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Editor-in-Chief

DETERMINANTS OF YOUNG MALAYSIAN ADULTS' FAST FOOD PURCHASING INTENTION

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ABSTRACT

This paper extended the theory of planned behaviour model to fast food buying scenario among young Malaysian adults. Several factors constituted to the development and maintenance of attitude were tested and the influences of attitude, subjective norm and perceived behaviour control on purchase intention were further examined. A total of 210 valid responses were used. Malaysian young adults were found to stress more on the convenience aspect in forming their attitude while relying more on affective attitude to form buying intention. The impact of mood on attitude was introduced and the findings indicated that mood has significant impacts on both affective and cognitive attitudes. Both descriptive norm and injunctive norm were significance to purchase intention implying the influences of social approval and acceptance in fast food buying. Even though the influence of perceived control was weak, self-efficacy was strong in predicting fast food purchasing intention. The findings help marketing practitioners and academicians in planning for more effective societal marketing strategies to promote a healthy diet among young adults.

INTRODUCTION

Malaysian dietary patterns have changed over the past four decades (1960 – 2000) as a result of the emerging food processing technology that increases the amount of food availability

(Malaysian Association for the Study of Obesity, 1994). Malaysians' attitude and social behaviours have been changed consequently and eating out and buying food outside are preferable than home cooking (Razak, Abidin, Yusof, Sakarji & Nor, 2014). This emerging trend has increased rapidly especially among the dual-income households who spend most of their income on food (Lee & Tan, 2007). The fast food industry in Malaysia especially has experienced enormous growth and success. The industry growth reaches MYR5.5 billion with 3,951 outlets in 2014 and is expected to grow healthily to reach MYR7.7 billion with 5,400 outlets by 2019 (Euromonitor, 2015).

According to Gallup Poll (Dugan, 2013), young adults eat the fastest food; with 57 per cent consume fast food at least once a week. The high popularity of fast food among young Malaysian adults is encouraged by aggressive marketing campaigns and outlet expansion by chained fast food restaurants. In 2014, chained fast food restaurants in Malaysia enjoyed a 13 per cent growth (Euromonitor, 2015). Tempting offers such as free coupons, membership discount, value set discount, free side dishes and beverage make fast food more affordable for young adults compared to full-services restaurants (Davey, Allotey & Reidpath, 2013; Euromonitor, 2015). Even though eat-in remains a popular option (62.5 per cent), the expanding rate of the drive-through and delivery services as well as the 24/7 operation system have made fast food highly accessible and encourage late-night suppers trend among young Malaysian adults (Euromonitor, 2015).

Malaysians treat fast food as a treat and usually engaging in a celebratory mood when consuming it. This phenomenon has raised concern among dietician and health professionals because dietary belief and habits that are form during young adulthood might influence future health status (Blodin et al., 2016), and pass down this unhealthy lifestyle to the next generation. The health effect of fast food is clear and public known. However, young adults still purchase fast food regularly (Dunn, Mohr, Wilson & Wittert, 2011).

The subject of fast food purchasing intention has been explored in various studies (Bagozzi, Wong, Abe & Bergami, 2000; Frank, 2012; Mahon, Cowan & McCarthy, 2006). Unfortunately, there is yet any attitudinal model to clarify the variance in fast food purchasing intention (Dunn et al., 2011). Dunn et al. (2011) has taken the initiative to specify the factors that influence the progress and build-up of attitude related to fast food purchasing intention and consumption to improve the attitudinal model fit. However, the study is based in Australia and generalization to a multi-racial and multi-religion society like Malaysian could be inappropriate due to cultural and social-economic differences. Also, western and Asian consumers are found to hold different values in their shopping preferences (Ackerman & Tellis, 2001).

The Malaysian studies on fast food consumption (Naina Mohamed & Mohd Daud, 2012; Osman, Osman, Mokhtar, Setapa, Shukor & Temyati, 2014) have yet to focus on measuring the development and maintenance of young consumers attitude toward fast food. Importantly, there is only a small number of studies are adapting Theory of Planned Behaviour to examine the consumption or purchase intention in the field of fast food, ready meal, and take away (Bagozzi et al., 2000). Fast food is not a staple food in Malaysia. It is affordable but not cheap. An à la carte double cheeseburger costs only $1.59 in the United States; in Malaysia, the same burger is priced at RM8.95 (Euromonitor, 2015). Since it is more premium compared to local delicacies which are cheaper, healthier, and tastier; an application model of TPB (Ajzen, 1985, 1991, 2015) should be used assuming the decision to purchase fast food is neither impulsive nor heuristic. In other words, consumers actually plan for their purchase and are influenced by attitude, perceived behavioural control and subjective norm.

This research hence answers several research objectives: to assess the influence of (1) convenience (2) satisfaction (3) social conscience and (4) mood in influencing young adults' attitude (affective and cognitive) toward fast food; and to investigate the relationships between young adults' (5) attitude (affective and cognitive), (6) subjective norm (normative and descriptive) and (7) perceived behavioural control (perception of control and self-efficacy) and fast food purchasing intention.

REVIEW OF LITERATURE

Theory of Planned Behaviour (TPB; Ajzen, 1985, 1991, 2015) is a model that predicts consumers purchasing intention and behavioural usage towards a certain brand of product compared to the availability of a choice. In the TPB model, the intention is measured by three sets of belief namely attitude towards the behaviour, subjective norm, and perceived behavioural control (Ajzen, 1985, 1991, 2015). Attitude towards the behaviour is consumer's "*degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question*" (Ajzen, 1991, p. 188). In the case of fast food, a consumer with positive attitudes should have a higher intention to buy fast food.

Affective attitude refers to "*individual's general level of positive or negative feelings concerning the issue*" while cognitive attitude refers to "*individual's beliefs about the instrumental utility of the action for the attainment or blocking of his or her goals weighted by the value placed on such goals*" (Norman, 1975 as cited in Jun and Arendt, 2016, p. 107). The strong emotional reaction toward the risk and reward associated in performing a certain behaviour (Finucane, Alhakami, Slovic, & Johnson, 2000; Dunn et al., 2011) is stronger when cognitive responses are restricted (Finucane at al., 2000) or when time is limited. In the food selection, cognitive attitude is consistently used by individuals with plenty of cognitive resources and do

not tend to engage in impulsivity (Trendel & Werle, 2016).

Convenience to assess food is an important consideration in today busy working lifestyle. To fulfil consumer demand for convenience, fast food restaurants with drive-through or home delivery services (Euromonitor, 2015) are found available not only in shopping malls but also in designated rest place and gas station (Osman et al., 2014). The luxurious convenience aspect suppresses the negative attitudes toward fast food to the extent people make a trade-off between convenience and future negative effects (Dunn et al., 2011). The aspects of convenience are not limited to the essence of quality time, but also on the physical and mental determinations related to food preparing activity, and the cleaning activity afterwards (Buckley, Cowan & McCarthy, 2007). Neumark-Sztainer, Story, Perry and Cassey (1999) for instance argued that modern families choose not to spend time in preparing foods even when they have time to do so, they rather get foods that are convenient to reduce the amount of task that they perform. Past studies conducted in Great Britain also found a positive relationship between the emerging women workforce and the demand for convenient food (Senaur, Asp & Kinsey, 1991; Buckley et al., 2007). Therefore:

H1$_a$: There is a positive relationship between convenience and affective attitude.

H1$_b$: There is a positive relationship between convenience and cognitive attitude.

The components of fun and enjoyment are important selection criteria of a specific type of food. Healthy food is generally perceived as boring, not fun, and not enjoyable (Chan & Tsang, 2011), whilst indulgence good such as fast food is found best to provide sensual pleasure (Drewnowski, 1999). Even though it does not generally portray a good image, the sensual pleasure and satisfaction on consuming fast food could alter consumer attitude toward fast food. Fast food consumers

tend to neglect the potential health effect and weighting more on the hedonic value (Frank, 2012) in gaining satisfaction, which is "*a sensual pleasure and exciting experience for oneself; a self-fulfilment response*" (Oliver, 1997, p. 34). The amount of calorie, fat, salt, and sugar content in fast food meals is often undervalued, whilst the nutritional value is overvalued (Teisl, Levy & Derby, 1999). Besides, the compromising act between short-term rewards and the potential long-term consequences is often made when it comes to purchasing and consuming fast food (Dunn et al., 2011). In other words, the perceived healthiness of fast food was not found to be significantly associated with the rate of fast food consumption (Dave, An, Jeffery & Ahluwalia, 2009) but satisfaction with the fast food in term of fun and enjoyment is. Therefore:

H2$_a$: There is a positive relationship between satisfaction and affective attitude.

H2$_b$: There is a positive relationship between satisfaction and cognitive attitude.

It is argued that the increase of consumers' social awareness in the aspect of health, environment, family values and lifestyles, quality of life, and the consequences to these aspects when they consume fast food are found to affect people attitudes toward fast food (Osman et al., 2014). An individual with a higher level of social conscience should shy away from indulgent food (Teisl et al., 1999) as they form unfavourable attitudes toward fast food. Therefore:

H3$_a$: There is a negative relationship between social conscience and affective attitude.

H3$_b$: There is a negative relationship between social conscience and cognitive attitude.

The mood can influence an individual food selection process in terms of the amount and type of food (Jáuregui-Lobera, Bolaños-Ríos, Valero & Prieto, 2012). Food is viewed differently when people are happy, bored, stressed, depressed, or angered (Neumark-

Sztainer et al., 1999). Food is also used to cope with stress and reduce negative emotions (Van Strien et al., 2013; Collins & Stafford, 2014; Kroes, Wingen, Wittwer, Mohajeri, Kloek & Fernandez, 2013). Researchers found out that people tend to consume more indulgent food in a negative (Van Strien et al., 2013) and positive mood states (Collins & Stafford, 2014) compared to people in a neutral mood. Hence, people try to increase food consumption to maintain a positive mood. Importantly, Gutjar, Graaf, Kooijman, Wijk, Nys, Horst, and Jager (2015) found that food liking is somewhat linked to the emotional responses to the product while food choices were mainly associated with positive emotions. Consuming indulgent food could enhance an individual mood (Van Strien et al., 2013; Collins & Stafford, 2014; Kroes et al., 2013) because food that is high in sodium, glucose, and fat provide a higher level of sensual pleasure (Drewnowski, 1999; Gardner, Wansink, Kim & Park, 2011) and promote favourable attitudes. Therefore:

H4$_a$: There is a positive relationship between mood and affective attitude.

H4$_b$: There is a positive relationship between mood and cognitive attitude.

Affective attitude is crucial because of people's strong emotional reaction toward the risk and reward associated in performing certain behaviour (Finucane et al., 2000; Dunn et al., 2011). It is argued that people consume fast food even when they are well aware of the health effect of fast food (Dave et al., 2009). Similarly, cognitive attitude also affects purchase intention, especially when fast food is neither staple nor cheap. Therefore:

H5$_a$: There is a positive relationship between affective attitude toward fast food and purchase intention.

H5$_b$: There is a positive relationship between cognitive attitude toward fast food and purchase intention.

Subjective norm refers to "*the perceived social pressure to perform or not to perform the behaviour*" (Ajzen, 1991, p. 188). It consists of two components which are the injunctive norm (refers to what other people think) and descriptive norm (refers to how other people behave). It is argued that fast food buying is closely influenced by social factors based on how other people view them and what is socially accepted by social group. Dunn et al. (2011), proposed the possibility of the path between subjective norm and fast food buying intention to be affected by the fear of being negatively judged by the society, which has found to predict drive for body image concern, weight control and eating restraint (Levinson & Rodebaugh, 2011). An injunctive norm which refers to "*perceptions of which behaviours are typically approved or disapproved*" (Cialdini, 2003, p. 105) might influence an individual fast food consumption behaviour and intention. Descriptive norm refers to "*perceptions of which behaviours are typically performed*" (Cialdini, 2003, p. 105). It might be stronger than the injunctive norm because the descriptive norm is an actual behaviour demonstrated by the society despite the moral component of a specific action (Hamann, Reese, Seewald & Loeschinger, 2015). Therefore,

H6$_a$: There is a positive relationship between the descriptive norm and purchase intention.

H6$_b$: There is a positive relationship between the injunctive norm and purchase intention.

The third dimension in TPB model is perceived behavioural control which measures "*perceived ease or difficulty of performing the behaviour and it is assumed to reflect past experience as well as anticipated impediments and obstacles*" (Ajzen, 1991, p. 188). An individual's capability to purchase fast food and the level of confidence in doing so is determined by perceived behavioural control (PCB; Ajzen, 1985, 1991 & 2015). Perceived control is able to consciously influence an individual behaviour under a specific event environment (Madden, Ellen & Ajzen, 1992) as it explains the ability and resource of an individual to overcome an obstacle in developing a specific behaviour (Ajzen, 1991). Bandura (1982, p.122 in Ajzen, 1991) specifies that self-efficacy "*is concerned with judgments of how well one can execute courses of action required to deal with the prospective situation*". It is important in developing an intention to perform because it is the root of self-confidence and perseverance in achieving it. In the case of fast food consumption, consumers with high perceived behavioural control should be able to restrain themselves from fast food. Therefore:

H7$_a$: There is a negative relationship between the perception of control and purchase intention.

H7$_b$: There is a negative relationship between self-efficacy and purchase intention.

METHODOLOGY

Theory of Planned Behavior (TPB) is a theory supported by concrete empirical validation to determine the intention to perform a specific behaviour based on a pinpoint prediction from attitude, social norm, and perceived behavioural control (Ajzen, 1985, 1991, 2015). Even though TPB has successfully explained the motivation behind the various type of behaviour; however, the usage of TPB in predicting food choices and eating behaviour appear to be relatively weaker (Dunn et al., 2011). Attitude is posited as the main predictor in TPB to determine food purchasing intention. Therefore, this research used an adapted conceptual framework proposed by Dunn et al. (2011) to enhance and improve the predictability and operation ability of the variables by measuring the factors that underlie the attitude to the behaviour. It is assumed that a person intends to perform behaviour will increase when he/she holds a positive attitude, favourable subjective norm and with a weak perceived behavioural control.
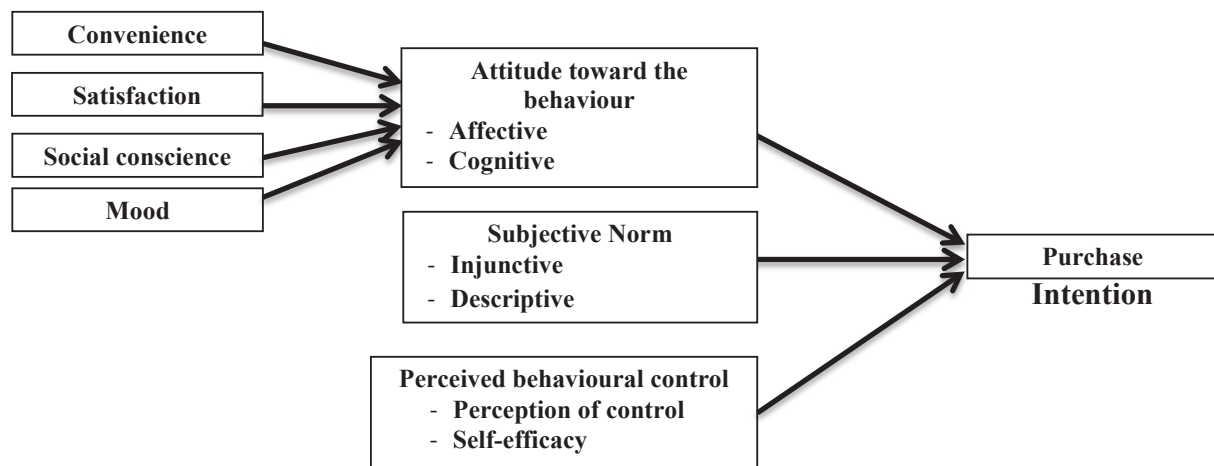
Figure 1 Conceptual model

FINDINGS AND DISCUSSION

A total of 210 valid questionnaires were used, with a response rate of 87.6 per cent. The samples were young Malaysian adults' aged between 20 – 40 years old. This age range was considered suitable as they consumed the fastest food (Dugan, 2013) and no longer dependable or required their parents' permission in food purchase. The sample size for this study was estimated using G-power analysis software at 90 per cent with an effect size of 0.15 (Cohen, 1998). The minimum sample size generated by G-power analysis was estimated at 129. The current sample size was hence appropriate.

Majority of the respondents were single (77.6 per cent) male (51 per cent) who aged between 25 – 29 years old (46.7 per cent). The age group distribution was representative of the Malaysian population (Department of Statistic Malaysia, 2010), where young adults aged 20 – 24 years old constituted the largest age group in Malaysia. The majority of them held a bachelor's degree (46 per cent) and worked with the private sector (34.8 per cent).

In term of fast food consumption pattern, all respondents reported to 'have' or 'currently is an active user' of fast food. Kentucky Fried Chicken (KFC) was the most popular fast food brand among the consumers (46.2 per cent), followed by McDonald's (36.2 per cent), Subway (8.1 per cent), Burger King (5.2 per cent), A&W (1.4 per cent) and others (2.4 per cent). 'Eat in' remained as the most preferred method to get fast food (54.3 per cent), followed by 'take away' (27.6 per cent), 'drive-through' (11.9 per cent) and 'delivery services' (6.2 per cent). The frequency of average fast food consumption in a week had been converted into two categories which were high and low, by the median split. 86.2 per cent of the respondent was categorized into high consumption while 13.8 per cent was categorized into low consumption.

Confirmatory factor analysis was conducted to assess the reliability, convergent validity and discriminant validity. Refer to Table 1, all item loadings were larger than 0.5 (Fornell & Larcker, 1981) and all AVE were exceeded 0.5 (Bagozzi & Yi, 1998; Fornell & Larcker, 1981). The composite reliability (CR) exceeded 0.8 (Gefen, Straub & Boudreau, 2000) indicated sufficient convergence or internal consistency.

<p align="center">**Table 1** Factor loadings, composite reliability and average variance extracted</p>

Construct	Item	Loading	AVE	CR
Convenience	CON2	0.569702	0.538572	0.821268
	CON3	0.79337		
	CON4	0.760987		
	CON7	0.788157		
Satisfaction	SAS1	0.700886	0.507636	0.911018
	SAS2	0.761897		
	SAS3	0.650477		
	SAS4	0.691123		
	SAS5	0.746103		
	SAS6	0.731453		
	SAS7	0.775553		
	SAS8	0.735158		
	SAS9	0.564966		
	SAS10	0.742321		
Social conscience	SC2	0.580186	0.558179	0.83237
	SC3	0.740299		
	SC4	0.831238		
	SC5	0.810617		
Mood	MD1	0.769556	0.611819	0.90418
	MD2	0.737766		
	MD3	0.8522		
	MD4	0.787977		
	MD5	0.78783		
	MD6	0.75271		
Affective attitude	AA1	0.818275	0.575595	0.870797
	AA10	0.752436		
	AA2	0.819319		
	AA4	0.731006		
	AA9	0.660749		
Cognitive attitude	CA2	0.856692	0.596198	0.808557
	CA3	0.886086		
	CA5	0.519157		
Injunctive norm	IJN1	0.696037	0.549068	0.858341
	IJN2	0.823137		
	IJN3	0.764542		
	IJN4	0.680579		
	IJN5	0.73185		
Descriptive norm	SBN1	0.880907	0.812098	0.92836
	SBN2	0.930263		
	SBN3	0.891576		
Perception of control	POC1	0.747524	0.616035	0.864069
	POC2	0.680856		
	POC4	0.807764		
	POC5	0.888425		

Self-efficacy	SE2	0.89881	0.734565	0.846649
	SE3	0.813186		
Purchase intention	PI1	0.806466	0.603766	0.882376
	PI2	0.872574		
	PI3	0.79611		
	PI4	0.792637		
	PI5	0.587359		

Note: a. CR = (square of the summation of the factor loading) / (square of the summation of the factor loadings) + (summation of error variance); b. AVE = (summation of the square if the factor loading) / (summation of the square of the factor loadings) + (summation of error variances)

Refer to Table 2, we have ensured the convergent validity because all the indicators load much higher in their hypothesized factor than on the other factors (Chin, 1998). Besides, the square root of the AVE was tested against the inter-correlation of the construct with the other construct in the model in Table 3 (Chin, 1998; Fornell & Larcker, 1981) and the data reflected good discriminant validity.

Table 2 Cross loadings of items

Items	AFF	COG	CON	INJ	MD	INT	POC	SATIS	DESC	SC	SE
AA1	**0.818**	0.268	0.233	0.329	0.506	0.359	0.180	0.442	0.218	−0.125	−0.124
AA10	**0.752**	0.193	0.222	0.183	0.417	0.292	0.131	0.467	0.251	−0.091	−0.120
AA2	**0.819**	0.200	0.209	0.259	0.492	0.348	0.172	0.416	0.204	−0.100	−0.136
AA4	**0.731**	0.225	0.252	0.260	0.416	0.352	0.117	0.429	0.297	0.038	−0.096
AA9	**0.661**	0.152	0.044	0.080	0.254	0.270	0.159	0.254	0.205	−0.154	−0.225
CA2	0.176	**0.857**	0.345	0.211	0.256	0.128	−0.078	0.246	0.099	−0.044	0.020
CA3	0.243	**0.886**	0.399	0.253	0.233	0.201	−0.224	0.310	0.087	−0.060	0.072
CA5	0.260	**0.519**	0.104	0.079	0.171	0.216	−0.034	0.129	0.234	0.055	−0.065
CON2	0.019	0.219	**0.570**	0.077	0.231	0.100	−0.133	0.256	0.052	0.113	0.035
CON3	0.158	0.338	**0.793**	0.151	0.200	0.058	−0.200	0.336	−0.006	0.028	0.125
CON4	0.290	0.290	**0.761**	0.189	0.236	0.155	−0.072	0.321	0.135	0.023	0.025
CON7	0.233	0.309	**0.788**	0.208	0.242	0.232	−0.089	0.422	0.126	−0.001	0.015
IJN1	0.185	0.184	0.148	**0.696**	0.343	0.337	0.017	0.311	0.509	−0.120	−0.209
IJN2	0.180	0.247	0.168	**0.823**	0.381	0.409	−0.029	0.261	0.445	0.046	−0.194
IJN3	0.252	0.123	0.180	**0.765**	0.373	0.292	0.053	0.316	0.276	0.021	−0.182
IJN4	0.246	0.126	0.171	**0.681**	0.354	0.246	−0.001	0.300	0.185	0.003	−0.054
IJN5	0.301	0.223	0.172	**0.732**	0.368	0.332	−0.007	0.296	0.218	0.016	−0.080
MD1	0.465	0.291	0.203	0.420	**0.770**	0.374	0.128	0.595	0.299	−0.156	−0.095
MD2	0.406	0.235	0.271	0.421	**0.738**	0.328	0.046	0.614	0.237	−0.097	0.056
MD3	0.444	0.269	0.242	0.356	**0.852**	0.398	0.074	0.529	0.342	−0.074	−0.082
MD4	0.473	0.168	0.281	0.284	**0.788**	0.310	0.188	0.526	0.372	−0.008	−0.170
MD5	0.461	0.142	0.211	0.454	**0.788**	0.353	0.184	0.484	0.360	0.074	−0.131
MD6	0.388	0.227	0.214	0.363	**0.753**	0.304	0.131	0.461	0.475	−0.038	−0.115
PI1	0.350	0.181	0.115	0.221	0.311	**0.806**	0.131	0.300	0.395	−0.063	−0.272
PI2	0.375	0.154	0.178	0.385	0.399	**0.873**	0.072	0.365	0.362	−0.035	−0.239
PI3	0.286	0.172	0.173	0.433	0.373	**0.796**	−0.007	0.336	0.431	−0.020	−0.141
PI4	0.405	0.172	0.147	0.374	0.364	**0.793**	0.126	0.350	0.335	−0.076	−0.224
PI5	0.237	0.211	0.117	0.307	0.248	**0.587**	−0.052	0.268	0.112	−0.118	−0.045
POC1	0.209	-0.146	−0.097	−0.048	0.131	0.052	**0.748**	0.023	0.107	−0.019	−0.351

POC2	0.085	−0.128	−0.102	−0.015	0.023	0.020	**0.681**	−0.071	0.112	0.041	−0.418
POC4	0.166	−0.085	−0.116	0.016	0.146	0.050	**0.808**	0.127	0.238	−0.060	−0.548
POC5	0.150	−0.155	−0.165	0.033	0.145	0.089	**0.888**	0.035	0.131	−0.119	−0.527
SAS1	0.375	0.211	0.394	0.370	0.476	0.239	−0.037	**0.701**	0.146	−0.129	0.071
SAS10	0.363	0.278	0.365	0.187	0.454	0.285	−0.018	**0.742**	0.185	−0.166	−0.012
SAS2	0.399	0.202	0.392	0.326	0.453	0.300	−0.031	**0.762**	0.237	−0.204	−0.042
SAS3	0.311	0.283	0.413	0.222	0.403	0.275	−0.045	**0.650**	0.201	−0.026	−0.009
SAS4	0.331	0.125	0.180	0.312	0.544	0.298	0.066	**0.691**	0.269	−0.101	−0.070
SAS5	0.397	0.227	0.298	0.359	0.604	0.278	0.111	**0.746**	0.318	−0.005	−0.140
SAS6	0.431	0.272	0.348	0.355	0.589	0.312	0.190	**0.731**	0.337	0.030	−0.188
SAS7	0.492	0.237	0.352	0.307	0.553	0.424	0.085	**0.776**	0.256	−0.093	−0.057
SAS8	0.436	0.183	0.276	0.176	0.474	0.374	0.032	**0.735**	0.228	−0.253	−0.028
SAS9	0.229	0.176	0.212	0.179	0.275	0.118	−0.028	**0.565**	0.050	−0.117	0.034
SBN1	0.273	0.149	0.107	0.411	0.461	0.356	0.202	0.311	**0.881**	0.085	−0.267
SBN2	0.265	0.125	0.109	0.409	0.392	0.443	0.163	0.295	**0.930**	0.003	−0.288
SBN3	0.301	0.144	0.079	0.420	0.348	0.376	0.131	0.265	**0.892**	−0.005	−0.271
SC2	−0.056	−0.017	0.054	−0.082	−0.069	−0.098	−0.073	−0.096	−0.086	**0.580**	0.099
SC3	−0.072	0.028	0.080	−0.032	−0.057	−0.026	−0.127	−0.118	−0.006	**0.740**	0.045
SC4	−0.077	−0.078	-0.002	−0.006	−0.045	−0.059	−0.040	−0.165	0.013	**0.831**	0.036
SC5	−0.108	−0.021	0.021	0.049	−0.044	−0.047	−0.038	−0.068	0.101	**0.811**	−0.039
SE2	−0.235	−0.021	0.030	−0.173	−0.138	−0.239	−0.542	−0.100	−0.256	0.055	**0.899**
SE3	−0.040	0.089	0.096	−0.174	−0.048	−0.180	−0.458	−0.006	−0.274	−0.010	**0.813**

Note: Diagonals (in bold) represent the loadings of an indicator on its assigned latent variable.

Table 3 Discriminant validity

Item	AFF	COG	CON	DESC	INJ	MD	POC	SATIS	SE	SC	INT
AFF	**0.759**										
COG	0.278	**0.772**									
CON	0.265	0.398	**0.739**								
DESC	0.309	0.153	0.110	**0.901**							
INJ	0.307	0.252	0.224	0.458	**0.741**						
MD	0.563	0.286	0.303	0.442	0.489	**0.782**					
POC	0.199	−0.164	−0.161	0.182	0.006	0.160	**0.784**				
SATIS	0.539	0.311	0.459	0.322	0.395	0.686	0.054	**0.712**			
SE	−0.176	0.030	0.068	−0.306	−0.201	−0.115	−0.587	−0.069	**0.857**		
SC	−0.108	−0.038	0.040	0.028	−0.008	−0.067	−0.080	−0.146	0.031	**0.747**	
INT	0.430	0.222	0.190	0.438	0.445	0.442	0.078	0.419	−0.247	−0.073	**0.777**

Q^2 value test was included in explaining predictive relevance (Hair, Hult, Ringle & Sarstedt, 2016). The Q^2 value was obtained using blindfolding analysis (Hair et al., 2016). A Q^2 value of > 0 reflects predictive relevance and vice versa (Fornell & Cha, 1994). Based on the information of Table 4, all measurement items were shown to have predictive relevance.

Table 4 Q^2 testing

Item	Q_2
Affective	0.205058
Cognitive	0.111506
Convenience	0.538598
Descriptive	0.812271
Injunctive	0.549073
Mood	0.611822
Poc	0.542144
Satisfaction	0.50763
Self-efficacy	0.73358
Social conscience	0.557939
Intention	0.183532
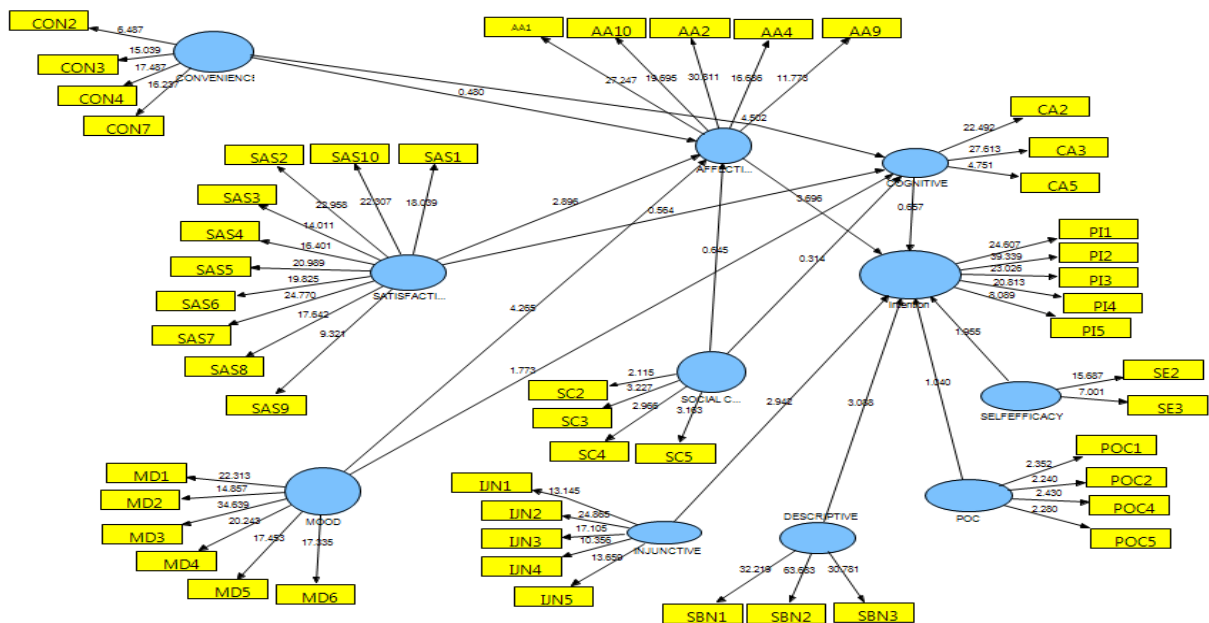
Figure 3 Structural model

Table 5 Hypothesis testing

Hypothesis	Path	Std. Beta	Std. Error	*t*-Value	Decision
H1	CON -> AFF	0.034204	0.071329	0.47953	Not supported
H2	CON -> COG	0.329429	0.073181	4.50158**	Supported
H3	SATIS -> AFF	0.262925	0.090782	2.89621**	Supported
H4	SATIS -> COG	0.05496	0.09752	0.56358	Not supported
H5	SC -> AFF	−0.04651	0.072106	0.64496	Not supported
H6	SC -> COG	−0.03315	0.105489	0.31422	Not supported
H7	MD -> AFF	0.369656	0.086667	4.26524**	Supported
H8	MD -> COG	0.14615	0.082447	1.77266*	Supported
H9	AFF-> INT	0.276245	0.074735	3.69631**	Supported
H10	COG -> INT	0.045337	0.069039	0.65669	Not supported
H11	DESC -> INT	0.217547	0.070444	3.08824**	Supported
H12	INJ -> INT	0.22077	0.075049	2.9417**	Supported
H13	POC -> INT	−0.09518	0.09149	1.04038	Not supported
H14	SE -> INT	−0.145	0.074182	1.9546*	Supported

Note: **$P < 0.01$, *$P < 0.05$

Table 5 presented the results of the hypothesis testing. First of all, there was no significant relationship found between the convenience of getting fast food and affective attitude ($t = 0.4795$) hence not supporting hypothesis 1(a). The significant t-value of 4.502 for convenience-cognitive attitude link supported hypothesis 1(b). These findings are consistent with Dunn et al.'s (2011) study that convenience dimensions such as accessibility and availability have very few explanations of the variability towards an individual affective attitude. It is argued that in Malaysian context whereby fast food is neither a staple food nor considered cheap, convenience is hence more relevant to the rational side of an individual's overall attitude, rather than the emotional aspects. The Malaysian government has heavily promoted and supported western fast food franchises under the 9th Malaysian Plan (9MP). The effort is continued by the 10th Malaysian Plan (10MP), whereby 55 per cent of women workforce is targeted by the year 2015, along with the support of Ministry of Women, Family and Community Development (MWFCD) and the United Nations Development Programme (UNDP) (MWFCD, 2014). The growing number of working women is expected to disrupt the traditional mealtime, increase the importance of fast food purchasing intention and contribute to the rapid growth of fast food industry (Dunn et al., 2011) in Malaysia. The aspect of convenience is considered important to the young population even they do not earn much (Glanz, Basil, Maibach, Goldberg & Snyder, 1998).

Contradictory, satisfaction was found to have significant relationship with affective attitude ($t = 2.896$), but not cognitive attitude ($t = 0.56358$). These results are consistent with Dunn et al. (2011)'s study whereby satisfactory provided by fast food has a strong relationship with an individual's affective attitude. An increase in favourable or positive affective attitude is caused by the high level of satisfaction experienced from using or consuming a specific product (Westbrook, 1980). Rather than seeing the concept of satisfaction as a mere outcome of experiencing, using, or consuming a service or a product, the current study and Dunn et al. (2011)'s study viewed satisfaction as part of consumers' knowledge, experience, and information from past consumption. The high proportion of respondents who were heavy consumers of fast food (86.2 per cent) might explain the significant relationship between satisfaction and affective attitude. These heavy users gained satisfaction from their consumption and hence form favourable attitudes toward fast food. This scenario is also validated by the increase in children and adolescents' obesity rate due to the radical growth of the fast food industry (Seubsman, Kelly, Yuthapornpinit). Consumers seemed to choose the more 'enjoyable' fast food over healthy food even when they are well aware of its negative effects (Osman et al., 2014, Dunn et al., 2011). The possible explanation for the insignificant result between satisfaction and cognitive attitude could be due to the general belief that fast food consumption was harmful. Consumers hence were unable to associate the enjoyable experience of eating fast food to their rational side of attitude.

The insignificant t-values between social conscience and affective attitude ($t = 0.645$) and cognitive attitudes ($t = 0.314$) indicated both H2 (a) and H2 (b) are not supported. These findings are inconsistent with Dunn et al. (2011)'s study, even though the negative standard betas for both relationships were in the expected directions, the relationships were insignificant. Dunn et al. argue that as an individual is having a high level of concern regarding the impact of fast food on the social issue, he/she will experience a lower level of acceptance toward fast food. In this study, the insignificant relationships could be due to the low civic consciousness among Malaysian (Ahmad, Rahim, Pawanteh & Ahmad, 2012) in which respondents failed to link fast food consumption to social issues such as environmental protection, family eating tradition, values and lifestyles.

The relationship between mood and affective is significant (t = 4.265) hence supported hypothesis 3 (a). This finding is consistent with Drewnowski (1999) and Gardner et al. (2011) whereby an individual mood is able to influence his/her attitude toward indulgent food. The positive relationship indicates that the better a person's mood, the more positive his/her affective attitude towards fast food become. This is consistent with our earlier argument that fast food consumption in Malaysia is closely related to the happy and celebratory mood. Positive mood is commonly used in fast food advertisements to portray a sense of happiness and family values. The findings indicated the relationship between mood and cognitive attitude (t = 1.773) is significant. Even though the predicting ability of mood on cognitive attitude is not as strong as an affective attitude, it is significant. Hypothesis 3 (b) is hence supported.

The findings indicated a significant relationship between affective attitude on purchase intention (t = 3.696) but not cognitive attitude (t = 0.657), supporting H5 (a) but not H5 (b). These results are consistent with Finucane et al. (2000) whereby affective attitude is a stronger predictor than cognitive attitude in fast food consumption. Purchase is made based on the affective aspect of attitudes such as level of acceptance and emotional reaction toward fast food rather than their belief and ideas (cognitive) toward fast food.

The findings indicated that young Malaysian adults were driven by how their social circle behaves in forming their fast food buying intention ($t_{decsriptive}$ = 3.088, $t_{injustive}$ = 2.942), hence supporting H6 (a) and 6 (b). They possess a higher intention to buy when their social circle prefers fast food. A descriptive norm which is the actual behaviour that can be observed play a larger role than the injunctive norm, consistent with Hamann et al.'s (2015) study. Malaysia in general is a nation with a very high collectivist cultural rating. It is therefore expected for young adults who are closely knitted and heavily affected by family and social relationships, to base on both injunctive (what other people think) and descriptive (how other people behave) norms in fast food consumption.

