sup></b>
<b>Financial</b>	FINANCIAL1	0.827	0.736	0.893
	FINANCIAL3	0.856		
	FINANCIAL5	0.890		
<b>Innovation</b>	INNO3	0.746	0.674	0.861
	INNO4	0.886		
	INNO6	0.825		
<b>OC</b>	OC1	0.892	0.732	0.891
	OC3	0.828		
	OC4	0.846		
<b>Planned Maintenance</b>	PLANNEDMAINTENANCE1	0.834	0.683	0.895
	PLANNEDMAINTENANCE2	0.901		
	PLANNEDMAINTENANCE3	0.848		
	PLANNEDMAINTENANCE7	0.711		
<b>PM Strategy</b>	PMSTRATEGY10	0.865	0.792	0.884
	PMSTRATEGY9	0.914		
<b>PM Team</b>	PMTEAM2	0.766	0.663	0.908
	PMTEAM5	0.855		

PMTEAM6	0.795
PMTEAM7	0.751
PMTEAM9	0.896

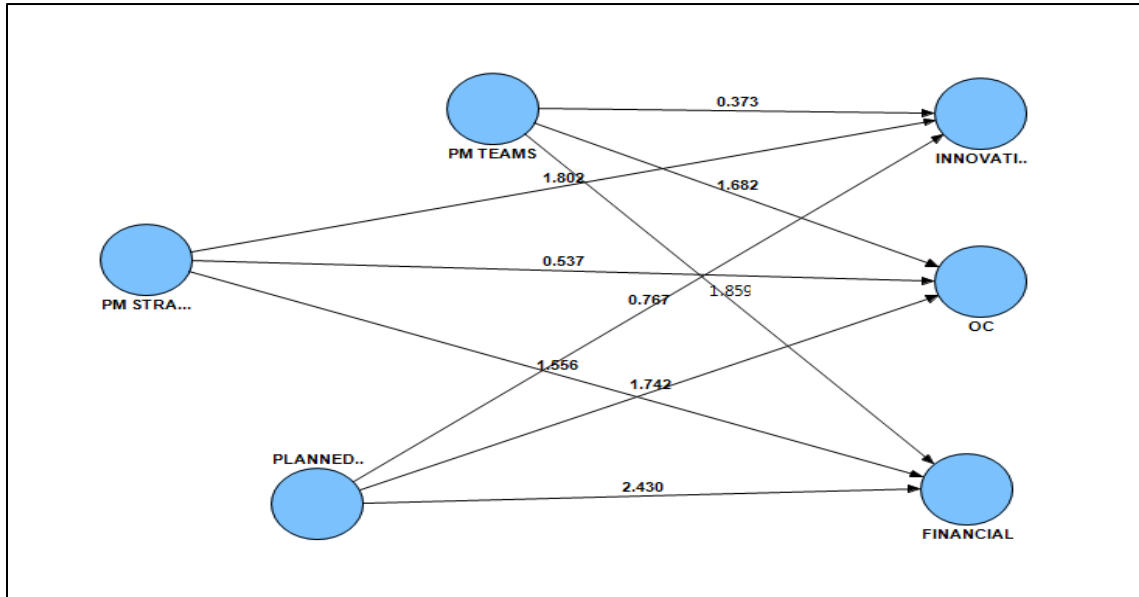
This is the degree to which multiple items measuring the same concept are in agreement. As suggested by (Hair et al. (2016), the factors loadings, composite reliability and average variance extracted was used to assess convergent validity. Based on the presentation in TABLE 2 and TABLE 4, the loadings converge very well and exceed the recommended 0.5 value as recommended by Hair et al., (2016). The composite reliability (CR) values in TABLE 2 which ranged from 0.861 to 0.908 exceeded the recommended value of 0.707 by Hair, et al. (1998) and Chin (1998).

