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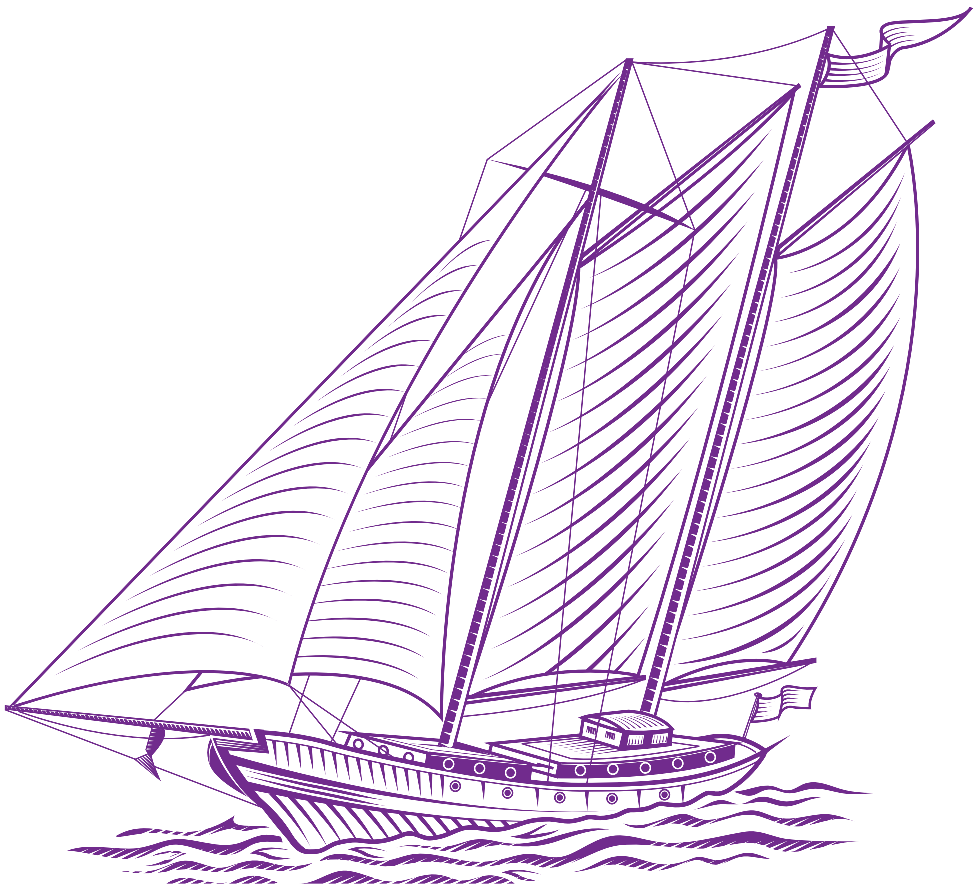

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STUDIA UBB EDITORIAL OFFICE: B.P. Hasdeu no. 51, 400371 Cluj-Napoca, Romania, Phone + 40 264 405352; office@studia.ubbcluj.ro

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FACTORS CONTRIBUTING TOWARDS VIRTUAL TEAM PERFORMANCE: EVIDENCES FROM PAKISTAN'S IT SECTOR

KHURRAM SHAHZAD[1], RABIA RASHEED[2], GHULAM SHABIR[3], LEE WEN CHIAT[4], ABOU BAKAR[5]

ABSTRACT. Virtual team possesses strong pursuit for business. Virtual team may be encircled quickly and is active in its working. Performance is having major significance in any corporate team. Working in a virtual group follows many difficulties. This research focuses on the evaluation of effectiveness of trust, communication, and adaptation of culture, technology and composition on virtual team performance in Pakistan's IT sector. The study examined that by linking these factors with the performance of virtual team either enhancing or lessening it. Moreover, study uses positivism research philosophy because it prefers scientific quantitative methods, deductive research approach as it is narrower in nature and is concerned with testing or confirming hypotheses and survey strategy. The acquisition of data has been done by spreading self-managed survey questionnaire, developed utilizing a software facility available online by Google Inc. This study provides the basic guideline for the managers/administrators of virtual teams. It may enable them as how to enhance their role in increasing team performance thus smoothing their way towards achieving the target particularly with reference to IT professionals.