The present study did not find a significant relationship between perception of control and purchase intention (t = 1.043) and hence not supporting H7 (a). This result is consistent with Dunn et al.'s (2011) study in which the young adults do not relate perception of control to the buying of fast food. Nevertheless, the negative beta coefficient is in the expected direction, showed that the higher the perception of control, the lower the buying intention become. This finding could be explained by Ajzen's (2015) argument that the stated component of perceived behavioural control is usually the weakest in term of food purchasing and consumption intention. Meanwhile, the negative relationship between self-efficacy and purchase intention was found significant (t = 1.955) hence supporting H7 (b). In other words, an individual who has a strong sense of belief toward his/her ability to control his/her eating behaviour, his/her intention to purchase fast food will decline.

CONCLUSION, LIMITATIONS AND FUTURE RESEARCH

In conclusion, the results of the present study suggested convenience as the strongest predictor of attitude toward fast food among young Malaysian adults. However, their affective attitude was found to predict purchase intention of fast food better than cognitive attitude, perceived behavioural control and social norm. Consumer mood, a newly added dimension, was also found to have a significant impact on attitude formation. Young adults were influenced by the people around them in term of what they think and how they should behave, even in the case of fast food buying. Their level of self-efficacy also affected fast food buying intention.

These findings posited several important marketing implications, especially in reactions to the changes in the demographic structure and consumer consumption pattern. Young Malaysian adults who aged between 20 – 39 years old accounted for almost one third (34 per cent) of the Malaysian population in the year 2010 (Department of Statistics Malaysia, 2011). This large group of consumers is found to consume less than the recommended daily serving of fruits and vegetables (Abdullah, Mokhtar, Bakar & Al-Kubaisy, 2015). In fact, they consume the fastest food (Dugan, 2013). Even though fast food is neither staple food nor cheap in Malaysia, mostly single young adults are found to base on affective rather than the rational side of thoughts, beliefs and ideas to form fast food buying intention. It is hence important to understand that knowledge and nutritional literacy might not be effective intervention methods in reducing young adults' fast food purchasing and consumption intention. This is further supported by the significant role of mood as a background factor in attitude formation. Therefore, NGOs or ministry of health needs to instil creativity and innovativeness in designing promotional campaign in reducing consumption of fast food. Alternative food that is considered as fun as and healthier than fast food should be introduced and promoted to young adults. A promotional campaign by stressing food eating as an enjoyable and fun social gathering occasion could be more effective not based on facts, but more on mood creation or feeling and emotion. Alternative food providers should also stress on the convenience variables such as the ease of access, not only on the aspect of time-consuming, but also on the physical and mental determinations related to food preparing activity, and the cleaning activity afterwards (Buckley et al., 2007). It is believed with a better understanding of the attitude and intention structures that marketing practitioners and academicians could plan for an effective marketing campaign and promote a healthy diet among young adults.

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THE RELATIONSHIP BETWEEN HIGH-PERFORMANCE WORK SYSTEM, EMPLOYEE ENGAGEMENT AND TURNOVER INTENTION: A GENERATION GAP STUDY

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ABSTRACT

This study examines the relationship between the High-Performance Work System (HPWS), employee engagement and turnover intention. It is to determine factor career development and high involvement of HPWS have the relationship to employee engagement and turnover intention among employees of Gen X and Gen Y firm sector in Sabah. It is important to study the effectiveness of human resource management practices in facilitating to engage and retention Gen X and Gen Y employees within the organization. The results indicate that HPWS's career development and high engagement factors have no significant direct relationship with turnover intention. However, HPWS's career development and high involvement factors have been mediate to employee engagement. The questionnaire method was used as a research instrument to obtain data. A total of 160 respondents were randomly selected as the study sample. Data were analyzed using the "Statistical Package for the Social Sciences" (SPSS Window) Version 12.0 and Smart PLS. These findings indicate that the career development and high involvement of the HPWS factors should give pay attention to engaging employees in the organization. This study is believed to contribute to the increase in theoretical and management implications. It has shown the importance of applying for HPWS in organizations to engage employees. It also contributes to the field of future managers who may consider understanding the best way of managing their relationships with their multigenerational subordinates.

INTRODUCTION

This study investigates the possible relationship between high-performance work systems, employee engagement and employee turnover intentions between Generation X (Gen X) and Generation Y (Gen Y). The first objective of this study was to understand the key relationship factors related to career development in the High-Performance Work System (HPWS), employee engagement and employee turnover intention among Gen X and Gen Y contractor firm employees in Sabah. The emerging literature has identified a variety of turnover intentions antecedent, including individual characteristics, employee attitudes and management practices.

The second purpose of this research paper is to examine the mediator (employee engagement) relationship of HPWS career development factors with employee engagement on turnover intention. Providing managers with the knowledge needed to understand Gen X and Gen Y employee criteria to measure the effective implementation of HPWS factors can be planned and implemented. To better understand their intentions, the research adopts one of the chosen bundles of HR practices, namely career development as a variable to test the relationship between employee engagement and turnover intention among Gen X and Gen Y employees in Sabah. This study has used quantitative research to test the hypotheses in this study as well as research questionnaires designed based on questionnaires generated from previous studies to represent independent variables, dependent variables and mediators. The result is that this HPWS element can enhance employee engagement toward to reduce turnover intention among Gen X and Y workers.

LITERATURE REVIEW

High-Performance Work Systems

High-Performance Work System is conceptualized as a set of interrelated HRM practices that collectively select, develop, maintain and motivate the workforce (Way, 2002; De Menezes & Wood, 2006) in a superior way (Kerr et al., 2007) to improve organizational outcomes. Generally, they are characterized by a set of management practices that enhance employee engagement, commitment and efficiency (Ostermann, 2006) by turning employees from employees into employers' partners in realizing toward company goals (Casperz, 2006).

Turnover Intention

Tett and Meyer (1993) in Rumery (1997), state that when employees are consciously and intentionally leaving the organization, they are referred to as turnover intentions. Meanwhile, Mobley (1997) describes turnover intentions as the process of thinking, planning, and wanting to leave work. The purpose of a turnover intention is when someone has set a desire to quit.

Career Development

Career development is a series of the process developing one's career over a lifetime. This involves moving to higher job responsibilities, making career changes in the same organization, moving to another organization, or starting a business of your own. (Dessler, 2012).

Employee Engagement

According to Towers Perrin (2003), emotion and rationality are key characteristics of employee engagement. At the emotional level, it helps to understand the personal satisfaction of the individual at work. Engagement is also an ongoing process, depending on the job experience.

Generation X

Generation X, born between 1965 and 1980, has a strong relationship with Baby Boomers but grew up in more prosperous times. During childhood, this generation was busy playing outside with their friends. To them, a house is a place for dinner and sleep. They share the same respect and duty with their older friends, and also prefer to keep the house and work separate (Yu & Miller, 2005).

Generation Y

Generation Y (born 1981 to 1999) is the youngest generation cohort, replacing the older generation in the workforce. This generation is characterized by economic prosperity, rapid technological advances through the internet, social networks, and globalization (Cennamo & Gardner, 2008; Smola & Sutton, 2002; Twenge, 2010).

The Relationship between HPWS and Turnover Intention

Huselid (1995; in Mohsin et al., 2011) argues that HPWS practices have a direct impact on lowering employee turnover, increasing output, and improving financial performance. Besides, HPWS has been shown in various studies to have a positive relationship with individual well-being such as declining turnover intention and the positive impact on job satisfaction. It is also supported by Schiemann (2011), if HPWS is good then it will reduce the level of intention to turnover.
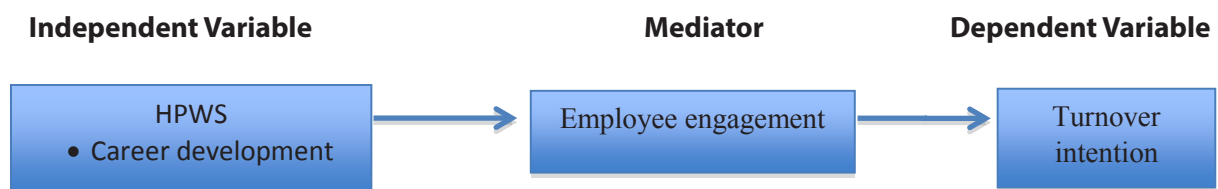
The Relationship between Career Development and Turnover Intention

According to and McElroy (2012), both career development and its impact on job commitment and turnover intention. According to research, dimensions of career development related to turnover intention and affective work commitment have been found to mediate their relationships. Furthermore, the conceptual career development comprises four factors: career goal development, professional capacity development, promotion speed, and reward growth. The dimension of career development is negatively associated with turnover intention.

The Relationship between Career Development and Employee Engagement

Employees should feel that organizations have a long-term view and provide good training and development opportunities for employees (Robinson, Perryman, & Hayday, 2004). According to Harter, Schmidt, and Keyes (2002), employees feel more secure when organizations provide employees with opportunities for career advancement and development (Harter et al., 2002).

Research Model and Hypothesis

Independent Variable	Mediator	Dependent Variable
HPWS • Career development	Employee engagement	Turnover intention

Figure 1 Conceptual framework

H1:   There is a significant negative relationship between career development and turnover intention.

H2:   Employee engagement mediates the relationship between career development and turnover intention

METHODOLOGY

Primary data study with quantitative research. It covers all relevant research methodology and frameworks. The research design, methodology and proposed framework used in this study covered the research framework, research questions, hypothesis development, research design, population, instruments, data collection, data analysis, validity and reliability of the data. Next, this study hypothesises that independent and dependent predictions of the mediator variables are formulated. The most important thing to be explored in this research framework is that it can guide this study directly to the main ideas and objectives of this study.

This study uses a cross-sectional survey design to analyze relationships between independent variables, dependent variables and mediator. This study used questionnaire method, which was developed using structured questions to collect primary data. This study obtained only primary data as the primary source of data without interviewing.

Target Population

Gen X and Gen Y employees at the G7 Construction Company in Sabah as a data distribution site.

Sample and Sampling Procedure

Method convenience sampling was chosen for each company in the research's target population have been identified and possess equal chances to be chosen as the target respondent. Employees will select from Gen X and Y categories for identifying and given a questionnaire.

The effect size that this study set in G*Power was (0.15) (medium) (Hair, Hult, Ringle, & Sarstedt, 2016) with alpha (α) value of 0.05 as well as the power of $(1 - \beta)$ 0.80 (minimum) based on two predictors, a predictor independent variable and a predictor moderator. Therefore, the total sample size for this study is 160 respondents base on calculating G*Power 3.1 software.

Data Analysis

Smart PLS M2 Version 3.1.0 Software is used in this study to analyse the data obtained.

ANALYSIS AND RESULT

Profile of Respondent

Table 1 Profile of respondent

Demographic variables	Category	Frequency	Percentage (%)
Age	37 and below	88	55.6
	38 and above	72	44.4
Gender	Male	108	67.5
	Female	52	32.5
Education	Certificate	47	29.4
	Diploma / STPM	62	38.8
	Degree	49	30.6
	Master's degree	2	1.3
Previous working experience	1 > 10 years	119	74.4
	11 > 20 years	31	19.4
	21 > 30 years	8	5.0
	31 > 40 years	2	1.3
Working experience in existing company	1 > 10 years	145	90.6
	11 > 20 years	12	7.5
	21 > 30 years	3	1.9
	Total	160	100

Model Assessment using SmartPLS (PLS-SEM)

Based on the hypothesis, through SmartPLS software, partial least square approach (PLS) was used to develop the model and in turn testing the hypothesis. This study utilizes PLS-SEM to analyse research model using SmartPLS 3.2.7 software. Data analysis in SEM is split into two stages which are measurement model and structural model (Ramayah, 2014). In the measurement model, the assessment of reliability and validity of the items is carried out while for the structural model to check relationships between variables (Ramayah, 2014; Hair et al., 2016).

Measurement Model

Based on Hair et al. (2016), convergent validity and discriminant validity are two types of validity were measured in the measurement model. To measure convergent validity, this study uses average variance extracted (AVE) while to test construct reliability, this study uses composite reliability (CR) (Ramayah, 2014; Hair et al., 2016). According to Hair et al. (2016), loading must be more than 0.60 or higher, AVE must be 0.50 or higher and CR must be 0.70 or higher.

Table 2 Measurement model

		Loading	CR	AVE
Career development	CD1	0.876	0.687	0.868
	CD2	0.832		
	CD3	0.776		
Turnover intention	TI1	0.867	0.671	0.91
	TI2	0.875		
	TI3	0.669		
	TI4	0.845		
	TI5	0.822		

Notes: Delete CD4 due to loading below than 0.6.

The next to measure in measurement model after convergent validity and reliability is discriminant validity (Hair et al., 2016). To measure discriminant validity, this study is using Fornell-Larcker criterion and HTMT approach (Hair et al., 2016). Table 3 shows the Fornell-Larcker criterion that the square of the AVE for each construct is higher compare to other constructs. While none of the HTMT value of construct is lower than 0.9 (refer to Table 4). Overall, the reliability and validity test performed on the measurement model showed the acceptable value and this would indicate that the measurement model for this study is fit and valid to be used for parameters estimation in the structural modal.

Table 3 Fornell-Locker

	Career development	Turnover intention
Career development	0.829	
Turnover intention	−0.01	0.819

Table 4 HTMT

	Career development	Turnover intention
Career development		
Turnover intention	0.102	

Structural Model

The next stage after the measurement model is a structural model. In this stage, proposed hypotheses would be tested (Table 5), coefficient of determination (R^2) [Table 7] and predictive relevance (Q^2) are obtained by running the PLS algorithm, bootstrapping (5,000 samples and 107 cases) and blindfolding (Ramayah, 2014; Hair et al., 2016).

Table 5 Hypotheses testing (direct relationship)

	STD. Beta	STD. Error	*t*-value	Decision
Career development à Turnover intention	0.105	0.122	1.637	Not supported

Note: *t*-value > 1.65* (*p* < 0.05); *t*-value > 2.33** (*p* < 0.01)

Table 6 Indirect effect/ Mediator effect

	STD. Beta	STD. Error	*t*-value	Decision
CD à EE à TI	0.336	0.080	4.216	Supported

Note: *t*-value > 1.65* (*p* < 0.05); *t*-value > 2.33** (*p* < 0.01) (*p* < 0.01) (Hair et al., 2016)
CD – Career development, EE – Employment engagement, TI – Turnover intent

Table 7 Coefficient of determination R^2

	R-Square
Turnover intention	16.1%

Table 8 Effect size f^2

Independent variables	f^2	Effect size
Career development	0.034	Small

As shown in Table 8, the effect size for the variables on turnover intention is as follows: flexibility (f^2 = 0.034). This study follows Cohen (1988) guidelines for measuring effect size (f^2). The effect size of 0.02, 0.15 and 0.35 respectively indicated small, medium and large effects. Therefore, in this study, only career development and flexibility have a small effect on turnover intention. While for the rest latent, career development has a small effect on turnover intention.

DISCUSSION

The Relationship between Factor Career Development of HPWS and Turnover Intention

Gen X and Gen Y workers' perceptions of career development toward turnover intentions in this study were found to be insignificant. The findings of this study are in line with Weston (2006), that Gen X and Gen Y workers generations have experienced low growth in careers and therefore believe that no jobs are guaranteed and as a result, Gen X and Gen Y workers do not see the benefits of their entire careers a single organization or at the expense of their whole career life for any employer. Besides, supported by Simons (2010) rather than being loyal to the organization, Gen X and Gen Y employees are loyal to their work and their colleagues, managers they work with, take jobs seriously but are not committed to careers associated with one organization. Instead, Gen X and Gen Y workers move from place to place, stopping and starting again their career.

Gen X and Gen Y employees appear to work for better benefits, better opportunities for professional growth, and personal goals. Gen X and Gen Y thinkers which they can develop their skills and potential in future companies. The prospects and skills of Gen X and Gen Y workers companies to learn from their future jobs are the most important reason for these generations of workers to choose a job. This finding was supported by Tay (2011), Altimier (2006), Barford and Hester (2011) and Gursoy, Maier, and Chi (2008). Gen X and Gen Y employees are not afraid of future job prospects because Gen X and Gen Y employees are confident that they will get a higher position with higher pay for their next job.

Gen X and Gen Y luggage members are very committed and loyal to their professions and careers but are not loyal to their organization. Hard work is an indicator of their self-esteem, as long as work demands do not begin to change the balance between personal and family life (Weston, 2006; Patterson, 2007). Gen X and Gen Y employees want to grow in their jobs and learn new skills but do not plan to stay with one organization throughout their current career (Nienaber & Masibigiri, 2012).

The Relationship between Employee Engagements Mediates the Relationship between Career Development and Turnover Intention

The results for employee engagement mediating the relationship factors for HPWS career development with turnover intention are significant. This finding also supports Howe and Nadler's (2009) study, Gen X and Gen Y value generation of career development and expects employers to be given development opportunities that will ensure that they are marketable (Cole, 1990; Pitcher & Purcell, 1998).

A study by Price Waterhouse Coopers (2009) among Gen Y in South Africa found that career development was the most valuable benefit for this generation in the first few years of their work. Also, these workers are aware of the importance of developing their skills and pursuing opportunities to show what they are capable of (Burmeister, 2009). Therefore, employers need to provide opportunities to achieve measurable achievements and progress with a clear benchmark to retain the next generation of workers with professional skills.

This means that it has been proven that if employees (contractor employees) perceive more positive employee engagement factors for HPWS career development to reduce turnover intention. Career development proves to be a factor in meeting the needs of Gen X and Gen Y workers to engage. According to Sayers (2007) and Gursoy et al. (2008), Gen X and Gen Y focus a lot on career development. Gen X and Gen Y employees are driven by the desire to enhance their professional skills to enhance their marketability for future career prospects. Besides, previous research has found that Gen X and Gen Y workers are satisfied with their job as older generations, and even report higher job satisfaction and more optimism about their career development (Kowske, Rasch, & Wiley, 2010). Opportunities for this growth have encouraged Gen X and Gen Y workers to work harder and achieve their goals as effectively as possible.

CONCLUSION

This study shows that HPWS factor career development is not directly related to turnover intention. However, career development factor has been the mediate relationship with employee engagement to reduce turnover intention. Therefore, further study is needed to prove the effectiveness of the HPWS element in promoting this practice among Gen X and Gen Y workers in the construction sector.

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THE ROLE OF NETWORKING TIES ON CONTRACTOR FIRM PERFORMANCE

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ABSTRACT

In this study, we applied the Institutional Theory to examine the direct effects of networking ties towards contractor firm performance in Sarawak, Malaysia. Non-probability purposive sampling was conducted on contractors (N = 119) to assess these correlations. By applying partial least squares-structural equation modelling, the data is then analysed using SmartPLS 3.2.9 software. The results found that business ties and government support had significant effects on the contractor firm performance. These findings provide a better understanding of the role of networking ties towards the contractor firm performance as business ties, and government support is found to be significantly related to the firm performance. Contractor firms must take advantage of the opportunities in an emerging market like Malaysia. Cultivating networking ties may be necessary to ensure the survival of firms to address demand and institutional steeplechases.

INTRODUCTION

The construction industry in Malaysia has long been regarded as one of the critical sectors contributing towards the nation's development in line with its target to achieve a fully developed country as premeditated in Shared Prosperity Vision 2030 document. The construction industry also acts as a driving force or stimulus to the expansion of other sectors (Ibrahim, Roy, Ahmed, Sultan, & Imtiaz, 2010). The steep

competition nature of today's economic landscape has exerted enormous pressure on Small and Medium Entrepreneurs (SMEs) in any part of the world, including Malaysia. Thus, SMEs need to adopt a progressive and dynamic strategy to succeed in today's business environment. According to Samad (2013) and Chong (2008), firm performance can be measured either in term of financial performance or non-financial performance. The previous study measured the firm's performance based on firm growth (Davidson, Nemec, Worrell, & Lin, 2002; Kolvereid, 1992; Rodríguez, 2003) the growth of the firm's sales, asset and profit (Lee & Tsang, 2001).

Meanwhile, the non-financial indicator can be measured by the number of the employees (Wren & Storey, 2002) or based on the quality of the product (Zuhir, Surin, & Rahim, 2017). Scholars also agreed that there are no final words regarding what are the perfect measurement that is suitable to measure the performance of SMEs either in term of financial or non-financial performance. Therefore, for this study, the firm performance will be measured using financial ratios analysis. This analysis includes company's Return on Asset (ROA) (Cheng & Shiu, 2007; Tong & Green, 2005), Return on Investment (ROI) (Ebaid, 2009), sales, market share, and profit growth rates to analyse the financial health of the company.

LITERATURE REVIEW

In examining the proposed framework, this study applied the Institutional Theory to investigate the role of networking ties, namely business ties, enforcement inefficiency, and government support towards contractor firm performance in Sarawak, Malaysia. Previous studies exposed that network ties to have a significant influence on firm performance. Therefore, this study anticipated three hypotheses to further assist in explaining the conceptual framework, as shown in Figure 1.

Institutional Theory

Literature under the banner of institutional theory incorporates theoretical and empirical studies related to social norms and shared expectations as a vital base of organisations' structures, actions, and outcomes. Organisational research widely recognised institutional theory as one of the most prominent approaches (David & Bitektine, 2009; Powell, & Colyvas, 2008). The institutional theory contends that an organisation's legitimacy explains survival. The substantial foundation of institutional theory derives from the research literature on institutional sociology (DiMaggio & Powell (1991); Meyer & Rowan, 1977; Scott, 1987). In line with institutional theory, social ties as informal governance become vital as legal and regulatory institutions improve, and a market support system develops (North, 1990; Peng, 2003). Therefore, the institutional theory is adopted to explain the conceptual framework in this study.

Business Ties

Business ties allude to a manager's associations with directors of other companies like suppliers, clients, and competitors (Peng & Luo, 2000). They authorise a director to secure resources and data from external organisations (Petruzzelli, 2011; Wu, 2011). Business ties provide firms with valuable market resources like market information, product information (Heide & John, 1992). Business ties also help entrepreneurs to get technology acquisition and knowledge transfer (Rindfleisch & Moorman 2001; Saxenian, 1996). Besides that, business ties assist the firm to attain network legitimacy in a very professional way (Rao, Chandy, & Prabhu, 2008). Through the integration of new knowledge in the existing knowledge, a business entity can improve its absorption capacity and knowledge (Cohen & Levinthal, 1990).

This relationship will provide companies with competitive capital to take advantage of market opportunities (Neneh, 2018). With the necessary resources, companies tend to improve their performance because the company knows which customers' needs to satisfy (Frambach, Fiss, & Ingenbleek, 2016). Building lasting business relationships can enable companies to utilise information and knowledge resources built into customer networks that can enable companies to be more innovative in offering services (Wang & Chung, 2013). Building business relationships with producers or other business owners make it possible to develop potential partnerships between companies that can benefit related businesses, especially in gathering resources to take advantage of opportunities that arise from their understanding of customer needs (Li & Zhou, 2010). According to Acquaah and Eshun (2010), collaborating with other companies will help small and medium-sized companies to reduce the uncertainty that exists when taking advantage of new opportunities. Thus, the above discussion leads us to hypothesise:

H1:   Business ties have a positive effect on firm performance.

Enforcement Inefficiency

According to Ho (2001), enforcement inefficiency refers to the enforcement and regulatory legislation are problematic, which is reflected in companies' illegal or unethical behaviour. Furthermore, Djankov, Glaeser, La Porta, Lopez-de-Silanes, and Shleifer (2003) stressed this point by providing empirical evidence that corruption reflects an inefficient and highly regulated environment with discreetly enriched officials. In a highly regulated environment, the occurrence of bribery can prevent businesses from growing above a certain threshold, since otherwise business owners could be linked to corruption by officials, especially the tax administration (Barkhatova, 2000; Aidis, Estrin & Mickiewicz, 2012). Following this empirical development,

the researcher argues that for businesses in an overly regulated environment, officials' expectations of such behaviour can discourage entrepreneurs from further growing their businesses, leading them to set a firm-wide threshold (Cliff, 1998) which can lead to poor corporate performance.

According to North (1990), third party law enforcement is a public policy provided by governments and can be more important than written law for supporting an excellent economic transformation system (North, 2005). If legal institutions do not apply effective penalties, and there is no illegal or unfair competition behaviour, market and economic activity will be disrupted (Ho, 2001). McMillan and Woodruff (1999) argue that it is difficult or expensive for a firm to perform standard processes to protect itself from such behaviour. Based on the above scenario, the researcher develops the hypotheses below:

H2:   Enforcement inefficiency has a positive effect on firm performance.

Government Support

Government support echoes the extent to which government provides general and broad support to all or any businesses in the region (Li & Atuahene-Gima, 2001). This general support is different from the regulatory resources a firm can obtain through political connections. Strong government support can reduce the value of business ties (Amber & Witzel, 2004). If the government generously supports all or any business to foster economic exchange, the firm does not need to rely on political connections to achieve legitimacy and purpose (Rao, Pearce & Xin, 2005). Their study also showed that the value of regulatory resources derived from political relations could also decline with strong government support. The study also suggests that official government support reduces the effect of informal social ties, but previous literature also discusses whether formal and informal

government mechanisms are complementary or substitute. Formal government, like the contract, specifies the rules and obligations, while the informal mechanism refers to trust (Lazzarini, Miller, & Zenger, 2004; Poppo & Zenger, 2002; Stump & Heide, 1996). Thus, this study hypothesises:

H3:   Government support has a positive effect on firm performance.

Firm Performance

Financial and non-financial indicators were adopted to measure firm performance. Financial performance is measured based on in term of cash, like profit or sales. Non-financial performance is measured based on the quality of the product. In this study, ROA is used as a measurement for firm performance. The adoption of ROA helps in coping with size bias related to the results. Many studies regarded performance referred to firm growth (Davidson et al., 2002; Kolvereid 1992; Rodríguez, 2003) also carries with its sales growth, the expansion of the company's assets and profit growth (Lee & Tsang, 2001). Thus, this study examines the roles of network ties (business ties, enforcement inefficiency, and government support) towards contractor firm performance in Sarawak, Malaysia.

METHODOLOGY AND DATA ANALYSIS

The study employed a quantitative approach to conducting this study. The samples comprised of small contractors in Kapit Sarawak, Malaysia. To ensure that the characteristics of the sample correspond to the nature of the study, we proposed a non-purposive sampling technique to ensure that the data collected came from valid sources. A 5-point Likert scale at anchor "strongly disagree" (1) was used to "strongly agree" (5) as a measure of independent and dependent variables. An estimate of the sample size was set using G * power 3.0 analysis (Faul, Erdfelder, Lang, & Buchner, 2007). Using G-Power Analysis software with f^2 effect size of 0.15, and error for 0.10, Gf power 0.90 and 3 precursors tested. Thus, the minimum sample for this study is 82 respondents. Three hundred questionnaires were distributed, 119 completed, and usable copies were completed for analysis. Figure 1 shows the research framework, which contained the statements of the three variables monitored. We examined the variables using multiple items (Hayduk & Littvay, 2012) and then analysed the data using Smart PLS 3.2.9 (Ringle et al., 2020) to evaluate the hypotheses.

Framework and Hypothesis Development

Previous literature revealed that business ties, enforcement inefficiently and government support could influence the firm performance in Malaysia. Based on the literature, as mentioned earlier, this study proposes a conceptual model, as illustrated in Figure 1.
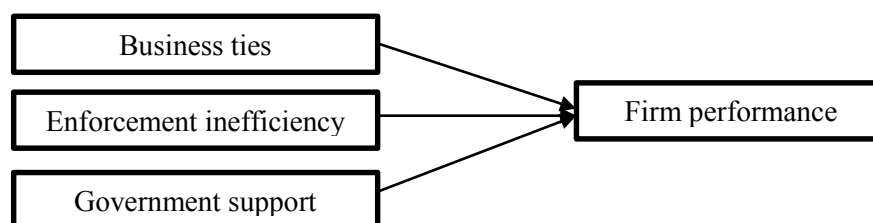
Figure 1 Conceptual framework

FINDINGS

A total of 119 respondents participated in this research. The study was conducted through a survey using an interview. Most of the respondents were males (89.1%), while the remaining were females (10.9%). More than 65 per cent of the respondents were above 50 years old. In terms of the education level, the majority of the respondents completed form five (64.7%) followed by SRP (14.3%), diploma level (13.4%), STPM (4.2%), primary school (1.7%) and degree (1.7%) respectively. All of the respondents were Sarawakians and from Sarawak native ethnic groups. Majority of the small construction firms in Sarawak generated annual revenue between RM200,000.00 to RM300,000.00. Table 1 summarised the respondent profile.

Table 1 Respondent profile

Variable		Frequency	%
Gender	Male	106	89.1
	Female	13	10.9
Age	21 – 30	1	0.8
	31 – 40	23	19.3
	41 – 50	17	14.3
	51 – 60	30	25.2
	> 60	48	40.3
Education	Primary school	2	1.7
	LCE/SRP/PMR	17	14.3
	SPM/MCE	77	64.7
	STPM	5	4.2
	Diploma	16	13.4
	Degree	2	1.7
Place of origin	Sarawak	119	100.0
Ethnicity	Bumiputera Sarawak	119	100.0
Annual revenue (RM)	200,000 – 300,000	101	84.9
	300,001 – 3,000,000	18	15.1

Measurement Model

Table 2 demonstrates the findings of constructs composite reliability (CR) and convergent validity testing. The results confirm that the constructs (or variables under investigation) to have high internal consistency (Roldán & Sánchez-Franco, 2012) and sufficient average variance extracted (AVE) to validate the convergent validity (Hair et al., 2017). There were no items deleted as Cronbach's Alpha, and composite reliability was above 0.708 (Hair et al., 2014). All indicators measuring each construct achieve satisfactory loadings value that is higher than the threshold value of 0.708 as advocated by Hair et al. (2017). The composite reliability (CR) values of 0.818 (Business Ties), 0.833 (Enforcement Inefficiency), 0.938 (Firm Performance), and 0.820 (Government Support) implies that these constructs possess high internal consistency. In the similar vein, these constructs also indicate satisfactory convergent validity with the average variance extracted (AVE) value for respective constructs is higher than the threshold value of 0.5, which demonstrates that the indicators explain more than 50% of the constructs' variances.

Table 2 Measurement model assessment

Construct	Item	Loadings	CA	CR	AVE	Convergent Validity (Ave
BT	BT1	0.866	0.707	0.818	0.542	Yes
	BT2	0.807				
	BT3	0.750				
	BT5	0.451				
EI	EI1	0.467	0.824	0.833	0.512	Yes
	EI2	0.754				
	EI3	0.753				
	EI4	0.572				
	EI5	0.938				
FP	FP1	0.898	0.911	0.938	0.791	Yes
	FP2	0.881				
	FP3	0.935				
	FP4	0.840				
GS	GS1	0.761	0.726	0.820	0.542	Yes
	GS2	0.907				
	GS3	0.497				
	GS4	0.720				

*No item was deleted due to poor loading Composite Reliability < .708 (Hair et al., 2010, & Hair et al., 2014)

Table 3 shows the criterion of HTMT to evaluate discriminant validity (Ringle et al., 2020). The result confirms that the discriminant validity is well established at HTMT0.85 (Diamantopoulos & Siguaw, 2006). To assess reliability, this study is based on Henseler's heterotrait-monotrait ratio of correlations. There is no problem of multi-collinearity between the items loaded on different constructs in the outer model. The results pave the way to the next assessment known as a structural model assessment which means that it does not have the issue of discriminant validity as it does not violate the most conservative criterion (HTMT.85).

Table 3 HTMT criterion

	BT	EI	FP	GS
BT				
EI	0.463			
FP	0.667	0.232		
GS	0.442	0.442	0.507	

Criteria: Discriminant validity is established at HTMT0.85

Structural Model

The structural model assessment examines the proposed relationship between the variables in the research framework. Before measuring the structural model, this study addresses the issue of multi-collinearity using collinearity test. The VIF values below 3.3 (Diamantopoulos & Siguaw, 2006) for each of the constructs suggest that the problem of multi-collinearity is not a concern. Next, a 5000-bootstrap resampling of data is conducted to examine the hypotheses of this study (Hair et al., 2017). Table 4 demonstrates the assessment of the path coefficient, which is represented by Beta values for each path relationship. The

results show that two out of three hypotheses were indeed supported. The results for direct effects indicate that the business ties (BT) and government support (GS) were indeed to have a positive influence on the firm performance. On the contrary, enforcement inefficiency (EI) was shown to have contradicted results on the firm performance.

As depicted in Table 4, only two out of the three proposed relationships are significant. Specifically, the study found support for H1 (Business Ties → Firm Performance, $\beta = 0.212$, p < 0.05, LLCI = 0.028, ULCI = 0.371), and H3 (Government Support → Firm Performance, $\beta = 0.347$, $p < 0.01$, LLCI = 0.250, ULCI = 0.533). Nonetheless, this study did not find support for H2.

Table 4 Path coefficients

Direct Effect	Beta	S.E.	t-value	p-value	LLCI	ULCI	Decision
H1: BT -> FP	0.212	0.092	2.304	0.022	0.028	0.371	Supported
H2: EI -> FP	-0.040	0.120	0.330	0.742	-0.310	0.213	Not Supported
H3: GS -> FP	0.347	0.069	5.017	0.000	0.250	0.533	Supported

Path Coefficient 0.01, 0.05 (Hair et al. 2017)

Lateral Collinearity: VIF 3.3 or higher (Diamantopoulos & Sigouw 2006)

Next, we assess the coefficient of determination (R^2), the effect size (f^2) and the predictive relevance (Q^2) of exogenous variables on the endogenous variable in this study. Table 5 also displays the quality of the model. Business ties and government support were shown to carry substantial effect size f^2 on financial performance. H1 and H3 hypotheses were also found to pose a medium effect size f^2 on firm performance (Cohen, 1988). The coefficient of determination represented by R^2 which explains whether the business ties (BT), enforcement inefficiency (EI) and government support (GS) could explain the firm performance indicates substantial effect (Chin, 1998). Besides, multi-collinearity between indicators were assessed. All indicators for variables satisfy the VIF values, and there are consistently below the threshold value of 5.0 (Hair et al., 2014) and 3.3 (Diamantopoulos & Siguaw, 2006). Therefore, it can be concluded that collinearity issues do not reach critical levels in all variables and are not an issue for the estimation of the PLS path model.

The R^2 value for attitude is 0.548, suggesting that the antecedents able to explain a certain number of variances for the endogenous variable. The results also expose that business ties have a medium effect size on attitude ($f^2 = 0.16$). This implies that business ties are moderate element influencing firm performance. Meanwhile, government support also exerts a medium effect size ($f^2 = 0.19$) on firm performance. Therefore, the relationship was significant moderately. On the other hand, enforcement inefficient ($f^2 = 0.00$) does not exert any effect on firm performance. The predictive relevance values of all exogenous (independent) variables towards endogenous (dependent) variable were more substantial than 0, indicating that the independent variables (BT, EI, and GS) could predict the financial performance, as presented by Q^2 using blindfolding procedure (Hair et al., 2017).

Table 5 Model quality assessment

Direct Effect	f^2	R^2	VIF	Q^2
H1: BT -> FP	0.160	0.548	1.347	0.423
H2: EI -> FP	0.000		1.312	
H3: GS -> FP	0.190		1.090	

$R^2 \geq 0.26$ consider Substantial (Cohen, 1989)

$f^2 \geq 0.26$ consider Substantial (Cohen, 1989)

$Q^2 > 0.00$ consider large (Hair, 2017)

CONCLUSION

Even though the influence of network ties on firm performance has been extensively examined in the literature, previous studies reveal mixed results of the relationship between network ties and firm performance. Furthermore, defining network ties is complicated. Therefore, this study attempted to identify the role of networking ties that may help the contractors to achieve superior performance. This study has the hypotheses development, theoretical framework and research design were designed to meet the research objectives. In this study, the researchers highlight the direct effect of business ties, enforcement inefficiency and government support toward contractors' firm performance.

Based on the results, business ties and government support are significantly related to the contractors' firm performance. Therefore, it appears that networking ties play the most significant role for contractors as business ties provide firms with the platform to market resources. Most importantly, business ties offer critical market information that is not accessible in an open market, e.g. product information (Heide & John, 1992), relevant events or changes in the market (Lusch & Brown, 1996), and information such as the trustworthiness of business partners (Poppo & Zenger, 2002). Next, business ties ensure close social interactions and communications that able to encourage learning and mutual adaptation between business partners,

promote knowledge transfer and technology acquisition (Rindfleisch & Moorman, 2001; Saxenian, 1996). A firm could increase its absorptive capacity and knowledge utilisation by integrating new knowledge with its existing knowledge (Cohen & Levinthal, 1990). Finally, business ties proved previous behaviour is visible and able to reflect firm's reputation, social ties enable the firm to obtain network legitimacy in the business community (Rao, Chandy, & Prabhu, 2008).

The government support also contributes significantly towards contractor firm performance in Sarawak. Authority's support explains to the extent on how the authority offers general and broad support to all or any firms (Li & Atuahene-Gima, 2001) including small contractor firms. Such public support differs from regulatory resources a firm can obtain through political ties. Thus, strong government support may reduce the worth of business ties (Amber & Witzel, 2004). If the authority provides excellent support to all or selected firms to facilitate economic exchanges, it is less necessary for the firm to depend upon political ties to achieve legitimacy and obtain a thing done (Rao, Pearce & Xin, 2005). In the global era, contractor firms must take advantage of the opportunities in an emerging market like Malaysia. Cultivating networking ties may be necessary to ensure the survival of contractor firms to address demand and institutional steeplechases. We hope future research will continue to explore other elements that may influence firm performance, especially issues on networking ties.