**Table 4: Convergent Validity**

	FINANCIAL	INNOVATION	OC	PM	PM STRATEGY	PM TEAMS
<b>FINANCIAL</b>	<b>0.858</b>					
<b>INNOVATION</b>	-0.079	<b>0.821</b>				
<b>OC</b>	-0.056	-0.151	<b>0.856</b>			
<b>PM</b>	-0.207	-0.090	0.143	<b>0.826</b>		
<b>PM STRATEGY</b>	-0.139	0.182	0.054	-0.014	<b>0.890</b>	
<b>PM TEAMS</b>	0.162	-0.048	-0.145	0.054	-0.001	<b>0.815</b>

Hypothesis 1, 2 and 3 respectively postulated that there would be a relationship between planned maintenance to manufacturing performance namely financial, innovation and organizational capabilities. The results indicated that planned maintenance is related to both financial ( $\beta = -0.219$ ,  $p > 0.01$ ) and organizational capabilities ( $\beta = 0.152$ ,  $p > 0.05$ ) however planned maintenance is not related to innovation. Thus hypothesis 1 and 3 were supported while hypothesis 2 was rejected. On a similar vein hypothesis 4, 5 and 6 postulated that there would be a relationship between preventive maintenance strategy and manufacturing performance namely financial, innovation and organizational capabilities. The results also indicated that planned maintenance strategy is only related to innovation ( $\beta = 0.181$ ,  $p > 0.05$ ) and not related to financial and organizational capabilities. As such hypothesis 5 is supported while hypothesis 4 and 6 was rejected. While hypothesis 7, 8 and 9 postulated that preventive maintenance teams would be related to manufacturing performance namely financial, innovation and organizational capabilities. The result indicated that preventive maintenance team is related to both financial ( $\beta = 0.173$ ,  $p > 0.05$ ) and organizational capabilities ( $\beta = -0.153$ ,  $p > 0.05$ ) however planned maintenance team is not related to innovation. Thus hypothesis 7 and 8 was supported and hypothesis 9 was rejected.

**Figure 2 : Structural Model**



## CONCLUSION

PM strategy focuses on overall equipment effectiveness, continuous improvement activities to prevent equipment deterioration, total employee participation, teamwork and small group philosophy (Nakajima, 1988) as well as safety and environmental issues (Eti, et al., 2004). The focus on PM strategy is an apparent benefit and has become the main importance among the participating manufacturing companies. It is essential to draw up a systematic and thorough strategic plan to ensure more opportunity for improvements. PM could essentially help to minimise the deterioration of equipment, hence improving performance as highlighted by various researchers, for instance (Ahmed et al., 2004; Ahmed, et al., 2005; Ahuja, and Khamba 2007; Ahuja and Khamba 2008; Seth and Tripathi 2005). Meanwhile, PM teams are led by a manufacturing manager and also include maintenance managers, workshop delegates, quality department delegates, manufacturing delegates, and technician or maintenance service delegates (Ferrari et al., 2002). The possibility of PM teams might not be efficient enough to contribute to innovation due to the PM team usage in the SMEs lack of substantial fund to ensure team effectiveness.

As noted by (Chan et al., 2005) based on their case study, work habits and communication especially for production lines and different shifts could affect the morale of PM team development. The possible assumptions to be drawn from this study are that the communication and leadership of PM team are not clearly perceived by those at operator level and other departments. The PM team has been perceived as unable to formulate actions that can effectively help to reduce costs, to increase quality, improve delivery reliability and improve human and equipment flexibility as well. An effective planned maintenance can also contribute to productivity improvements by the restoration of deteriorating equipment to maintain basic

equipment condition, decrease minor stoppages and reduce set-up time (Nakajima, 1988; Ahuja, and Khamba, 2008; De Jonge, Teunter, et al. 2017). Planned maintenance is a formal programme that not only makes sure proper time-based maintenance and condition-based maintenance work properly but also that all employees will be well informed about quality and progress (Nakajima, 1988). Moreover, through planned maintenance all related scheduled maintenance works are designed accordingly in order to avoid breakdowns of equipment (Mattern, et al., 2016). The on-going awareness and education programmes about on-time delivery of products to customers must be planned and executed effectively. As a concluding remark, PM practices certainly very beneficial to improve performance of SMEs manufacturing organizations.