[1] *Department of Management Sciences, COMSATS University Islamabad Pakistan, ksmughal_85@yahoo.com*
[2] *Iqra University Karachi Pakistan, rabia786@gmail.com*
[3] *Corresponding author. Center for Sustainability Research and Consultancy Pakistan, drshabair@outlook.com*
[4] *School of Economics, Finance, and Banking, University Utara Malaysia, wenchiat86@gmail.com*
[5] *The Islamia University of Bahawalpur, Bahawalnagar Campus, Pakistan, aboubakar02@hotmail.com*

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Introduction

Virtual team possesses strong pursuit for business. Virtual team may be encircled quickly and is active in its working. It can participate in relation to decrease its response to the adjustments in the existent hyper-centered markets. Its far-reaching connections may use abilities of various individuals, scattered over topographical regions which was previously not made familiar. Popiel (2017) remarked about the work as it is promoted to the level of innovativeness because of virtual team's limit less nature.

Additionally, virtual team can similarly benefit its professionals because it enables them to meet and work in scenario of scattered gatherings in reduced time. Moreover, members of the team may get the chance to widen their capabilities by working through limited connections and social settings. Additionally, the limit with respect to individuals to participate and leave after some time, and various other limitations prompt the risk that the team will not be able to achieve its final targets. Performance is having major significance in any corporate team. In the scenario of virtual team working on any project, its importance is increased because it assumes a critical part to be played in virtual team's objective accomplishment. It is imperative to contemplate the impact of all essential variables on virtual team (VT) performance.

Working in a virtual group causes many difficulties. When you can't see your associates, and you can't have the social communications that assemble compatibility and connections, it can be hard to set up trust and adaptation of culture. Reed and Knight (2010) named numerous components which have effect on virtual teams such as organizational/

governmental issues as well as absence of respectability, struggle among colleagues, cost overwhelms, social or dialect contrasts, created item doesn't fulfill prerequisites/inadmissible to end clients, geopolitical issues, concealed plans, idle HR, insufficient task administration/ specialized assets, absence of or deficient communication, absence of partners contribution, no patrons or wrong supporters, staff turnover, poor leadership, hazy undertaking goals, farfetched time plan and so forth. O'Keefe et al. (2011) expounded that communication and timetable/ time limitations affect the performance of virtual team (VT). Vaidyanathan et al. (2010) contended that inability of sharing the relevant information in virtual team (VT) situations can cause errors/distortion of any remote colleague's conduct, and contrarily influence performance of the team. Chang et al. (2014) expressed that adaptation of culture, communication, and trust are the highly powerful affecting variables in virtual team.

Earlier research brought up that cultural adaptation, trust and communication are highly persuasive/important variables in the performance of virtual team (VT). To coordinate these factors essential idea of virtual team, technology and virtual team (VT) composition are picked as additional two components/factors. There is a huge gap in research finding the connection between these most persuasive/ important variables, and virtual team (VT) performance, particularly in setting of Pakistan's IT industry. To satisfy this gap, this experimental investigation expects to give a model intended to decide the connections among all the basic/important variables expressed above, and virtual team (VT) performance.

This research focuses on the evaluation of effectiveness of various factors on virtual team performance in Pakistan's IT sector by linking these factors with the performance of virtual team either enhancing or lessening it.

Virtual team

Monalisa et al. (2008) examined that in the present fast pace world, we have a virtual presence parallel to a genuine one. Access to cutting edge and differed innovations and methods for correspondence, cutting edge associations have rushed to embrace the idea of such virtual teams. As virtual teams have been defined differently in previous literature.

'Members of such teams may be formed by people from different departments, organizations, countries and cultures (Cagiltay et al., 2015). Another definition is: 'a virtual team is a special form of a working group allowing collaboration over spatial, temporal, and even organizational boundaries' (Ellwart et al., 2015). Chang et al. (2014) define virtual teams as 'culturally diverse people who work in a geographically dispersed manner with links strengthened by information technologies designed to facilitate the completion of a specific task'.

However, the common across them and the one being considered by the researcher is, 'a virtual team is a group of individuals who work on shared tasks while distributed across space, time, and/or organizational boundaries' (Jordan and Adams, 2016). Since the team is distributed, it uses technology to communicate. Scott (2013) talked about that separation makes up close and personal correspondence uncommon among such colleagues, so colleagues depend on correspondence advancements, for example, email, phone, texting, wikis, and videoconferencing for association.

Magnus (2011) explained that exclusive issues have been observed in virtual team conditions, including trust issues, correspondence issues and issues with imperceptible colleagues (Afaq et al., 2014) and socially assorted variety can prompt clashes (Magnus, 2011). Contention might be more common and hard to overcome in virtual teams (Furumo, 2009). Vaidyanathan et al. (2010) have similar perspectives with respect to Virtual teams. They said that, Virtual teams convey extra multi directed quality and increment danger of unsuccessful activities as far as achieving their objectives. Kai and Jin'ai (2008) expressed that under various situations virtual properties can advance team adequacy, yet in addition may obstruct it.