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PERCEIVED VALUE AND CUSTOMER SATISFACTION OF SMARTPHONE BRAND AMONG YOUTH: THE MODERATING EFFECT OF GENDER

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ABSTRACT

Advances in technology have made mobile phones develop into smartphones. It is undeniable that the smartphone has brought many benefits to users and has become an indispensable part of our daily work. This situation reflects the consumer nowadays hard to ignore the value of the smartphone. Hence, smartphone developers need to understand the value of smartphones, especially for immature groups such as youth in Malaysia. This is because values that are perceived as positive will drive positive results or vice versa. Unfortunately, far too little attention being stressed on this issue. Therefore, the current study is aimed to examine the relationship between perceived value and customer satisfaction in the context of youth smartphone users. Besides, the study also inspects the moderating effect of gender on the relationship between perceived value and customer satisfaction. In terms of data collection, a complete set of data received from 306 respondents via snowball sampling and analyzed by Statistical Package for the Social Sciences. The multiple regressions analysis result revealed all the five dimensions of perceived value have a positive influence on customer satisfaction. However, the social value was confirmed has a negative and significant effect on customer satisfaction. The moderated regression analysis results indicated that male is satisfied when they perceived high monetary value of the smartphone meanwhile female is satisfied with the smartphone when they perceived high emotional value acquired from using the brand

compared to male. Based on the findings, the study suggests that marketers and smartphone manufacturers need to take suitable marketing approaches for a different group of consumers (i.e. gender) to achieve customer satisfaction. It is also crucial to understand the values obtained by consumers from using the smartphone brand. Knowing this may assist managers to develop a strong brand in the marketplace.

INTRODUCTION

Currently, there are more smartphone subscribers than fixed-line subscribers in the world due to the extraordinary growth beyond any degree (Rice & Katz, 2003) and at the present stage, mobile phone is considered as the most extensive household apparatus ever created (Mokhlis & Yaakop, 2012). Practically, smartphone users go everywhere with their mobile phones which make smartphones as their "sixth sense" which helps them in their daily activities. One of the main reasons for this dependency is smartphone is the importance of socializing. Socializing is a key gratification for users (Ji & Fu, 2013) and in this context can be seen as valuable when communicating with colleagues, friends, family or in business. This perceived value could be further looking at from the perspective of functional value, social value, emotional value, monetary value, convenience value and symbolic value. Since these values are important, smartphone companies are battling to control the market share through the promotion of one's brand to consumers. One of the main targets for such promotions is young consumers or modern youth.

The smartphone is also becoming more and more important to all categories walk of life and is regarded as having the highest adoption rates among technology in the modern history of the world (Comer & Wikle, 2008). Constant changes and upgrading of mobile technologies have provided consumers with many choices to select and choose their smartphone based on their usage pattern and needs. Grant and O'Donohoe (2007) noted while marketers are excited by the reach and possibilities of personalization offered through the mobile phone, however, young people associated commercial appropriation of this medium with irritation, intrusion, and mistrust. The importance of mobile phones to younger segments of the population has certainly been recognised by marketers, who view this as a communication channel with huge potential (, 2007).

LITERATURE REVIEW

Perceived Value

In the technology adoption studies, the perceived value is important to understand consumer behaviour (Yu, Lee, Ha, & Zo, 2017). In the past studies, researchers have been conceptualized perceived value based on unidimensional approach (Zeithaml, 1988) and multidimensional construct (Sheth, Newman, & Gross, 1991; Woodruff, 1997; Sweeney & Soutar, 2001). For instance, researchers (e.g. Caruana & Fenech, 2005; Howat & Assaker, 2013; Chen & Tsai, 2008) have been conceptualized perceived value based on unidimensional approach adopted from Zeithaml's (1988) conceptualization of value, which is emphasized on price monetary value. Zeithaml (1988) defined perceived value as "the customer's overall assessment of the utility of a product based on their perceptions of what is received and what is given" (pg. 14). Helander and Ulkuniemi (2012) stated that customer perceived value always been emphasized as sacrifices and benefits from customer's subjective evaluation which involved in a business transaction. Traditionally, the unidimensional approach of perceived value has been operationalized or measured based on a reasonable price, acceptable, value for money and economical (Sweeney & Soutar, 2001).

Sweeney and Soutar (2001) conceptualized perceived value construct based on four dimensions, namely functional value (performance/quality), price/value for money, emotional value and social value. Sheth et al. (1991), on the other hand, proposed five types of consumption values that influence consumer choice behaviour. They are functional value, social value, emotional value, epistemic value and conditional value. Both Sheth et al. (1991) and Sweeney and Soutar's (2001) approaches shared similar views in terms of the conceptualizations of functional, social and experiential/emotional value constructs. Several researchers have integrated the work of Sweeney and Soutar (2001), and Sheth et al. (1991) consumption values concept (e.g. Pura, 2005; Lin & Huang, 2012; Koller, Floh & Zauner, 2011). For example, Pura (2005) conducted a study in the context of the mobile service industry and conceptualized perceived value construct consisted of six dimensions, i.e. emotional value, social value, conditional value, monetary value, convenience value and epistemic value.

Based upon the above view and discussions of perceived value, the current study adapted Sweeney and Soutar's (2001) conceptualization of perceived value and incorporated the dimension of convenience value from Pura's (2005) work. The current study also extends Sweeney and Soutar's (2001) conceptualization of perceived value by distinguishing the concepts of symbolic value and social value. More specifically, the social value in the present study emphasized the need for social approval concept, while symbolic value focuses on the aspect of status, role position and ego identification. This assumption is in line with the study of Bhat and Reddy (1998), who stated that the symbolic construct can be viewed as two-dimensional concepts, one dimension representing the prestige of the brand and the other expressing the user's personality.

In summary, the current study focuses on six dimensions of perceived value namely; functional value, social value, emotional value, monetary value, convenience value, and symbolic value. These perceived values are considered important that need to be further explored in the context of a smartphone, to see whether the aforementioned dimensions will lead to the formation of customer satisfaction. Besides, the moderating effect of gender on the relationship between perceived value and customer satisfaction is also investigated. Each of these dimensions of perceived value will be discussed below.

Functional Value

Sheth et al. (1991) described functional benefits as "the perceived utility acquired from an alternative's capacity for functional, utilitarian or physical performance" (p. 160). Hence, the product values are expected to be high quality, efficient, reliable, practical, easy to use, durable and good performance (Lawson & Balakrishnan, 1998). Similarly, Sweeney and Soutar (2001) defined functional value as the benefits obtained from using the products in term of perceived quality and expected performance. It was noted that functional value appeared to be the key driver of consumer brand choice (Sheth et al., 1991) when the "attribute performances of a technology product are useful, easy to use, and innovative" (Yeh, Wang & Yieh, 2016, p. 248). Deng, Lu, Wei, and Zhang (2010) also described functional value as the practical and technical benefits acquired from using mobile instant messages various functions such as sending messages, voice chatting, sending media files (photo, image, video, audio), browsing news, etc. Furthermore, these researchers have found that functional value has a strong influence on customer satisfaction towards mobile instant messages service in China. This has been supported by Haba, Hassan and Dastane (2017) whereby they indicated that "smartphone can be useful to a consumer when it demonstrates the

satisfaction of consumer by using a particular smartphone" (p. 50).

Emotional Value

The emotional value of the brand represents the perceived utility acquired from the product's ability to stimulate feelings or affective states such as pleasure, excitement, fun, romance, passion, comfort or fear (Sheth et al., 1991; Sweeney & Soutar, 2001). Similarly, Andrews, Drennan, and Russell-Bennett, (2012) defined emotional value as "an alternative acquires emotional value when associated with specific feelings or when precipitating or perpetuating those feelings" (p. 359). Previous scholars have agreed that the role of experiential consumption is crucial in influencing consumers' purchase decisions (Holbrook & Hirschman, 1982; Sheth et al., 1991; Sweeney & Soutar, 2001). For example, researchers have confirmed that emotional value has strongly influence customer satisfaction (e.g. Ariff, Hiew, Zakuan, Ishak, & Ismail, 2012; Deng et al., 2010), behavioural/purchase intention (e.g. Sweeney & Soutar, 2001; Pura, 2005; Ha & Jang, 2010), customer loyalty (Koller et al., 2011) and commitment (Pura, 2005).

Social Value

Social value has been defined as the perceived utility that leads to the association of customer with specific social groups (Sheth et al., 1991). Similarly, Sweeney and Soutar (2001) defined social value as the ability to enhance social self-concept of that particular good or service. According to Sheth et al. (1991), normally social value involved customer choice in the tangible products (e.g. goldsmith, smartphones, and personal computers) and that the products can be shared with others. In the study of mobile instant messages (MIM) context, Deng et al. (2010) referred social value as the benefits that users can feel or acquired when they connected to others by using MIM. Furthermore, the researchers suggested that communication through MIM (e.g., creating

group chats among a circle of friends or relatives and families) will increase the sense of belonging for a certain group as well as families and this benefit may consequently enhance the perceived social value of using a smartphone. Furthermore, Yeh et al. (2016) stated that by sharing the smartphone usage experience, the users can improve their social value in term of consumers' interpersonal interactions.

Monetary Value

Price usually refer to as monetary value (Raji & Zainal, 2017). Sweeney and Soutar (2001) described price/value for money as "the utility derived from the product due to the reduction of its perceived short term and long-term costs" (p. 211). Lim, Widdows and Park (2006) also have the similar view towards economic value (monetary value) where it is related to the perception on the economic benefits received by the consumers and the level of satisfaction in this value could lead to the future decision (e.g. repurchase or recommend the brand). Deng et al. (2010) justified monetary value by the level of satisfactory in term of cost, time and effort in using a specific product or service. Several studies have investigated the influence of price, in terms of value for money, on customer loyalty in the services industry setting. For instance, price (operationalized as monetary value) was shown to have a direct and significant impact on behavioural intention in a location mobile services context (Pura, 2005) and customer loyalty in the context of a dental service (Caruana & Fenech, 2005).

Convenience Value

Pura (2005) described convenience value as the "ease and speed of achieving a task effectively and conveniently" (p. 516). Meanwhile, Haba et al. (2017) indicate that the convenience of the devices can enhance a person's efficiency or performance. More specifically, the researcher suggests that this dimension of perceived value relates to the

accuracy and ease of getting information, time saved and the convenience of searching specific locations at specific times by using the mobile services. Ting, Lim, Patanmacia, Low, and Ker (2011) highlighted that consumer needs to use the smartphone disregards of time and locations. In the meantime, Anderson and Srinivasam (2003) stated that customers expect convenience ways in getting information from the service provider which leads to the lesser cost involved. In the study of touristic location-based services, Neuhofer (2012) found that convenience value has a positive effect on attitude toward location-based services. Also, Pura's (2005) findings showed that convenience value has a significant influence on behavioural intentions to use location mobile services.

Symbolic Value

In the brand management concept, Park, Jaworski, and MacInnis (1986) defined symbolic needs as "those who desire for products to fulfil their internally needs for self-enhancement, role position, group membership, or ego-identification" (p. 136). Several researchers also have noted that consumers may purchase a particular product for reasons other than the functional aspect of the product, but they are often motivated to purchase a product based on symbolic appeal (Gardner & Levy, 1955; Park et al., 1986). Researchers have examined the influence of symbolic values on purchase behaviour (Hsieh, Pan, & Setiono, 2004), customer satisfaction (Liang & Wang, 2004), repurchase intention (Tsai, 2005) and brand preference (Salciuviene, Lee, & Yu, 2007). For example, in a study within the automobile industry, Hsieh et al. (2004) found that symbolic appeal has an impact on brand purchase behaviour. Also, Tsai (2005) found that symbolic values have a direct effect on the repurchase intention of jeans, computers and coffee. A study conducted by Salciuviene et al. (2007) also found that the symbolic benefits of the brand (i.e. status representation, style association, career style representation and personal style representation) significantly impacted brand preference for laptop computers.

Customer Satisfaction

Most researchers agreed that customer satisfaction is an emotional response construct (Oliver, 1981; Oliver, 1997; Woodruff, 1997; Anderson, Fornell, & Lehmann, 1994). For example, Oliver (1997) described satisfaction as "the consumer's fulfilment response. It is a judgment that a product or service feature or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfilment, including levels of under or over fulfilment" (p. 13)., Woodruff and Jenkins (1987) conceptualized satisfaction as "a feeling developed from an evaluation of the user experience" (p. 305). All of the aforementioned definitions emphasize the consumer's affective response towards the product and the consumption experience, which is an important aspect of customer satisfaction. With regards to IT products like smartphone, Deng et al. (2010) stated that if the consumer has an overall positive experience in using that particular product, he or she will be satisfied with the product.

Gender

According to Baron and Campbell (2012), gender is a relevant variable in testing the usage of mobile phone. It is an interesting issues and gap to study the moderating effects between independent variables and the dependent variable (Deng et al., 2010). For example, Meyers-Levy and Maheswaran (1991) found out that male consumer like to focus on what they paid, which is monetary value. Meanwhile, Lim and Kumar (2008) stated that female consumers will focus on service quality and enjoyment in using mobile service. Therefore, it is noteworthy to investigate whether male and female have different perceptions of the perceived values and satisfaction towards the smartphone.

Conceptual Framework and Hypothesis

The purpose of this study is to examine the relationship between perceived value and customer satisfaction in the context of a smartphone. The study also examines the moderating effect of gender on the relationship between perceived value and customer satisfaction. The research framework for this study is illustrated in Figure 1.
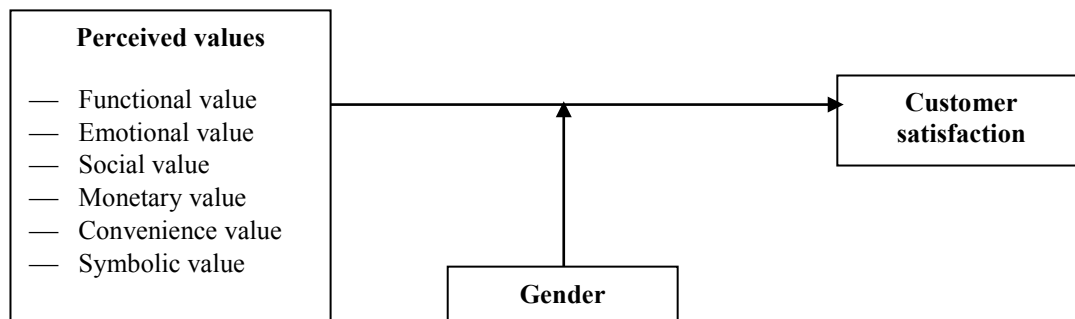
Figure 1 Theoretical framework models

a. The Relationship between Perceived Value and Customer Satisfaction

Tam (2004) mentioned that a high perception of value can result in high customer satisfaction. In Ariff et al. (2012) study, they found that perceived values (i.e. economic value, emotional value and social value) have significant effects on customer satisfaction in mobile phone service. Among these three dimensions of customer perception of values, emotional value is the most important factor that contributes to the formation of customer satisfaction. Lim et al. (2006) studies found that perceived social value does not influence customer satisfaction in the mobile service context. They stated that emotional value generally will affect the customer satisfaction in the service industry. Besides that, as per Lim and Kumar (2008) in their study regarding the age differences between mobile service user's perceptions, they indicated that economic value has a positive relationship with baby boomer's satisfaction. Therefore, Hypothesis 1 was drawn as:

H1: There is a positive relationship between perceived value and customer satisfaction.

$H1_a$: Functional value has a positive relationship with customer satisfaction.

$H1_b$: Emotional value has a positive relationship with customer satisfaction.

$H1_c$: Social value has a positive relationship with customer satisfaction.

$H1_d$: Monetary value has a positive relationship with customer satisfaction.

$H1_e$: Convenience value has a positive relationship with customer satisfaction.

$H1_f$: Symbolic value has a positive with customer satisfaction.

a. The Moderating Effect of Gender between Perceived Value and Customer Satisfaction

As mentioned earlier, male and female have different perception toward the attitude. However, there was still a lack of information and study on the moderating effect of gender on the relationship between perceived value and customer satisfaction. Therefore, Hypothesis 2 (H2) for this study was drawn as:

H2: Gender moderates the relationship between perceived value and customer satisfaction.

RESEARCH METHODOLOGY

Sampling and Measurement

The selected target populations for this study were the smartphone users among youth which in between the age of 15 to 40 which was set according to the Malaysian perspective. The Ministry of Youth and Sport stated that Malaysian who is in the age group classification between 15 to 40 years old is considered as a youth. The unit of analysis of this study was smartphone users, as they know better on perceived value factors that increase their satisfaction. Primary data was obtained through self-administered questionnaires survey. The questionnaires were distributed to a target population of smartphone users in the surrounding areas of Kota Kinabalu, Sabah using quota and snowball sampling method. The items used for measuring the functional, emotional and social values were adapted from Sweeney and Soutar (2001), symbolic values measurement was taken from Tsai (2005), the measurement items for monetary value were adopted from Pura (2005) and Alves (2011), convenience value items were adopted from Pura (2005) and Ting et al. (2013) and customer satisfaction measurement items were adapted from Oliver (1981). All of the measurements of the studied constructs are illustrated in Appendices A and B.

Data Analysis

a.   Profile of Respondents

More than half of the participants were female (58.80%) and among them, 7.90% were below 20 years old, 59.8% were in the age of 21 to 25, 26 to 30 years old (15.10%), 31 to 35 years old (8.70%) and 36 to 40 years old (8.50%). Most of the respondents possessed the qualification of Bachelor's degree (56.20%), Master's degree holder was consisted of 17.30% and followed by STPM or College Diploma qualification (19.90%). Majority of respondents are students, which consisted of 52.60%. A total of 29.10% of the respondents work in the private sector, while public sector employees consisted of 9.50%. With regard to brand preferences of smartphones, 29.4 % of the respondents used the Samsung brand followed by 24.2% the Oppo and 15.6% the iPhone. Huawei users were only 5.2%.

a.   Factor Analysis of the Studied Constructs

Table 1 and Appendix A show the factor analysis of perceived value. The remaining 27 variables of perceived value produced six factors with Eigenvalues more than one, which explained 72.56% of the total variance. The KMO value was 0.933 and Bartlett Test of sphericity was significant at 0.00. Meanwhile, the commonalities of the 27 variables ranged from 0.565 to 0.843, which fulfil the requirement of Hair, Black, Babin, Anderson and Tatham (2010). Overall, all of these six factors are valid in this study. Appendix A demonstrates the factor loadings of the items measuring each of these factors namely: functional value, emotional value, social value, monetary value, symbolic value, and convenience value.

The factor analysis of customer satisfaction produced one factor with eigenvalues of 4.19, which explained 83.90% of the variance (refer to Table 1 and Appendix B). The KMO value was 0.900 and Bartlett's test of sphericity was significant at 0.00. The communalities values of the five variables ranged from 0.804 to 0.886 and factor loadings of the variables were ranged from 0.897 to 0.942.

Table 1 Summary of factor analysis, reliability analysis, means and standard deviations
of the study constructs

Constructs	No. of items	KMO	Bartlett's test	Factor Loadings	Eigenvalues	% Variance explained	Cronbach's alpha	Mean	Std. Dev.
Functional value	5	.933	6284.08**	0.647 – 0.938	12.08	43.131	.894	3.99	0.75
Emotional value	6			0.628 – 0.985	2.85	10.174	.916	3.84	0.79
Social value	4			0.722 – 0.948	2.14	7.661	.915	3.33	0.99
Monetary value	5			0.516 – 0.892	1.35	4.83	.859	3.57	0.74
Symbolic value	4			0.789 – 0.915	1.03	3.689	.899	3.27	0.94
Convenience value	3			0.448 - 0.871	.86	3.074	.790	3.63	0.87
Satisfaction	5	.900	1558.65**	0.897 - 0.942	4.19	83.90	.951	3.89	0.88

Note: All items used a 5-point Likert scale (1 = strongly disagree and 5 = strongly agree or 1= very unlikely and 5 = very likely)

a.   *Reliability Analysis and Descriptive Analysis*

The Cronbach's alpha values for each of the six dimensions of perceived value were ranged from 0.790 to 0.916 and customer satisfaction have a reliability coefficient of 0.951. Table 1 also demonstrates the mean scores for six dimensions of perceived value and customer satisfaction varied from 3.27 to 3.99 and the standard deviation for all of the studied dimensions and construct ranged from 0.74 to 0.99.

b.   *Correlation Analysis*

In Table 2, the results indicate that all of the perceived value dimensions were positively correlated with customer satisfaction. Emotional value ($r = 0.726$, $p < 0.01$) has the highest correlations value, followed by functional value ($r = 0.675$, $p < 0.01$), convenience value ($r = 0.577$, $p < 0.01$), symbolic value ($r = 0.522$, $p < 0.01$) and monetary value ($r = 0.508$, $p < 0.01$). For social value, it is found to be moderately and significantly associated with customer satisfaction, which is $r = 0.381$, $p < 0.01$.

Table 2 Pearson correlation matrix of the study variables

	Variables	1	2	3	4	5	6	7
1	Functional value	1						
2	Emotional value	.695**	1					
3	Social value	.352**	.605**	1				
4	Monetary value	.460**	.453**	.335**	1			
5	Symbolic value	.451**	.619**	.704**	.391**	1		
6	Convenience value	.565**	.580**	.459**	.465**	.565**	1	
7	Satisfaction	.675**	.726**	.381**	.508**	.522**	.577**	1

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

c.   *Hypotheses Testing*

In this study, multi regression analysis was used to analyze the relationship between perceived value and customer satisfaction. Results in Table 3 indicated that 63.0% variances in customer satisfaction can be explained by perceived value ($R^2 = 0.630$, $p < 0.01$). More specifically, five of the dimensions of perceived value have positive influences on customer satisfaction, namely emotional value ($\beta = 0.454$, $p < 0.01$), functional value ($\beta = 0.222$, $p < 0.01$), monetary value ($\beta = 0.149$, $p < 0.01$), symbolic value ($\beta = 0.137$, $p < 0.01$) and convenience value ($\beta = 0.122$, $p < 0.01$). However, social value ($\beta = -0.174$, p < 0.01) has a negative and significant effect on customer satisfaction. Therefore, hypothesis $H1_a$, $H1_b$, $H1_d$, $H1_e$ and $H1_f$ are supported. However, $H1_c$ was rejected.

Table 3 Regression analysis of perceived value with customer satisfaction

Dependent variable	Independent variable	Std. Coefficients Beta (β)	*t*-value
Customer satisfaction	Perceived value:		
	Functional value	.222**	4.222
	Emotional value	.454**	7.608
	Social value	−.174**	−3.294
	Monetary value	.149**	3.563
	Symbolic value	.137**	2.484
	Convenience value	.122**	2.515
	R^2	0.630	
	Adjust R^2	0.623	
	Sig. *F*	84.871 ($p < 0.01$)	

Note: Significant levels: *$p < 0.05$, *t*-value = 1.645, **$p < 0.01$, *t*-value = 2.333

a.   Hierarchical Regression Analysis

Table 4 illustrates the results of moderated regression analysis of gender as a moderator on the relationship between six dimensions of perceived value and customer satisfaction. The R^2 change (0.643, $p < 0.01$) and *F* change (84.87%, $p < 0.01$) are significant in step 1 indicating a significant relationship between perceived value and customer satisfaction. However, in step 2, the *F* change found not significant, which illustrated that the moderator is not positively related to customer satisfaction. Finally, when the interaction terms were entered in step 3, the *F* change was found to be significant. Thus, the results indicate that gender has significantly influenced the effect of perceived value on customer satisfaction. Table 4 indicates that only two interaction terms, which are "gender × emotional value" and "gender × monetary value" were significant at $p < 0.01$ levels. However, the rest of the four interaction terms are not significant. Therefore, hypothesis H2 is partially supported.

In order to interpret the moderating effects, it is necessary to display those significant interaction terms graphically. The significant interactions graphs are depicted in Figure 2 and Figure 3. Figure 2 indicates the impact of emotional value on customer satisfaction is greater among female than male users. This finding suggests that female users are more satisfied when they perceived high emotional value when using the smartphone as compared to male users. Based on Figure 3, the graph shows that the perception of the monetary value positively affected customer satisfaction for both male and female groups. However, the impact is greater for male users compare to female users. This means that the male consumer group has greater satisfaction levels when they perceive higher levels of the monetary value of smartphone compared to the female users.

Table 4 Hierarchical regression results of the moderating effect of gender on the relationship between perceived value and customer satisfaction

Dependent variable	Variables	Std. beta step 1	Std. beta step 2	Std. beta step 3
Customer satisfaction	*Independent variable*			
	Perceived value dimensions			
	Functional value	.222**	.222**	.224**
	Emotional value	.454**	.451**	.567**
	Social value	−.174**	−.174**	−.200**
	Monetary value	.149**	.149**	.057
	Symbolic value	.137**	.138**	.117
	Convenience value	.122**	.122**	.100
	Moderating variable			
	Gender		−.013	−.021
	Interaction terms:			
	Gender × Functional value			.030
	Gender × Emotional value			−.249**
	Gender × Social Value			.057
	Gender × Monetary value			.138**
	Gender × Symbolic Value			.052
	Gender × Convenience value			.058
R^2		.630	.630	.650
Adjusted R^2		.623	.622	.634
R^2 Change		−	.000	.019
F Change		84.871	.126	2.683
Sig. F Change		.000	.723	.015

Note: Significant levels: *$p < 0.05$, **$p < 0.01$
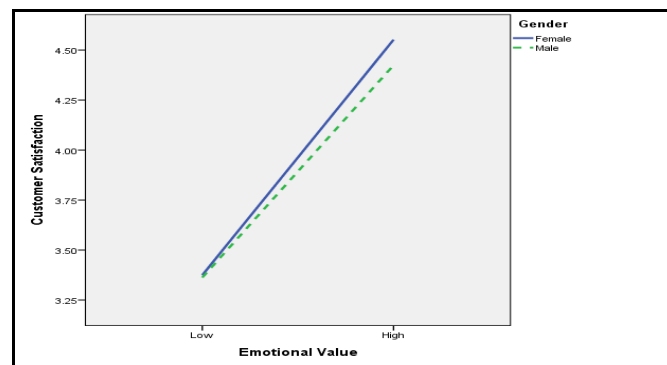
Figure 2 Moderating effect of gender on the relationship between emotional value and customer satisfaction

Figure 3 Moderating effect of gender on the relationship between monetary value and customer satisfaction

DISCUSSION

The discussion of the findings and implications for each of the six dimensions of perceived value (i.e. functional value, emotional value, social value, monetary value, convenience value and symbolic value) will be discussed below.

Results showed that the functional value of the smartphone brand has a strong influence on customer satisfaction. In other words, smartphone users will be satisfied and having loyalty intention toward the brand they choose when they perceive the smartphone brand has high functional value. This finding is in line with the report published by Euromonitor (2012), study whereby the new feature integration and the performance of smartphones can cater the needs for the consumers and create the intention for upgrading the features of their phone to a smartphone. Other than report, this result also analogous to the previous studies like the study conducted on toothpaste as a convenience product (Razak, Nirwanto, & Triatmanto, 2016), the role of customer value types for banking industry (Sahi, Gupta, & Lonial, 2018), and the role of customer value creation in the context of Ghanaian telecommunication operators (Mahmoud, Hinson, & Anim, 2018). This means that consumer will only purchase the smartphone's brand which associated with good functions, smartphone's function is useful and helpful in their daily routines, fulfilling the consumer need, convenient to use, and reliable brand. All these elements will help the smartphone producer to launch a high-quality smartphone.

The role of emotional value in purchase decision making have been strongly supported by previous researchers such as Holbrook and Hirschman (1982), Sheth et al. (1991) and Sweeney and Soutar (2001). Emotional value in this study relates to consumer perception of the value obtained from a brand as a result of its ability to stimulate feelings or affective states such as feeling delighted, feeling good and pleasurable. The results of this study are consistent with Lim et al. (2006), who found out that emotional value also have a positive influence on satisfaction in the context of mobile services. Same goes to the finding from Deng et al. (2010) in the context of mobile instant messages (MIM), the consumer also perceived emotional value towards the satisfaction of the service. In the case of a smartphone, the current study adopted six elements to be associated with the emotional value which includes enjoyable, interesting, pleasurable, stylish, feeling good, and delighted to form the customer satisfaction on smartphone's brand being purchased. Based on the findings, the emotional value was confirmed as the strongest element to form the customer satisfaction of the smartphone brand among youth in Malaysia specifically. This is happening because youth is situated at the period of transition from adolescence to early adulthood, the young people seek to establish their personas and form behaviour patterns, attitudes, and values, hence their consumption patterns (Grant & Waite, 2003; Mokhlis, 2009). Obviously, there are lacking in previous experiences can become their referral in buying decision-making process. Therefore, youth only can rely on the emotional value portraited by the brand.

Surprisingly in this study, the result discovered that social value has a negative and significant impact on customer satisfaction. This finding is contradicted with Pura's (2005) in the mobile service context. The researcher found that social values have no significant commitment. However, Yen (2012) claimed that social value has positively influence customer loyalty in the context of mobile services. The findings were consistent with Yang and Jolly (2009)'s and Lee, Lee, Kim, and Kim (2002)'s view whereby users can socialize and communicate with other users by using a smartphone and this consequently leads to satisfaction. Plausible reasons why social value has a negative and significant relationship with customer satisfaction in this

study is due to the rapid technology change of smartphone nowadays. Fast-changing of smartphone technology enables users to keep on consuming or changing their smartphone as this decreased the purchasing power among youth. Another possible reason for the finding is most of the respondents among youth have different priorities in terms of the intention of purchasing smartphone devices. For instance, the purchase of the latest model of smartphone devices will develop the sense of being different from other users, thus may result from being excluded from the existing social groups due to a different mobile application used. Consumers purchase their smartphone based on their needs and wants. Smartphones are a very powerful gadget which has the capabilities of constantly sharing information of users (e.g. GPS coordinates) which some users may find intrusive of their privacy and may have a negative social value to the user. These findings are consistent with Grant and O'Donohoe (2007) who suggested that young people may associate the commercial appropriation of this medium with irritation, intrusion, and mistrust which may lead to negative social values.

Additionally, the negative significant impact between social value and customer satisfaction of the smartphone brand among youth in Malaysia happened because smartphone brand failed to help the youth obtains any social approval. It may be caused by the limited effort been put on the social value associated with the smartphone's brand in the youth segment. Hence, smartphone's brand was found helpless for youth to be accepted by others, improved the way perceived them, and established a good impression on other people.

Concerning monetary value, the finding of this study has shown that monetary value has a significant effect on customer satisfaction. This has been supported by Ariff et al. (2012) and Lim et al. (2006) where they indicated that economic value has a positive relationship with customer satisfaction. In the context of a mobile phone or smartphone, price becomes one of the factors to be considered by the youth in the decision-making process to buy the smartphone. This finding is supported by Leelakulthanit and Hongcharu (2012) when consumer perceived more towards the benefits of a smartphone, then he or she will perceive the price is fair. On the other hand, if a consumer perceives the performance of smartphone exceed their expectations and offers a good value for money, hence the perception of the price will be more favourable (Voss, Parasuraman, & Grewel, 1998).

Convenience value in this study emphasizes on the perceived usefulness of smartphone. The smartphone users perceive convenience in emphasizing the ease of use, effective in time management, accomplish tasks quickly, convenient, and accuracy of information. The results showed that convenience value has a positive relationship with customer satisfaction. Pura (2005) suggested that time saved and convenience were important and valuable to smartphone users. Thus, smartphone users could gain satisfaction from the smartphone's brand by perceived convenience value. For example, students may perceive higher convenience value in acquiring learning materials from school or college anywhere they go (e.g. browsing the internet to get information) by simply using a smartphone.

The present study finds that symbolic value has a positive effect on customer satisfaction concerning smartphone uses. Nowadays, smartphone device has become a "fashion" product that expresses themselves, especially for young consumers (Katz & Sugiyami, 2006; Wilska, 2003). In other words, owning a smartphone symbolizes lifestyle and taste. In the present study, most smartphone users are in between the age of 21 to 25 years old. Therefore, this indicates that young users can be described as "vanguard of fashion".

Gender, Emotional Value, Monetary value and Customer Satisfaction

The finding of this study indicates the impact of emotional value on customer satisfaction is greater among female than male smartphone users. This finding suggests that young female users are more satisfied when they perceived high emotional value when using the smartphone compared to young male users. In other words, a female consumer is more concerned about how the smartphone brand able to make them feel delighted, good and pleasure as compared to male consumers. This finding has been supported by Lim and Kumar (2008) whereby they stated that female consumers will focus on enjoyment (emotional value) in the context of mobile services.

A possible reason why female and male consumers have different levels of satisfaction towards the perception of the emotional value associated with a brand is probably due to personality differences among female and male themselves. Female consumers are more likely to express sincerely on how they feel about a certain product or brand that offers them more values. This finding also in line with the suggestion of Walsh, White and Young (2008), who noted that the usefulness and enjoyment of using a mobile phone can fulfil female emotional needs such as to keep in touch with their friends and family or play with their smartphone (entertainment) when they feel lonely. The results of the current study also indicate that perceived monetary value associated with the smartphone brand generates a high level of satisfaction effects for the male users compared to the female users. This means that when the male consumers perceive the price that they paid for the product is fair and reasonable; the more likely they will feel satisfied with the brand. Previous studies have found that perceived value (monetary value) is positively related to customer satisfaction in the context of service industries (e.g. Caruana & Fenech, 2005; McDougall & Levesque, 2000).

CONCLUSION

This study is carried out to gain a better understanding of the relationship between perceived value and customer satisfaction in the context of smartphone uses. Moreover, the study of cognitive-affective-conative loyalty model by Oliver (1997) has been explored by examining the moderating effect of gender on the relationship between perceived value and customer satisfaction. The current study adapted Sweeney and Soutar's (2001) conceptualization of perceived value and incorporated the dimension of convenience value from Pura's (2005) work as well as Bhat and Reddy (1998) suggestion of symbolic value which focuses on the aspect of status, role position and ego identification. Results of this study confirmed that five dimensions of perceived value have a substantial influence on satisfaction in term of a smartphone. The results of this study also demonstrate that gender moderates the relationship between several dimensions of perceived value and customer satisfaction. The result indicates that female consumers were found to have greater levels of satisfaction with the smartphone brand if they perceive the brand as having high emotional value while male consumers are more satisfied with a brand that has high monetary value.

This study proposes that companies must take the initiative to understand their users from different group perspectives (e.g. gender) to come up with a good marketing program to build a successful brand. Thus, it is important to understand the perceived value in term of functional value, social value, emotional value, monetary value, convenience value and symbolic value, customer and satisfaction to enhance the brand values and equity. Future research should also be directed to the understanding of social values with mobile technology. No longer can we expect the total positive relationship for social values because many variables may influence ones' social values compare to 20 years ago.

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Appendix A
Factor Analysis of Perceived Value

	Items	F1	F2	F3	F4	F5	F6
	Factor 1: Functional value						
1	The brand is reliable.	.938					
2	The brand has good functions.	.871					
3	The brand fulfils my needs.	.862					
4	The brand is convenient to use.	.731					
5	The brand is outstanding.	.647					
	Factor 2: Emotional value						
1	Using this brand is enjoyable.		.985				
2	Using this brand is interesting.		.939				
3	The brand gives me pleasure.		.883				
4	I feel good when I use this brand.		.747				
5	The brand makes me feel delight.		.643				
6	The brand is stylish.		.628				
	Factor 3: Social value						
1	The brand gives me social approval.			.948			
2	The brand helps me to feel accepted by others.			.884			
3	The brand improves the way I am perceived by others.			.799			
4	The brand makes a good impression on other people.			.722			
	Factor 4: Monetary value						
1	It is economical to use this brand.				.892		
2	The brand offers value for money.				.867		
3	The brand is good for the current price level.				.850		
4	The price of this brand is acceptable.				.812		
5	Compare with other brands, I consider that I received good quality for the price that I pay.				.516		
	Factor 5: Symbolic value						
1	The brand prevents me from looking less prestigious.					.915	
2	The brand enhances the perceptions that I have a desirable lifestyle.					.894	
3	The brand indicates that I am a person with taste.					.818	
4	The brand helps me to better fit into my social group.					.789	
	Factor 6: Convenience value						
1	I would prefer bring brand *X* rather that laptop to school/class/working place.						.871
2	Having a brand *X* is like having both a mobile phone and a computer together.						.784
3	Using this brand *X* can let me accomplish tasks more quickly.						.649
4	Using this brand is an efficient way to manage my time.						.448
	Eigenvalue	12.08	2.85	2.14	1.35	1.03	.86
	% of variance	43.13	10.17	7.66	4.83	3.69	3.07
	Total variance explained	72.56					
	Measure of sampling adequacy	.933					
	Bartlett's test of sphericity	6284.08					
	Significant	0.00					

Appendix B
Factor Analysis of Customer Satisfaction

Items		Factor loadings
Customer satisfaction		
1.	I think I did the right thing by using this brand.	0.942
2.	I am very satisfied with my decision to use this brand.	0.926
3.	I think I did the right thing when I purchase this brand.	0.912
4.	Overall, my feeling to this brand is satisfactory.	0.902
5.	My choice to this brand is a wise one.	0.897
Eigenvalue		4.195
% of variance		83.902
Total variance explained	83.902	
KMO measure of sampling adequacy	0.900	
Barlett's test of sphericity	1558.653	
Significant	0.000	

EXAMINING THE RELATIONSHIP BETWEEN PUBLIC SPENDING ON EDUCATION AND UNEMPLOYMENT PROBLEM IN NIGERIA

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ABSTRACT

Much of the problems of unemployment in the past have been placed on the inadequacy of the country's schooling system to be able to impact needed skills. Empirical and theoretical evidence is overwhelmingly in support of the significant role of public expenditure in education having a multiplier effect on employment. Empirical evidence shows that this is not consistent in a macroeconomic framework. Government has been indicted for not doing enough to support education with its budgetary shortcomings to the sector. This study investigates the impact of government spending on unemployment in Nigeria. OLS estimates adopted for secondary data regressed over the 27 years for unemployment, federal government recurrent expenditure on education and economic growth indicated that while growth is significant and indeed influence unemployment negatively in line with our a-priori expectation, it is not the same for the impact of public expenditure on education. Our findings from this were that while Nigeria's educational capacity has increased, its impact is shallow as the economy is unable to absorb the graduates. To address this anomaly, the government will need to enhance its effectiveness through creating adequate channels for enterprise growth and sustainability which will increase the latter's capacity to employ more labour.