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## **Assessing Students' Perceptions on Educational Institution Learning Environment**

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### ***ABSTRACT***

Learning environment is important in determining students' academic success and learning. The objective of this study was to identify the viewpoints of Human Resource students toward learning environment at Kolej Universiti Islam Antarabangsa Selangor (KUIS). This study was conducted using the self-administered validated Dundee Ready Education Environment (DREEM) questionnaire and 0-4 Likert scale were used. A total of 100 of final year diploma and degree students of Human Resource Management course were approached to participate in this study. The main outcome measure was the student's perception toward learning environment which focused on two dimensions which are student's perception of learning and student's perception toward lecturer's. Data were analysed by SPSS 20 using descriptive test. The highest score were related to Lecturers are Knowledgeable (3.61). The lowest score were related to Teaching is not Over-Emphasizes Factual Learning (2.00). Seventeen items scored consistently more than 3.00 mean indicating high level of satisfaction with the perceived environment.

*Key Words: Learning Environment; Dundee Ready Education Environment (DREEM); Perception.*

## **Menilai Persepsi Pelajar Terhadap Persekitaran Pembelajaran Institusi Pendidikan**

### ***ABSTRAK***

Persekitaran pembelajaran adalah penting dalam menentukan kejayaan akademik pelajar. Objektif kajian ini adalah untuk mengenal pasti pandangan pelajar Sumber Manusia terhadap persekitaran pembelajaran di Kolej Universiti Islam Antarabangsa Selangor (KUIS). Kajian ini dijalankan menggunakan soal selidik Dundee Environment Education (DREEM) dan menggunakan skala Likert 0-4. Sebanyak 100 orang pelajar diploma dan ijazah tahun akhir kursus Pengurusan Sumber Manusia telah dilibatkan dalam kajian ini. Hasil utama adalah berkaitan persepsi pelajar terhadap persekitaran pembelajaran yang memberi tumpuan kepada dua dimensi iaitu persepsi pelajar terhadap pembelajaran dan persepsi pelajar terhadap pensyarah. Data dianalisis oleh SPSS 20 menggunakan ujian deskriptif. Skor tertinggi berkaitan dengan Pensyarah yang Berpengetahuan (3.61). Skor terendah berkaitan dengan Pengajaran tidak

Menekankan Pembelajaran Fakta (2.00). Tujuh belas item skor purata lebih dari 3.00 menunjukkan tahap kepuasan tinggi terhadap persekitaran.

*Kata Kunci: Persekitaran Pembelajaran; Dundee Ready Education Environment (DREEM); Persepsi.*

## **INTRODUCTION**

The Faculty of Management and Muamalah, Kolej Universiti Islam Antarabangsa Selangor (KUIS), was established in 2004, as a management focus centre in KUIS. The Human Resource Management programme (HRM) is four years in duration for degree and 3 years in duration for diploma. The first two years incorporate an integrated curriculum based on Islamic studies and general studies whereby critical thinking, problem solving and independent learning strategies are stressed upon students. The latter years are mainly concentrated on management components of HRM.

The aims of this study were to assess the final-year students in Human Resource Management (both degree and diploma programme) on their perceptions of the learning environment at the faculty of Management and Muamalah (FPM), KUIS. Similar studies have been conducted in other countries such as UK, Canada, Ire-land, Thailand, Indonesia, Norway, Sweden, Venezuela, Brazil, the West Indies, Sri Lanka, Oman, Yemen and Iran but most studies were covered for learning environment in medical field. Similar studies in Malaysia also have been published previously, however, most studies were more focused on the five domain that are learning, teachers, students' academic self-perceptions, atmosphere and students' social self-perceptions. This study, however, would not investigate the relationship between the perceptions and the students' academic performance.