Virtual Team Composition

As stated by (Turel and Zhang, 2010), the design of the team all in all, and especially in virtual team's specific situation, can influence the team's performance. Monalisa et al. (2008) expressed that administration and virtual team creation has numerous viewpoints in the same way as making and dealing with a traditional team, yet in addition a few contrasts.While (Turel and Zhang, 2010) contended that ideal team synthesis in virtual settings might be not the same as that of customary teams. Virtual Team structure is by one means or another same as a standard one.

Turel and Zhang (2010)further spoke to those goals ought not to neglect this imperative theme, as ideal setup of virtual team is related with team's performance. The heads of virtual team (VT) must possess the ability to pass on commands unmistakably without seeming like a micromanager. An ideal virtual partner is presently prepared to work self-sufficiently, and micromanagement can stunt the free work. Further, it is expressed by (Monalisa et al., 2008), managers should consider that the team being created must be suitable for the goals aimed to achieve. And (Sarker et al., 2011) highlighted the influence of individual performances on each other within a team. It is the recommendation of (Turel and Zhang, 2010) that design of virtual team is a theme that benefits and encourage investigation. On the basis of discussion stated above, it could be hypothesized,

H_1. There exists a positive relationship between virtual team performance and virtual team composition.

Adaptation of Culture in Virtual Team

Adaptation of culture alludes to adjustment of oneself to fit conduct of another different culture, standards and practices (Chang et al., 2014). Workplace has never been more universal than today. Chang et al. (2014) additionally expressed that there is need to talk about, how individuals alter themselves adjusting to the virtual team. In any case, despite that, it is every now and again found that the continued going things on people's minds while completing widespread work is the worldwide part. Changes in the culture making it simpler for people to acknowledge assignments to the virtual teams (VTs) (O'Keefe et al., 2011).

Adaptation of culture implies the strategy and time it takes the individual to assimilate to another different culture. Chang et al. (2014) explained that intercultural adjustments include co-operations between culturally unique members and results in modification by individuals from the two cultures. Working in another culture can be outstandingly difficult to process, especially in case it isn't the same as should be expected practice. A powerful team pioneer makes less conflicting situations and actuates higher the performance of team (Chang et al., 2014). Social differentiations address an open entryway, not a peril, to adjust things and organizations to neighborhood markets. On the basis of discussion stated above, it could be hypothesized,

H_2. There exists a positive relationship between virtual team performance and cultural adaptation in virtual team.

Communication in Virtual Team

Sarker et al. (2011) featured the significance of communication as it is a vital procedure inside virtual cooperation and has imperative ramifications as far as the results. As explained by (Kuruppuarachchi, 2009) that adequacy of the effective communication is vital in virtual team. Sarker et al. (2011) have noticed that main relic of an appropriated team's presence is basically its correspondence. The ability to pass on effectively transversely finished culturally different teams is fundamental.

When managing a virtual team, every member might be performing various activities. Besides that, they might work in various circumstances as well as on various projects. Setting a period where the virtual team can assemble to meet up is useful for everybody to comprehend the full structure of the project. Holding regular meetings of the team will enhance communication and get every member in agreement. Sarker et al. (2011) proposed that it is critical to analyze the impacts of communication on performance. On the basis of discussion stated above, it could be hypothesized,

H_3. There exists a positive relationship between virtual team performance and communication in virtual team.

Trust in Virtual Team

A positive association among members and manager can also add to motivation, reliability, and occupational satisfaction, all of this can improve degrees of the consistency and augmentation essential concerned benefits. As portrayed by (Sarker et al., 2011), trust depends on presumption that the others will act not surprisingly. Lowry et al. (2014) clarified that trust enhances, while distrust degrades team performance.

Kuruppuarachchi (2009) describes trust as an essential factor for the virtual team. One of the main characteristics of productive remote team administration is strong sentiment shared trust among virtual team members and managers. Sarker et al. (2011) consider trust to be major factor which aides in making the connections in virtual team. Virtual Team Manager can build trust by setting up a typical sentimental reason. Representatives must modify the system, pass on enough, and collaborate straightforwardly. The important of all is the means by which to develop productive working associations among partners, and how to develop and increase effectiveness as the team achieves its total targets. Achievement or disappointment of virtual teams can likewise be affected by an association of cultures and advancement of the trust (O'Keefe et al., 2011). Sarker et al. (2011) expressed that the issue of trust is significantly more risky with regards to scattered teams. Clarity and coherence in correspondence portrays the teams with a united reason and will help avoid any ordinary misinformed judgment that could break down trust. On the basis of discussion stated above, it could be hypothesized,

H4. There exists a positive relationship between virtual team performance and trust in virtual team (VT).