INTRODUCTION

Macroeconomic objectives of governments are basically directed at attainable a sustainable development engendered by stable economic growth. As such, while economic growth speaks to institutional stability and viability, development talks about human welfare, as the achievement of the desired economic growth enhances the overall development of the people and society (, 2002). Investment in education is imperative to a sustainable economy. A sustainable economy is, in turn, able to stimulate desired development, so that both the macro-economy and the micro-economy touch at ends to impact the final objective. It is therefore agreed that there needs to be tremendous growth in per capita income and economic productivity by investing in human capital development of labour through training and value-based education.

The United Nations Development Programme (UNDP, 2005) has noted that huge gaps yet exist in educational opportunities the world over, which should be seriously considered being aware of the fact that an estimated 115 million children globally are denied access to the most basic primary education with the largest percentage of these children in South Asia and sub-Saharan Africa (SSA) regions. And indeed, for the developed and developing countries, educational access and quality are getting larger, while creativity further inequalities for poor quality education.

It must be noted that that while human capital investment is necessary to attain sustainable economic growth, the onus is on the government to not only drive this but also lead it, thus emphasising that greater consideration should be given to the adequacy of expenditure on people development (Weisbrod, 1962). While Nigeria boasts of economic growth, being the largest economy in Africa as such, her growth has been regarded as an 'economic growth without real growth' owing to its lack of real impact on the whole economy as it did not create jobs. There is a firm linkage between education and the economy, with the former regarded as the most important driver of the latter.

While there had been increased private sector entry into secondary and tertiary education sub-sectors, as well as government expansion of tertiary education even across career domains, these have not been enough to cater for the country's educational demand, neither had there been an improvement in its quality. To explain better, years of neglect and educational disinvestment following bad policies have left a large gap between where the country was and the endpoint of its development goals. In Nigeria, expenditure on public education to total public expenditure in the years 1970 and 2010 was averaged at 5.72 per cent, while the mean economic growth rate for the same period was 0.6 per cent, which means that it would take over a hundred years for the country to double its 1970 per capita income at this growth rate (Central Bank of Nigeria [CBN], 2009).

While government policy decisions are important for the profitability and sustainability of businesses, human capital investment is also crucial in creating a pool of skilled labour force and highly educated manpower. Thus, educational financing has a critical implication for employment. Unemployment has both private and public consequences. Timothy (2016) noted that the lack of income affects the life of the person and it spells a negative impact on the nation's fiscal planning, on both expenditure and tax. The idea behind the demand for highly skilled manpower by countries like Canada, Australia and the United Kingdom could be situated in the aforementioned education-income relationship.

The concerns above have triggered an important question which we attempt to answer in this study, and are critical to this study: how effective is expenditure on public education in reducing unemployment?

Hence, the main objective of the study was to determine the level of government spending on education which will reduce unemployment in the country. The following null hypothesis was therefore tested, that 'public spending on education has no significant effect on unemployment in Nigeria'.

This study is based on data obtained on Nigeria between 1991 and 2017 regarding government spending on education (recurrent) which is provided in the annual budget of the federal government, the unemployment rates, the gross domestic product (GDP) as well as its annual growth rates, for the 27 years under review.

REVIEW OF LITERATURE AND THEORIES

Education and the Outcome: A Literature Diagnosis

Education has twin nature: it is largely a social good (more especially for developing countries) though with immediate private benefits as it impacts the income of the possessor of the educational good directly. So, a well-educated labour force is a better-skilled manpower with enhanced economic potency and possibility of expansion to accommodate more workers with innovation and creativity setting in (Mukherjee, 2007;, 1999).

Educational outcomes refer to the goals of learning and development, upon which general education programmes are based, which include knowledge, skills, attitudes, and values that learners require to be successful on the job, in family and their communities. They also mostly refer to what learners should know, understand, and be able to do to be educated and to meet the demands that the future will place on them, of the complex, diverse, and globally interdependent world of the twenty-first century, speaking to their core abilities and competencies (Board of Governors of Missouri State University, 2020).

Education provides the ladder for employment and better opportunities at lifelong employment and income. The labour participation rate increases with the level of education attained by individuals, and of course the income level is positively impacted. Differences in pay are often associated with either human capital (that is educational qualifications) or knowledge capital (further training and experiences), being the differentiators. Evidence abounds that qualifications are often tied to incomes, which by extension are linked to workers' unequal endowment in human capital (C&K Careers, 2015). As such, the traditional theories of human capital noted that workers are paid based on their marginal productivity, and more educated workers logically earn higher wages because they are supposedly more productive (Siphambe, 2000; Diagne, 2006).

While establishing an analogy between human capital and physical capital, many research outcomes have indicated the enormous role of education in the standard of living as countries that invest and drive education more have richer citizens than those which do not (, 2004). This is because education has the power to transform its recipients, by endowing beneficiaries with the capability to comprehend new information and adapt one's behaviour accordingly, thereby making it easier for enhanced skills and new technological adoption for the greater good of the economy. Emphasising the good fit of education, Öztürk (2005) though identified four areas where education makes sense to the economy, six broad areas on the economic benefits of education are however identified as follows: (i) it increases the efficiency of labour and thus production vis-a-vis scientific and technological innovations; (ii) it develops individuals' skills set; (iii) it enhances the ability to adapt to current business realities; (iv) it enhances knowledge transfer; (v) it encourages and induces healthy and admirable lifestyles for the educated in the society; and (vi) it enhances a good

socio-economic development of the society, for example, in that since the fertility rates of educated families are low, which leads to an improvement on income distribution and prevents poverty, population growth will be balanced resulting in high savings per capita, which positively contributes to the economy (Öztürk, 2005; İnaç, Güner, & Sarısoy, 2006; Sari, 2002).

a. Education and Human Capital Formation

Today's market demands are dynamic and so require varying degrees of skills, which also require an endless manpower development. Since Nigeria has a very youthful population that requires in-depth skill training right from the pre-tertiary educational level, there is also the need to upskill the existing workforce. This is because a higher level of education increases the opportunity for the unemployed population to gain employment whether as self- or by an employer.

Education is defined as a process which generates general knowledge and human capital as an outcome (Figueroa, 2015). The importance of education and training in the modern economy is emphasized in today's automation of business activities all over the world that has seen increased productivity and a great cross-border movement of goods and services (, 2014). Education increases the number of knowledgeable workers by improving their skills and preparing them adequately for new challenges. Enhanced manpower capacity through education and training reduces the unemployment rate while also increasing income level and of course enhancing the standard of living of the people.

Human capital is explained in terms of workplace skills possessed by the labour force. And as explained, as a by-product of educational input which Figueroa (2015) refers to as an economic process, human capital is an important machinery and innovation (like machines and technology) in the production process, while also, higher human capital indicates higher labour productivity and higher incomes for the labour force, and in a way, higher human capital also necessitates a greater period of schooling which enable labour the basic capacity to learn skills (Figueroa, 2015). Figueroa (2015) noted as well that there could not have been an innate capacity to discharge productive activities as workers but because people invest in acquiring it through education (Figueroa, 2015). Thus, education provides both the mill and the tools for human capital formation.

b. Education and the Nigerian Situation

The narrative on education and unemployment in Nigeria is told around youth population in the country, and the perspective is given by Akande (2014) in a Brookings blog appears to underscore the relationship between youth, education and joblessness. Nigeria's huge population is close to 200 million and is made up of about 50 per cent youth (age bracket 15-34 years), but this also accounts for much of the unemployment rate with as much as two-thirds of unemployed youth between 15 and 24 years of age (Akande, 2014). He further analysed that youth unemployment is predominant in the rural areas which have less educational opportunities than those in the urban.

Beyond primary and secondary schooling, access to higher education in Nigeria has remained inadequate, as the country continues to have a little percentage of prospective students not being absorbed year-on-year. For example, just about 29.26 per cent candidates were admitted into higher educational institutions in 2015 (415,500 candidates got admitted out of 1.42 million applicants), while the capacity of the private institutions is still limited as evidenced by its ability to admit only 9,656 applicants in 2016 from the pool of over 1.5 million applicants, with the backlogs still growing and the skills shortage yet remains unsolved (, 2018).

Table 1 Economic accounts of GDP, economic growth, unemployment and government effectiveness in Nigeria

Year	GDP on education at current basic prices (NGN billion)	Total nominal GDP at current basic prices (NGN billion)	GDP on Education at Current Basic Prices (%)	Unemployment rate (%)	Public expenses on education (NGN billion)	GDP growth rate (%)	government effectiveness index (band of −2.5 to 2.5)
1991	9.89	596.04	1.659905	3.562	1.659905	0.358353	−0.92
1992	25.48	909.80	2.800288	3.562	2.800288	4.631193	−0.92
1993	37.09	1,259.07	2.945969	3.826	2.945969	−2.03512	−0.92
1994	42.97	1,762.81	2.437587	4.016	2.437587	−1.81492	−0.92
1995	49.65	2,895.20	1.714921	3.947	1.714921	−0.07266	−0.92
1996	51.13	3,779.13	1.353007	3.951	1.353007	4.195924	−0.92
1997	55.38	4,111.64	1.346801	3.974	1.346801	2.937099	−1.02
1998	90.78	4,588.99	1.978158	3.992	1.978158	2.581254	−1.12
1999	104.15	5,307.36	1.962394	4.009	1.962394	0.584127	−1.02
2000	205.95	6,897.48	2.985936	3.954	2.985936	5.015935	−0.96
2001	260.17	8,134.14	3.198487	4.029	3.198487	5.917685	−1
2002	273.22	11,332.25	2.410951	4.11	2.410951	15.32916	−1.03
2003	300.57	13,301.56	2.259624	4.063	2.259624	7.347195	−0.96
2004	336.66	17,321.30	1.943619	3.98	1.943619	9.250558	−0.94
2005	383.82	22,269.98	1.723466	3.87	1.723466	6.438517	−0.89
2006	437.57	28,662.47	1.526632	3.666	1.526632	6.059428	−0.97
2007	491.61	32,995.38	1.489938	3.439	1.489938	6.59113	−1.04
2008	580.59	39,157.88	1.482695	3.424	1.482695	6.764473	−0.98
2009	694.10	44,285.56	1.567323	3.757	1.567323	8.036925	−1.21
2010	826.67	54,612.26	1.513711	3.77	1.513711	8.005656	−1.17
2011	1,110.72	62,980.40	1.763598	3.697	1.763598	5.307924	−1.1
2012	1,252.72	71,713.94	1.746832	3.693	1.746832	4.230061	−1
2013	1,549.93	80,092.56	1.935178	3.703	1.935178	6.671335	−0.99
2014	1,804.40	89,043.62	2.026428	4.437	2.026428	6.309719	−1.19
2015	2,116.35	94,144.96	2.247968	5.313	2.247968	2.652693	−0.96
2016	2,445.95	101,489.49	2.410054	6.237	2.410054	−1.61687	−1.09
2017[*]	2,590.86	113,711.63	2.278444	6.013	2.278444	0.805887	−0.96

Sources: Central Bank of Nigeria (2017); World Bank (2019a, b); *This was at 2017Q1.

c.   Nigeria's Unemployment Status

Nigeria has experienced an economic growth, albeit also after the rebasing of the economic indices of the country (though this has been described as jobless growth since it does not affect the economy itself). Table 1 provides the trend of Nigeria's economic estimates as related to unemployment and fiscal finances on education, showing that there had not been more differences to the spending on education, and where we have, unemployment had rather been rising. According to PwC Nigeria (2018), despite strong economic growth averaging 6.5 per cent between 2000 and 2017, Nigeria is still

faced with high unemployment, as average job growth was 1.6 per cent, weaker than labour force growth of 3.9 per cent between 2010 and 2017 (PwC Nigeria, 2018). This trend was not coincidental though as the unemployment rate in the country has been steadily high with 18.8 per cent in 2017Q3, representing an increase of 5 per cent points (that is, 13.88 per cent) over the same period in 2016 (National Bureau of Statistics [NBS], 2018).

Nigerian economy contracted by 1.7 per cent in 2016 as the country entered into recession due largely to the decline in oil production and fall in global oil prices, with the local currency (Naira) losing over than 50 per cent of its value; the GDP grew by 3.96 per cent in real terms in 2015Q1, year-on-year over and lowest in two years, so that at the end of the year, an estimated 7.5 per cent of the labour force remained unemployed (UNDP, 2016). UNDP noted further that Nigeria faces a rise in unemployment, going by the fact that it rose from 3.5 per cent in 2006 to 13.9 per cent in 2016Q3, with youth being the most impacted with as many as 20 million young people seeking for jobs (youth unemployment doubled from 12.7 per cent in 2006 to 23.9 per cent in 2011 (UNDP, 2016).

Education and the Input: A Government Call

a.   Public Good and Government Input

Government spending refers in short, to public expenditure, whether capital or recurrent, which means the outward movement of resources from government treasury to the designated recipient sector or project, as a means of achieving set goals through the provision of social and infrastructural services and facilities.

Mostly, the economic impact of development variables is influenced by the number of beneficiaries. As such, public expenditure is impacted by the population (size, width and composition), all-determining the per capita resource availability and the use of these resources.

b.   Educational Spending Overview

It is in this light that public spending on education has been advocated as important to the cause notwithstanding the financial input from the Education Tax Fund. Manpower development is positively related to economic growth (World Bank, 1980).

Indeed, spending on social goods like education has been established as being able to sustain economic growth while also enhancing development, knowing that such social goods cannot be provided effectively by the private sector or through the market economy (market failures and inherent inefficiencies), hence require the need for the provision of such goods through the state budget. While the need for government spending on education for manpower development has been established, in most countries, this has not been adequate, even though the United Nations Educational and Scientific Organisation (UNESCO) recommended between 15 per cent and 20 per cent of government budget allocated to the education sector (BudgIT, 2018). UNESCO may indeed have recommended a certain percentage of government total budgetary allocations in developing countries to education (as noted in the case of Swaziland), but different positions of between 15 and 20 per cent on one hand and 26 per cent on the other, or not making any recommendation at all are debatable (United Nations International Children Emergency Fund [UNICEF], 2017). According to Adedigba (2017), the clarification by Premium Times Fact Check did resolve this misunderstanding on the UNESCO' 26 per cent recommendation which the ministry of education contended, stating that none of the E-9 or D-8 countries[1] including sub-Saharan African (SSA) countries other than Nigeria, allocates less than 20 per cent of its annual budget to education, but hoped the country

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[1] The E-9 countries refer to Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan, while D-8 countries are Bangladesh, Egypt, Nigeria, Indonesia, Iran, Malaysia, Pakistan, and Turkey.

could achieve the minimum of 15 per cent benchmark in its next budget.

Premium Times indeed did a fact check[2] and corroboration to this was made by certain experts who also described the 26 per cent allocation to education as 'mythical', but that the recommended allocation came out of a 'localised' UNESCO meeting held in Nigeria sometime in the past, though he recommended a minimum of 30 per cent for the next 20 years to be able to repair the decay on the ground (Adedigba, 2017; Atueyi, 2015).

Public expenditure reflects the policy direction of a government, which could be executed as a monetary or fiscal choice (Dorotinsky, 2004). Renowned economists like Wagner as well as Peacock and Wiseman noted the role of government spending and economic growth and development, with the conclusion that at every point in time, government intervention is needed in the economy because of the imperfections that characterise the markets (Wagner, 1883; Peacock & Wiseman, 1961). As such, development variables will be able to trickle down to all – the rich and poor.

The Nigerian budgetary allocation for 2019 which was NGN620.5 billion, representing

about 7.05 per cent of a total budget of NGN8.83 trillion falls below the region 15 per cent to 20 per cent of the minimum recommended benchmark for developing countries by UNESCO, and in contrast with 2017 (which represented 6 per cent of the NGN7.3 trillion budget) and 2018 budgets of NGN398 billion and NGN448.01 billion respectively on education (Ameh & Aluko, 2019). In the report by ThisDay newspaper, the under allocation of public expenditure to education is not really different in the federating states with 33 states allocating 7.3 per cent of their combined total budget estimates to education in 2017 compared with NGN653.53 billion (that is, 10.70 per cent of NGN6.1 trillion) for 2016 which was allocated to education in Nigeria (Dipo, 2018). From all indication, education is at the backdrop of Nigeria's development, with federal government expenditure on education relative to its total expenditure having dropped from a high of 7.53 per cent in 2013 to a low of 6.65 per cent in 2016 (BudgIT, 2018).

It is understood that a workforce that is healthy and well educated will help Nigeria reverse the drift of debility and restore the economy on the path of inclusive growth, which will be strongly influenced by the accessibility of highly motivated and skilled labour, with the implication that based on the UNESCO's recommendation of between 15 per cent to 20 per cent of the nation's budget to education, budgetary allocation to the education sector for 2018 budget for example, relative to the size of the budget, should be increased from its abysmal 7.04 per cent which should rather have the budget at around NGN2.2 trillion as against the actual paltry budget of NGN606 billion (BudgIT, 2018).

The Theoretical Standpoints

a.   Structural Unemployment

Structural unemployment refers to a type of unemployment resulting from the discrepancy between the skills possessed by the unemployed population and the

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[2] Premium Times carried out a fact check by contacting the UNESCO regional office in Abuja to authenticate and clarify the 15 – 20 per cent versus 26 per cent benchmark debate, in order to verify the claims by media and researchers, as well as those of the policy makers. It the response of the spokespersons of UNESCO, Shola Macaulay and Alice Ateh-Abang, they made available some documents titled 'Education for All, EFA, 2000 – 2015: Achievement and challenges' and 'World Education Forum 2015 final report', which established that there was a recommendation close to that effect, noting that, "15 per cent to 20 percent is the international benchmark." According to Premium Times, while though many governments have increased spending on education, only a few have prioritized it in their in national budgets. Though, a 2000 – 2015 report tagged Dakar framework for action sought to increase educational funding significantly by governments band donors to accelerate progress toward the EFA goals, with the EFA high level steering committee proposing that 15 per cent to 20 per cent of annual budgets be earmarked for education. See Adedigba (2017).

available works in the labour market, which is caused basically by changes in the country's economy, with an attendant long-lasting effects, including an increase in the natural unemployment rate (CFI Education Inc., 2019). While frictional unemployment is defined in time by the period when workers move between jobs, cyclical unemployment explains the reasons for the rise and fall in unemployment during the respective recession and economic prosperity, and structural unemployment explains the reason for unemployment at other times even when the economy is good (OER Services, 2019). Structural unemployment takes place where a fundamental shift in the economy makes it difficult for certain population groups to find jobs. This could in this case refer to the youth in terms of skills gap caused by poor or low education (Amadeo, 2019).

While the causes of this type of unemployment could be traced to recession in some cases, in certain other cases, it could occur during periods of economic growth. Indeed, this problem is mostly related to technological advancement which alters the skills requirements against the technological-driven jobs so that the demand for certain jobs is reduced while others require re-skilling through training (Economy, 2017). It is a paradox of some sort though, where the country has a high unemployment rate yet there are vacancies in certain skilled jobs. Structural unemployment is also a result mostly attributed though to skill mismatch in the face of new technologies.

The solution to the problem of structural unemployment is traced to the government who is expected to invest massively in technological infrastructure which can aid growth and industrial establishments, as well as in research and formal education with new skills curriculum.

b. Adolph Wagner's Law of Increasing State Activity

Wagner's law is alternatively called the law of increasing state activity, which states that the functions and activities of government increase over time with economic growth and development, and these could be in the areas of administration of government and economic regulation, knowing well that: (i) the quest for modern and industrial society will result in the call for increased allowance for social consideration in the behaviour of industry; (ii) increased public expenditure will expand the public sector following a rise in national income; and (iii) the rise in public expenditure will in the initial phase of economic growth see to the state's activities expanding quite fast in several fields like education, health, social and infrastructural amenities, and so on, though this increase in state activities may slow down over time (Wagner, 1883).

Wagner analyses the trends in the growth of public expenditure and the size of the public sector, with a position that in the course of the industrialization (which indicates an era of modern industrial society), as the real income per capita of a country increases, the share of public expenditure to total expenditure increases, resulting in increased political pressure for social advancement. The bases for increased state expenditure considered by Wagner are industrialization process (where public sector activity will replace private sector activity, resulting in increased state functions like administrative and protective); the need for the state to finance social services like education, public health, social insurance and welfare packages; and technological change from increased industrialization which could lead to a monopolistic tendency by large firms. The resulting industrialization effects will have to be cushioned by providing social and merit goods provided by the state through budgetary activities. In all, Wagner noted that public spending as an endogenous factor is determined by the growth of national income (, 2013).

c. Musgrave and Rostow's Development Model

Rostow and Musgrave development model is of the view that fiscal policy influences economic growth through its impact on allocative efficiency, economic stability and income distribution. Thus, at separate times, Musgrave and Rostow proposed that the growth of public expenditure might be related to the pattern of economic growth and development in societies, highlighting three stages in the development process:

(i) the early stage of development that require substantial public expenditure on education and infrastructure (that is, social overhead capital), as private savings are inadequate to provide this financing (at this primary stage, it is expected that government expenditure must constitute a high percentage of total output), leading to a steady increase in government spending (Musgrave, 1999);

(ii) the second stage of rapid growth characterised by large increases in private savings, but with a proportionate fall in public investment; and

(iii) the full stage of high-income societies with increased demand for private goods which require complementary public investment (for instance, industrialisation and power).

The increased requirement in high-income societies for skilled labour leads education to become increasingly an investment good for society as a whole. And with increased population movements, there is a need to increase infrastructural development that could help private businesses and investments. Thus, an important need for increased public expenditure in relation to total output is required.

d. Maximum Social Advantage

Public expenditure has so much been politicized in the context of welfare maximization of the society. The law of maximum social advantage which states that, ceteris paribus, a rational person will distribute his given income on at least two goods in a way that the marginal utility of the last money spent on either good is the same. This principle is a derivative of the principle of equip-marginal utility. This explains one of the reasons for underfunding of education as being politicized as in the case of Nigeria, with politicians seeking higher funding for constituency projects and sectors of interest rather than seeking the point of maximum social benefit. Both the raising of revenue and public spending are often met with political criticisms without taking cognizance of the overall social advantage (Ngerebo, 2010).

Based on Dalton and Pigou's conditions maximum social advantage, the best system of public finance is one which guarantees the maximum social advantage, so that the social benefit from every unit spent on public expenditure is equal to the sacrifice for the last unit collected by way of revenue (tax).[3] The changes in the fiscal process will stimulate production for an increase in employment (with the added benefit of effective economic management, sound government fiscal functions and a viable standard of living), hence conferring maximum social advantage on the consumers, especially in the aspect of human capital development (Ngerebo, 2010).

e. The Endogenous Growth Theory

The endogenous growth theory (EGT) was propounded by Romer (1990) and Lucas (1990) and explained that to increase productivity, the labour force must constantly be supplied with more resources such as physical capital, human capital and knowledge capital (technology-based). That is, the primary determinants

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[3] See the Principle of maximum social advantage as explained on http://cms.gcg11.ac.in/attachments/article/78/Principle%20of%20maximum%20social%20advantage.pptx

of economic growth are population growth and the accumulation of human capital and knowledge, with emphasis by Becker and Schultz underlining the importance of education and training as human capital investments which are capable of enhancing productivity (Hayes, 2019; Becker, 1962; Schultz, 1961).

The stock of human capital determines the rate of growth. Human capital is explained in several ways: (i) being loosely defined as referring to knowledge, experience and skills of a worker; and (ii) an improvement on the existing human capital as a way of incentivizing workers for greater productivity (that is, human capital recognizes labour capital is not homogeneous) (Ross, 2015).

While this is so, the EGT might not in absolute scenario be a medium for the government to meet its social and constitutional obligations (even though private licensure could be granted to provide greater access to such 'social' services like health and education) since growth in this model is driven by technological change that arises from deliberate investment decisions made by profit-maximizing agents. The distinguishing feature of the technology as an input is that it is neither a conventional good nor a public good (it is a non-rival, partially excludable good). But recent technological advances and the COVID-19 pandemic has necessitated the need for massive investment in this direction.

The EGT holds that investment in human capital, innovation, and knowledge are important contributors to economic growth, with a focus on positive externalities and spill-over effects of a knowledge-based economy leading to economic development (Liberto, 2019). It basically explains that the long-run growth rate of an economy depends on policy measures, with education and research and development (R&D) increasing the growth rate in some endogenous growth models by increasing the incentive for innovation. Thus, productivity improvements can be tied directly to faster innovation and more investments in human capital, and as such, there is need for government and private sector institutions to nurture innovation initiatives while offering incentives for individuals and businesses to be more creative (, 2018).

Further to the above, Kenton highlights the principles of endogenous growth to include the fact that: (i) public policies' ability to raise a country's growth rate with the possibility to create more intense competition in markets and to stimulate product and process innovation; (ii) private and public sectors investments in R&D are key sources of technological progress (iii) capital investment like infrastructure and investment in education and health and telecommunications leads to increasing returns to scale; (iv) government policies enhance innovation and research, create room for entrepreneurship and new businesses to thrive, and being an important source of new jobs, investment and further innovation; and (iii) investment in human capital is a vital component of growth (Kenton, 2018).

METHODOLOGY AND DATA

Theoretical Review

The role of government in social welfare services like education involves public spending so as to maximize social welfare, and empirical data have been put to test the relationship between government spending on these social services and economic growth rate in line with Wagner's proposition that increased public spending leads to a rise in economic growth.

There is a positive relationship between growth in GDP per capita and each of human capital, of which the growth in GDP per capita is positively related to initial human capital

and investment, and negatively related to GDP per capita (Summers & Alan, 1988). It was also noted that the role of the fiscal policy along with the rate of economic growth significantly contributes to the endogenous growth, and by extension, public spending directly affecting private production functions (Barro, 1990).

In a study on the rise in government expenditure at the state level in the United States, it was shown from Wagner's law that the income elasticity of demand for public goods is greater than one, that is, public goods and services are luxuries, and further postulated that this is consistent with lower and middle-income groups (Yousefi & Abizadeh, 1992). Based on the above, it appears that the theoretical disposition of Wagner's law is able to annex the public spending economic relationship effectively, as optimal government revenues maximize economic and social welfare.

Works like Meltzer and Richard (1981), as well as and Tabellini (1990), considered the issue of public choice in the distribution of public good in order to make the government distribute social benefits efficiently. In their models, they explained the growth of government which leads to a large voter disposition and the way the government is satisfying the median voters which generate a relationship between economic growth and public spending. Along with this position, the decisive voter shifts towards their benefits with social benefits that include training enhanced skill, which leads to increased income and ultimately, resource redistribution (Meltzer & Richard, 1981; Persson & Tabellini, 1990).

Theoretical and empirical works have advocated the importance of public policy and development intervention in providing infrastructural development, which is able to support the society's needs for essential social services like schools, roads, water supply, electricity, and so on with education, jobs and health being the top priorities though, with

the need to support these by the secondary needs of the society (Mundle, 1998; Edame, 2008).

Scope and Data

Time series data for the period 1991 to 2017 on unemployment rates (in per cent), recurrent government expenditure on education (in NGN billion), GDP (in NGN billion) and GDP growth rates were employed, while government effectiveness was employed to capture the quality of political and economic governance provided by the government. The data were obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin 2017 and Wold Bank databank.

Public spending on education can be measured in many ways – a ratio of expenditure on education to total public expenditure, a ratio of expenditure on education to the gross domestic product, per capita expenditure on education, the total absolute value of budgetary allocation to education, and proportion of education expenditure devoted to the three levels of education. The emphasis in this study was on a modified version of the ratio of education expenditure to total government expenditure.

Measures of the variables employed are as follows: (i) public spending on education is measured as the ratio of public recurrent expenditure at current prices on education to GDP at current basic prices, (ii) unemployment rate, as being the total unemployment as per cent of the total labour force, using the ILO estimate, (iii) economic growth rate, which refers to the gross domestic product (GDP) per annual (in per cent), and (iv) index of government effectiveness as the last exogenous variable which is made up of the atmosphere created by the government for educational investment to thrive and business enterprises to succeed to be able to absorb labour. Wikipedia (2019), in a more elaborate term, says government effectiveness "measures

the quality of public services, civil service, policy formulation, policy implementation and credibility of the government's commitment to raise these qualities and keep them high."

The Model

The study adopts a regression technique where the model consists of the unemployment rates (U_e) in Nigeria (as the dependent variable), while the independent variables are recurrent federal government expenditures on education (PEdu), economic growth represented by the growth of gross domestic product (GDP_g) and the vector of control variables represented by government effectiveness (GEff) between the years 1991 to 2017. In econometric form, our estimated equation, associated with the growth model, is thus:

$$U_e = f(PEdu, GDP_g, GEff) \tag{1}$$

Or, in its functional form,
$$U_e = \beta_0 + \beta_1 PEdu + \beta_2 GDP_g + \beta_3 GEff + \xi \tag{2}$$

Where ξ is a stochastic error term.

Where β_0 is constant, and β_1, β_2 and β_3 are unknown parameters of interest, while ξ is the structural disturbance or error term in the model.

Our a-priori expectations of the above model are specified based on the exogenous growth theory of Lucas (1988) and Barro and Sala-i-Martin (2004) so that:

$$\delta U_e/\delta PEdu < 0, \ \delta U_e/\delta GDP_g < 0, \ \delta Ue/\delta GEff < 0,$$

indicating that the more the spending on education by the federal government, the lower we have of the unemployment rate. And the better the economy by having a consistent economic growth, the unemployment rate is also lower. Also, greater government effectiveness induces a more functional economy and thereby reduces the rate of unemployment in Nigeria.

REGRESSION RESULTS AND DISCUSSION

Results

Having analysed the above model, we present the results in our estimated model as follows:

$$U_e = 4.017 + 0.03PEdu - 0.066GDP_g \tag{4}$$

GEff was excluded from the model during the regression analysis.

Table 2 is a table showing the regression results of the analysed model. The model shows a very weak fit since it has an R^2 of 39.3 per cent. The explanatory variables explain only about 39 per cent of the variation in unemployment rate for the sample population of 28 understudies though the implication is that as much as 61 per cent of the variations in unemployment is left unexplained. Nevertheless, the lack of explanatory power does not mean other characteristics of public expenditure on education, economic growth and government effectiveness would not influence unemployment and have of course been included in the errors of the regression analysis (Wooldridge, 2013; Gujarati & Porter, 2009).

Table 2 Regression results of unemployment, economic growth and government effectiveness in Nigeria

Variables	Coefficients, *t*-values (in parentheses) and significance levels (asterisked)
Intercept	4.017 (20.537); 0.000*
InPEdu	0.003 (3.216); 0.004*
InGDPg	−0.066 (−2.333); 0.028*
R^2	0.383
F	7.456; 0.003*
DW	0.463

Source: Author

Further analysis indicates that at 5 per cent level of significance, *F*-statistic shows that the model is useful in determining the influence of public education and economic growth on unemployment in Nigeria as

shown by the computed F-statistic which is greater than the tabulated *F*-statistic (3,23) valued at 3.03. For individual variables, the coefficients and the associated *t*-values (at 5 per cent level of significance) showed that public spending on education is positively related to unemployment thus contradicting our a-priori expectation of the influence of public expenditure on unemployment, while economic growth is inversely related to unemployment which conforms to our a-priori expectation of this relationship.

Discussion of the Results

Observation of our results shows that there exists a positive relationship between public expenditure on education and unemployment in Nigeria. The reason for this result could be linked to the weak economic management which is explainable by country policy and institutional assessment (CPIA) with component factors stretching across macroeconomic management, fiscal and debt policy management, accountability, transparency and corruption – all related to poor governance, with deep economic implications, which could altogether negatively affect business licenses and operations, cost of doing business and business sustainability, and related economic issues.

These positions conform with the observations made on economic growth and unemployment in a number of studies by Levin (1983), Ghafar (2016), Riddell and Song (2011), as well as the research group, PwC Nigeria (2018) where they signalled that a boast of positive economic growth does not guarantee more employment opportunities, or a resolution of the unemployment crisis, like the case with Nigerian policymakers where the economic growth feat was referred to as jobless growth going by the fact that unemployment has further deepened over these years, nor does just education guaranteed this. Evidence on the impact of formal schooling on the unemployment rate is mixed as different factors could affect the impact of education on (un)employment, from years of schooling to certificate receipt (Riddell & Song, 2011).

It has also been well established that a weak economy which could not substantially support small businesses tend to brood a persistently high unemployment rate, with the fact that such type of unemployment is not cyclical but 'structural', because the unemployment problem is not a lack of demand for workers but rather a mismatch between workers' skills and employers' needs (Levin, 1983). The case study of Egypt substantially reflects the Nigerian situation as provided by Ghafar (2016) who noted that the problem of unemployment in Egypt was related to the government lack of strategy for absorbing tens of thousands of additional university graduates into the workforce, despite a bogus educational reform that spanned the primary to tertiary levels, and saw to the expansion of universities and their faculties and other educational expansion. So, during the 1970s reform era, Egypt's illiteracy dropped significantly but the numerical strength of students increased, which was overwhelming on the system and resulted in declined quality and skills-mismatch were the undoing of the human capital stock. The demand for the available skills was low from both the government and the private sectors, and further inappropriate 'neoliberal' economic reforms made matters worse.

Finally, reflecting on the position and analysis of Mishel (2011) who did not support in the entirety that the solution to structural unemployment is indeed educational (investment) even though the author expressed worry over a coming skills shortage, especially quality graduates when the economy is at full employment, with the reservations that available job openings are much fewer than prospective workers and cuts across all sectors, and the fact that the rise of long-term unemployment is not attributable

to any educational level. And while the challenge of high unemployment persists, it is not resolvable through better education and training for those currently unemployed but addressing the industry for lack of jobs.

CONCLUSION AND RECOMMENDATIONS

An empirical investigation on the impact of government spending on education in Nigeria was carried out using time series data and multiple regression analysis. The findings show that public spending on education is not significant in addressing the unemployment problem.

The result is hence a clear indication of some inferences: the mismatch between allocation to recurrent and capital expenditures on education, the inadequacy of the budgetary allocation to the educational sector, the mismanagement of these funds, and generally poor governance associated with providing a sound social, political and economic environment for businesses and enterprises to thrive, including the provision of viable policies and infrastructures. These would have to be put in place as there is need for government to make available a stable macroeconomic policy environment that would guarantee a healthy competitive business environment that is protective of local businesses, assures of competitive market pricing, ensures stable exchange rate, cheap and easy credit access and real sector growth. These are essential for business sustainability and will be well supported by an educated workforce.

Related to the above is the issue of non-accountability and corruption that create leakages and lead to economic inefficiencies. The place of the law should also be that government itself is subjective to it (rule of law).

Lastly, even though education seems to be the general path to being gainfully employed, the demand for skills globally has become broad-based. We reconcile this observation by emphasizing the role of specific skill development which can be achieved through either complementary investments and innovations that areas like information technology induce in our society as a general-purpose technology. Thus, conventional schooling is in many cases globally unable to address this kind of skills demand which is why the government should consider strong policy support for further education and training institutions as being practised in South Africa, to thrive and duly recognised as work acceptable qualifications, integrated into the country's national qualification framework as an institutional model in human capital development.

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THE STUDY ON THE LIQUIDITY TRAP IN CHINA'S MONEY MARKET

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ABSTRACT

This study aims to identify the liquidity trap and indicate the factors that affect money liquidity in China. A liquidity trap is an economical issue which is faced by lots of developed countries when their economy has achieved a certain stage of development, such as Japan, America and Europe. However, China as the fastest-growing developing country, some scholars suggested that its economy has also being trapped in a liquidity trap. Thus, to verify this opinion, monthly data of several important economic indexes were selected through a series of econometric process to indicate two major findings. First, the economy of China has not fallen into a liquidity trap. Besides, the interest rate and real estate price had a negative impact on the liquidity of money in China while the development of the financial industry had a positive contribution.

INTRODUCTION

Liquidity refers to the term used to describe how easy to convert assets into liquid assets, which mostly refers to cash because it can always be used easily and immediately. There are many indicators for the level of liquidity in a country. Liquidity of money in China can be explained by the speed of cash circulating in the market. In this study, the M1 currency over M2 currency was used to represent the liquidity of money. Based on this concept, the liquidity trap was in an extreme situation

in which the current interest rates were low and savings rates were high. The interest rate cannot effectively adjust the money demand, rendering monetary policy ineffective which was the assumption that was first proposed by Keynes.

An economy which has fallen into a liquidity trap would have several characteristics;

1. The general economic condition fell into a recession, serious shortage in consumer demand, high unemployment rate, the market cannot effectively adjust itself.

2. The interest rate has reached the lowest level, and the nominal interest rate has dropped significantly, even to zero or negative interest rate. Under the extremely low-interest rate, investors have a poor expectation of economic prospects and consumers have a pessimistic attitude towards the future, which makes the leverage effect of interest rate to stimulate investment and consumption ineffective. The reduction of the nominal interest rate by the monetary policy cannot start the economic recovery, the economic development can only rely on the loose fiscal policy and cutting taxes.