## **LITERATURE REVIEW**

In this chapter, the literature review covers only the relevant aspects of learning environment and inventory used in order to provide an overview of the related issues addressed:

### **Learning Environment**

The students' perceptions of the educational setting can be a basis for implementing modifications and thus optimizing the educational environment in universities. Thus, as mentioned by Aghamolaei, T. & Fazel, I. (2010), it can optimizing the educational environment. Therefore, students' perceptions of their educational environment have been studied and reported around the world (Bakhshi, H., Bakhshialiabad, M.H., & Hassanshahi, G.H., 2014). Studies have shown that the educational environment affects students' achievement, happiness, motivation, and success. The quality of the educational environment also is indicative of the effectiveness of an educational programme. Bakhshi, H., Bakhshialiabad, M.H., & Hassanshahi, G.H., (2014) mentioned that learning environment is found to be important since the environment of an educational system determines the product, its quality and quantity as well as forges it into its own.

The importance of the learning environment in enhances the ability of student learning is widely acknowledged. Qualities and characteristics of a learning environment are determined by a wide variety of factors, school policies, governance structures, and other features may also be considered elements of a “learning environment”. Mentioned by Roff, S. (2005), studying the learning environment is important in improving the quality of an educational program. Most universities are concerned about the courses they have offered whether suited to the students’ expectation or not. Often at the end of the semester, survey will be distributed to get feedback on what universities have offered seeking to understand the impact of their course design decisions on students’ academic performance. As stressed by Bakhshi, H., Bakhshialiabad, M.H., & Hassanshahi, G.H., (2014) it is to verifying students’ need by viewing them as the main stakeholders in their own education.

Learning environment refers to the diverse physical locations, contexts, and cultures in which students learn. Since students may learn in a wide variety of settings, such as outside-of-school locations and outdoor environments, the term is often used as a more accurate or preferred alternative to classroom, which has more limited and traditional connotations a room with rows of desks and a chalkboard, for example (Glossary of Educational Reform, 2013). The physical structure of a classroom is a critical variable in affecting student morale and learning. Bates (2015) stated that developing a total learning environment for students in a particular course or program is probably the most creative part of teaching. While there is a tendency to focus on either physical institutional learning environments (such as classrooms, lecture theatres and labs), or on the technologies used to create online personal learning environments (PLEs), learning environments are broader than just these physical components. They will also include the characteristics of the learners; the goals for teaching and learning; the activities that will best support learning; the assessment strategies that will best measure and drive learning; and the culture that infuses the learning environment. Although most agree that all these components are essential for learning to be effective, the accurate assessment of the learning quality has been challenging for teachers and administrators (Jorie M., Getz, C., Sooyoun Kim, Victoria, H., Goode, Robert, B., Wright, S.M., 2014).

The learning environment has a significant impact on students’ achievements and learning outcomes. The climate also makes a significant interest to students’ sense of well-being (Roff, S. 2005). The importance of equitable learning environment will depend on how it is being developed and implemented. Students’ involvement in the process of creating their learning environment can also empower them, develop community and increase motivation. Teacher’s expectations on student achievement can both promote learning and improve academic performance as well. Therefore, a supportive environment is crucial for transfer of learning to exist.

### **Teacher**

After the family, school is the first basic socialization institution for the child. Apart from the parents, it’s the student’s teacher who is effectively in the front seat in regards to his/her personality development and both academic and social performance. The understanding of modern education in our day lays the duty and responsibility of being effective in not just the child’s intellectual development but also character development (Inelmen, 2011). As mentioned

by Mohd Said, N., Rogayah, J., & Hafizah, A., (2008), the most important aspects are the teaching activities and as well as student-teacher interaction in daily environment in the educational institution.

The abilities and characteristics that are necessary in order to be a good teacher are also the same factors that define a good education. According to Ari, (2008) good teacher has eight basic characteristics, which are; Knowledge of material; Decision making; Critical thought and problem solving ability; Self understanding and self correction; Reflecting; Recognizing students and knowing students learning needs; Applying new finding in education; Teaching and communication ability (as cited in Ulug, Ozden, & Erylmaz, 2011). The study conducted by Ee Ah Meng (as cited in Erma, N. & Leong Kwan Eu, 2014) also found that teachers can enhance the students' interest through various stimuli such as changing tone, interesting materials, games and so forth to increase students' enthusiasm and interest on his teaching. Therefore, students who are motivated by teachers will usually be more interested in helping the process to achieve the learning goals.