Technology in Virtual Team

Kuruppuarachchi, (2009) expressed that the ability of making advancements in ICT's, particularly in online methods has empowered the development of electronically brought together virtual associations, offering universal reach and coordinated effort proficiencies. Utilization of innovation can positively affect performance (Vaidyanathan et al., 2010). With openness of internet, associations never need to bond inside comparative country to get the capacity that they require. As explained by (O'Keefe et al., 2011) that data advancements provide the project managers with novel techniques for arranging, planning, staffing, coordinating and the controlling activities. Work ought to be conceivable for transversely finished edges.

A few innovation instruments and communitarian innovation can enhance the performance, fulfillment, make attachment and lessen the conflict in socially various teams (Magnus, 2011), like: texting, wikis, discussions, web journals, web conferencing, person to person communication destinations, cloud, report sharing and the virtual societies (O'Keefe et al., 2011). Colleagues can talk to each other through virtual informing administrations and video-conferencing that are fundamental segments of virtual team (Kuruppuarachchi, 2009) and thus having ability to deal with their work in more central way. Innovations can likewise enhance the manager's capability to track unintended variables and make administration frameworks (O'Keefe et al., 2011). Cloud based documentation can be utilized for the accessibility of team's information and all the required data to every member of the team, at any time, who are geographically dispersed, the information and data can be modified accordingly with the needs of the team. In case administration of organization is unsupportive of new advancements and progressions, virtual team (VT) performance could be influenced (O'Keefe et al., 2011). In virtual team, quite possibly the innovation will contrarily affect the performance (Furumo, 2009). On the basis of discussion stated above, it could be hypothesized,

H_5. There exists a positive relationship between virtual team performance and technology in virtual team.

Virtual Team Performance

Performance is characterized by (Gavrea et al., 2011, p.287) as 'an arrangement of financial and nonfinancial markers which provide information on the level of accomplishment of targets and results'. In the modern dynamic world, the ways of associating organizations are also changing dynamically, these associations must modify accordingly for their survival. According to (Chang et al., 2011), when it comes to the virtual team, its performance is always of great attention.

Furumo (2009) expounded that if any conflict within a team is not properly overseen, it adversely affects virtual team's performance. Furthermore, it is contended by (Vaidyanathan et al., 2010) that the performance of team can be diminished if the members avoid peace promoting behaviors. Magnus (2011) has analyzed that, with the varied styles of execution or administration, the multicultural team's performance can be affected critically. O'Keefe et al. (2011) stated that some variables which affect team's performance can incorporate time or calendar requirements and correspondence. Chang et al. (2011) defines the performance of a virtual team as ‘the degree of satisfaction with the decision-making process, perceived decision quality, perceived participation, and member agreement’. Virtual Team Composition (Turel and Zhang, 2010), Technology (O’Keefe et al., 2011), Adaptation of Culture, Communication and Trust (Chang et al., 2011; Chang et al., 2014) are the most important and main factors which have connections with performance.

Thus, this paper tries to examine the relationship of these five most important factors with performances of virtual teams and furthermore extends prior research by examining the performance of virtual teams through the assessment of satisfaction with the decision-making process, perceived decision quality, perceived participation, and member agreement based on evidences from Pakistan’s IT Sector.

Research Framework

A few examinations regard worldwide teams to be superior, inventive and developmental while in others worldwide teams are identified with conflicts and poor management (Magnus, 2011). Inability to share the logical learning in virtual team conditions may cause false impressions or distortion of a remote colleague's conduct, and adversely influence the team’s performance (Vaidyanathan et al., 2010).

The existing frameworks, which included adaptation of culture, communication, trust and virtual team performance, our proposed framework will adopt new variables such as: virtual team composition and technology for measuring the virtual team performance in Pakistan's IT sector. No previous studies have tested the proposed framework involving the virtual team composition and technology, adaptation of culture, trust, communication to measure the virtual teams’ performance.