3. The interest rate elasticity of money demand tends to be infinite.

In a liquidity trap, the liquid assets or cash does not circulate in the market, the demand for money does not increase. This is because the decline in interest rate makes consumers choose to avoid bonds or any risky asset and keep their funds in savings because of the prevailing belief that interest rates will soon rise. Because bonds have an inverse relationship to interest rates, many consumers do not want to hold an asset with

a price that is expected to decline. Thus, it would lead to a recession on the financial sectors as well as the consumption of the domestic market in China because not enough money is found circulating in the economy while the consumption behaviour would also become conservative. If the economy is stuck in a liquidity trap in a long-run, form a macro perspective it would narrow the potential of the economy and have a significant negative impact on the economic growth of the country. In a micro perspective, it would limit the business activities and create problems to the capital chain of the enterprises.

CURRENT ECONOMIC BACKGROUND IN CHINA

During the past decade, the rapid growth of China has shown the world the potential of the Chinese economy. The growth mainly performed an increase in GDP (Gross Domestic Product), at 2010 the GDP of China overtook Japan and became the second-largest economy and remained with an average growth rate of 6 per cent each year. However, some economists argue that the development of the Chinese economy is unhealthy. This is because the government increases expenditure by implementing deficit fiscal policies. Most of the provincial governments and state-owned companies are running on high debt. Table 1 shows the financial report of the Beijing government which is one of the biggest cities in China.

Table 1 shows the income and expenditure in RMB from 2012 to 2016

Year	Income (100 million RMB)	Expenditure (100 million RMB)
2012	3,314.93	3,685.31
2013	3,661.11	4,173.66
2014	4,027.16	4,524.67
2015	4,723.86	5,737.70
2016	5,081.26	6,406.77

Beijing government accumulated 401.9 billion RMB debt within these 5 years and the situation was mostly similar in other provinces. Even though with the scale of China's economy being large, the increasing fiscal deficit would put the economy on the risk of the debt crisis. Besides, the loose monetary policies could not emerge broad credit, even though the market liquidity was eased. But funds were still pooling between banks and savings, not flowing into the real economy. That was mainly reflected in the recent resumption of repurchase agreement by the central bank, policy rates and market rates that appeared upside down and the credit expansion couldn't hedge the contraction of social financing.

The diminishing effectiveness of monetary policies on money demand has led to a growing concern that China could end up in a "liquidity trap" as Japan did in the 1990s. In fact, there were many macro similarities between China and Japan before they fell into the liquidity trap, including the transformation from high growth rate to lower growth rate, abundant liquidity but sluggish stock market, a large number of zombie enterprises, increasing aged-population, rising bad debt rate of banks.

Moreover, the real estate market also played a unique role in effecting the liquidity of money in China.

Table 2 shows the prices in RMB for every metre square

Year	Prices (RMB/ Metre square)
2012	17,021.63
2013	18,553.00
2014	18,833.00
2015	22,633.00
2016	27,497.00

Table 2 shows the average real-estate price in Beijing from 2012 to 2016, the average housing price per metre square in Beijing raised more than RMB 10,000 which is almost 60 per cent. The people who purchased land or house, the reasons were generally to stay or invest. For buyers especially, young people who purposed in staying, the increasing housing price would cost most of their savings as well as bank credits because their income could hardly support such an expense. For investors, increasing real estate gave them high expectation for higher return, so they would allocate more funds in the real estate market. To conclude, the high real estate price, an increasing amount of money that circulates in the market are attracted into real estate assets which have low liquidity. If this situation cannot be controlled effectively, it would become the factor that drags China's economy into a liquidity trap. By relating the theory of liquidity trap with the current China economic background, has China's economy fallen into a liquidity trap? The research objective of this study is to justify if the economy of China has fallen into a liquidity trap.

LITERATURE REVIEW

Past studies and economic theories selected the independent and dependent variable to be used in this study. The ratio between hard currency and board currency supply was used as the dependent variable to represent the liquidity of money in China. Besides, past studies suggested that interest rate, real estate price and the stock index would affect the liquidity of money in other economies. In general, the empirical findings of those studies supported the rationality of applying the selected variables to achieve our objectives. The study generally meant to define which are the factors that would affect the liquidity of money in China and is China's economy facing the risk of the liquidity trap. M1 and M2 money supply in China were used to calculate the ratio of M1 over M2. We use the economy indicator M1 (hard currency) over M2 (board currency) to indicate the liquidity of money because by referring to the definition of M1 and M2, the most liquid portions of the money supply are

measured by M1 because it contains currency and assets that can be quickly converted to cash while M2 is M1 plus "near money". It also refers to savings deposits, money market securities, mutual funds, and other time deposits. These assets are less liquid than M1 and not as suitable as exchange mediums. Thus, the ratio of M1 over M2 is able to indicate the percentage of the liquid asset in the market and assigned as liquidity of money.

Interest rates would have an impact on the liquidity of money in the market. According to the liquidity preference theory from John Maynard Keynes (1936), in the market economy, investors demand a higher interest rate or premium on securities with long-term maturities that carry greater risk because when all other factors being equal, investors would prefer cash or other highly liquid holdings which are easier to convert and worth their full values. Thus, the liquidity performance theory suggests that the investors would expect a higher premium from the long-run securities as opposed to short-term securities. In other words, the investors are trading off between their asset liquidity and return of the investment, higher interest would give investor stronger motivations to invest in less liquid assets.

On the other hand, based on the Keynes' assumption of the liquidity trap, the elasticity of money demand on the interest rate would close to infinity. Thus, to identify the relationship between the interest rate and M1/M2 will help to determine if the economy of China has fallen into a liquidity trap. Hall, Hondroyiannis, Swamy Tavlas and Ulan (2010) also used the same approach in their study identifying the liquidity trap in Japan. They applied RC (random coefficient) estimation and series of the econometric method to determine the linkage between the market interest rate and board money plus deposit (M2+ certificates of deposits). Both variables are converted into a log to show the elasticity of interest on money demand. Their result

suggested that during the estimation period, the interest rate elasticity of money demand has declined in absolute value in recent years, contrary to the liquidity trap hypothesis and that indicated that Japan hadn't fallen into a liquidity trap.

Real estate price played a unique role in effecting the liquidity of money in China. Real estate market attracted most of the investments and savings with its raising price. Liu Xing and Zhang Jing (2017) selected the monthly data of the real estate price of 11 major cities in China from January 2008 to December 2015 and indicated the relationship between them and their M2 demand within the same period. The result demonstrated only two cities-Hang Zhou and Shen Zhen respectively, the real estate prices were significantly affecting the M2 on 5 per cent of significant level with positive coefficients. That proved the real estate prices were positively correlated with the board money demand in those cities within the estimation period. However, Burdekin and Tao (2014) indicated that the increasing housing price in China is due to the expansion of liquidity in China. Their estimated VAR model showed a unidirectional causality from liquidity to real estate price in China.

Shanghai Stock Exchange index, as one of the major stock indicators, is able to perform the general condition of the stock market and economic development in China. Based on the result of the study from Grossman and Miller (1988) regarding the 1987 stock market crisis in America, they found the failure of the liquidity supply from New York stock exchange was one of the main factors that caused the drop of stock prices. Besides, Amihud and Mendelson (1991) also indicated that the stock crisis in 1987 severely affected the market liquidity of money in the United State market. Furthermore, by referring to Sun and Fan (2017), price change would also have "fly to liquidity effect", when the overall stock prices are having a negative growth,

investors would prefer to invest in the stock or financial product which carries a higher degree of liquidity instead of less liquid stock, it would also significantly crackdown the less liquid stock prices. Additionally, the liquidity trap could come from the loose of confidence or expectation from investors on the financial market, since stock index enables to reflect the general economic development as well as the financial market. Thus, the Shanghai stock exchange index is being selected as one of the essential cause that would affect the liquidity of money in China.

METHODOLOGY

Data

To analyze what factors are significantly affecting the liquidity of money in China's economy, by referring to the relative theory and past studies, three main economic indicators which are "M1/M2" the ratio of M1 currency in the total amount of M2 currency to measure the liquidity of money in China market; "Interest Rate", to identify the relationship between Interest Rate and liquidity is able to indicate if China's economy has fallen into a liquidity trap. "Real estate price", considering the special situation in China because the high real estate price, most of investment and savings flowed into real estate market, we want to define if there is any correlation between liquidity with the factor; "Shanghai Stock Exchange Index", as one of the main stock index in China is able to reflect the performance of the Chinese stock market as well as the overall of the economic performance.

Considering the accuracy and effectiveness of the study, we selected the data of the most recent years from 2016 to 2018. The frequency of the data is monthly the total population of the data is 36 for each variable. All the data are collected from the CEIC data website. For the variable "Real estate price" we choose percentage growth each month to directly search for the co-movement with the

liquidity of money in China.

Method of Analysis

Firstly, we applied a computer method to teste the unit root of our data and define whether a time series variable is non-stationary and possesses a unit root. Furthermore, based on the result of our unit root test, we applied the Johansen cointegration test which is for testing cointegration of several time series. Just like a unit root test, there can be a constant term, a trend term, both, or neither in the model.

To find out if there are any long-term trends amount the data and time series. The *p*-value will show how many cointegrations are in the relationship between independent variables. Then, we proceeded to FMOLS model to found out the long-run coefficient between our dependent variable (M1/M2) and independent variables (Interest rate; Real estate price growth; SSE index). The coefficient and *p*-value demonstrate the long-run relationship between the dependent variable and each independent variable. Additionally, based on the result of unit root and Johansen cointegration test, we applied VAR-VECM model to indicate the short-run relationships between our dependent and independent variables. When all of the variables are cointegrated at the difference, the VAR-VECM model can be demonstrated.

ECM is a theoretically-driven approach useful for estimating both short-term and long-term effects of one-time series on another. The term error-correction relates to the fact that the last period's deviation from a long-run equilibrium, the error, influences its short-run dynamics. Thus, ECM directly estimates the speed at which a dependent variable returns to equilibrium after a change in other variables in other word is it can indicate the short-run coefficient between our dependent and independent variables. Last but not least, we applied the Granger Causality test to find out the directional effects between a dependent variable and independent variables.

RESULTS

Initially, the unit root of the variables is stationary at first difference. Based on the findings, we continue to test for the cointegration between our dependent and independent variables. The result shows one cointegration equation was found. Furthermore, we apply FMOLS method to find out the long-term coefficient between our dependent variable and each independent variable. The result demonstrates interest rate and real estate price have a negative relationship with the liquidity of money in China while the Shanghai Stock Exchange Index has a positive relationship with the liquidity of money in China. Also, we applied error correction model named as VAR-VECM model, the test shows a negative coefficient and significant relationship which indicate the excess of the short-run relationship as well as determines the short-run coefficient between our dependent and independent variables. Finally, we applied the Granger Causality test to justify the Granger causality between dependent and independent variables. The result shows LT (liquidity) granger cause IR (interest rate) and SSE (Shanghai stock exchange index) while REP (real estate price growth) granger cause LT and SSE. IR has a bidirectional impact on IR and no relationship with SSE.

Cointegration Test

Based on the result of our unit root test, because all of the variables are stationary at first difference. We continued to test the cointegration between our variables. The cointegration is able to indicate the long-run linkages between the liquidity of money in China and IR, REP, SSE. By referring to the p-value, in both trace test and max-eigenvalue test are significant on 5 per cent of significant level with p-values of 0.0142 and 0.0249 in a condition of no CE is hypothesized. The null hypothesis is "There is no cointegration between the variables" and we rejected the null hypothesis and accept the alternative which is "There is a cointegration between variables". To summarize, only one cointegrating equation is found on the 5 per cent of significant level. To summarize, the result indicates that there is long-run cointegration between the liquidity of money China and selected economic or financial indicators. The result of the Johansen cointegration test indicates there is a long-run relationship between M1/M2 and IR, REP, SSE. In this section, we applied FMOLS method to define the long-term coefficient between the dependent variable and each independent variable. We can form our long-run coefficient equation as written:

$$LT = -0.013314IR - 0.00102REP + 3.82e{-}05SSE + 0.264629$$

Between LT and IR, test p-value shows it significant at 5 per cent of significant level. Thus, we can reject the null hypothesis which is: There is no long-run coefficient between the variables. The coefficient shows IR has a negative long-run impact on LT, each unit change in IR will result in -0.013314 units change in LT. For REP and SSE, they both significant at 1 per cent of significant level. For the coefficient, between REP and LT, each unit change in REP will cause negative 0.001020 unit change in LT while each unit change of SSE will contribute 3.82e–05 units growth in LT. The constant also significant on 1 per cent of significant level with a value of 0.264629 and that means if other variables are constant or equal to 0, the LT will have a value of 0.264629. In general, all of our independent variables have long-run coefficient with the liquidity of money in China and only SSE has a positive contribution to it. The R square demonstrates the percentage of variables which are in tone with our estimated linear regression model, the result shows more than 78 per cent of our variables are following the distribution of our estimated equation and that confirmed the reliability of our long-run coefficient result.

VAR-VECM (Error Correction Model)

After determined the long-run coefficient, since our variables are not cointegrated at a level and we found at least one cointegration, we continued to test for the short-run coefficient by applying an error correction model. According to the given equation of VAR-VECM and results, we can write our estimation equation as:

$\Delta LT = 0.104511 * ECT_{t-1} - 0.159106 * \Delta LT_{t-1} - 0.003015 * \Delta IR_{t-1} - 0.000544 * \Delta REP_{t-1} + 0.039781 * \Delta SSE_{t-1} + 0.000147$

By referring to the coefficient between LT and ECT_{t-1}, we are able to know that the previous year's deviation from long-run equilibrium is corrected at a speed of 10.4511 per cent. Besides, the short-run coefficient between IR and LT shows a percentage change in IR is associated with 0.3015 per cent decrease in LT while the short-run coefficient between REP and LT demonstrates a percentage change in REP associated with 0.0544 per cent decrease in LT within a short period. Furthermore, the coefficient between SSE and LT associates a percentage change in SSE would lead to 3.9781 per cent increase in LT in the short run. In general, only SSE has a positive contribution to the liquidity of money in China while IR and REP have a negative impact on it in the short run. The result confirmed the long-run co-movement from short-run relationship at the same time.

Granger Causality Test

Between IR and LT, the *p*-value for the null hypothesis "IR does not granger cause LT" is 0.7043 which is higher than the critical value, so we cannot reject the null hypothesis. While "LT does not granger cause IR" has a *p*-value of 0.066, that means it is significant on 10 per cent of significant level, so we reject the null hypothesis and accept the alternative "LT granger cause IR". To conclude, LT unidirectional granger cause IR. Under the same concept, between REP and LT, only the first null hypothesis is rejected on 1 per cent

of significant level, REP unidirectional granger causes LT. LT has a unidirectional granger cause on SSE since only the second null hypothesis is rejected on 5 per cent of significant level. Furthermore, REP and IR bidirectional Granger cause each other because both null hypotheses are rejected at 10 per cent of significant level. Additionally, no Granger causality is found between SSE and IR since both null hypotheses cannot be rejected. Last but not least, the result between SSE and REP indicates a unidirectional granger cause from REP to SSE and the null hypothesis is rejected on 10 per cent of significant level.

CONCLUSION AND POLICY RECOMMENDATION

Based on the results of our statistical tests, amount our selected independent variables, the interest rate and real estate price had a negative impact on money liquidity in China while Shanghai stock exchange index had a positive contribution on money liquidity in both long-run and short-run (during the period Jan 2016 – Dec 2018). Due to the interest rate still functioning in adjusting the liquidity of money, the economy of China did not fell into a liquidity trap. However, we cannot ignore that the high real estate price raised the liquidity trap risk. Besides, according to the results of Granger Causality test, we found the changes in liquidity of money granger caused the movement of interest rate as well as the Shanghai stock index while real estate price was the single factor that granger cause liquidity money in China. Additionally, real estate price, the interest rate had bidirectional Granger causality and real estate price change would affect Shanghai stock exchange index. Last but not least, no granger causality was indicated between the Shanghai stock exchange index and interest rate. Those factors indicated that the prosperous of the financial market would stimulate money circulation in China. On the other hand, better liquidity of money also contributed to the development

of the financial market as well as the affected interest rate. Furthermore, the rising real estate price affected the liquidity of money, interest rate and financial market in China while the adjustment of interest rate would contribute to controlling housing price at the same time.

According to these factors, we learned previously, we came out with several suggestions for the policymakers to stabilize the liquidity of money or preventing China's economy from liquidity issue. Initially, the government should strengthen the development of the financial market in China by enhancing the construction of financial infrastructure. It can be emphasized in several ways. First, improve the relative judicial system, establish a specialized organization (a group of experts in the finance sector or representatives from financial institutes) for researching legal blank in the financial system and develop countermeasures. Secondly, develop a reliable and universal standard social credit investigation system in China, to facilitate banks or financial institutes when they are loaning out the money. Finally, enlarge government expenditure and investment in the financial sector. Encouraging state governments consume financial services from private financial institutes and investment in financial markets can stimulate the vitality of financial sector especially during an economic recession period or when there is a shortage of liquidity in the market.

Moreover, the government regulation and control of interest rate is an effective method to explore the potential investment because when the interest rate is relatively low, savers would look for better growth opportunities for their financial assets even though they are with higher risks. Thus, it would contribute to a higher level of money circulation and active trading in the financial market. Last but not least, the government should control the real estate price growth by establishing a price ceiling in real estate

market, that can guide more funds flow to the other markets and relieve the stress on liquidity on money that caused by real estate price. Additionally, insist on the supply-side structural reform policies will fundamentally bring new growth opportunities to the economy of China. Previously, manufacturing products trading generated the major income of governments. However, the economic recession in the international market limited the benefit from goods trading and that led to some state governments have to trade land to plug their deficit. Thus, they desperately need new opportunities from new industries and innovations.

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ESTIMATION AND MODELLING OF VOLATILITY IN THE MALAYSIAN STOCK MARKET

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ABSTRACT

Last three decades, the issues on the volatility of the stock market have attracted many researchers, academics and also the players in the financial market. In the stock market investors and researchers able to use the stock market index to measure the volatility. Volatility considered as the measurement for the uncertainty of fluctuation of stock price and measurement of risk. This paper intends to shed light the volatility behaviour via the persistency and leverage effect in the Malaysian stock market. The data of this paper starting from 2000 until 2018 and employ symmetric and asymmetric volatility model with a different distribution. The symmetric model can capture via Generalized Autoregressive Conditional Heteroscedasticity (GARCH) while asymmetric shock using Exponential Generalized Autoregressive Conditional Heteroscedasticity (EGARCH) and Threshold Generalized Autoregressive Conditional Heteroscedasticity (TGARCH). The GARCH model showed weekly data of FTSE BM KLCI, FTSE BM Top100, FTSE BM Mid70 and FTSE BM Small presence of volatility clustering and persistence effect on the stock market volatility. Besides, asymmetric models found that weekly data, only several indices found the leverage effect. The best fit model also provided in the results and discussion.

INTRODUCTION

The stock market is essential to all players involved in investment activities. It is always associated with the volatility exposure, which is sensitive towards the market players on every dollar invested. Therefore, the higher volatility means that price change dramatically over a short period in either direction. A market with high volatility characterizes by wide price fluctuations and heavy trading. It portrays that when the market was volatile, the risk on the particular market will be higher. Besides, investors can use the stock market index to measure the volatility in the stock market. Baillie (1997) has mentioned that "volatility is a measurement of the intensity of unpredictable changes in asset return, and it is commonly time-varying dependent".

A theoretical and empirical analysis of stock market volatility is a niche area of research in finance which has been continuously investigated over the last few decades since in the 1980s. Volatility research in the stock market concerned about the modelling of volatility behaviour in the stock market and the application of the volatility behaviour in portfolio risk management. Therefore, theoretical research is concerned about the development of volatility theory and model that explains the theoretical foundation of asset volatility in a marketplace. In empirical research, attention is devoted to verifying the validity of volatility theory and models in the stock market applications. In investment practice, volatility is as a determinants factor to estimate the real value or intrinsic value of the stock and inducing the variation of stock prices through changes in investors' expectations due to the flow of information in the financial markets (Emenike, 2010; Mamtha & Srinivasan, 2016; Ross, 1989). Also, volatility is considered as a critical variable for assessing the condition of the stock market (Panait & Slăvescu, 2012). Hence, it is essential to comprehend the behaviour of the Malaysian stock market returns volatility.

In regard to this paper, it tries to shed light the symmetry and asymmetry volatility behaviour in Malaysian stock market and use weekly data from different indices which are FTSE BM KLCI, FTSE BM Top100, FTSE BM Mid70 and FTSE Small. The purpose of this study is to examine the persistency and leverage effect in Malaysian stock return and best fit model for all the series return. The paper employs GARCH, EGARCH and TGARCH with normal and non-normal distribution which are student-t and generalized error distribution (GED).

LITERATURE REVIEW

In finance research, growing global empirical evidence on symmetries and asymmetries modelling have been documented in finance literature since the volatility modelling seminal article by Engle's (1982) which provide the theoretical foundation and model for volatility measurements. Volatility research started from Engle (1982) introduced autoregressive conditional Heteroscedasticity (ARCH), model. (1986) had extended the model into generalized autoregressive conditional Heteroscedasticity (GARCH) model by modelling the conditional variance to depend on its lagged value as well as squared lagged values of disturbance. From this point, various GARCH family models such as Exponential GARCH, Threshold GARCH models performed to capture the volatility behaviour in the stock market and deals with the asymmetric information. Furthermore, it is closely associated with the financial times series data and the number of salient features of volatility behaviour that exhibit the phenomenon of volatility persistency, mean reversion, volatility clustering, and leverage effect. The volatility model validation tested in various factors such as different data frequencies, indices, countries and markets in order to capture both symmetric and asymmetric volatility (Abdalla & Winker, 2012; Dana, 2016; Caiado, 2004; Floros, 2008; Frimpong & Oteng-Abayie, 2006; Mamoon, 2007; Panait &

Slăvescu, 2012; Parvaresh & Bavaghar, 2014; Rafique & Kashif-Ur-Rehman, 2011; Selçuk, 2005). Extension of volatility modelling with non-normal distribution has been discussed in a research paper by Emenike (2010). The paper highlight several studies about the non-normal distribution using student-t and GED. The finding suggested that GARCH model fails to capture economic phenomenon due to the presence of leptokurtic and fat-tail distribution. Bollerslev (1987) proposed to use a student-t distribution assumption for the ARCH or GARCH model with a conditional normal error. However, capturing the leptokurtosis and combination of student-t fully for financial asset returns tend to have fatter tails than the Gaussian distribution.

In Malaysian review, several studies had been conducted that associate with the symmetric and asymmetric volatility, which Har, Sundaram, and Ong (2008). The researchers aim to estimate the leverage effect of the Malaysian Stock Market using EGARCH and to investigate the efficiency in the Malaysian Stock Market using Augmented Dickey-Fuller (ADF). They used weekly closing prices for Malaysian Stock Market indices starting from 9 January 2004 until 8 June 2007. The outcome shows that the EGARCH model did not confirm the existence of the leverage effect. In the same vein, Omar and Halim (2015) investigated the behaviour of stock return volatility of FTSE Bursa Malaysia KLCI and the data starting from January 2002 until December 2011. The researcher employed three of the family of GARCH and GARCH (1,1) showed that the presence of volatility clustering and persistence effects. Moreover, TGARCH and EGARCH found the leverage effects in data series.

From the brief review of literature above, volatility modelling seminal article by Engle (1982) gives more impact in volatility area until there are a vast number of articles validate that GARCH model able to capture symmetric volatility. However, most of the researchers criticize that GARCH model unable to capture asymmetric volatility. As a consequence, the asymmetric model such as EGARCH and TGARCH developed to capture the asymmetric behaviour and non-normal distribution. Also, capturing the fully leptokurtic and fat-tail distribution. This paper extends the existing literature review on modelling stock returns volatility in the Malaysian Stock Market by using recent data and compare volatility modelling with non-normal distribution to portray volatility behaviour.

RESEARCH METHODOLOGY

This paper involved the weekly data stock price of FTSE BM KLCI, FTSE BM Top100, FTSE BM Mid70 and FTSE BM Small starting from January 2000 until December 2018. In volatility research, long span of data is needed to capture both calm and deterioration of the market condition. Therefore, the range of data used in this study includes the event of the global financial crisis in 2007 until the first quarter of 2009 (Angabini & Wasiuzzaman, 2011). According to Abdalla and Winker (2012), the definition of volatility is the variance of stock returns. Hence, the data has been transformed into a stock return by using logarithmic transformation. The equation is shown below:

$$r_t = \log\left(\frac{p_t}{p_{t-1}}\right)$$

Implementation Steps

This examination was performed using the five-step procedure that has been highlighted as follow.

Step 1: Data collection and calculate the return as at the equation above. The data was collected from Thomson Reuters. Then calculate the return series for each index.

Step 2: Descriptive analysis of the return series.

Step 3: Unit root test by using the Augmented Dickey-Fuller test (ADF) and diagnostic test (Heteroscedasticity/ARCH Effect) the return series.

Step 4: Model-identification and parameter estimation. All the return series estimate by using symmetry and asymmetry volatility model with normal and non-normal distribution.

Step 5: Model Evaluation. The models from the index return were evaluated with two performance measurements to find out which best fit model for return series.

Method of the Study

General Autoregressive Conditional Heteroscedasticity (GARCH) Model

GARCH model was introduced by Bollerslev (1986), which is the GARCH model extended of the ARCH model created by Engle (1986). In general, the GARCH (1,1) model is presented in the following formula:

Mean equation $r_t = \mu + \varepsilon_t$

Variance equation $\sigma_t^2 = \omega + a_1\varepsilon_{t-1}^2 + \beta_1\sigma_{t-1}^2$

Where $\omega > 0, \alpha_1 \geq 0$ and $\beta_1 \geq 0$, and:

r_t = return of the asset at time t,

μ = average return,

ε_t = residual return, defined as: $\varepsilon_t = \sigma_t z_t$

Where,

σ_t = the conditional variance

z_t = standardized residual returns

Exponential General Autoregressive Conditional Heteroscedasticity (EGARCH) Model

EGARCH model was developed by Nelson (1991), which is the model has been used for leverage effect, and it also to allow asymmetric responses of the time-varying to shock. The indicator of leverage effect (asymmetric) is the value of gamma () and must be both negative and significant. The EGARCH model can be expressed as follow:

$$\ln(\sigma_t^2) = \omega + \beta_1\ln(\sigma_{t-1}^2) + \alpha_1\left\{\left|\frac{\varepsilon_{t-1}}{\sigma_{t-1}}\right| - \sqrt{\frac{2}{\pi}}\right\} - \gamma\frac{\varepsilon_{t-1}}{\sigma_{t-1}}$$

Threshold General Autoregressive Conditional Heteroscedasticity (TGARCH) model

According to Gokbulut and Pekkaya (2014), TGARCH is similar to GRJ in using dummy variables but using standard deviations instead of variance. Prior TGARCH model, TARCH model is developed to deal with conditional standard deviations. Therefore, (Zakoian, 1994) extend the model into a TGARCH model to identify the leverage effect. The model can be shown below:

$$\sigma_t^2 = \omega + \alpha_1\varepsilon_{t-1}^2 + \beta_1\sigma_{t-1}^2 + \tau d_{t-1}\varepsilon_{t-1}^2$$

$$d_{t-1} = 1, \text{ if } \varepsilon_{t-1}^2 < 0 \text{ (bad news)}$$

$$= 0, \text{ if } \varepsilon_{t-1}^2 \geq 0 \text{ (good news)}$$

The Normal Distribution (Gaussian):

In the original paper of Engle (1982), the standard normal distribution is expressed below:

$$f(z_t) = \frac{1}{\sqrt{2\pi}}e^{\frac{z_t^2}{2}}$$

The Student-t Distribution:

The student-t distribution proposed by Bollerslev (1986):

$$f(z_t, t) = \frac{\Gamma\left(\frac{v+1}{2}\right)}{\Gamma\left(\frac{v}{2}\right)\sqrt{\pi(v-2)}}\left(1 + \frac{z_t^2}{v-2}\right)^{-\frac{v+1}{2}}$$

Generalized Error Distribution (GED):

$$f(x) = \frac{\lambda \cdot s}{2 \cdot \Gamma\left(\frac{1}{s}\right)} \cdot \exp\left(-\lambda^s \cdot |x - \mu|^s\right)$$

RESULT AND DISCUSSION

Descriptive Analysis

The weekly price and returns for FTSE BM KLCI, FTSE BM TOP100, FTSE BM Mid 70 and FTSE BM SMALL are presented in Figure 1. As shown

in Figure 1, all the price indices influenced by external or internal factors such as political, economics, government, the performance of the company, and investors. Based on observation from the graph, it showed that the massive changes of return series move in tandem and vice versa for small changes. It implies that the variance change over time and confirming the existence of volatility clustering for all the series.

Based on Table 1, it shows the statistic for FTSE BM KLCI, FTSE BM TOP100, FTSE BM Mid 70 and FTSE BM SMALL return series. The figure shows that the mean return for all series is positive, which ranging from minimum 0.12390 (FTSE BM KLCI) to a maximum 6.939344 (FTSE BM Mid 70). Moreover, the standard deviation reflected the risk and return, which indicate that a significant positive relationship whereby high risk and high return, vice versa. The highest standard deviation is 305.4926 (FTSE BM SMALL) and the least volatile series with a standard deviation of FTSE BM KLCI 3.325303. Also, all the series shows negative skewness which indicates that an extended left tail distribution and the result for the kurtosis are higher than the standard normal distribution which implies the data has leptokurtic and sharply peaked distribution. Jarque-Bera statistic has rejected the null hypothesis of the normal distribution.
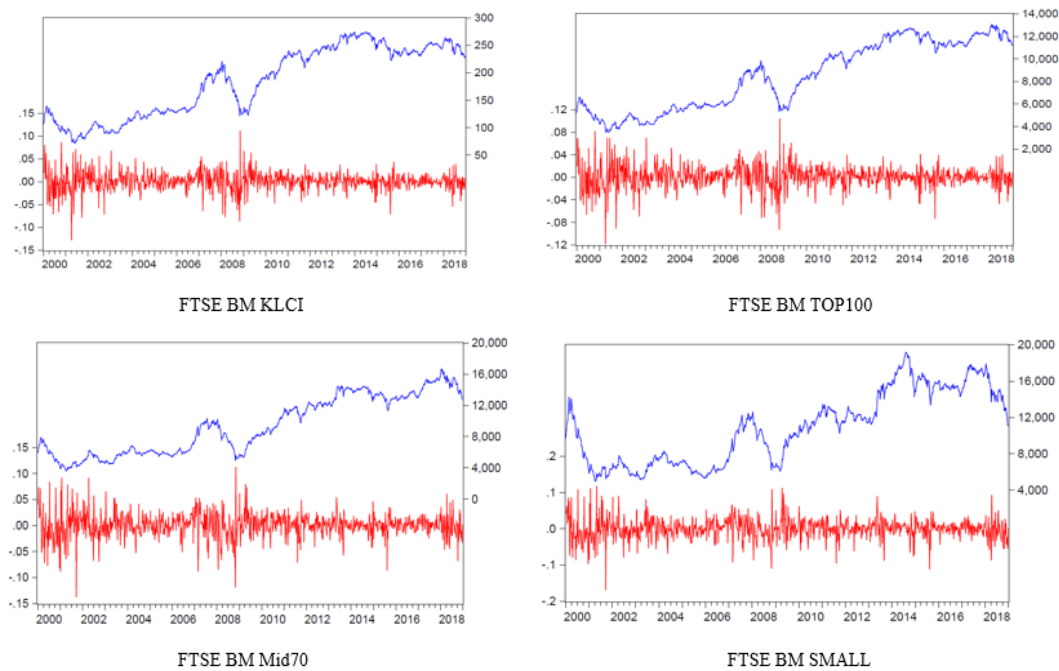
Figure 1 Weekly Price and Return of FTSE BM KLCI, FTSE BM TOP100, FTSE BM Mid70 and FTSE BM SMALL

Table 1 Descriptive statistics for the return series of FTSE BM KLCI, FTSE BM TOP100, FTSE BM Mid 70 and FTSE BM SMALL

Data series	FTSE BM KLCI	FTSE BM TOP100	FTSE BM Mid 70	FTSE BM SMALL
Mean	0.123290	6.109788	6.939344	1.405106
Median	0.250000	13.18000	16.80000	12.55000
Maximum	14.32000	584.0900	931.1100	1329.400
Minimum	−16.84000	−815.3400	−1049.820	−1676.750
Std. Dev.	3.325303	151.2555	201.3128	305.4926
Skewness	−0.497986	−0.525490	−0.490127	−0.402923
Kurtosis	5.724791	5.743930	6.109662	6.328848
Jarque-Bera	347.5290***	356.5002***	438.9675***	484.3767
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
No. of observation	991	991	991	991

Note: The values in parentheses are the actual probability values *, **, *** indicate rejection of the null hypothesis of associated statistical tests at the 10%, 5% and 1% level respectively.

The unit root test has been performed by using Augmented Dickey-Fuller to test the stationary of data (Table 2). All the return series of FTSE BM KLCI, FTSE BM TOP100, FTSE BM Mid 70 and FTSE BM SMALL has rejected the null hypothesis at the 1% significance at the level. It implies that all the series shows no unit root and the series was stationary.

Table 2 Results of returns series using the Augmented Dickey-Fuller test

Data Series	Level
	Weekly
FTSE BM KLCI	−28.86813***
FTSE BM Top100	−28.61837***
FTSE BM Mid70	−28.44731***
FTSE BM small	−27.86974***
Critical values	−3.967345
	−3.414359
	−3.129305
No. of observation	990

Note: The values in parentheses are the actual probability values *, **, *** indicate rejection of the null hypothesis of associated statistical tests at the 10%, 5% and 1% level respectively.

Based on Table 3, the result of autocorrelation test is based on correlogram *Q*-statistic (Ljung Box test) whereby, the test showed that strong evidence whereby most of the return series fail to reject the null hypothesis which indicates there is no serial correlation in the series. Furthermore, all the series have rejected the null hypothesis for ARCH effect or heteroscedasticity problem except for ARCH (10) on the FTSE BM Mid 70 and FTSE BM SMALL. However, the series still have the ARCH effect/ heteroscedasticity problem.

Table 3 Result of autocorrelation using Correlogram *Q*-statistic and ARCH effect/ heteroscedasticity

Data Series	FTSE BM KLCI	FTSE BM Top100	FTSE BM Mid70	FTSE BM Small
$\widetilde{a}_t$, Q(10)	15.115	13.993	7.0792	8.6619
	(0.088)	(0.123)	(0.629)	(0.469)
$\widetilde{a}_t^2$, Q(10)	162.54***	160.37***	103.19***	93.489***
	(0.000)	(0.000)	(0.000)	(0.000)
ARCH (1)	0.172703***	0.186458***	0.151412***	0.131983***
	(0.000)	(0.000)	(0.000)	(0.000)
ARCH (10)	0.104793***	0.101187***	0.021862	−0.006751
	(0.000)	(0.001)	(0.4908)	(0.8319)

Based on Table 4, α and β are the indicators for the GARCH model to capture the symmetric volatility. The results show that both α and β from all the return series were significant. Therefore, it means the lagged conditional variance and lagged squared disturbance influences the conditional variance. In other terms, the news on previous volatility has an impact on the current volatility (& Halim, 2015). Furthermore, the sum of the two estimated α and β coefficients is to measure the persistency of the volatility. Besides, the most persistence is very close to one, which indicates that volatility shocks have a persistent effect on the conditional variance.

Moreover, in order to capture asymmetric volatility, this paper employed the EGARCH and TGARCH model with normal and non-normal distribution. Based on estimation from EGARCH model, it shows the return for all indices presence of leverage effect except for FTSE BM Mid70 (student-t and GED distribution) while FTSE BM SMALL all EGARCH model normal and non-normal also does not

exist leverage effect. Indicator for EGARCH model is from the coefficient whereby if the coefficient statistically significance this indicates that negative shock (bad news) more effect on the conditional variance (volatility) as compared to positive shock (good news) of the same magnitude. Moreover, the asymmetric (leverage) effect captured by the gamma (γ) and the coefficient statistically significance with negative sign must be correlated which indicate that previous negative shock more impact rather than previous positive shock towards the next period of conditional variance. While the TGARCH model is different as compared to the EGARCH model due to the coefficient whereby TGARCH model follows the positive condition, not the negative sign. The rules of thumb for this model based on positive coefficient and statistically significance. The result implies that only FTSE BM KLCI and FTSE BM Top100 shows the presence of leverage effect for TGARCH normal and non-normal distribution while for the rest does not show the existence of leverage effect.