Most of the time, student-teacher interaction takes place the classroom. Research suggest that improving student's performance can be implemented by changing strategies in the classroom. Several factors influence the students' experience, such as the quality of feedback and social relations with classmates in addition to the more obvious aspects like timetabling, exams and teaching as mentioned by Edgren, G., Haffling, A.C., Jakobsson, U., Mcaleer, S., & Danielsen, N., (2010). A student's attitude toward their ability to influence their academic outcome may not always be reflected in their behavior. As stated by Schneider, Gruman, and Coutts, (2012) a desired outcome may not occur due to an individual's inability to carry out the intended behavior.

### **The Dundee Ready Educational Environment Measures (DREEM)**

In order to assess the students' perception on learning, The Dundee Ready Educational Environment Measures (DREEM) questionnaire was used. The Dundee Ready Education Measure (DREEM) is an internationally validated, non-culturally specific inventory that provides educators with a diagnostic inventory to gather information regarding the learning environment. As mention in Khan, A.S., Akturk, Z., & Al-Megbil, T., (2010), the inventory is now being used widely in order to measure and 'diagnose' undergraduate educational climates and the inventory also have been translated into so many language includes Spanish, Portuguese, Arabic, Swedish, Norwegian, Malay and Thai and used in several settings including the Middle East. So that, no wonder it is widely used in the United Kingdom, Canada, Ireland, Thailand, Indonesia, Norway, Sweden, Venezuela, Brazil, the West Indies, Sri Lanka, Oman, Yemen, as well as in Malaysia.

The DREEM is not only used in the testing of new learning environments with a variety of purposes such asto investigate the viewpoints or perception of students toward learning environment (Bakhshi, H., Bakhshialiabad, M.H., & Hassanshahi, G.H., 2014) and to evaluate the learning environment (Khan, A.S., Akturk, Z., & Al-Megbil, T., 2010). In fact, as mentioned by Hammond, S.M., O'Rourke, M., Martina Kelly, M., Bennett, D., & O'Flynn, S., (2012), more than the last four decades educators and researchers have attempted to define and measure the education environment and the most widely used contemporary development is almost certainly, using the DREEM.

The DREEM has the privilege of being used in the study of learning environment. Its focus on student experience has led to its use in identifying the gap between student expectations and experience (Bouhaimed, M., Thalib, L. & Doi, S.A.R., 2009). Hence, DREEM is helpful as an inventory to identify strengths and weaknesses in environment with a view to introducing change and as mentioned by Edgren, G, Haffling A.C., Jakobsson, U., Mcaleer, S., & Danielsen, N. study, it can be applied to assess the impact of new curricular interventions in educational institution (as cited in Hammond, S.M., O'Rourke, M., Martina Kelly, M., Bennett, D., & O'Flynn, S., 2012) . The findings can also be used to implement improvements in educational settings (Aghamolaei, T. & Fazel, I., 2010).

The subscale summary scores are summed to obtain the overall DREEM score. Examination of the individual items by looking at the mean score obtained across all participants for each item enables the identification of specific strengths and weakness within the educational environment (Miles, S., Swift, L. & Leinster, S.J., 2012). However, this study will adopt on two items only instead of five items in DREEM questionnaire which contributed to the perception of learning environment. The two items are learning and teachers, in order to study the student perception towards their learning environment.

## **METHODOLOGY**

This cross-sectional study was focused to the students in the programme of Human Resource Management in the Faculty of Management and Muamalah, KUIS. A total of 100 questionnaires were distributed among the final year students. Prior to answering the questionnaire, the students were briefed about the purpose of the study, the data collection process, the confidentiality of the data and the meaning of some terms that are rarely used in daily conversation such as “factual learning”, “ridicule”, and “authoritarian”. The students were given 20 min free time to respond to the inventory.

A four-point Likert scale ranging from strongly agree to strongly disagree was applied. Items were scored as follows: 4 for highly agree, 3 for agree, 2 for disagree and 1 for highly disagree. On this scale, a higher score indicates a more positive evaluation. However, negative statements were scored in reverse.