The proposed model for research helps in selecting the true structure of entire study and masterminding it. This model urges one to pick which material can be accumulated, from which illustrations/cases and about what attributes/variables of those cases. This model of research follows the theoretical model proposed by (Chang et al., 2014). For coordinating virtual team’s basic structure, technology (O’Keefe et al., 2011) and virtual team composition (Turel and Zhang, 2010) are picked as vital variables to contemplate on virtual team performance.

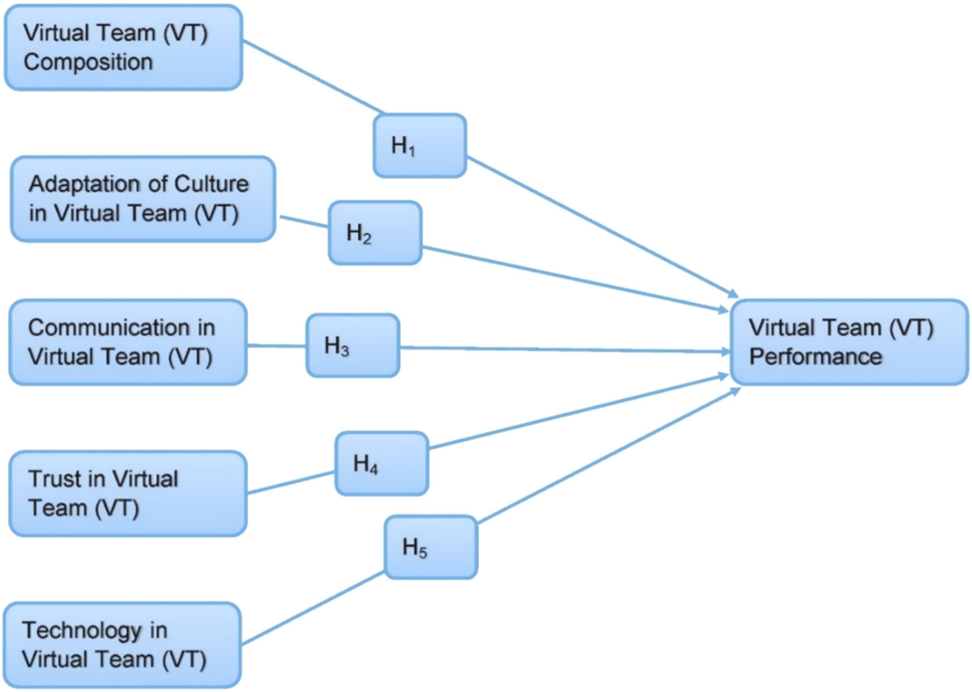

Figure 1.1. – Model for Research based on the theoretical model proposed by (Chang et al., 2014)

Methodology

This study in its approach is quantitative & deductive in its nature so essential data accumulation has been finished by utilizing survey questionnaire (Dutot and Mosconi, 2016). An online questionnaire survey has been conducted for this research. The survey questionnaire has been dispensed utilizing email messages, web-based social networking locales, online IT group/teams, and distinctive informing programming's to deliver an adequate reaction rate roughly to the standard mean of prior research studies. Moreover, this research has adopted resolute sampling. The study is focused on at least the average of above mentioned sample sizes thus a small non-probability sample which led to acquisition of rich-information for insights into this research phenomena.

The time horizon taken for this examination has been cross-sectional as opposed to longitudinal being the objective of this investigation is to reveal the influencing factors affecting performance within virtual teams at a particular point in time and gives a preview of the current circumstances. Conversely, longitudinal investigation requires long-term perceptions and examinations of successive change after some time. Information accumulation for this examination was finished amid a brief timeframe of three weeks amid the long stretch of February 2018.

Analysis

Correlation Analysis

Table 4.1: Correlations

	Composition	Adaptation of Culture	Communication	Trust	Technology	Performance
Virtual Team (VT) Composition	1	.880**	.847**	.834**	.800**	.800**
Adaptation of Culture in Virtual Team (VT)	.880**	1	.844**	.884**	.816**	.789**
Communication in Virtual Team (VT)	.847**	.844**	1	.898**	.767**	.855**
Trust in Virtual Team (VT)	.834**	.884**	.898**	1	.821**	.840**
Technology in Virtual Team (VT)	.800**	.816**	.767**	.821**	1	.817**
Virtual Team (VT) Performance	.800**	.789**	.855**	.840**	.817**	1
**. Correlation is significant at the 0.01 level (2-tailed).						