Table 4 Result of GARCH, EGARCH and TGARCH

Data Weekly		GARCH Normal	GARCH Student-t	GARCH GED		EGARCH Normal	EGARCH Student-t	EGARCH GED	TGARCH Normal	TGARCH Student-t	TGARCH GED
FTSE BM KLCI	α	0.085670*** (0.000)	0.097157*** (0.000)	0.088869*** (0.000)	γ	−0.059578*** (0.000)	−0.08427*** (0.000)	−0.057905*** (0.000)	0.060453*** (0.000)	0.059484* (0.053)	0.059840** (0.043)
	β	0.906336*** (0.000)	0.895799*** (0.000)	0.901298*** (0.000)							
	$\alpha + \beta$										
TSE BM TOP100	α	0.104129*** (0.000)	0.111743*** (0.000)	0.104501*** (0.000)	γ	−0.060761*** (0.000)	−0.066904*** (0.004)	−0.063180*** (0.004)	0.068019*** (0.000)	0.070071 (0.042)	0.068371** (0.036)
	β	0.891012*** (0.000)	0.882354*** (0.000)	0.888543*** (0.000)							
	$\alpha + \beta$										
FTSE BM Mid70	α	0.095647*** (0.000)	0.166119*** (0.000)	0.121511*** (0.000)	γ	−0.027470*** (0.018)	−0.045501 (0.099)	−0.030560 (0.1824)	0.017911 (0.3347)	0.062608 (0.2299)	0.020697 (0.5737)
	β	0.895710*** (0.000)	0.823783*** (0.000)	0.865905*** (0.000)							
	$\alpha + \beta$										
TSE BM SMALL	α	0.103555*** (0.000)	0.249285*** (0.000)	0.175601*** (0.000)	γ	−0.017773 (0.1663)	−0.006826 (0.8453)	−0.006927 (0.8204)	−0.005073 (0.8217)	0.003367 (0.9634)	−0.016174 (0.7762)
	β	0.869383*** (0.000)	0.727063*** (0.000)	0.783890*** (0.000)							
	$\alpha + \beta$										
FTSE BM KLCI	AIC	−5.196691	−5.263313	−5.263015		−5.202255	−5.261131	−5.262948	−5.202519	−5.265047	−5.265423
	SC	5.171975	−5.233653	−5.233356		−5.172516	−5.226529	−5.228345	−5.172860	−5.230445	−5.230821
TSE BM TOP100	AIC	−5.217577	−5.276560	−5.273821		−5.229963	−5.279830	−5.279116	−5.222907	−5.278572	−5.276350
	SC	−5.192861	−5.246901	−5.244161		−5.200303	−5.245228	−5.244514	−5.193248	−5.243969	−5.241747
TSE BM Mid70	AIC	−4.864688	−4.936894	−4.929804		−4.869746	−4.940672	−4.932588	−4.863317	−4.936218	−4.928125
	SC	−4.839972	−4.907235	−4.900144		−4.840087	−4.927515	−4.897986	−4.833658	−4.901616	−4.893522
TSE BM SMALL	AIC	−4.400517	−4.496397	−4.487760		−4.392752	−4.490719	−4.481572	−4.398540	−4.494381	−4.485848
	SC	−4.375801	−4.466738	−4.458100		−4.363093	−4.456117	−4.446969	−4.387263	−4.459779	−4.472691

Note: The values in parentheses are the actual probability values *, **, *** indicate rejection of the null hypothesis of associated statistical tests at the 10%, 5% and 1% level respectively.

Model Evaluation

Model evaluation discussion is to determine which model is preferred; there are two criteria value will consider in this research which is Akaike info criterion (AIC) and Schwarz criterion. The rules of thumb for both criteria to choose the lower values to form the appropriate modelling. Table 5 shows a suitable model for symmetry volatility model and asymmetry volatility model:

Table 5 Result of Best fit model for each return series

Data series	Symmetry	Asymmetry
FTSE BM KLCI	GARCH student-t	TGARCH GED
FTSE BM Top100	GARCH student-t	EGARCH student-t
FTSE BM Mid70	GARCH student-t	EGARCH student-t
FTSE BM Small	GARCH student-t	TGARCH student-t

CONCLUSION AND RECOMMENDATION

This paper to examine the symmetry and asymmetry volatility behaviour in Malaysian stock market by using weekly data frequency. The selected symmetry and asymmetry volatility model are GARCH, EGARCH and TGARCH with normal and non-normal distribution. Then, to determine which model is preferred for FTSE BM KLCI, FTSE BM Top100, FTSE BM Mid70 and FTSE BM Small based on AIC and SC.

Based on the result, most of the GARCH model with normal & non-normal shows the α+β almost close to the one for FTSE BM KLCI, FTSE BM Top100, FTSE BM Mid70 and FTSE BM SMALL. It indicates that volatility shock has a persistent effect on the conditional variance in Malaysian stock market whereby

this can be justified from the graph in Figure 1 above portray the volatility clustering exists in the all return series. In term of asymmetric volatility, most of the EGARCH and TGARCH model shows the presence of leverage effect except for FTSE BM Mid70 and FTSE BM SMALL which also supported by Ezzat (2012) who found the presence of leverage effect in the Egyptian stock market. The negative shock in the Malaysian stock market expresses more effectively on the volatility as compared to positive news. In other words, investors or traders in the Malaysian stock market more react to bad news very quickly as compared to the positive news. Finally, the four series returns suggest that a GARCH family with non-normal distributions are an appropriate model to estimate the volatility of the Malaysian stock market due to exhibit a very strong indication of fat-tail and leptokurtosis as shown in the descriptive statistics.

The current study may improve the literature by incorporating several improvements for future research. Firstly, the researcher can expand the analysis by using daily data by including a few crises period experienced by Malaysia to capture more news through the high-frequency data. Thus, it can portray a clear view on the volatility behaviour. Finally, the researcher can use 14 Malaysian sectorial indices to identify which sector shows the presence of leverage effect.

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FACTORS INFLUENCING THE LIVING WAGE IN EAST MALAYSIA

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ABSTRACT

Living wage goes beyond just about affording necessities such as food, clothes, and shelter. It also comprises the ability for people to allow themselves to be involved with society. Many countries all around the world have been implementing the living wage to their people. Nevertheless, in Asian countries, the push to implement the living wage is still low. Thus, this paper aims to identify the factors that influence the living wage for workers who are currently working in East Malaysia. For this study, Anker's model is adopted to develop the framework. The independent variables for this study are the cost of food, cost of housing, and cost of other essential needs (healthcare, transportation, education, and clothing and footwear) meanwhile the dependent variable for this study is living wage for workers.

Furthermore, there are three moderating variables included in the model, which are savings, full-time worker per household, and family size. This paper utilises primary data as the main approach in the data collection, and the data are collected by using an electronic questionnaire survey to the targeted respondent. The targeted respondent for this study is a full-time employee in East Malaysia, and a total of 315 respondents were able to be collected. Analysis of data comprises of two software which is IBM SPSS Statistic version 24 and Smart PLS 3.0. The findings suggested that the cost of food, cost of housing, education, transportation, and clothing and footwear have a significant relationship towards

the living wage. Based on the result found from this study, regulators would be able to improve the salary and wages of the employees by looking at the factors that matter the most to determine the appropriate living wage. Also, this paper can help to act as a reference to working people in achieving the minimum standard of living.

INTRODUCTION

A living wage can be defined as a wage that is sufficient to enable a worker and his or her dependent to have a decent standard of living (National Assembly for Wales Commission, 2015). Besides, a worker should also be able to take part in society and be an active citizen (King & Waldegrave, 2013). Taking part with society means that the employee has a sufficient income to celebrate family or friends occasions such as wedding ceremony, birthdays, and festival celebration (Chong & Khong, 2018). Other than that, the living wage should also allow people to be free from financial stress and push them out of the poverty trap (Living Wage Canada, 2015). Apart from that, an individual is considered to have a good financial position if they can fulfil his or her daily basic needs without resorting to borrowing from financial institutions (Agensi Kaunseling dan Pengurusan Kredit, 2018).

The idea of a living wage has been around since the 1870s during Britain's industrial revolution where employees began to demand higher salaries so that they can buy necessities such as food, shelter, and garments for themselves and their dependent (Wills & Linneker, 2012). The concept of a living wage was established in the 1990s, and several developed countries such as United Kingdom (UK), United States of America (USA), New Zealand (NZ), and Canada started to implement living wage to their people. In the USA, the living wage campaign started in Baltimore city (Holzer, 2008) and by late 1990s, the implementation of living wage spread over 100 cities in the United States (Parker,

Arrowsmith, Fells, & Prowse, 2016). The living wage has been one of the essential tools to fight against poverty and income inequalities. However, the idea of a living wage has been more focus in a developed country rather than developing countries (Ford & Gillan, 2017). Despite many nations recognising the importance of the living wage to the people, the fight to implement the living wage in Asian states are still relatively weak (Chong & Khong, 2018).

In Malaysia, many strategies have been introduced to reduce the gap of income between high income and low-income earners such as household living aids which are previously known as Bantuan Rakyat 1 Malaysia (BR1M), and currently known as Bantuan Sara Hidup (BSH), the inequality remains at large across Malaysia (Tey, Lai, Ng, Goh, & Osman, 2019). Furthermore, although the minimum wage has been enforcing in most countries across the globe, it is still hard enough to support a family, especially for those with dependent (Mackenzie & Stanford, 2008). The reason the minimum wage is insufficient is that it does not consider the household living expenses of the whole family (Telkki, 2015).

The central bank of Malaysia (BNM) first introduced the living wage concept in 2016 by using Kuala Lumpur as the sample. Based on the report, it shows that for a single adult living in Kuala Lumpur would at least need to earn RM2,700 each month to have a decent standard of living. Meanwhile, for those married couple without children need to earn for about RM4,500, and those couple with two children need to have earnings of RM6,500 to achieve the minimum standard of living (Chong & Khong, 2018). Hence, the results indicate that for about 27 per cent of people who are living in Kuala Lumpur still have earnings below the living wage estimation. In 2019, based on "Belanjawanku" report by Employee Provident Fund (EPF) and Social Wellbeing Research Centre (SWRC) which has similar interest as BNM's estimation living wage analysis where

they provide a reference budget for Malaysian individuals and family is living specifically in Klang Valley area. The wage level needed to sustain an adequate living standard in Klang Valley are almost similar to the one in Kuala Lumpur. For instance, a single adult who owns a car would require RM2,490 monthly and for those utilising public transportation need to have earnings of RM1,870. Meanwhile, for the couple without children need RM4,420, couples with one child need to have at least RM5,730, and for the couple with two children would need a wage at least RM6,620 every month (Social Wellbeing Research Centre, 2019). Also, for a retired couple living in Klang Valley need approximately RM3,100 to cover their monthly living expenses.

An increasing rate of disparities of income between high paid employees and low paid employees and the decreasing wage has been an issue all over the world (Yao, Parker, Arrowsmith, & Carr, 2017). Apart from that, the rising cost of living especially in the urban area has been one of the reasons people are incapable of affording an adequate living standard (Yao et al., 2017). In Malaysia itself, although it has experienced a 6 per cent growth of income in 2014 to 2016, it is still not enough for those at the bottom household to uplift themselves out of poverty (Chong & Khong, 2018). The 10th Malaysian Plan which is between 2010 to 2015, shows that the number of B40 households is over 2 million households with more than 70 per cent of them are Bumiputera, and the remaining are non-Bumiputera (Shahar, Lau, Puteh, Amara, & Razak, 2019). several factors have contributed to the high cost of living such as a drastic increase of the price of goods and services that did not match with the increase of income, the advancement of technology, changes of consumer preferences, etc. (Mat, Samidi, Harun, Fadzim, & Noor, 2019). Thus, this gives a significant challenge for people, especially for those low- and middle-income group to maintain an adequate living standard.

Furthermore, a report from The Edge Market in 2016 indicate that more than 50 per cent of Malaysians still have income below RM2,000 a month. For example, Kelantan acknowledges as the lowest level of earnings with only RM1,200, followed by Sabah and Sarawak with an income of RM1,240 and RM1,340, respectively. Apart from that, according to Khazanah Research Institute (KRI), those income earners of below RM2,000, they spent more than 90 per cent of their income on household expenses and leaving them with only RM76 by the end of the month (Khazanah Research Institute, 2018b). For these lower-income households to sustain, they tend to rely on borrowing from various lending institutions. As a result of excessive borrowing, 40 per cent of lower-income household in Malaysia has a high debt to service ratio, which left them no room for savings (World Bank, 2019) and this has led to a rising number of bankruptcy cases related to personal loans, vehicle loans, housing loans, credit card default, etcetera.

Moreover, for those Malaysian who felt like their income is not sufficient has decided to take another part-time job or work extra hours to make ends meet, in which left them little time to spend time with their family (World Bank, 2019). Working multiple jobs may also create another extra cost, such as food and transport expenses, as well as childcare expenses (World Bank, 2019). There has not been any estimation of a living wage in East side of Malaysia meanwhile several cities in Peninsular Malaysia has conducted their living wage valuation. Hence, this paper attempts to identify the factors that influence the living wage in East Malaysia (Sabah, Sarawak, and Federal Territory of Labuan) by using Anker methodology as a guideline (Figure 1).
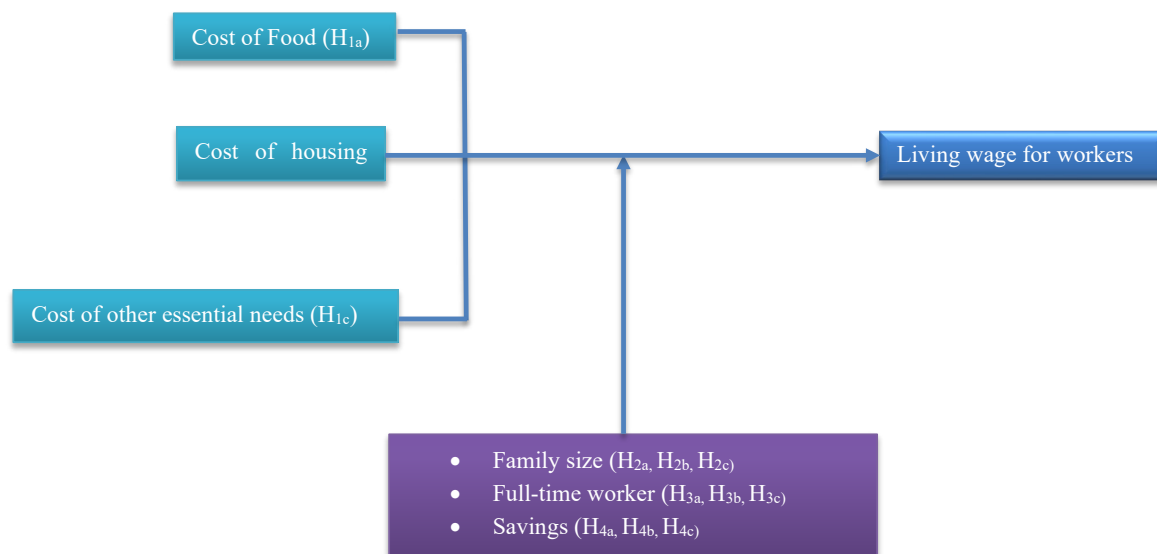
Figure 1 Factors influencing the living wage

LITERATURE REVIEW

Food Expenditure

Food expenditure is one of the main fundamentals in calculating the living wage. Any estimation of living wage across the globe will include food expenditure as one of the elements to set the minimum standard of living. For example, the country such as New Zealand and Canada estimates their food cost every week, and it follows food and nutrition guideline to ensure that families are eating healthy and fit (King & Waldegrave, 2013; Tiessen, 2015). In Kuala Lumpur, Malaysia, the estimation of a living wage was developed by several basic assumptions which comprise food as one of the main expenses in any household. Besides, due to a busy life in the big city, people are assumed to eat out more often rather than eating at home (Chong & Khong, 2018). However, as the family size big, the frequency of eating out drop as it is expensive.

Moreover, a minimum standard of the living guideline was provided by Employee Provident Fund (EPF) in 2019 for those who are living in Klang Valley, Malaysia (Social Wellbeing Research Centre, 2019). In the report, it provides detailed expenses on the necessities such as food, shelter, transportation and several other expenses for each different type of family. In line with the living wage in Kuala Lumpur, the food cost in Klang Valley will increase as they started to have families. Besides that, for those who come from low-income group tend to spend most of their income on necessities, for example, food (Mohd. Bakri, Rambeli, Hashim, Mahdinezhad, & Abdul Jalil, 2017). Other than that, it is notable that in different places, the price of goods and services are different as well. For example, in Sabah and Sarawak, the price of goods and services are higher than Peninsular Malaysia. Based on a report from the edge market on shopping habit in Malaysia, people spent roughly RM469 on average on groceries every month. Nevertheless, due to rapid growth of urbanisation, the lifestyle of Malaysians is changing as more people are eating outside rather than eating at home and this is due to several factors such as working overtime, 24 hours food restaurants, as well as varieties of food available (Ali & Abdullah, 2012). Thus, food is one of the main factors in the living wage.

Housing Expenditure

In the estimation of the living wage, housing is also considered as one of the main components to evaluate the living wage (Living Wage Foundation & ACCA, 2017). An

ideal type of housing has enough rooms to fit all the families. For instance, New Zealand's living wage is set for two adult and two children. Therefore, an appropriate number of rooms to avoid crowding is a house with three bedrooms (King & Waldegrave, 2013). Utility bills such as water and electricity are taken into consideration in calculating the housing expenditure (Anker & Anker, 2017). In Malaysia, Department of Statistic Malaysia (DOSM) reported that housing expenses are the highest household expenditure with a percentage of 24 per cent in the year 2016 (Department of Statistics Malaysia, 2017). The assessment of living wage in Kuala Lumpur had assumed that housing is one of the largest expenditure apart from food and the result from the report shows that a single person living in Kuala Lumpur would be renting a room, meanwhile for a married couple without dependent is renting an apartment with a single room. A married couple with two dependent would rent a three-bedroom apartment (Chong & Khong, 2018). Apart from varying price for goods and services, housing price also varies significantly across states in Malaysia. For example, housing price in Sabah, Pulau Pinang, Kelantan, and Negeri Sembilan is considered as "severely unaffordable" (World Bank, 2019). As Malaysia is moving towards on becoming urbanise country, it has led to an increase in demand for housing especially in the urban area as more and more people are migrating from rural to city area for a better job opportunity. Thus, the house is an essential need in estimating the living wage.

Transportation

Easy access and good transportation structure is an essential aspect of the era of urbanisation (Borhan, Hakimi Ibrahim, Syamsunur & Rahmat, 2019). Transportation allows people to travel from one place to another easily. As Malaysia is moving towards the era of urbanisation, it has led to an increase in demand for transportation, especially in the urban area. Types of transportation that are currently readily available in Malaysia apart from owned vehicles such as buses, taxis, light rapid transit (LRT), rapid mass transit (MRT), and the latest trend e-hailing. However, despite many public transportations that are readily accessible, the majority of Malaysians generally rely on private vehicles to commute from one place to another. Based on a report from the Malaysian Economic Monitor, most Malaysian, including those from the lower-income household, has a car loan. Also, for about 45 per cent to 65 per cent of the respondents from AKPK across all ages has vehicle loan (Agensi Kaunseling dan Pengurusan Kredit, 2018). From the household expenditure survey 2016, it shows that 13.7 per cent of household income is spent on transportation (Department of Statistics Malaysia, 2017). Based from Kuala Lumpur living wage estimation, it is assumed that a single adult mostly will utilise public transportation, in the meantime for married people it is assumed that they have their private vehicles (Chong & Khong, 2018). Apart from that, in line with Kuala Lumpur living wage estimation, for those single adult who is living in Klang Valley are more likely to use public transportation and the mode of transportation changes when people started to have a family (Social Wellbeing Research Centre, 2019). In other developed countries such as New Zealand and the United Kingdom, it seems that for a family with children, they would have their owned vehicles for easier travelling (King & Waldegrave, 2013).

Moreover, in Canada, for couples with two children would have their private vehicle as well as utilising public transportation with the monthly purchase passes (Tiessen, 2015). Nevertheless, the result can be different depending on the place where the people are living. For example, for those who are living in urban areas can have better access to public transportation but for those living in a countryside, the area might need their vehicles to travel to another place (Anker & Anker, 2017).

Healthcare

Healthcare is an essential element in the living wage towards ensuring that people can live healthily and a quality life (Mackenzie & Stanford, 2008). Providing a widespread coverage of healthcare service is one the important goals in achieving world-wide health coverage, however, in developing country it is difficult to get decent access to healthcare (Makmor, Khaled, Ahmad Farid & Nurulhuda, 2018). Despite the vast changing of economic development, Malaysia's healthcare service is still in need of improvement (Makmor et al., 2018). In Malaysia, the public and private sector both provide a healthcare service. The main difference is that the government fully funds public healthcare service; meanwhile, for the private sector provide healthcare service with charges. Nevertheless, though the government covers Malaysia healthcare cost, a small amount of allocation for healthcare is included in the estimation of a living wage in Kuala Lumpur (Chong & Khong, 2018). Besides, the Klang Valley expenditure guide also comprises an essential healthcare cost which can cover some minor illnesses and injuries, dental care, and also basic first aid kit (Social Wellbeing Research Centre, 2019).

Education

Education is beneficial to improve one's skill so that they can stay competitive in the globalised industry (Tiessen, 2015). In Canada, the living wage includes education cost for parents to elevate their skills to get a better position at work (Mackenzie & Stanford, 2008). A minimum amount for education is also included in the Kuala Lumpur living wage even though education services is nearly free by the government (Chong & Khong, 2018). However, despite the increasing number of graduates in Malaysia, the nominal starting salaries for fresh graduates has been sluggish (Murugasu, Hakim & Yau, 2020). For instance, for a diploma holder in Malaysia, the starting salary is RM1,376 in 2018, however, back in 2010, it was RM1,458.

Meanwhile, for those who possessed a master's degree, the starting salary in 2018 is at RM2,707, which 2010 it was at RM2,923. It shows that Malaysia job creation for high skilled workers is still low (Khazanah Research Institute, 2018a). Apart from that, job competition, especially in the urban area of Malaysia, are highly competitive; thus, having a good education is essential (Agensi Kaunseling dan Pengurusan Kredit, 2018). As an example, an individual who had a degree certificate has earnings 3.6 times higher than those without a certificate (Khazanah Research Institute, 2018a). It indicates that an individual's earnings are influenced by their level of education (Abdul Hamid, Ho & Ismail, 2019). Another finding shows that people who are living in urban areas were found to spend more on education rather than its rural counterparts (Toh & Said, 2018). Furthermore, about 50 per cent of those with higher income has a tertiary education as compared to the lower-income group (Abdul Hamid et al., 2019).

Clothing and Footwear

Other than food and housing expenditure, sufficient clothing is also one of the basic needs (Living Wage Foundation & ACCA, 2017). Toronto's living wage consider nine general categories for expenditure, and one of them is clothing and footwear (Mackenzie & Stanford, 2008). Based on Maslow's hierarchy of needs, the first level is psychological needs include food, shelter, and clothing. Even though clothing is not one of the main elements to estimate the living wage, and it is included in the calculation. The results from a study on consumption pattern and income in Malaysia shows that clothing and footwear as one of the necessities apart from food and shelter (Toh & Said, 2018). In addition to the findings, highly educated young people tend to spend more on clothing, and as they started to build a family, the expenses on clothing also increase.

Savings for Emergencies Purposes

Saving is crucial as it acts as a safety net in the case of any unexpected event such as illnesses, as well as ensuring that individual can avoid falling into poverty or to make other expenditures (Anker & Anker, 2013). Savings is also necessary for retirement to maintain individuals from falling into the poverty trap. One of the assumptions on the estimation of a living wage in Kuala Lumpur includes a small allocation for savings to cover any unexpected expenditure (Chong & Khong, 2018). Similar to New Zealand living wage estimation, savings are needed for the retirement purpose or emergencies (King & Waldegrave, 2013). Based on a study by Mackenzie & Stanford (2008), savings are needed for any unanticipated cost, for example, repairing cost, buying new furniture, healthcare bills, and also in the case of unemployment. Thus, savings is beneficial so that individuals do not rely heavily on debt for any unexpected cost. However, the rate of savings in Malaysia is still low when compared to the Organisation for Economic Co-operation Development countries (OECD) (World Bank, 2019). For example, the rate of savings in Malaysia is 1.5 per cent while for the United States it is at 7.8 per cent and Chile is at 9.6 per cent as of 2015.

Furthermore, about 28 per cent of low-income household in Malaysia does not practice savings at all and only for about 11 per cent of them save RM100 or less monthly (Liew, 2013). A research study on the financial well-being of Malaysian public employees also pointed out that their saving level is unsatisfactory (Mokhtar, Husniyah, Sabri, & Talib, 2015). From another study on the financial behaviour of working adult in Malaysia by Credit Counselling and Debt Management [Agensi Kaunseling dan Pengurusan Kredit (AKPK)] shows that for about 18 per cent of Malaysian employee does not practice savings due to several reasons which are high cost of living, insufficient income, as well as a vast amount of debt (Agensi Kaunseling dan Pengurusan Kredit, 2018). Malaysians, who earns less than RM2,000 a month and individual who has dependent is among who saves the least. In contrast, the higher the income of an individual, the more they can save (Agensi Kaunseling dan Pengurusan Kredit, 2018).

Family Size

Different family or individual would have a different cost of living because every household has different family size. The living cost varies depending on the household size as well as the location they are living in. Even for actual consumption of goods and services, the price differs almost 70 per cent depending on where people are living in Malaysia (World Bank, 2019). As expected, the cost is higher in the urbanised area rather than in the rural area. Based on the Malaysian economic monitor 2019, Sabah and Sarawak stand out as having a high cost for goods and services. A standard household size that is currently used to estimate the living wage is two adult and two dependent (Anker & Anker, 2017).

Nevertheless, the number of children in the family depends on the fertility rate of each country. To this date, there is still no consensus on what family size is the right size to estimate the living wage, yet four people in a household are frequently used assumptions (Anker, 2011). In Kuala Lumpur living wage estimation, three different family size is used, which are single adult, a couple without children, and couples with two children (Chong & Khong, 2018). Meanwhile, Klang Valley reference budget also includes several different family sizes such as a couple with no children, couple with one child, couple with two children, as well as a retired couple (Social Wellbeing Research Centre, 2019). In Malaysia, the average household size is 4.1 person in 2016 based on Khazanah Research Institute. In 2019, the average household size in Malaysia remained at four people (Department of Statistics Malaysia, 2019). Nevertheless, household size in rural areas in Malaysia is slightly larger than its urban counterparts with an average of 4.7 people as compared to 3.8 people for the urban area.

Full-Time Worker per Household

There is no general agreement to the number of full-time workers needed per household to achieve the least acceptable living standard. Each country has a different number of workers in a household. For example, a country such as New Zealand uses two working people, whereby one will work full time, and the other one works part-time (King & Waldegrave, 2013). Similarly, in Canada, two working adults are needed to achieve the minimum living standard (Tiessen, 2015). Meanwhile, in the United States and Scotland, they only used one income earners per household to calculate the appropriate living wage (Anker, 2011).

Nonetheless, in Malaysia, the majority of the lower-income group would take on another part-time job or working overtime to ensure they could make ends meet (World Bank, 2019). Based on a report from Khazanah Research Institute, for about 50 per cent of lower-income household only has one income provider which has significant contrast from the middle and high-income household (Abdul Hamid et al., 2019). 59 per cent of middle-income group and approximately 75 per cent of the high-income group have at least more than two income provider in a household in 2014 (Abdul Hamid et al., 2019). The study suggested that the number of income earner per household influence their take-home pay.

The figure above is the conceptual framework that is adopted from previous research by Richard and Martha Anker (2013). Based on the discussion above, the hypothesis for this study is as follows:

H_{1a}: There is a relationship between the cost of food and the living wage for workers.

H_{2b}: There is a relationship between the cost of housing and the living wage for workers.

H_{1c}: There is a relationship between the cost of other essential needs (education, healthcare, transportation, clothing and footwear) and the living wage for workers.

H_{2a}: Family size moderates the relationship between the cost of food and living wage for workers.

H_{2b}: Family size moderates the relationship between the cost of housing and living wage for workers.

H_{2c}: Family size moderates the relationship between the cost of other essential needs and a living wage for workers.

H_{3a}: Full-time worker per household moderates the relationship between the cost of food and living wage for workers.

H_{3b}: Full-time worker per household moderates the relationship between the cost of housing and living wage for workers.

H_{3c}: Full-time worker per household moderates the relationship between the cost of other essential needs and a living wage for workers.

H_{4a}: Saving moderates the relationship between the cost of food and living wage for workers.

H_{4b}: Saving moderates the relationship between the cost of housing and living wage for workers.

H_{4c}: Saving moderates the relationship between the cost of other essential needs and a living wage for workers

METHODOLOGY

A quantitative research approach is used to conduct this study. Quantitative research can be defined as research that attempts to answer the research objectives by using numerical measurement and analysis (, Babin, Carr, & Griffin, 2010). These numerical measurements can be used to transform values into something meaningful. The primary purpose of quantitative research is usually for hypothesis testing, and the data collection approach is through a self-administered online questionnaire (Zikmund et al., 2010). The data collection method for this study is by using primary data. Primary data is the original data that the researcher collected by first-hand. There are many tools in collecting primary data, such

as interviews, observations, and questionnaire. A structured questionnaire is chosen to gather the data for this study. The advantage of using a questionnaire is that it is relatively faster and less time consuming than by doing interviews and observation. Also, using a questionnaire is more practical when the researcher has a large number of respondents and when there is a geographical issue. For this study, the google form was used to administered and distributed the questionnaire. An online questionnaire was chosen as it is a practical tool, especially the COVID-19 outbreak. It is also easier to reach the targeted respondent by sharing the link of the questionnaire to various social media platforms such as WhatsApp, Facebook, email, etc.

This paper focuses on full-time employees working in East Malaysia, namely Sabah, Sarawak, and Federal Territory Labuan. The scope of this study emphasises on full-time workers because of the highest number of bankruptcy cases are among private and public sector employees. The sample size was determined through G. Power 3.1.9.2 software. There were 15 predictors tested for this study. Thus, the minimum sample in order to complete this study is 199 respondents. Overall, the number of respondents collected for this study is 315 respondents.

Once the data collection process is completed, two software is used to analyse data which are Statistical Package for Social Science (SPSS) Version 24 and Smart PLS 3.0. The first part after collecting data is to fill in the data into SPSS. The responses from the respondents were coded and screened for any missing values or outliers. Next, a descriptive and frequency analysis is conducted to get a summary of the respondent's profile. The second part of the analysis is to use Smart PLS 3.0 to seek the relationship between independent variables and dependent variable. A measurement model analysis must be completed to ensure the items are measuring their construct before conducting a structural model. A structural model is conducted to confirm the hypothesis develop for this study.

FINDINGS

The questionnaire for this study was distributed by using google form and data collected from January 2020 to April 2020. Responses from 315 respondents were coded and analysed by using Statistical Package for Social Science (SPSS) version 24 and Smart PLS 3.0. Table 1 shows the profile of the respondents for this research study. Majority of the respondents is in the range of age between 18 – 28 years old, with slightly over 50 per cent, and most of the respondents are female with a total percentage of 65.4 per cent. Apart from that, the demographic analysis also shows that most of the respondents are single with 57.8 per cent as well as having a good education background was for about 120 respondents (38.1 per cent) has achieved their bachelor degree, while 86 respondents (27.3 per cent) has obtained a diploma, while 19.4 per cent has master's degree and 5.7 per cent has PhD. Table 1 also shows the total household income of respondent every month. 33 per cent of the respondents earn between RM1,001 – RM2,000, followed by 16.2 per cent receive income range from RM2,001 – RM3000. The third-highest percentage was RM10,001 and above with a total of 12.7 per cent.

Table 1 Demographic profile

Demographic variable	Categories	Frequency	Percentage (%)	Cumulative Per cent
Age	18 – 28	158	50.2	50.2
	29 – 39	88	27.9	78.1
	40 – 50	41	13.0	91.1
	51 – 61	26	8.3	99.4
	62 and above	2	0.06	100
	Total	**315**	**100**	
Gender	Female	206	65.4	65.4
	Male	109	34.6	100
	Total	**315**	**100**	
State	Sabah	184	58.4	58.4
	Sarawak	110	34.9	93.3
	FT Labuan	21	6.7	100
	Total	**315**	**100**	
Cities	Kota Kinabalu	118	37.5	37.5
	Sandakan	14	4.4	41.9
	Tawau	23	7.3	49.2
	Lahad Datu	8	2.5	51.7
	Penampang	6	1.9	53.6
	Papar	4	1.3	54.9
	Beaufort	2	0.06	55.5
	Kota Belud	1	0.03	55.8
	Tongod	1	0.03	56.1
	Putatan	1	0.03	56.4
	Keningau	1	0.03	56.7
	Kota Marudu	1	0.03	57
	Kuching	58	18.4	75.4
	Sibu	9	2.9	78.3
	Bintulu	3	1.0	79.3
	Miri	23	7.3	86.6
	Sri Aman	1	0.03	86.9
	Mukah	4	1.3	88.2
	Kota Samarahan	12	3.8	92
	Labuan	25	7.9	100
	Total	**315**	**100**	
Religion	Islam	208	66.0	66.0
	Christian	104	33.0	99.0
	Buddha	1	.3	99.4
	Hindu	1	.3	99.7
	Sikh	1	.3	100
	Total	**315**	**100**	
Race	Malay	83	26.3	26.3
	Chinese	13	4.1	30.5
	Bumiputera Sabah	144	45.7	76.2

	Bumiputera Sarawak	68	21.6	97.8
	Bugis	4	1.3	99.0
	Sungai	1	.3	99.4
	Brunei	1	.3	99.7
	Punjabi	1	.3	100
	Total	**315**	**100**	
Level of education	Primary school	1	.3	.3
	Secondary school	28	8.9	9.2
	Matriculation	1	.3	9.5
	Diploma	86	27.3	36.8
	Bachelor's degree	120	38.1	74.9
	Master's degree	61	19.4	94.3
	PhD	18	5.7	100
	Total	**315**	**100**	
Marital status	Single	182	57.8	57.8
	Married	130	41.3	99.0
	Widowed	2	.6	99.7
	Widower	1	.3	100
	Total	**315**	**100**	
Total household income	Less than RM1,000	3	1.0	1.0
	RM1,000 – RM2,000	105	33.3	34.3
	RM2,001 – RM3,000	51	16.2	50.5
	RM3,001 – RM4,000	33	10.5	61.0
	RM4,001 – RM5,000	27	8.6	69.5
	RM5,001 – RM6,000	23	7.3	76.8
	RM6,001 – RM7,000	10	3.2	80.0
	RM7,001 – RM8,000	8	2.5	82.5
	RM8,001 – RM9,000	8	2.5	85.1
	RM9,000 – RM10,000	7	2.2	87.3
	RM10,000 and above	40	12.7	100
	Total	**315**	**100**	

The demographic profile was analysed using SPSS; meanwhile, to examine the path modelling for this study, it was performed by using Smart PLS 3.0. The first step in analysing path modelling is the assessment of reflective measurement model, which comprise of four main criteria which are internal consistency, indicator reliability, convergent validity, as well as discriminant validity. Table 2 shows the result of internal consistency, indicator reliability, and convergent validity. Internal consistency is to measure the reliability of data the same way as Cronbach alpha. Composite reliability (CR) with a value of 0.7 is considered as acceptable. However, a value of CR higher than 0.8 is preferable to have the right internal consistency (Hair, Sarstedt, Ringle & Mena, 2012). In this study, the composite reliability for all items is more than 0.7, which indicates that the items having a good internal consistency and reliability. Next, indicator reliability is ensuring that all items are measuring what it is supposed to measure. The threshold for indicator reliability should be more than 0.708. However, loadings of 0.4 and above are still acceptable provided the value of Average Variance Extracted (AVE) is more than 0.5. The loadings in Table 2 shows that it surpasses

the acceptable value, which suggests that the respective items are measuring what it is supposed to measure. Nonetheless, loadings that do not meet the required threshold were deleted. Furthermore, convergent validity is to measure that a respective item in a construct is related to one another and has a strong relationship, and it can be measure through Average Variance Extracted (AVE). The value of AVE should be at least or more than 0.5 to achieve convergent validity. From Table 2, it can be seen that the value of AVE is more than 0.5, which indicate that convergent validity is completed.

Table 2 Internal consistency indicator reliability and convergent validity

Construct	Items	Loadings	AVE	CR
Clothing and footwear	CAF1	0.674	0.557	0.833
	CAF 2	0.854		
	CAF 3	0.725		
	CAF 4	0.722		
Cost of food	COF 3	0.914	0.789	0.882
	COF 4	0.861		
Cost of housing	COH 2	0.699	0.612	0.824
	COH 3	0.847		
	COH 4	0.793		
Education	EDC 1	0.643	0.529	0.768
	EDC 2	0.663		
	EDC 3	0.856		
Family size	FSZ 1	0.646	0.608	0.819
	FSZ 2	0.934		
	FSZ 3	0.731		
Full-time worker	FTW 2	0.701	0.635	0.774
	FTW 3	0.882		
Healthcare	HTC 1	0.828	0.67	0.89
	HTC 2	0.884		
	HTC 3	0.716		
	HTC 4	0.838		
Living wage	LWG 1	0.87	0.764	0.928
	LWG 2	0.908		
	LWG 3	0.832		
	LWG 4	0.885		
Savings	SVG 1	0.862	0.716	0.883
	SVG 2	0.812		
	SVG3	0.863		
Transportation	TPT 1	0.884	0.661	0.794
	TPT 3	0.735		

To assess the discriminant validity of items, the researcher uses the heterotrait-monotrait ratio of correlation (HTMT) which is a recommendation by (Henseler, Ringle & Sarstedt, 2014). Discriminant validity is to assess a set of items that are not measuring other variables than the one it is supposed to measure. The value of HTMT should be lower than 0.90 to confirm that the indicator has achieved discriminant validity. Based on Table 3, the result shows that the HTMT value for this study is less than 0.90, which can be concluded that discriminant validity is not an issue in this study. Thus, a structural model analysis can be continued.