The maximum score of 92 in the 23 DREEM items which indicates the ideal learning environment. It consists of the following subscales:

- Students' perceptions of learning (12 questions, maximum score: 48)
- Students' perceptions of teachers (11 questions, maximum score: 44)

The table 1 and 2 shows the high reliability of DREEM questionnaires based on students' perceptions of learning (0.604) and students' perceptions of teachers (0.617).

**Table 1:SPoL Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.604	.660	12

SPoL: Students' Perceptions of Learning.

**Table 2: SPoT Reliability Statistics**

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.617	.650	11

SPoT: Students' Perceptions of Teachers.

The guide for interpretations of the DREEM scores for the two subscales was using Scores as Suggested by McAleer and Roff (1997) shown in Table 3.

**Table 3: Guide to Facilitate Analysis of Results and Interpretations of DREEM Subscale Scores as Suggested by McAleer and Roff (1997).**

Domain	Score	Interpretation
SPoL	0–12	Very poor
	12–24	Teaching is viewed negatively
	25–36	A more positive approach
	37–48	Teaching highly thought of
SPoT	12–22	In need of some retraining
	23–33	Moving in the right direction
	24–44	Model teachers

SPoL: Students' Perceptions of Learning; SPoT: Students' Perceptions of Teachers.

DREEM scores were entered and analyzed using Statistically Package for Social Sciences (SPSS), version 20. Means and standard deviations were calculated for subscale scores and total score of DREEM.

## **EMPIRICAL RESULTS**

The response rate was 100% (total 100 students). Among the 100 students, 59% were diploma students and 41% were degree students.

Table 4 indicates the mean and percentage of DREEM global and subscale scores from this study. The DREEM score for the overall sample (n = 100), was 69.03/92 (SD 6.33) was indicated that, overall in this study, students had more positive perception compared to negative perception of their learning environment. The students' perceptions of learning (SPoL) score was 36.04/48 (75.08%), i.e., more positive approach. For students' perceptions of teacher (SPoT) score was 32.99/44 (74.98%), i.e., moving in the right direction.



**Table 4: Global and subscale DREEM scores in all students (n= 100).**

<b>DREEM subscale</b>	<b>Maximum score</b>	<b>Mean</b>	<b>SD</b>	<b>Percent of perception</b>
SPoL	48	36.04	2.82	75.08%
SPoT	44	32.99	3.51	74.98%
<b>Global DREEM score</b>	<b>92</b>	<b>69.03</b>		

Table 5 shows the individual item analysis of DREEM according to the two different subscales. Two items scored less than three in learning domain. The students thought that the teaching at KUIS over-emphasizes factual learning (2.00), and teaching is too teacher centered (2.17). Furthermore, in the teachers domain, lecturers ridicule the students (2.38), lecturers are authoritarian (2.21) and that lecturers get angry in teaching (2.60) were identified which indicated aspects of the learning environment could be enhanced. Out of the 17 items scoring greater than three, only one item (lecturers are knowledgeable) had a very positive perception (3.61).

**Table 5: Individual item Analysis of DREEM by different Subscales**

<b>Item</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>
<b>Students' perceptions of learning (SPoL)</b>			
B1 Encouraged to participate during training session	100	3.2500	.45782
B2 Teaching is often stimulating	100	3.1100	.39937
B3 Teaching is student-centered	100	3.2000	.42640
B4 Teaching help to develop my Competence	100	3.3200	.48990
B5 Teaching is well-focused	100	3.2200	.52378
B6 Teaching helps to develop my Confidence	100	3.2600	.56174
B7 Teaching time is put to good Use	100	3.1000	.57735
B8 Teaching is over-emphasizes factual learning	100	2.0000	.58603
B9 Clear about the learning objectives of the course	100	3.1400	.55085
B10 Teaching encourages me to be an active learner	100	3.2000	.63564
B11 Long-term learning is emphasized over short-term learning	100	3.0700	.55514
B12 Teaching is too teacher centered	100	2.1700	.69711
Total mean score	36.04	2.82	
Maximum score	48		
<b>Students' perceptions of teachers (SPoT)</b>			
C1 Lecturers are knowledgeable	100	3.6100	.51040
C2 Lecturers adopt a student-centred approach to consulting	100	3.3800	.52762
C3 Lecturers ridicule the students	100	2.3800	.87363
C4 Lecturers are authoritarian			
C5 Lecturers have good communication skills with			