Source: Authors' compilation

It was found that the "Virtual Team (VT) Composition" subscale was positively correlated with the Performance of Virtual Team (VT) subscale, r (258) = .800, p < .01. It was found that the "Adaptation of Culture in Virtual Team (VT)" subscale was positively correlated with the Performance of Virtual Team (VT) subscale, r (258) = .789, p < .01. It was found that the "Communication in Virtual Team (VT)" subscale was positively correlated with the Performance of Virtual Team (VT) subscale, r (258) = .855, p < .01. It was found that the "Trust in Virtual Team (VT)" subscale was positively correlated with the Performance of Virtual Team

(VT) subscale, r (258) = .840, $p < .01$. It was found that the "Technology in Virtual Team (VT)" subscale was positively correlated with the Performance of Virtual Team (VT) subscale, r (258) = .817, $p < .01$.

Regression

Table 4.2: Summary Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.894[a]	.799	.795	1.85366
a. Predictors: (Constant), Technology in Virtual Team (VT), Communication in Virtual Team (VT), Virtual Team (VT) Composition, Adaptation of Culture in Virtual Team (VT), Trust in Virtual Team (VT)				

Source: Authors' compilation

Table 4.3: ANOVA Results

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	3452.811	5	690.562	200.976	.000[b]
	Residual	869.320	253	3.436		
	Total	4322.131	258			
a. Dependent Variable: Virtual Team (VT) Performance						
b. Predictors: (Constant), Technology in Virtual Team (VT), Communication in Virtual Team (VT), Virtual Team (VT) Composition, Adaptation of Culture in Virtual Team (VT), Trust in Virtual Team (VT)						

Source: Authors' compilation

Table 4.4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.978	.651		1.502	.134		
	Virtual Team (VT) Composition	.120	.080	.100	1.495	.136	.178	5.619
	Adaptation of Culture in Virtual Team (VT)	-.074	.056	-.097	-1.315	.190	.147	6.820
	Communication in Virtual Team (VT)	.528	.084	.439	6.276	.000	.162	6.160
	Trust in Virtual Team (VT)	.219	.102	.169	2.138	.033	.127	7.844
	Technology in Virtual Team (VT)	.453	.072	.340	6.311	.000	.273	3.659
a. Dependent Variable: Virtual Team (VT) Performance								

Source: Authors' compilation

A multiple linear regression was calculated to predict Virtual Team (VT) Performance based on Virtual Team (VT) Composition, Adaptation of Culture in Virtual Team (VT), Communication in Virtual Team, Trust in Virtual Team (VT) and Technology in Virtual Team (VT). A significant regression was found ($F (5, 253) = 200.976$, $p < .000$), with an R2 of .799.

Predicted Virtual Team (VT) Performance is equal to .978 + .120 (Virtual Team Composition) -.074 (Adaptation of Culture in Virtual Team) + .528 (Communication in Virtual Team) + .219 (Trust in Virtual Team) + .453 (Technology in Virtual Team).

Furthermore, as can be seen in Table 4.5, based on coefficients output collinearity statistics, obtained VIF values are between 01 and 10, it can be concluded that there are no multi-collinearity symptoms.

Table 4.5: Summary of Correlation and Regression Analysis

Variable	Mean	Std	Correlation with virtual team (VT) performance	Multiple regression weights	
				b	β
Virtual Team (VT) performance	19.9421	4.09298			
Virtual Team (VT) Composition	15.6988	3.40457	.800**	.120	.100
Adaptation of Culture in Virtual Team (VT)	28.1274	5.36165	.789**	-.074	-.097
Communication in Virtual Team (VT)	15.7876	3.40504	.855**	.528	.439
Trust in Virtual Team (VT)	15.9459	3.16181	.840**	.219	.169
Technology in Virtual Team (VT)	16.1931	3.07424	.817**	.453	.340
**. Correlation is significant at the 0.01 level					

Source: Authors' compilation

Correlation and multiple regression analyses were conducted to examine the relationship between virtual team (VT) performance and various potential predictors. Table 5.6 summarizes the descriptive statistics and analysis results. As can be seen each of the influencing factor scores are positively and significantly correlated with the criterion, indicating that those with higher scores on these variables tend to have higher performance. The multiple regression model with all five predictors produced $R^2 = .799$, $F (5, 253) = 45.67$, $p < .000$. As can be seen in Table 4.6, Virtual Team (VT) Composition, Communication in Virtual Team (VT), Trust in Virtual Team (VT), Technology in Virtual Team (VT) scales had significant positive regression weights, indicating virtual teams with higher scores on these scales were expected to have higher performance, after controlling for the other variables in the model. The Adaptation of Culture in Virtual Team (VT) scale has a significant negative weight, indicating that after accounting for Virtual Team (VT) Composition, Communication in Virtual Team (VT), Trust in Virtual Team (VT) and Technology in Virtual Team (VT) scores, those virtual team with higher Adaptation of Culture in Virtual Team (VT) scores were expected to have lower performance (a suppressor effect).