Table 3 Discriminant Validity Heterotrait-Monotrait Ratio Correlations (HTMT)

	CAF	EDC	FSZ	COF	FTW	HTC	COH	LWG	SVG	TPT
Clothing footwear										
Education	0.379									
Family size	0.253	0.31								
Cost of food	0.383	0.467	0.297							
Full-time worker	0.149	0.371	0.327	0.203						
Healthcare	0.554	0.488	0.393	0.45	0.428					
Housing	0.351	0.474	0.254	0.443	0.292	0.454				
Living wage	0.561	0.498	0.495	0.554	0.339	0.643	0.612			
Savings	0.419	0.309	0.337	0.451	0.317	0.716	0.4	0.628		
Transportation	0.257	0.319	0.267	0.197	0.538	0.449	0.496	0.465	0.33	

To identify the result for hypothesis developed for this study, it was tested using a bootstrapping function. The first hypothesis testing is to measure the direct relationship between the independent variables towards the dependent variable. The coefficient of determination, also known as r-square is at 0.581, which suggest the model is moderately fit. The assessment of path coefficient shown in Table 4 shows that only five relationships are found to have *T*-value greater than 1.96, thus significant at a *p*-value of 0.05. The effect sizes (*f²*) for the six relationship shows a small effect except for healthcare which has a value below the minimum the threshold of 0.02 based on (, 1988). Apart from that, Q^2 or predictive relevance is to measure whether the model can be used for a different group of respondents, and a similar result will be obtained. A Q^2 value of more than 0 is said to have good predictive relevance. Based on Table 4, the Q^2 value the living wage is 0.402, indicating that the model has good predictive relevance.

Table 4 Hypothesis testing for direct relationship

Hypothesis	Relationship	*T*-value	*p*-value	R^2	F^2	Q^2	Decision
H₁ₐ	Cost of food -> Living wage	**2.481**	**0.013**		**0.024**		**Supported**
H₁ᵦ	Cost of Housing -> Living wage	**4.483**	**0**		**0.063**		**Supported**
	Clothing footwear -> Living wage	**4.017**	**0**		**0.057**		**Supported**
H₁c	Education -> Living wage	**2.458**	**0.014**		**0.023**		**Supported**
	Healthcare -> Living wage	1.441	0.15		0.01		Not supported
	Transportation -> Living wage	**1.987**	**0.047**	**0.581**	**0.013**	**0.402**	**Supported**

A moderator is a variable that can give a different direction or strength towards the relationship between independent variables and dependent variable. A two-stage approach is employed in order to analyse the moderating effect of this study. A two-stage approach is chosen because it is applicable for reflective and formative measures and if the objective of this study is to reveal the significance of the moderating variable as well as to get high statistical power result, a two-stage approach is recommended (Henseler & Chin, 2010). In this study, there are three moderating variables which are family size, full-time worker, and savings. Table 5 shows the result for the second hypothesis testing with the first moderating effect which is a family size in which family size has a significant relationship to one independent variable which is the cost of housing (*T*-value = 2.208, *p*-value = 0.027) with a small effect size of 0.02. As shown in Table 5, the *R*-square is 56.6 per cent which approximately more than half of the variables can explain the dependent variable.

Table 5 Family size as moderating effect

Hypothesis	Relationship	T-value	p-value	R²	F²	Decision
H₂ₐ	COF*FSZ -> Living wage	0.629	0.529		0.002	Not supported
H₂ᵦ	COH*FSZ -> Living wage	**2.208**	**0.027**		**0.02**	**Supported**
	CAF*FSZ -> Living wage	0.767	0.443		0.002	Not supported
H₂꜀	EDU*FSZ -> Living wage	0.129	0.897		0	Not supported
	HTC*FSZ -> Living wage	0.219	0.827	**0.566**	0	Not supported
	TPT*FSZ -> Living wage	0.358	0.72		0.001	Not supported

The second moderating effect tested is a full-time worker. Table 6 shows the result of the moderating effect of full-time workers towards the living wage. Based on the result, a full-time worker has a moderating effect only towards healthcare with a *T*-value of 2.13 and *p*-value of 0.033. The *R*-square is 53.4 per cent, and effect size value for healthcare is 0.02, which indicate a small effect.

Table 6 Full time workers as moderating effect

Hypothesis	Relationship	T-value	p-value	R²	F²	Decision
H₃ₐ	COF*FTW -> Living wage	1.187	0.235		0.005	Not supported
H₃ᵦ	COH*FTW -> Living wage	1.413	0.158		0.006	Not supported
	CAF*FTW -> Living wage	1.95	0.051		0.013	Not supported
H₃꜀	EDU*FTW -> Living wage	1.041	0.298		0.004	Not supported
	HTC*FTW -> Living wage	**2.13**	**0.033**	**0.534**	**0.02**	**Supported**
	TPT*FTW -> Living wage	0.249	0.803		0	Not supported

The third assessment of the moderating variable is for savings. Based on Table 7, it can be seen that savings do not show any moderating effect towards any of the independent variables and dependent variable. Given that there is no relationship of moderator towards the variables, the effect size also shows that there is no effect if the moderator of savings is included. However, the *R*-square is 55.5 per cent indicating that the model is moderately fit.

Table 7 Savings as moderating effect

Hypothesis	Relationship	T-value	p-value	R²	F²	Decision
H₄ₐ	COF*SVG -> Living wage	0.805	0.421		0.002	Not supported
H₄ᵦ	COH*SVG -> Living wage	1.017	0.309		0.003	Not supported
	CAF*SVG -> Living wage	1.172	0.241		0.005	Not supported
H₄꜀	EDU*SVG -> Living wage	0.793	0.428		0.002	Not supported
	HTC*SVG -> Living wage	0.856	0.392	**0.555**	0.003	Not Supported
	TPT*SVG -> Living wage	1.602	0.109		0.013	Not supported

DISCUSSION AND CONCLUSION

The findings on food and housing found to influence the living wage for workers. The result is consistent with the previous research whereby food and housing are an important attribute to estimate the living wage. Also, the findings also in line with the Malaysian household Expenditure survey in 2016, whereby, food and housing are among the top three main expenditure in any household. Apart from that, transportation is one of the important elements included in the estimation of the living wage. As Malaysia is climbing up the ladder to be a developing country, the demand for transportation has increased especially in the urban area as more and more people are moving to the city area to find better job opportunities. Furthermore, based on the household expenditure survey 2016, the

third-highest expenses go to transportation which shows that transportation is a necessary expense for every household.

Next, the findings also found a significant relationship between education and the living wage which indicate that education is one of the essential factors to determine the living wage. The job market in Malaysia is highly competitive. Therefore, it is vital to put some investment in education. In Malaysia, those with higher education level (i.e. diploma, bachelor's degree) earns almost four times higher than for those who have no certificates. Apart from that, there is also a significant relationship between clothing and footwear towards the living wage. The result supported the previous study whereby apart from food and housing, clothing is also one of the essential needs for everyday life (Living Wage Foundation & ACCA, 2017).

Family size shows that there is a moderating effect on the relationship between housing and the living wage. This indicates that family size plays an important role in purchasing a home. To be able to buy a house that is comfortable and fitting for all family members is important to avoid overcrowding. Overcrowding is a situation where there are too many people in a given space which may lead to safety and health issues. Thus, the larger the family size, the bigger space is required. Apart from that, the full-time worker found to have a moderating effect on the relationship between healthcare and the living wage. The findings suggest that getting full-time employment may lead to an improvement in individual healthcare. For example, the higher the income, the more they can allocate for healthcare expenses (Goodman, 2015).

As Malaysia is moving towards being a developed nation, it is important for Malaysia to strive for better and higher productivity growth and to provide more high-income jobs so that the people can achieve a minimum living standard. This paper has achieved its objectives of the study, which is to determine the factors that influence the living wage in East Malaysia. According to the result, cost of food, cost of housing, and cost of other essential needs is an essential element in estimating the living wage. Thus, this research study can help policymaker to develop a new strategy by adopting the model to improve the wage rate in Malaysia so that people can at least achieve a minimum living standard and stay out of the poverty trap. However, the sample size for this study is limited to 315 respondents. Larger sample size and different states and cities can be considered to get a broader view of the difference in living cost across states in Malaysia.

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LIQUIDITY RISK IMPACT ON STOCK RETURNS

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ABSTRACT

This study investigates the impact of liquidity risk on stock returns in the Malaysian stock exchange using the LCAPM model of Acharya and Pedersen. This research employed firm-level equity data involving 419 continuously listed firms in Bursa Malaysia from January 2000 to December 2018. The study employed LCAPM asset pricing model tested using Fama-Macbeth two-stage cross-sectional regression. The findings suggest that the covariance between stock illiquidity and the market return is not priced in the Malaysian stock market. While, the other explanatory variables are significant in explaining the cross-sectional variations of stock returns, but only two variables; the commonality in liquidity and net liquidity risks are correctly signed. The evidence is limited to Malaysian corporations listed in the Main Market of Bursa Malaysia. These findings show some new evidence on the application of the LCAPM model in the emerging markets by using the closing per cent quoted spread impact (CPQS Impact) of Chung and Zhang (2014) as a measure of illiquidity. This research provides new insights on LCAPM application in the Malaysian stock market.

INTRODUCTION

The issue related to market microstructure and asset pricing has been recognized as one of the important finance research areas (Linnenluecke, Chen, Ling, Smith, & Zhu,

2017; Brooks & Schopohl, 2018). It entails an understanding on how various microstructure factors are related to trading activities (i.e. transaction cost, information asymmetry, and budget constraints) affect stock's liquidity (Amihud & Mendelson, 1986; Eleswarapu, 1997; Chalmers & Kadlec, 1998; Easley, Hvidkjaer, & O'Hara, 2002; Huang, 2003; Vayanos & Wang, 2012). Broadly speaking, liquidity determines how fast the asset can be traded at the prevailing market price, where the immediacy is commonly measured through the transaction cost. High transaction costs attribute to the illiquid of stocks (Amihud & Mendelson, 2012). Empirical studies by Amihud and Mendelson (1986) proven that investors demand higher returns for illiquid stocks than the more liquid ones. Thus, liquidity becomes an important factor for investors and portfolio managers in making investment decisions and designing a portfolio allocation strategy (Liew, Lim, P., & Goh, 2016). Concomitantly, the impact of liquidity on asset pricing has become a niche research area in asset pricing-market microstructure.

A study on the effect of firm's liquidity level has been long established in the literature, however, the recent move into analyzing the commonality in liquidity demonstrate that the firm's liquidity co-moves with market liquidity (Chordia, Roll, & Subrahmanyam, 2000; Hasbrouck & Seppi, 2001; Huberman & Halka, 2001; Moshirian, Qian, Wee, & Zhang, 2017). Accordingly, another interesting topic has become prevailing in liquidity related literature; which focuses on the effect of liquidity risk in explaining the return premium. Indeed, recent episodes of turbulence in global financial markets such as the demise of Lehman and Brothers in 2008 as a result of liquidity shortage in the market (Liang & Wei, 2012). Among initial studies that estimate the importance of liquidity risk on stock returns are Jacoby, Fowler, and Gottesman (2000), Pastor and Stambaugh (2003) and Acharya and Pedersen (2005). The work of Acharya and Pedersen (2005) is an extension of Jacoby et al. (2000) and Pastor and Stambaugh (2003); in which their liquidity adjusted CAPM (LCAPM) model nested both the effect of liquidity and liquidity risk in the stock returns. In addition to market beta as in the standard CAPM, their model decomposed three liquidity betas namely; 1. Covariance between individual stock liquidity and market illiquidity (Chordia et al., 2000), 2. Covariance between individual stock return and market illiquidity (Amihud, 2002; Pastor & Stambaugh, 2003), 3. Covariance between individual stock liquidity and the market return (Acharya & Pedersen, 2005). The model has been tested across different countries including in the Greek stock market (Papavassiliou, 2013), the Finish market (Butt & Virk, 2015), the Australian market (Vu, Chai, & Do, 2015), and the Portugal stock market (Miralles-Quirós, Miralles-Quirós, & Oliveira, 2017) as well as at the global market (Lee, 2011). Their study supports the significant effect of liquidity risk on stock returns. Albeit the literature has extensively admitted the role of liquidity risk in asset pricing, other scholars had provided opposition to this matter. For instance, Li, Sun, and Wang (2014) argue that the liquidity risk irrelevant in Japan stock market tested using the LCAPM model.

Besides Lee (2011), the economic significance of liquidity risk in the Malaysian stock market is still in its fancy with the literature on return-illiquidity risk premium that focuses on this market are scarcely reported despite liquidity being an important issue discussed globally (Liew et al., 2016). As one of the emerging markets that its attributes are far distinguished from the developed market; therefore, it makes them intriguing for research. They are to a great extent commanded by individual speculators with heavily intervened by the government (May, Fah, & Hassan, 2018), have low integration with world markets (Lee, 2011; Batten & Vo, 2014) and a noteworthiness level of internal and external's political, economic, social, and technological forces vulnerability (Tuyon & Ahmad, 2016). In response to this,

this study adds to the body of literature by studying the effect of the liquidity risks on the Malaysian stock market using Acharya and Pedersen's (2005) LCAPM framework. Further, the Malaysian stock market is an order-driven market structure where there are no market dealers (market makers) act as a liquidity supplier of last resort as compared to the quote-driven market structure. Thus, by studying the Malaysian stock market, it will provide further insight into the pervasiveness effect of liquidity risk on stock returns at different market settings.

Although the application of the LCAPM model has been tested in the Malaysian stock market by Lee (2011), however, this study is different in several ways. Firstly, their study utilized zero-return proportion liquidity measure of Lesmond, O'Connor, and Senbet (1999), which is, by contrast, this study employed closing per cent quoted spread impact (CPQS Impact) measure of liquidity as proposed by Chung and Zhang (2014). The use of CPQS impact is justified as a good substitute for Amihud's ILLIQ ratio (Liew et al., 2016). Further, CPQS Impact is a better and finer measure of liquidity as it utilizes a bid-ask spread that captures the impact of order flow on stock prices, a result of the inventory risk and information risk (Amihud, 2002). The validity of the CPQS impact as a good proxy for liquidity in the Malaysian stock market has been proven in the study of Fong, Holden, and Trzcinka (2017) and Liew et al. (2016). Secondly, this study covers the period starting from 2000 to 2018 that reflects certain events such as 2008 global financial crisis and local economic transformation and 2016 Malaysian political changes in which it occurred during the period of study is drawn.

The rest of the paper is organized as follows. Section 2 discusses the Malaysian stock market and its liquidity performances. Section 3 briefly discussed the LCAPM of Acharya and Pedersen. Section 4 describes the data and the sample construction procedure as well as the

illiquidity measures used in the study. Section 5 explains the methodology. Results and discussions are presented in Section 6. Section 7 concludes the overall study.

MALAYSIAN STOCK MARKET AND ITS LIQUIDITY PERFORMANCE

The Malaysian securities industry has experienced tremendous development and improvement in its structural and organizational ever since the mid-1980. The work of the Government and the Kuala Lumpur Stock Exchange (KLSE) in updating the securities industry through administrative development and the utilization of information technology has further enhanced the framework, hence, stimulate trading activities, and information dissemination channel (Ariff, Ramadili Mohd, & Md. Nassir, 1998).

Although the Malaysian Stock Market's history traces back in 1930, the present stock exchange was formally established in July 1973 known as KLSE. Later, in 2004 it was renamed the Bursa Malaysia. In 2005, Bursa Malaysia was listed and was recognized as the largest bourses in ASEAN with over 900 companies across 60 economics activities. The main objective of Bursa Malaysia is to provide facilitative infrastructure to create a marketplace that is vibrant and globally competitive. As a maturing emerging market, the Malaysian Stock Market is home to diverse portfolios across different key economics.
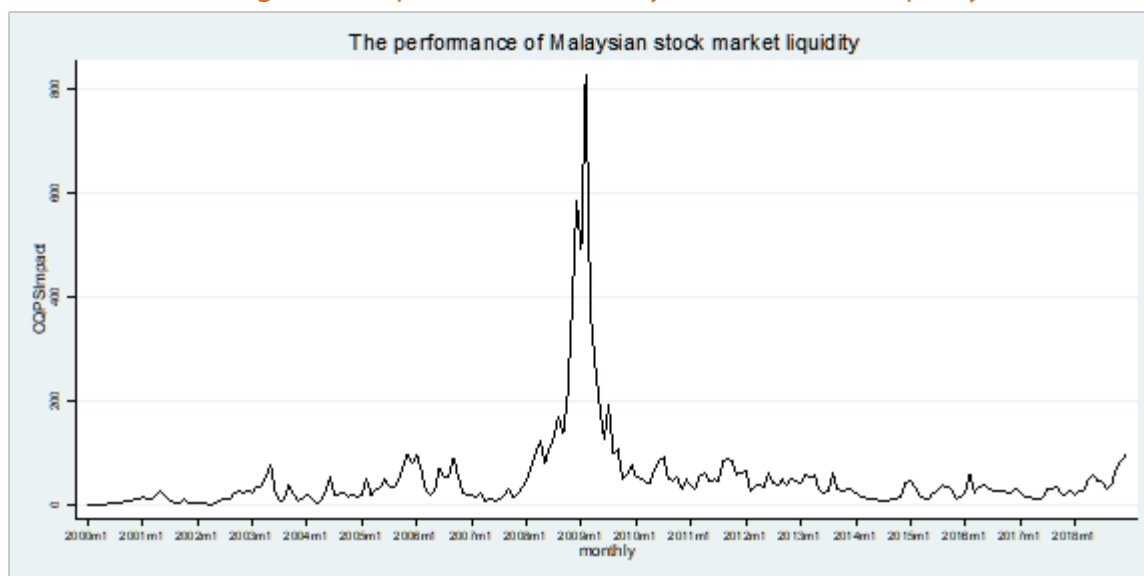
Enhancing liquidity of the Malaysian stock market has been one of the key objectives highlighted in the Capital Market Masterplan (Securities Commission Malaysia, 2011). Over the years, several moves have been undertaken by the Malaysian authorities to improve the liquidity performance of stock markets such as reinforcing the usage of new principles and bye-laws, introducing the provision of fidelity fund, and demutualization (Majid, 1993), as well as providing timely information on market trading (Bursa Malaysia,

2006, p. 35). Besides, the tradable lot size is also reduced from 1000 to 100 to encourage the trading environment (Lim et al., 2015). As for now, Bursa Malaysia is on the move to shorten the trade settlement from T+3 days to T+2 days (Chin, 2018, December 3).

Despite its hard work, the level of liquidity in the secondary market, i.e. the Kuala Lumpur Stock Exchange (KLSE) abide continuously low all through several decades (Ramlee & Ali, 2012). Although the Malaysian stock market is classified as having high market capitalization, yet its trading cost is still among the highest in emerging equity markets along with the Korean stock market (Domowitz, Glen, & Madhavan, 2000). This low liquidity is in part because of the unique institutional and political perspective surrounded the Malaysian stock market (Jais & Gunathilaka, 2016; May et al., 2018). The following Figure 1 presents the liquidity performance of the Malaysian stock market measured using equal-weighted liquidity indicators proposed by Chung and Zhang (2014) and Liew et al. (2016). Based on Figure 1, the liquidity performance of the Malaysian stock market was contracted significantly during the year 2008 – 2009 amid the arrival of the US crisis, indicating that the Malaysian stock market was not spared from the global crisis. The same pattern was also observed in the study of Liew et al. (2016) conducted in Malaysia and the study of Anand et al. (2013) in the US market.

Figure 1 The performance of Malaysian stock market liquidity

Note: The above figure shows the performance of the Malaysian stock market liquidity from 2000 to 2018. The closing per cent quoted spread impact of Chang and Zhang (2014) described in section 4.2 is used as a liquidity indicator for the Malaysian stock market.

LIQUIDITY ADJUSTED CAPITAL ASSET PRICING MODEL

In a standard CAPM model of Sharpe (1964), Lintner (1965) and Mossin (1966), the expected returns are solely related to its market beta, where the market is assumed to be perfectly liquid with no transaction cost involved. As a result, the expected returns of an asset are estimated to depend only on its covariance with market returns that yields the following equation;

$$E\left(r_{i,t} - r_f\right) = \lambda \frac{\text{cov}\left(r_{i,t}, r_{m,t}\right)}{\text{var}\left(r_{m,t}\right)} \tag{1}$$

Where, λ is the risk premium,
$\lambda = E\left(r_{m,t} - r_f\right)$

In equation (1), $E(r_{i,t})$ and $E(r_f)$ are the expected return on asset i at time t and the expected risk-free rate respectively. While, the risk premium (λ) is the beta of asset times the premium per unit of beta, which is the expected market return $E(r_{m,t} - r_f)$. The beta of asset i is the ratio between the covariance of its return with the market return divided by the variance of the market return estimated as per equation (1).

Conversely, however, Pastor and Stambaugh (2003) and Acharya and Pedersen (2005) empirically shown that liquidity can be part of securities attributes thus considered liquidity as a market-wide function rather than a "security-specific" value. Similar to the findings of Chordia et al. (2000) and Huberman and Halka (2001) they empirically found that liquidity systematically affects both market returns and at the industry level. Apart from the above-mentioned studies, other researchers that investigate the same notion including Lo and Wang (2000), Hasbrouck and Seppi (2001), Lustig and Chien (2005), Holmström and Tirole (2001), and Amihud (2002), among others. All of the researchers agree that the liquidity shocks affect return across the market systematically.

Corresponding to the previous studies such as Pastor and Stambaugh (2003) that have documented the effect of liquidity risk on stock return, thus Acharya and Pedersen (2005) developed LCAPM where the model decomposes both liquidities as a return characteristic and risk factor in the CAPM framework. Particularly, the expected stock return is estimated to be an increasing function of its expected illiquidity and its net beta and yields the following conditional version of LCAPM:

$$E_{t-1}(r_{i,t} - r_f) = E_{t-1}(c_{i,t}) + \lambda_{t-1}cov_{t-1}(r_{i,t}, r_{m,t}) + \lambda_{t-1}cov_{t-1}(c_{i,t}, c_{M,t}) - \lambda_{t-1}cov_{t-1}(r_{i,t}, c_{M,t}) - \lambda_{t-1}cov_{t-1}(c_{i,t}, r_{m,t})$$

(2)

Where, $r_{i,t}$ is the return for stock i at month t, r_f is the risk-free rate, and $c_{i,t}$ denotes the illiquidity cost for stock i at month t. The model above is made conditional to information at month t and estimates that the expected return $E_{t-1}(r_{i,t} - r_f)$ depends on its expected illiquidity cost $E_{t-1}(c_{i,t})$, and its four betas times the risk premium λ_{t-1}. The risk premium is derived as follows:

$$\lambda_{t-1} = E_{t-1}(r_{m,t} - c_{M,t} - r_f)$$

Where, $r_{m,t}$ is the market return, and $c_{M,t}$ is the market illiquidity. Without the illiquidity cost terms, equation (2) reflects the original CAPM.

By assuming constant conditional variances or a constant relative risk aversion (constant risk premium), the following unconditional LCAPM is derived as:

$$E(r_{i,t} - r_{f,t}) = \alpha + E(c_{i,t}) + \lambda\beta_{1,i} + \lambda\beta_{2,i} - \lambda\beta_{3,i} - \lambda\beta_{4,i}$$

(3)

The four betas (i.e. $\beta_{1,i}$, $\beta_{2,i}$, $\beta_{3,i}$, $\beta_{4,i}$) define the various channel through which illiquidity costs and market risk give impact on stock returns. The first beta $\beta_{1,i}$ follows the standard CAPM assumption that is the expected stock return increase linearly with the covariance between the firm's stock return and market return $cov_{t-1}(r_{i,t}, r_{m,t})$, translated into an economy with illiquidity costs, thus, a positive relationship is expected expressed as follows:

$$\beta_{1,i} = \frac{\text{cov}\left(r_{i,t}, r_{M,t}\right)}{\text{var}\left(r_{M,t} - c_{M,t}\right)} \tag{4}$$

In addition to that, Acharya and Pedersen (2005) introduced three aspects of beta regarded as liquidity risk in their model (i.e. $\beta_{2,i}$, $\beta_{3,i}$, $\beta_{4,i}$). The first liquidity beta $\beta_{2,i}$ assumes that the expected stock return increases with the covariance between the firm's stock illiquidity and the market illiquidity $\text{cov}_{t-1}\left(c_{i,t}, c_{M,t}\right)$. Since the previous studies such as Chordia et al. (2000), Huberman and Halka (2001), and Hasbrouck and Seppi (2001) provide evidence on the effect of the commonality in liquidity as well as time-varying properties of liquidity, it thus indicates the uncertainty in liquidity. As such, the investors require additional returns when stocks become illiquid during the illiquid market. This assumption is in line with the wealth effect theory where the investors willing to pay a premium for the stocks that remain liquid when low market liquidity is observed (Cochrane, 2005), hence, a positive relationship is expected. The second beta in LCAPM model is expressed as:

$$\beta_{2,i} = \frac{\text{cov}\left(c_{i,t}, c_{M,t}\right)}{\text{var}\left(r_{M,t} - c_{M,t}\right)} \tag{5}$$

While second liquidity beta $\beta_{3,i}$ estimates a negative relationship between expected stock return with the covariance between the firm's stock return and market liquidity $\text{cov}_{t-1}\left(r_{i,t}, c_{M,t}\right)$. The expected negative relationship is because the returns are estimated to be higher for an asset that is sensitive to market illiquidity. The empirical findings are supported by the studies of Domowitz and Beardsley (2002), Sadka (2003), and Pastor and Stambaugh (2003). The following equation (6) shows how it is derived:

$$\beta_{3,i} = \frac{\text{cov}\left(r_{i,t}, c_{M,t}\right)}{\text{var}\left(r_{M,t} - c_{M,t}\right)} \tag{6}$$

Finally, as the investors find it is difficult to sell illiquid security when the market is illiquid that is when the market is upset, thus the lower returns are accepted for the liquid security during poor states of market returns. Therefore, the third liquidity beta $\beta_{4,i}$ represents a negative correlation between expected stock returns and the covariance between the firm's stock illiquidity and market return $\text{cov}_{t-1}\left(c_{i,t}, r_{m,t}\right)$. This final beta is a new beta proposed by Acharya and Pedersen (2005) in the LCAPM model expressed as the following equation:

$$\beta_{4,i} = \frac{\text{cov}\left(c_{i,t}, r_{M,t}\right)}{\text{var}\left(r_{M,t} - c_{M,t}\right)} \tag{7}$$

Where the subscripts in equation (3) to (7) denote as follows; the respective $r_{i,t}$ and $r_{f,t}$ is the return for stock i at month t and the risk-free rate at month t. The $c_{i,t}$ is the illiquidity cost of stock i at month t, and $c_{M,t}$ is the market illiquidity cost at month t.

The illustration of four betas in the LCAPM model is shown in the following Figure 3.
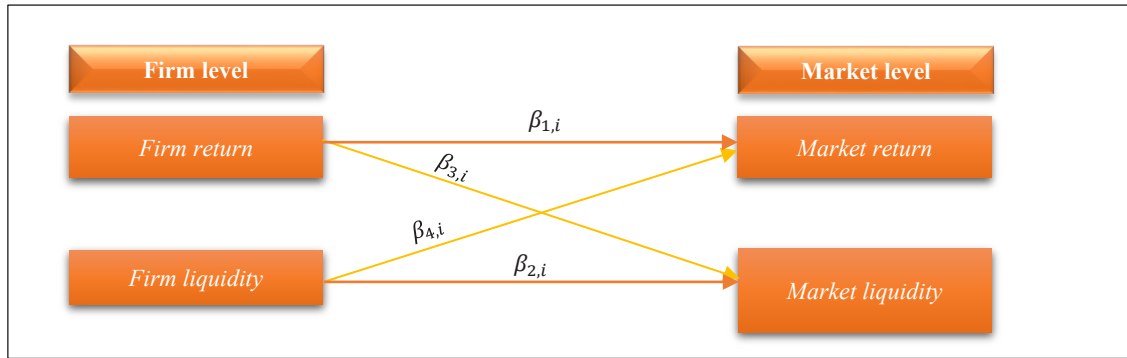
Figure 3 Illustration of the four betas

Source: Developed by author

Note: The above diagram shows the interaction of three liquidity betas and market beta between the firm return, market return, firm liquidity (firm variance) and market liquidity (market variance). Where $\beta_{1,i}$ correspond to the covariance between asset return and market return, $\beta_{2,i}$ is the covariance between the firm's stock liquidity and market liquidity, $\beta_{3,i}$ denotes the covariance between asset return and market liquidity, and $\beta_{4,i}$ is the covariance between the firm's liquidity and market return. The four betas are estimated using the entire time-series analysis.

As in the standard CAPM where there is only one risk premium, thus the LCAPM is estimated with the net beta becomes the single risk factor resulting in the final model; a combination of four betas (i.e. $\beta_{1,i} + \beta_{2,i} - \beta_{3,i} - \beta_{4,i}$) in the model as referred to in the succeeding equation. Of which this "net beta" determined by the asset's returns and liquidity risk.

$$\beta_{net,i} = \beta_{1,i} + \beta_{2,i} - \beta_{3,i} - \beta_{4,i} \tag{8}$$

Rewritten the above equation, the liquidity adjusted CAPM becomes;

$$E(r_{i,t} - r_{f,t}) = \alpha + \kappa E(c_{i,t}) + \lambda \beta_{net,i} \tag{9}$$

In the model of Acharya and Pedersen (2005), the non-zero intercept α is allowed by adjusting the calibration of κ, that is the coefficient of κ is adjusted in accordance to the average monthly turnover of all stocks in the sample[1]. Eventually, the empirical fit of the model does not improve by adding more factors in the model but rather by making liquidity adjustment. Although the model implies that the intercept is zero, it also relaxing this restriction by allowing the non-zero intercept during which the investor's holding period differs from the estimation period.

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[1] Acharya and Pedersen (2005) assume that the k in the model (3.1) are adjusted in accordance of the investor's holding period; where $k = 1$ if the holding period is equal to estimation period. If the k is more than 1, then the excess portfolio returns (approximately) equal to k times the expected holding period return, and thus $\beta_{net,p}$ is assumed approximately k times the holding period net beta.

DATA AND ILLIQUIDITY MEASURES

Data

This research employed firm-level equity data involving 419 continuously listed firms in Bursa Malaysia from January 2000 to December 2018. The data used in the study are obtained from Bloomberg services. To avoid any estimation errors due to data snooping biases in the sample, several data screening procedures are considered namely; 1. Only securities that have the last return recorded will be included in the sample (Acharya & Pedersen, 2005), 2. Any stocks with special characteristics such as Depository Receipts (DRs), Real Estate Investment Trust (REIT), and preferred stocks will be dropped from the sample (Lee, 2011), 3. Securities of financial institutions will be excluded in the sample due to its special nature of having high leverage that likely indicates distress (Fama & French,1992; Cooper, Jackson III, & Patterson, 2003) and is a highly regulated institution (Cooper et al., 2003). Besides that, the data set in this study contains monthly return data, adjusted-monthly rate of return on the 3-month Treasury Bills rates as a proxy for the risk-free rate and Kuala Lumpur Composite Index (KLCI) as a proxy of the market return. While, daily data on the closing bid price, closing ask price, closing stock price and the number of shares traded are required to construct monthly illiquidity measure of each security.

Illiquidity Measure

This study will use the closing per cent quoted spread impact (CPQS Impact) of Chung and Zhang (2014) to estimate the stock's illiquidity cost ($c_{i,t}$) in replace of the Amihud's (2002) ILLIQ ratio. The following equation shows how CPQS Impact is derived:

$$\text{CPQS impact}_{i,t} = \frac{\text{CPQS}_{i,t}}{P_{i,t} \times \text{volume}_{i,t}} \qquad (10)$$

Where $P_{i,t}$ and $\text{volume}_{i,t}$ are the closing price and the number of shares traded of firm stock i on day t respectively. Since the CPQS Impact measures the cost of trade per dollar of trading volume, therefore, a higher degree of illiquidity assumed for a higher value of CPQS Impact estimated. To overcome the peculiarities in intraday data and thus to have synchronous data as well as to ensure the data is more manageable (Chordia et al., 2000), therefore the mean of daily illiquidity ratio is required to construct monthly illiquidity measure of each stock i.

The closing per cent quoted spread ($CQPS_{i,t}$) in equation (11) is estimated as below;

$$\text{CPQS}_{i,t} = \frac{\text{Closing ask}_{i,t} - \text{Closing bid}_{i,t}}{\left(\text{Closing ask}_{i,t} + \text{Closing bid}_{i,t}\right)/2} \qquad (11)$$

The CPQS is the ratio between the difference of daily closing ask price (Closing ask$_{i,t}$) and daily closing bid price (Closing bid$_{i,t}$) of stock i on day t to the mid-point of ask and bid prices. It assumes that an illiquid asset will have a higher value of CPQS indicates the difficulty to trade the assets a result of an imbalance in supply and demand, thus, the wider spread is expected. As the spreads become wider, the investors will incur higher transaction costs and higher liquidity risk assumed for the assets.

Market Illiquidity ($c_{M,t}$)

To estimate the market illiquidity, the following procedure will be employed to derive the liquidity of a stock market similar to the study of Liew et al. (2016);

(i)   Each relative illiquidity measure $c_{i,t}$ of individual security i will be estimated for each month t of the sample.

(ii) From above, the monthly illiquidity is then averaging across stock by using equal weights to obtain the monthly illiquidity measure of the Malaysian stock market.

METHODOLOGY

This study employed Fama-Macbeth two-stages cross-sectional regression, where, in the first stage, the market beta (β_1) and three liquidity risks (i.e. β_2, β_3 and β_4) are estimated based on equation 5 – 7 using the individual stocks level data from the previous 60 months for the entire time-series (January 2000 – December 2018) following Lee (2011) and Vu et al. (2015). In particular, each month the regression is carried out employing the last 60-month observations and one beta is created through one new observation out of 60 observation windows. The 60-month windows start from January 2000 and then rolled forward at monthly intervals. In the second stage, the following Fama-Macbeth cross-sectional regression is performed where, in each month, the individual stock returns are regressed against the pre-estimated beta.

$$E\left(r_{i,t} - r_{f,t}\right) = \alpha + bE\left(c_{i,t}\right) + \lambda_j \hat{\beta}_{1,i,t} + \lambda_j \hat{\beta}_{2,i,t} - \lambda_j \hat{\beta}_{3,i,t} - \lambda_j \hat{\beta}_{4,i,t} \tag{12}$$

Where, $E\left(r_{i,t} - r_{f,t}\right)$ is the expected excess individual stock returns and b is the coefficient for the expected individual stock illiquidity. This study used the average monthly closing per cent quoted spread impact as a proxy of the expected illiquidity costs computed from the previous 12 months following Lee (2011). The $\hat{\beta}_{1,i,t}$, $\hat{\beta}_{2,i,t}$, $\hat{\beta}_{3,i,t}$, and $\hat{\beta}_{4,i,t}$ is the pre-estimated beta computed as per equation 5 to 7. The subscript λ_j denotes the risk premia for stock j, and therefore has 169 different values. This estimated 169 risk premia values are then averaged across time which is reported in Table 1 in the Appendix. The LCAPM model holds if the intercept (α) is equal to zero and the coefficient of the expected illiquidity costs (b) is equal to 1.

RESULTS AND DISCUSSION

Descriptive Analysis

The analysis is performed on 419 stocks that are continuously traded on Bursa Malaysia since 2004: 12 to 2018: 12[2] in various industry categories. The data are obtained from Bloomberg services. The sample of the study represents about 53 per cent of the total stocks traded on Bursa Malaysia (currently about 790 total listed companies on the stock exchange). The 419 stocks belong to different

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[2] The data obtained starts from January 2000 to December 2018. The analysis starts from December 2004 because the market beta and illiquidity betas are estimated using the data from the previous 60 monthly returns.

industry sectors in Malaysia (i.e. plantation, construction, property, healthcare, consumer products and services, energy, industrial products and services, technology, telecommunications and media, transportation and logistics and utilities). Table 1 reports the descriptive statistics of the eight variables in the overall sample of studies.

Table 1 Data descriptive statistics

Variables	N	Max	Mean	Min	SD	Skewness	Kurtosis
r	70,811	2.088	−0.232	−30.50	0.757	−14.44	367.3
E(c)	70,802	9.274	0.810	−10.97	3.351	−0.536	2.881
β_1	70,618	79.11	1.832	−31.41	3.618	7.053	79.47
β_2	70,545	6.469	0.889	−2.722	0.844	0.460	4.425
β_3	70,618	1.314	−0.127	−9.704	0.403	−8.659	111.2
β_4	70,545	31.11	−8.552	−52.75	8.477	−0.252	3.813
β_5	70,544	55.36	9.568	−32.65	9.048	0.296	3.744
β_{net}	70,544	100.5	11.40	−49.60	10.70	0.856	5.984

Note: This table summarizes the descriptive statistics (i.e., number of observations (N), maximum (max), mean, minimum (min), standard deviation (SD), skewness, and kurtosis) of the overall sample. Data represent overall sample included in the study comprises monthly stock returns (r), expected stock illiquidity costs (E(c)), market stock beta (β_1), liquidity risk ($\beta_2, \beta_3, \beta_4$), aggregate liquidity risk (β_5), and net beta (β_{net}).

Correlation Analysis

The correlation analysis is performed using the correlation matrix to study the association among variables involved in the study. This study employs seven independent variables namely; expected illiquidity costs (E(c)), market stock beta (β_1), liquidity risk ($\beta_2, \beta_3, \beta_4$), aggregate liquidity risk (β_5), and net beta (β_{net}), and one independent variable that is individual stock returns (r). The result of the correlation analysis is reported in Table 2.