students	100	3.4100	.57022
C6 Lecturers are good at providing feedback to students	100	3.3500	.53889
C7 Lecturers provide constructive criticism here	100	3.0300	.62692
C8 Lecturers give clear examples	100	3.3500	.62563
C9 Lecturers get angry in teaching	100	2.6000	.87617
C10 Lecturers are well-prepared for their teaching sessions	100	3.2700	.67950
C11 Students are irritate the lecturers	100	2.4000	.86457
Total mean score	32.99	3.51	
Maximum score	44		
Valid N (listwise)	100		

## DISCUSSION

This study provided an overview of final year Human Resource Management students' perception about the learning environment in KUIS. Overall, students had more positive perceptions compared to negative perceptions of their learning environment which focus on two domains which are students' perceptions of learning (SPoL) and students' perceptions of teachers (SPoT), 69.03/92.

Few previous studies also show that the score reflected the positive perceptions of students regarding the same domain. Global DREEM level of present study score is better than the score for students' perceptions of learning and score for students' perceptions of teacher, 62.72/92 was conducted in the Universiti Kebangsaan Malaysia (Ugusman, et al., 2015). The study was conducted at International Islamic University Malaysia reflected also positive perceptions for the same domain, 72.54/92 (Said, Rogayah, & Hafizah, 2009); and in Universiti Islam Malaysia, 54.3/92 (Arzuman, et al., 2010).

Scores of 17 items are greater than three reflected the positive perceptions of students. Items that have a mean score of 3.5 and above are classified as 'real positive points'. Items with a mean of two or less should be examined more closely, as they indicated problem areas. Items with a mean between two to three are aspects of the climate that could be enhanced (Arzuman, et al., 2010). Two items in students' perceptions of learning score between two or three which are teaching at KUIS over-emphasizes factual learning (2.00), and teaching is too teacher centered (2.17) rather low score compared to other items in SPoL, that is consistent with the findings of Arzuman, Yusoff & Chit, 2010. The researchers agree that teaching with student centered learning should needs to be preferred over teacher centered learning in today higher learning institution. In the students' perceptions of teacher domain, lecturers ridicule the students (2.38), lecturers are authoritarian (2.21) and that lecturer get angry in teaching (2.60) are considered a low scores and it shows most of lecturers at KUIS do not practice these negative things towards student. However, the positive aspects of the climate could be enhanced as well.

## **CONCLUSION**

It is important to accessing students' perception toward learning environment in educational institution. The endeavor to create and maintain a helpful environment for study without compromising on quality of education should be continuous and this can be achieved only through students' feedback and corrections by the institution (Chandran, C.R., & Ranjan, R., 2015). The environment of an educational institution determines the students' quality and quantity. According to Khan, J.S., Tabasum, S. & Yousafzai, U.K., (2009), over the years many researchers have tried to identify the factors that contribute to the overall environment as well.

Final year HRM students in KUIS perceived their learning environment (learning and teacher) positively. Even though there were item that scored between 2.00 and 2.60, rooms for improvement can be tolerated. According to Gecer (as cited in Ulug, Ozden, & Erylmaz, 2011), for a teacher, being able to interact with the student and display positive behavior such as asking questions, understanding their thoughts, showing interest and appreciation increases the students' motivation and success. If the teacher engages in belittling comments towards a student due to his/her failure, the negative effects of this will be inevitable.

It is important that working towards providing students at a certain development level information, experience and behavior on certain topics will build the foundation of learning. Correlating the facts in the books with the real case scenario, and highlight the relevance of the theory and for reality during teachings will make students think outside the box so that students would not feel that the teachings overemphasized factual learning only.

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