Discussion and Conclusion

The quantitative analysis results confirmed H_1. Setting up little, high-performing virtual teams has colossal potential for associations to extend bargains, invade new markets, upgrade business strategies and think about the best in class time of hazardous advancements. But composing a good team is difficult. Solitary capacities critical to perform in a virtual space should be underlined while picking the associates for virtual team. Since the virtual team incorporates fascinating troubles and threats, the people require specific data, aptitudes and abilities to work helpfully and satisfactorily in it. This research recognizes that nationwide diversity in virtual teams can increase performance.

The greatest preferred standpoint of virtual team appreciated by an association is the related cost investment funds. Numerous associations outsource their activities to the ease areas. In this way generation cost likewise diminishes with the lessened material cost, operational expenses and lower wages of the workers in these geographic areas. Virtual Teams enables associations to search for talent beyond their country of origin. This research study proves that performance excites with diverse nature of team.

The cultural variances between the virtual team members give rise to number of clashes, which would prompt doubt and troubles in productive cooperation. Resolutions of those doubts and troubles are fundamental for the accomplishment of virtual team working. The results of this study indicate that, if adaptation of culture among virtual team members is too high, this may negatively impact virtual team performance. The quantitative analysis results partially confirm the results of this study prove that there exists the relationship between adaptation of culture and virtual team performance but it is of adverse nature. Further results exposed that the information exchange and coordinated effort required to convey project assignments are expand on the solid establishment of trust and social ties among the virtual colleagues. Previous literature also contended that trust is a key to a successful virtual team. The results of this study confirmed, at the point when individuals feel great and certain about each other, they exhibit useful individual behavior which positively adds to virtual team success.

This study further confirmed that advances in technology enhances virtual team's performance. Associations should invest in technology to bolster its use. Further, this examination also confirms that use of technological tools has positive influence on team's performance. All the colleagues should have simple access and aptitudes to work with these technological apparatuses. The managers should be introduced to new methods of planning and organizing with information technology. Technological tools like electronic mails, instant messaging and videoconferencing ought to be given. The technological backing ought to be effortlessly accessible for individuals situated in various time zones. Technological tools like ERP/CRM, WEB 2.0 improves team performance and lessen the conflict between members.

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FACTORS INFLUENCING HOUSING AFFORDABILITY STRESS VERSUS ALTERNATIVE FINANCING SCHEMES FOR HOME BUYERS IN KLANG VALLEY MALAYSIA

WONG HUA SIONG[1], GITA RADHAKRISHNA[2]

ABSTRACT. Objective: The massive uncontrolled development of residential properties especially in the Klang valley has resulted in a supply glut. According to economic theory, when supply exceeds demand, the price product price should decrease. However, due to the increased cost of construction materials and labour, house prices have not decreased. Consequently many in the Klang valley cannot affort to buy residential property causing financial stress to families with a household income below the average level. At the 19th National Housing and Property Summit 2016, Tan Sri Noh Omar the then Minister for Urban Wellbeing, Housing and Local Government Housing, announced an alternative home financing scheme offered through eligible housing developers licensed under the Money Lenders Act 1951 and Pawnbrokers Act 1972. The paper therefore explores factors influencing housing affordability stress and alternative schemes that could be offered by developers without unduly burdening the home buyer and ensuring a balance between the interests of the public and the developer.

Methodology: The writers apply the method of documentary studies, historical archives, public record and interview to arrive at the findings.

Results: The loan tenure would be between 10 to 20 years with the interest rate being fixed at 12% per annum for borrowers with collateral, and 18% for those without. It is noted that the section of public applying for such a scheme would be those whose monthly income and expenditure disqualify them from a 100% conventional loan. Consequently, one of the immediate issues for the borrower would be coping with the very high interest rates under this scheme. If a borrower were to apply under this scheme as a top-up to a conventional bank loan, there would be two monthly loan repayments to manage. Further if the second loan

[1] *Corresponding author. Faculty of Law, Multimedia University, Melaka, Malaysia, wonghuasiong@yahoo.com*
[2] *Faculty of Law, Multimedia University, Melaka, Malaysia, gita@mmu.edu.my*

is without security he would be charged 18% interest leading to a real danger of potential insolvency. Further, no eligibility criteria has been set for developers to qualify for a licence. There is also the issue of a conflict of interest when a developer also acts as a financier.
Implication: This research presents a conceptually yet empirically supported framework to describe the factors influencing housing affordability stress and alternative schemes that could be offered by developers by taking into consideration of the legal impact when the developers act as home loan financier to the borrowers. The study is particularly useful for housing industry by identifying the legal implication when the developers act as home loan financier to the borrowers. This paper gives valuable reference to law markers to consider whether this alternative is one of the solutions to solve housing affordability stress in Klang Valley area.