Table 2 Correlation matrix among variables

Var	r	E(c)	β_1	β_2	β_3	β_4	β_5	β_{net}
r	1							
E(c)	−0.279 (***)	1						
β_1	−0.377 (***)	0.245 (***)	1					
β_2	−0.0477 (***)	0.238 (***)	0.206 (***)	1				
β_3	0.351 (***)	−0.285 (***)	−0.830 (***)	−0.238 (***)	1			
β_4	0.0363 (***)	−0.194 (***)	−0.258 (***)	−0.551 (***)	0.158 (***)	1		
β_5	−0.0541 (***)	0.217 (***)	0.298 (***)	0.220 (***)	0.6215 (***)	−0.995 (***)	1	
β_{net}	−0.173 (***)	0.266 (***)	0.590 (***)	0.594 (***)	0.462 (***)	−0.929 (***)	−0.47 (***)	0.9 (***)

Note: This table summarizes the correlation coefficients of the eight variables, stock returns (r), expected illiquidity costs (E(c)), market stock beta (β_1), liquidity risk ($\beta_2, \beta_3, \beta_4$), aggregate liquidity risk (β_5), and net beta (β_{net}) for the whole sample of study during December 2004–2018. The four betas $\beta_1, \beta_2, \beta_3, \beta_4$ are estimated for each stock using Fama Macbeth 60-month rolling window. The significant level denoted as; *** $p<0.01$, ** $p<0.05$, * $p<0.1$.

Table 2 indicates that all independent variables (i.e. $E(C)$, β_1, β_2, β_3, β_4, β_5, β_{net}) are significantly correlated with stock returns (r). The findings indicate that stock returns (r) have significant positive co-movement with the covariances between the stock's return and the market illiquidity (β_3) and the covariance between stock's illiquidity and the market return (β_4) by 0.35 and 0.04 respectively. Nonetheless, the expected stock illiquidity cost ($E(c)$) ($r = -0.279$), the stock market beta (β_1) ($r = -0.377$); the covariance between the stock return and the market return, the covariance between the stock's illiquidity and the market illiquidity β_2 ($r = -0.0477$), aggregate liquidity risk (β_5) ($r = -0.0541$), and net beta (β_{net}) ($r = -0.173$) are inversely correlated with the stock return (r), and all association being significant at the 1 per cent critical level.

Cross-sectional Regression

This study has formulated five regression models (i.e. Regression 1, Regression 2, Regression 3, Regression 4 and Regression 5) to empirically test the significant effect of liquidity and liquidity risk as well as the LCAPM model of Acharya and Pedersen (2005) on stock returns. In particular, in each month from December 2004 to December 2018, the monthly returns are regressed cross-sectionally separately and jointly on the illiquidity cost, liquidity risks, market risk, aggregate liquidity risks and net beta using Fama-Macbeth (1973) cross-sectional regression. Instead of using Fama-Macbeth OLS standard errors, this study used Newey-west estimates to correct for heteroskedasticity and autocorrelated problems. Table 3 reports the output of estimating five regression specifications of Fama-Macbeth regression. Interestingly, the findings show some new evidence of the LCAPM model. Regression 1 shows that the expected illiquidity cost ($E(c)$) is significant at 1 per cent critical value with a premium of -0.0375 (t-value = 0.0013) after controlling for market risk, but with a wrong sign. The findings indicate that every 1 per cent increase in illiquidity cost will cause the return to decrease by 3.75 per cent. The significance of illiquidity cost is also confirmed in another two specification models (Regression 3 to Regression 5) with a similar sign of the coefficient, confirming that illiquidity cost is priced for the cross-sectional returns in Malaysian stock market. These findings are consistent with the other studies conducted in emerging markets such as Bekaert and Harvey (1997), Lee (2011), and Nor (2006), Batten and Vo (2014) though it is contradictory with what Acharya and Pedersen (2005)'s LCAPM model suggests. The inverse signs could be explained by a sudden Macroeconomic shock that dampened market liquidity (Rahim & Nor, 2006).

For liquidity-related risks (Regression 2), with market risk presence as a control variable in the model, the result shows that only β_2 and β_3 are significant with a premium of 0.0280 (t-value is 0.0164) and 1.590 (t-value is 0.262) respectively. However, only β_2 is correctly priced, indicating that the investors are willing to pay a premium for a stock that is illiquid when the market generally becomes illiquid. This finding is consistent with the studies conducted in the US market (Acharya & Pedersen, 2005), and other emerging market as shown in the studies of Lee (2011). While, the β_3 shows a wrong sign of coefficient, which is opposite to what the model proposes. The positive risk premium indicates that the investors demand a high return on stock whose expected return is high during when the market is in general illiquid. This finding is compatible with the findings of Minović and Živković (2010), Lee (2011), and Altay and Çalgıcı (2019). The β_4 is not economically significant though it is correctly signed, summarizing that the co-variance between stock's illiquidity and the market return (β_4) is not statistically significant in the Malaysian stock market. Besides that, the effect of market risk (β_1) on stock, returns are not approved in this specification. The same results were also found in Regression 3 when the joint

effect of liquidity level and individual betas are estimated in a model. Among other variables, β_3 has a strong effect on stock returns which is highly significant both economically (1.44 per cent) and statistically (t-value = 0.27).

The final LCAPM model restricts to only one risk premium that needs to be estimated in a model as in a standard CAPM, thus the total systematic risk (β_{net}) is formed as a linear combination of all betas ($\beta_1, \beta_2, \beta_3$, and β_4). Instead of the market risk (β_1) as in the standard CAPM, the LCAPM model (regression 5) used β_{net} as a risk factor. Before that, to investigate whether aggregate liquidity risks matter separately from β_1, both β_1 and β_5 are tested in regression 4 following Acharya and Pedersen (2005) and Lee (2011). The β_5 and β_{net} are estimated as a linear combination of as follows.

$$\beta_5 = \beta_2 - \beta_3 - \beta_4 \text{ ; and } \beta_{net} = \beta_1 + \beta_5$$

Regression 4 estimates the combined effects of illiquidity costs (E(c)), stock's market beta (β_1) and aggregate liquidity risk (β_5) on stock returns. The findings presented in Table 1 in the Appendix demonstrate that all explanatory variables are significant with a 99 per cent confidence interval but only the aggregate liquidity risk (β_5) is correctly priced as expected by the theory with a positive premium of 0.0083 (t-value = 0.0007). While the other two of E(c) and β_1 show a flipped sign with a premium of −0.0430 (t-value = 0.0016) and −0.0709 (t-value = 0.0144) respectively. The results conclude that liquidity risk matters for asset pricing though the risk premium of liquidity risk is slightly lower than market risk by 6.26 per cent. The reverse coefficient sign of E(c) and β_1 is consistent with the other studies documented in the emerging markets such as Bekaert and Harvey (1997), and Rahim and Nor (2006).

The final regression 5 indicates that the premium of illiquidity costs (E(c)) is -0.0459 (t-value is 0.0017), while the total systematic risk (β_{net}) is significant with a premium of -0.0053 (t-value is 0.0020) but both with a wrong coefficient sign, that is inconsistent with the LCAPM. The findings indicate that the investors require higher returns for stocks that low in its illiquidity cost and its total systematic risks (i.e. market risk and total liquidity risks). The negative premium of β_{net} is driven by the magnitude of β_1 (-0.0709) which is larger compared to β_5 (0.0083). The wrong coefficient sign is consistent with the findings of Lee (2011) when the illiquidity is measured using turnover, zero-return proportion and Roll's measure. In summary, a stock's required return is decreasing in its level of illiquidity costs, level of $\beta_1, \beta_3, \beta_{net}$ and increasing its level of β_2 and β_5.

Table 3 Fama Macbeth cross-sectional regression

Variables /Models	α	E(c)	β_1	β_2	β_3	β_4	β_5	β_{net}	R^2	N
Expected sign	+	+	+	+	-	-	+	+		
Regression 1	-0.0786***	-0.0375***	-0.0610***						0.262	70,609
	(0.0141)	(0.0013)	(0.0138)						(0.260)	
Regression 2	-0.141***		0.0176	0.0280*	1.590***	-0.0017			0.344	70,544
	(0.0108)		(0.0166)	(0.0164)	(0.262)	(0.0012)			(0.339)	
Regression 3	-0.153***	-0.0287***	0.0142	0.0620***	1.438***	-0.0014			0.389	70,544
	(0.0105)	(0.0019)	(0.0168)	(0.0141)	(0.267)	(0.0011)			(0.383)	
Regression 4	-0.140***	-0.0430***	-0.0709***				0.0083***		0.281	70,544
	(0.0114)	(0.0016)	(0.0144)				(0.0007)		(0.278)	
Regression 5	-0.116***	-0.0459***						-0.0053***	0.136	70,544
	(0.0138)	(0.0017)						(0.0020)	(0.134)	

Note: Table 3 shows the coefficient estimated from Fama Macbeth (1973) regression of the LCAPM model for the overall sample. The relation is estimated using five regressions (i.e. Regression 1, Regression 2, Regression 3, Regression 4, and Regression 5) with the full model is written as below:

$$E(r_i - r_f) = \alpha + kE(c_{i,t}) + \lambda_1\beta_{1,i} + \lambda_2\beta_{2,i} - \lambda_3\beta_{3,i} - \lambda_4\beta_{4,i} + \lambda\beta_{5,i} + \lambda\beta_{net,i}$$

The dependent variable in all regression models is the individual stock excess returns. $E(c)$ is the average monthly illiquidity as a proxy of the expected illiquidity costs computed from the previous 12 months following Lee (2011). While, $\beta_{1,i}, \beta_{2,i}, \beta_{3,i}$, and $\beta_{4,i}$ are the pre-estimated beta computed as per equation 3.4 to 3.7described in section 3. While, the aggregate liquidity risk and net beta are estimated as $\beta_{5,i} = \beta_{2,i} - \beta_{3,i} - \beta_{4,i}$ and $\beta_{net,i} = \beta_{1,i} + \beta_{5,i}$. The standard errors (*t*-statistic) reported in parentheses is estimated using robust Newey-West method. The significant level denoted as; *** $p<0.01$, ** $p<0.05$, * $p<0.1$. The R-squared (R^2) is derived from the single cross-sectional regression and the adjusted R^2 is in the parentheses. The estimations are corrected for both heteroscedasticity and autocorrelation problems according to Newey-West (1987) procedures.

SUMMARY AND CONCLUSION

This study examined the role of liquidity risks in explaining the variations in the cross-sectional stock returns using the LCAPM model of Acharya and Pedersen (2005) for the Malaysian stock market. The analysis is performed at the individual stock level using monthly data starting from 2000 to 2018. The illiquidity measure used in this study is the closing per cent quoted spread impact proposed by Chung and Zhang (2014) which is different from Acharya and Pedersen (2005) and Lee (2011).

The overall findings suggest that commonality in liquidity and aggregate liquidity risks are priced with a correct sign of the coefficient. While, the liquidity level, the covariance between stock return and the market return, and the covariance between stock return and market liquidity as well as the total systematic risks are priced but with a flipped sign which is inconsistent with the proposed theory. The inversed sign could be explained by a sudden macroeconomic shock that dampened market liquidity, especially when the 2008 – 2009 global financial crisis was covered in the period of the study. A high correlation among the variables involved in the study and a noisy measure used for illiquidity could be another possible reason. To reduce such noise, study such as and Sadka (2004) use principal component analysis in each of their illiquidity measures. The use of principal component analysis (PCA) can help to capture the important aspect of liquidity that each liquidity measures share a common proxy. Therefore, the future studies can consider using this PCA method in the beta estimation.

The important limitation of the study is that the study used a strong assumption of the one-month holding period and thus the output in this paper should not necessarily demonstrate the evidence against the LCAPM model. Another limitation is that this study assumes constant premia of the LCAPM model which ignores the time-varying feature of liquidity risks. Therefore, future studies can extend the time-varying version of the LCAPM model in investigating the pervasiveness impact of liquidity risks on stock returns.

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THE ROLE OF FINANCIAL KNOWLEDGE ON LIFE INSURANCE AND FAMILY TAKAFUL AWARENESS

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ABSTRACT

The Government of Malaysia wants national life insurance and family takaful penetration rate to breach 75 per cent by the end of 2020. It realises that to attain this goal, it has to raise the population's awareness of the benefits of life insurance and family takaful. Central Bank's data from 2017 revealed the life insurance penetration rate and ownership in Malaysia were discouraging. The penetration rate was reported at 56 per cent, meaning there is another 19 percentage point to cover to reach the 2020's target. Ownership level was also low as only about one-third of the populations and less than 20 per cent of adults were protected by life insurance. One explanation that links the low level for life insurance demand among Malaysians is their inability to objectively evaluate the benefits of life insurance protection. It has been suggested in the literature that a lack of financial knowledge would hinder one's ability to interpret financial information accurately. Thus, it is fair to believe that the level of financial knowledge will have a direct effect on life insurance and facility takaful awareness, and eventually the demand for life insurance products. The main purpose of the paper discusses the literature linking financial knowledge and life insurance awareness. Some suggestions on how to alleviate life insurance awareness among Malaysians are also included.

INTRODUCTION

The life insurance and family takaful sector is one of the major components of the Malaysian financial market. Bank Negara Malaysia (BNM) reported the sector maintained strong forward momentum in 2017 with 8.1 per cent growth in asset value compared the previous year (BNM, 2018). Total insurance and takaful assets in 2017 reached RM309 billion and the central bank expected the industry to remain strong based on a high capital adequacy aggregate ratio, at 23.38 per cent by the end of 2017, compared to the minimum requirement of 13.0 per cent. As the sustainable growth of the insurance and takaful sector is generally important in driving the growth of the country's economy, it makes sense for the stakeholders to explore and understand the factors affecting the awareness, and subsequently the demand for life insurance.

In addition to contributing to the country's economic growth, life insurance and family takaful also play an important role in maintaining the financial and social well-being of families and the community. While in principle insurance and takaful products serve as a risk management tool, the innovation and rapid growth of the sector has expanded its use, including in the areas of personal financial planning. In principle, personal financial planning is important for the majority of society because individuals who have properly implemented financial planning will enjoy greater financial freedom in the future.

Several factors are affecting the effectiveness of personal financial planning. One of the factors that are often said to contribute to the development of a good personal financial planning plan is the level of individual financial knowledge, even more so when it involves life insurance. As explained by Lin, Bruhn and William (2018), the decision-making process related to life insurance and family takaful products and services is more complex than other financial instruments. Tennyson (2011) added that complexity often occurs in life insurance and takaful products because their concepts are less commonly encountered or used by most individuals comparing other financial products and services.

In this regard, this chapter seeks to uncover and discuss the possible links between financial knowledge and awareness among Malaysians as well as their participation in the life insurance and family takaful market. For this purpose, several aspects will be explained in the next sections. These include the status of ownership of life insurance and family takaful in Malaysia; the role of financial knowledge in the process of financial decision making; linkages between financial knowledge and life insurance and family takaful awareness; initiatives towards raising awareness of life insurance; and lastly, the summary section.

OWNERSHIP OF LIFE INSURANCE AND FAMILY TAKAFUL IN MALAYSIA

Life Insurance Association of Malaysia (LIAM, 2018) reported there are 16 family life insurance and takaful companies operating in Malaysia as of this writing (source: LIAM website, accessed January 2020). This is an increase compared to 13 companies in 2016 and 14 in 2017 (BNM, 2018). In terms of the value of protection, LIAM reported a six per cent increase when the value of protection reached RM1.38 trillion in 2017 compared to RM1.3 trillion for 2016. The perspective on the per capita insured value for the two years also saw an increase of RM42,992 in 2017, up from RM41,055 in 2016. Also, the value of premiums from the new policies increased by 3.8 per cent in 2017 compared to the previous year, bringing the total 2017 annual premiums for life insurance and family takaful to RM10.1 trillion.

Based on the aforesaid data, the growth of the country's life insurance and family takaful sector is aggregating positively. However, such information should not be used as a sole yardstick to conclude that the level of involvement of Malaysians in the sector is satisfactory. BNM's target and aspirations for life insurance and family takaful penetration rates by 2020 are at 75 per cent. However, the penetration rate in Malaysia as in 2017 was only 56 per cent. This shows that it is still much lower than the targeted level. As such, relevant parties in the sector have many tasks in hand to achieve a target deficit of 19 per cent before the end of 2020. Compared with developed countries, the current rate of penetration of life insurance and family takaful in Malaysia is relatively unfavourable. Although the penetration rate has surpassed the 50 per cent level, it does not mean that more than half of the country's population has protection. This mainly due to the definition of insurance penetration rate, which does not distinguish individuals who have more than one life insurance or family takaful. Therefore, the actual percentage of Malaysians who are covered is less than the rate of penetration of insurance because it is common in every country, Malaysia including, where some policyholders have more than one insurance protection.

Less than half of Malaysians are covered by life insurance or family takaful. According to BNM (2018), the number of Malaysians with at least one life insurance policy or family takaful is 36.5 per cent at the end of 2017, slightly higher than 2016 at 34.5 per cent. This means about one out of every three residents of the country has a life insurance policy. The remaining two-thirds of Malaysians are uncovered by any life protection policy. As a protection, life policies are more important for adults, especially individuals who play the role of breadwinners to a family institution, a micro-study based on BNM revealed that the actual position on life insurance ownership among the adults in the country is extremely unsatisfactory. For instance, the percentage of adults in Malaysia

who have at least a life insurance policy in 2015 is just over 16 per cent, and more alarmingly, it is a decline compared to the 18 per cent recorded in 2011 (BNM, 2016b).

Life insurance policy ownership scenarios are particularly critical for low-income groups. The central bank of the country conducted a study in 2015. The study measured the involvement of Malaysians in the products and services offered in the financial sector in the country. Although the Malaysian public involvement in the financial sector, especially in the banking sector, is high; but their involvement in the life policy sector, particularly among the low-income households, also known as B40, is alarming. BNM (2016a) reports that as of the end of 2015, the protection of life policies affecting the B40 group was only four per cent. Lack of coverage for life insurance or family takaful policy can have serious financial consequences to family members if breadwinners of B40 families suffer immature death.

THE ROLE OF FINANCIAL KNOWLEDGE IN PERSONAL FINANCIAL PLANNING

Alba and Hutchinson (1987) describe knowledge as information that is learned, organized, represented, and stored in the mind. In this regard, financial knowledge can be interpreted as financial information that an individual learns and is then cognitively organized, represented and subsequently kept in mind. Researchers have long believed that increasing knowledge leads to higher levels of perception, attitude and behaviour. Thus, it is unsurprising many researchers have shown research interest in this area in their quest for greater understanding between knowledge and behaviour. The study of, Yantis, Norwood and Montano (1985), for example, provides empirical evidence that behavioural predictions can be better predicted by intentions when higher levels of knowledge are present than low levels of knowledge. In the financial management, Liebermann and

Flint-Goor (1996) suggest that individuals who have a better understanding of financial market operating procedures should be able to make more effective financial decisions.

Studies examining the impact of knowledge on the behaviour of individuals in the field of finance are extensive. Researchers such as Chen and Volpe (1998), Hilgert, Howard and Beverly (2003); Lusardi and Mitchell (2006, 2007), Robb and Sharpe (2009), and Robb (2011) have shown that financial knowledge and financial behaviour are positively correlated. In other words, their findings support the argument that higher levels of financial knowledge lead to better financial behaviour. In the Malaysian context, Sabri, MacDonald, Hira, and Masud (2010) have also found that individuals with high financial literacy are more likely to exhibit efficient financial behaviour and at the same time, are less likely to have financial problems. Kotzé and Smit (2008) based on evidence from South Africa and Song (2012) using data from China have linked individuals' inability to make good financial results due to lack of financial knowledge. Kotzé and Smit (2008) also point out that one exerts less effort to make financial decisions as well as experiencing more decision inaccuracy dealing with financial matters. In the context of retirement savings, Song (2012) conducted an experimental study in which one group of households provided financial education related to compounding interest rates made a better pension contribution than the control group. The findings of Kotzé and Smit (2008) and Song (2012) show the impact of financial knowledge and the need for financial education. They have shown that increasing financial knowledge can lead to a more financial activity and reduced decision failure.

Motivated by the findings that linked financial knowledge and behaviour, many financial authorities in developed countries, including the United States, have recognized the importance of financial knowledge.

Policymakers of large economies have conducted to examine the role of financial education programmes, including the application of behavioural finance and aspects of financial risk assessment (Schuchardt et al., 2009). In Malaysia, the importance of financial education is also voiced by the central bank. In delivering a keynote address of the conference entitled "Towards an effective financial education strategy for Malaysia – Realizing financial well-being", the Deputy Governor of BNM had emphasized the importance of financial education in personal financial management, especially when individuals undertake future financial planning and risk management (*The Star*, 2017, 3 October)

The worrying scenario in Malaysia is the low level of knowledge of its people. Numerous reports and studies over the past 10 years have reflected and provided empirical evidence on the reality of inadequate financial knowledge among Malaysian society. A study conducted by the World Bank in 2014 found that only one out of every three adults in the country is categorized as financially literate (Klapper, Lusardi, & Van Oudheusden, 2015). The study which comprised 140 countries, indicated 36 per cent of Malaysian adults had achieved satisfactory financial literacy. Although the performance is better than a few neighbouring countries such as Indonesia (32 per cent) and Thailand (27 per cent), Malaysia's position is far behind Singapore. Data for Singapore found that nearly two-thirds (59 per cent) of the country's adults had achieved satisfactory financial literacy.

The findings of the World Bank for Malaysia for 2014 on the level of financial literacy are consistent with the evidence by Lim, Zatul Karamah and Hamidi (2014a). In a study involving 1,191 income earners, Lim et al. (2014a) employed 24 financial-based questions covering several financial aspects such as investment, financial planning, interest rates and inflation. They found 69.8 per cent of participants did not reach the satisfactory level

in financial knowledge. In other words, less than one-third of the respondents achieved satisfactory financial knowledge. It is worth to note that the findings of Lim et al. (2014a), when viewed in more detail, indicated 53.1 per cent of the respondents had attained formal education at least at the college diploma level. Accordingly, it signals that individuals with good formal education do not necessarily command good financial knowledge. The gap between the level of formal education and financial knowledge was proven earlier by Zaiton, Lim and Jainurin (2008). The study which surveyed 513 university students in various fields of study, revealed that the level of financial knowledge of university students was low when, in aggregate, as only two of the seven financial questions employed in the study recorded satisfactory accuracy responses.

An aspect that needs to be clarified about the importance of financial knowledge is the negative impact it can have when financial decisions are guided by ones' inability to conduct proper financial analysis. This is particularly relevant in the context of this discussion as a good financial planning plan usually involves life insurance or family takaful that plays a role as a risk protection tool. Individuals wishing to formulate a financial planning plan have the option of either doing it themselves or seeking financial advisory services. In the ideal situation, the individual should seek the services of a financial consultant if he or she does not have a good knowledge of the financial product to be sought. Robb, Babiarz and Woodyard (2012) provide an interesting finding where financially literate individuals are more likely to seek finance professional advice and service on investment, savings, mortgage decisions, insurance, and tax planning. This tendency may be due to their appreciation and confidence in the value-added from finance professionals. A contradicting situation was reported by Boon, Yee and Ting (2011) when they found that Malaysians seemed reluctant to rely on financial advisors to realize their

financial goals. Malaysians may be more likely to make financial investment decisions on their own. The results of Boon et al. (2011) deserve further focus as it raises concerns that the individuals might have misunderstood the roles of finance professionals in assisting those in need of financial advice. Considering the studies of Klapper et al. (2015), Lim et al. (2014a) and Zaiton et al. (2008) that found the majority of Malaysians are financially illiterate, a lack of meaningful client-advisor relationships in the personal finance sector may result in poor and inefficiency financial planning, which subsequently could hinder the rapid growth of the industry in Malaysia, including those related to life insurance and family takaful.

LINKAGES BETWEEN FINANCIAL KNOWLEDGE, LIFE INSURANCE AWARENESS AND FAMILY TAKAFUL AWARENESS.

It is advisable that adult individuals, especially those who carry out their responsibilities as a breadwinner in their family, have life insurance or family takaful policy to protect their family's financial well-being. In this regard, an increase in awareness of the role and benefits of having a life insurance policy in a family will encourage the community to use these financial instruments. However, BNM and LIAM's less favourable statistics on Malaysian citizenship in life policies, especially those of the B40, may be used as an indication that awareness of the importance of life insurance or family takaful is still at an unfavourable level. This section, therefore, seeks to delve into and explain whether the level of financial knowledge influences the level of life insurance awareness or family takaful.

Personal financial products are becoming more complex (Shapiro & Burchell, 2012). Life insurance and family takaful coverages, for example, have many new features that make them more complex and

expensive. In the Malaysian context, the post-crisis period of 1997 – 1998 saw more efforts by life insurers in offering investment-linked life insurance than traditional life insurance such as term insurance, whole life insurance, or endowment (The Report Malaysia, 2008). The main difference between investment-linked insurance compared to traditional life policies is in the form of cash value accumulation method. Under the traditional life insurance policy, insurance companies will announce annual income or bonuses based on their firm's annual investment performance. Therefore, the ability and capacity of the insurer to declare a stable and satisfactory income or bonus to the insured depends on the investment success of the insurer. When the economy is not favourable, insurance companies will find it difficult to declare a level of income or bonus based on the projection schedule of a life insurance policy. In contrast to investment-linked insurance, some of the premiums paid by the insurer are allocated to purchase unit trusts at market value. Accordingly, the accumulation of cash value of investment-linked insurance is directly dependent on the market price of the unit trust (Binder & Ngai, 2012). As such, the cash value of investment-linked insurance no longer depends on the profitability of the insurance company. In other words, insurance companies have effectively passed on the uncertainty or risk of accumulating policy cash to policyholders, whether they realize it or not.

Complexities associated with life insurance or family takaful are said to have made people less interested in caring about them. One of the main factors identified is the level of language used in the development of the insurance policy itself. Basically, life insurance and family takaful protections are a long-term contract between insurance companies and policyholders. As in other business contracts, the language most often used in the formulation of insurance policies is based on legal language, and it is often difficult for most people to understand. Therefore,

one needs to have sufficient knowledge and understanding of the legal, insurance and financial terms to properly review the contents of the policy. BNM is aware of issues arising from the difficulty of understanding the legal language contained in the insurance policy. As such, the Malaysian central bank has introduced Guidelines on Transparency and Product Disclosure beginning in 2011 (BNM, 2017) to encourage insurance and takaful practitioners to move and adopt more common terms and languages in their insurance and takaful policies. The transition to the common language is intended to help people understand the terms of benefits, exclusions and obligations contained in their policies. To ensure that this aspiration is achieved, BNM has undertaken and will continue to conduct reviews of the sample of policies used by insurance and takaful companies. BNM's efforts towards achieving an insurance policy that is easier to understand by the majority of the populations have shown positive results. According to BNM (2017), about one-third of personal insurance and takaful products (also including motor insurance, property and homeowner's insurance, accident insurance and critical illness insurance) produced in 2016 have used much more common language. The scope of common language use is expected to increase and BNM expects to cover more than three-quarters of total insurance by the end of 2017. BNM is committed and will conduct a more intensive review of policies issued by insurance and takaful practitioners to ensure that the objective of using a common language can be expanded and fulfilled.

The complexity inherent in the protection of life insurance policies also occurs when there are complicated and unfamiliar terms or conditions that lack transparency. One of the reasons leading to this issue is when basic life insurance and family takaful are increasingly being integrated with additional elements such as savings and investments, or medical and health coverages, or all in one package. BNM (2017) explains that

this situation is, among other things, driven by the desire of the insurance company to provide unique products to compete among themselves. However, incorporating various elements and features into life insurance and family takaful insurance package will also increase the risk to the insurance company. Complex coverage plans will make it difficult for insurance companies to predict the claims they will face. To address the higher risks that they will have to face, additional terms of protection and exclusions will usually be included in the policy. More complex life insurance and family takaful products are believed to negatively affect the public's views, attitudes and actions. Not only does this make it difficult for owners and prospective buyers of insurance to understand the full contents of their insurance policies, but the more critical consequence is that people may lose interest in acquiring these products. As such, if these issues are not addressed wisely, the growth prospects of the life insurance and family takaful industry may decline.

The use of legal language, coupled with the increasing complexity of life insurance and family takaful products, has certainly put the role of financial knowledge, particularly in insurance and personal financial planning, to a significant degree. To discuss the possible relationship between financial knowledge and awareness of life insurance and family takaful, this section will further examine whether there is a similarity profile of life insurance and family takaful ownership relative to the level of financial knowledge based on previous studies and reports.

Lin et al. (2018) emphasize that valuation of life policy products is far more complex than other savings and financial investment contexts because their real value can only be realized in the event of compensation claim after an event of a loss. In other words, the nature of the financial risk faced by the life insurance owner is more complex than that of other common financial savings and

investment products. However, as insurance products are extremely important in protecting the socioeconomic interests of a family and society from unforeseen catastrophes, the need for the public in financial knowledge has been cited as one of the important factors in influencing one's awareness, perception, attitude and subsequent behaviour on life insurance and family takaful.

When confronted with high volume and variety of information, individuals are more likely to choose the information that they know and understands, or that they feel understood, during the process of perception formation (Litterer, 1965). Thus, financially literate individuals will be more likely to pay attention to information and facts related to financial knowledge, while having the ability to process financial information more efficiently and accurately. From a cognitive standpoint, they will be more comfortable in processing information that they feel relevant and develop a more positive view on the issue. In other words, someone who is more knowledgeable financial aspects will trigger a better subjective sense of financial products and financial management practices, including aspects related to life insurance. Litterer (1965) explains both positive and negative feelings will have a direct impact on the perception that will come later. In light of the argument, financially literate individuals will have a better ability to process financial information and thus develop a sense of financial relatedness. According to Litterer (1965) further, the perception of an individual is closely related to the action to be taken. Thus, it is fair to argue that good financial and insurance knowledge will lead to a positive perception of insurance, which in turn promotes the attitude towards purchasing insurance.

Several studies indicate that there is a link between the level of knowledge and awareness of life insurance and family takaful. Studies on demographic and geographical factors have found that there are similarities

between levels of financial knowledge and financial preparedness and involvement. The study of Lim et al. (2014a) provides profiles associated with low financial knowledge, among others, those located in rural areas; low formal education; lower income; be in the younger age category; and women. The BNM report (2016b) also states that there is a gap in financial involvement and those who have been identified are in a disadvantageous situation, i.e. the lower-income earners, young people, and women. BNM (2016b) also revealed that coverage of insurance products by insurers is concentrated in more developed regions or states. The central bank also reports that about 60 per cent of insurance agents in Malaysia are in the Klang Valley, Penang and Johor.

A meta-analysis based on the findings of Lim et al. (2014b) and BNM (2016b) report shows consistency in terms of explanatory factors between low knowledge levels and low financial involvement. Both of these phenomena involve the same community. Those who are less well-informed and less involved in finance are more likely than women, low-income, younger, and out-of-town residents. The similarity of factors in describing these two phenomena indicates that financial knowledge plays an important role in the awareness of the realities and possibilities of financial behaviour, and, of course, concerning life insurance and family takaful.

The findings of Zatul Karamah, Lim, Zaiton, Amer Azlan and Rosle (2014) have helped to shed light on the role of knowledge in the realization and consumption of life insurance and family takaful. They found that there was a significant positive relationship between the formal education level and life insurance intake. Zatul Karamah et al. (2014) also revealed a significant positive relationship between attitudes toward the monthly budget and life insurance intake. Their findings are very much in line with Litterer's (1965) argument. Individuals who care and have a positive attitude on personal budget management

have a better understanding of financial management. Not only are these people aware of the importance and benefits of budgeting, but they are often more capable of analysing and making more effective decisions about financial investment products. In other words, in the context of financial knowledge and life insurance policies and family takaful, a good level of financial knowledge tend to form a positive attitude towards life insurance and family takaful, and this positive attitude will be reflected in the behaviour, which is the tendency to have life policy insurance. The positive relationship between financial knowledge and attitudes, and the significant positive relationship between attitudes and behaviour, have been proven by Lim et al. (2014b). In this regard, financial knowledge is important in raising awareness of life insurance products and family takaful.

LIFE INSURANCE AND FAMILY TAKAFUL AWARENESS

The importance of financial knowledge in raising awareness of life insurance and family takaful is beyond dispute. Continuing long-term efforts are necessary to increase financial knowledge especially among the B40 and rural communities. Increasing knowledge and awareness is a time-consuming process. To begin with, insurance companies should be encouraged to focus more on the rural population rather than just focusing on the urban population as it is today. The unavailability of agents and insurance companies in rural areas directly complicates efforts to disseminate life insurance and family takaful information. Not only does this make it difficult to provide information and services, but it is also a hindrance for these communities to approach products and services related to life insurance and family takaful.

To do so and without incurring too much cost to insurers, an alternative option is disseminating information through online

media. The use of online media always allows information to reach a wider audience while being accessible. Meanwhile, the dissemination of accurate information, which is delivered in a language and in a context that is easily understood by all walks of life, will have a greater impact on increasing awareness and knowledge of insurance.

Insurance companies can also re-introduce basic life protection packages. A more affordable basic protection package will certainly have more appeal and will further stimulate interest especially from those who cannot afford to buy premium insurance packages such as investment-linked life insurance. Basic life insurance is usually simple and uncomplicated. Such packages can also be offered directly online to prospective buyers without the insurance agent's service. In this regard, the insurance company may avoid paying a sales commission to the agent. The savings enjoyed by the insurance company can then be passed on to customers in the form of lower insurance premiums. As insurance costs can be reduced, more people in the community will be more interested in knowing life insurance products and services, and their search for information will certainly alleviate their financial knowledge and insurance awareness.

One of the possible causes for the lack of awareness about the importance of life insurance and family takaful maybe the misperception of the purpose of the product. There may be opinions among Malaysians that life protection policies are only for by well off individuals as are they are equating life insurance requirement to the concept of general insurance. In the case of motor insurance and homeowner's insurance, for example, the requirements for insurance protection is based on the ownership of vehicles or property. With that said, they may think that only individuals who own a vehicle or a house should seek insurance protection. Therefore, it is not surprising that many,

especially those who are less well-informed, think that life insurance and family takaful are only relevant and for the rich or the wealthy. This assumption can be logically based on evidence of Ackah and Owusu (2012).

One of the main underlying issue that triggers a lack of awareness of life insurance and family takaful is the low level of financial knowledge. Although several financial education programmes have been implemented, the level of knowledge of the Malaysian public is not yet at the desired level. Going forward, better focused and structured financial education and awareness programmes are needed. Lim et al. (2014a), for example, suggested financial education programmes for female participants to embed financial issues related to women so that these topics are more personal and closer to their heart, which subsequently will foster greater engagement and awareness. Based on the same context, financial knowledge education programmes involving rural and B40 students, for example, may not be appropriate if the contents are about sophisticated investment topics such as stock markets and bonds. Irrelevant topic design not only daunting for them but causing them to lose interest. In other words, the organizers responsible for running financial education programmes must be aware of the background of the participants and develop a more appropriate financial education programme for the achievement of higher impact.

SUMMARY

Life insurance and family takaful are important financial instruments. It is especially beneficial to the beneficiary when the breadwinner of a family experiences premature death. Immediate beneficiaries, especially family members in need of financial supports, can use compensation from insurance companies to cover temporary living costs throughout adjustment that may take years. Despite the importance of life insurance and family takaful,

the rate of ownership of family insurance and family takaful by the people of this country remains low and according to BNM sources, only one-third of its citizens are insured as of 2017. The situation is more alarming as adults and the B40 posted a much lower figure of 16 per cent and 4 per cent in 2015. Respectively, the financial well-being of families without life insurance would be exposed to high risk in the event of an unwanted or unexpected incident on the breadwinners.

One of the key factors that impede awareness and ownership of life insurance and family takaful is the lack of understanding of its citizens in products related to life protection. Life insurance and family takaful policies are long-term contracts that deal with many legal, insurance and financial terms. The policies also divided into several major sections, particularly those involving additional protections such as investment and health. This issue is further exacerbated when Malaysians have low levels of financial knowledge, as evidenced by research by government-linked agencies such as the treasury and academic researchers. Weaknesses in financial knowledge among Malaysians have caused many of them to be overwhelmed by issues related to financial planning failures and financial management mistakes. At the same time, the limited level of financial knowledge also results in their inability to understand and appreciate the function and importance of life insurance policy protection for families.

The community groups found to be at the forefront of poor financial knowledge are women, rural people, low-income earners, and less educated group. Therefore, initiatives in the form of financial education programs aimed at increasing awareness of financial products and life insurance protection in particular, especially among the B40 and younger people, need to be implemented more efficiently. This is especially critical as family members of the B40 family are more negatively affected (Rubayah & Nor Hamizah,

2017) when the breadwinner experiences premature death. Life insurance awareness is also important for young people because insurance taken at a younger age is more cost-effective. Additionally, attaining life insurance at a younger age is less likely to result in rejection by insurance companies. From the perspective of insurance companies, younger prospective customers generally have better health, thus categorized as good prospects. Implementation of education programmes for young people will encourage better financial management habits and ownership of life insurance by these groups may indirectly assist in controlling the wasteful spending often associated with these groups.

Efforts to raise awareness of life insurance and family takaful require the cooperation of many parties. Life insurers especially LIAM members and government agencies such as BNM have been working hard to ensure that the involvement and ownership of life insurance by Malaysians can be enhanced to a more satisfactory level. However, efforts to educate critical target groups such as the rural and B40 communities, young people, and women need to be given more attention so that life insurance ownership of these groups can be alleviated. This goal may not be immediately possible, but if continuous efforts are made, life insurance penetration and ownership will certainly increase.

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