Keywords: *Alternative schemes, developer, housing affordability stress, Klang Valley.*

JEL classification: H31

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INTRODUCTION

A home provides man with a sense of security and belonging where he can raise a family and become a part of a community and society. It takes on a central role as a haven of peace, love strength and psychological support. It is a sanctuary where one can retire to, for rest and privacy. Home ownership therefore is an important target for achievement and also represents a considerable economic investment. In fact, in many countries, private homeownership is given priority as otherwise the cost of housing the homeless would fall on the State. In recent years affordable housing has become an increasingly important social issue as the gap between available housing and the financial capacity of buyers widens.

The massive uncontrolled development of residential properties especially in the Klang valley resulted in a housing over supply. However, this situation is contrary to economic theory, which states that when supply exceeds demand, the price of the product should decrease. In reality, when the supply of the houses increase, prices have not dropped. This is attributed by increased cost construction materials and labour, costs leading to increased house prices. Consequently, not everyone in Klang valley can afford to buy a house. This, has in turn caused financial stress to families whose household income is below the average level. In other words, it means that there is imbalance allocation between the number of housing and population in Klang valley.

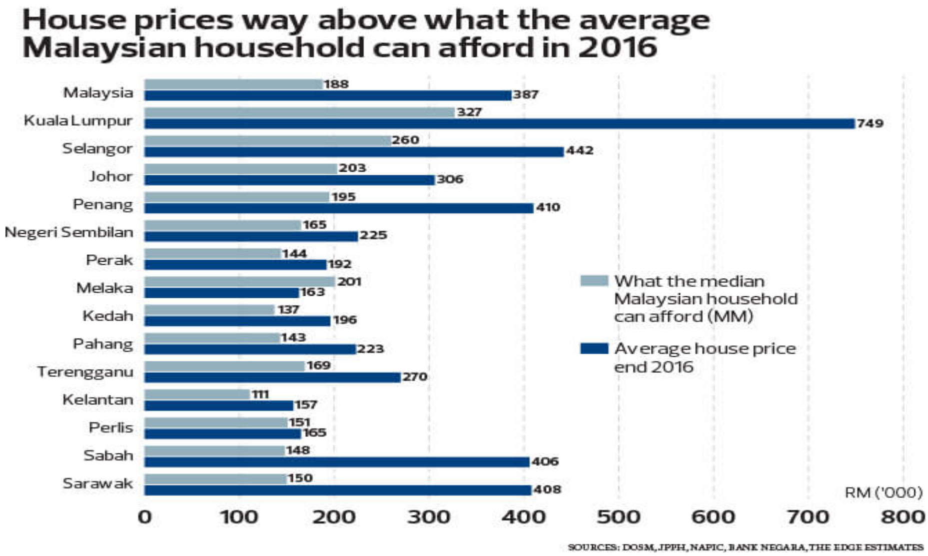
There is no statutory definition for the term ‘affordable housing’. Wendy Wilson and Cassie Barton (2018), define it as “what is judged to be affordable to a particular household or group by analysis of housing costs, income levels and other factors”. Another definition is “housing which is sufficient in quality and location, and is not so costly that it prevents its occupants from satisfying other basic living needs”. The McKinsey Global Institute in 2014 gave a broader definition in terms of not only to affordability, but extends to ‘housing which meets minimum decent standards of living (basic amenities, floor-space, sanitation, without structural building defects) and is not located too far away from centres of employment, usually one hour away’ The United Nations Declaration of Human Rights recognises housing as a basic human right in Article 25 on ‘Right to an adequate standard of living’:

> *“Everyone has the standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing and medical care and necessary social services …”*

According to Dr. Suraya Ismail et al, ‘affordable housing’ would be achieved when the ‘median price for the housing market is three times the gross annual household income’. BNM recommends that the monthly payment for the house should not be more than 30% of the income. Anything more than that would be a burden to the household. Meanwhile, housing affordability can be defined as a person’s ability and capacity to save their income towards both housing costs as well as other consumption (Anirban et al., 2006). Based on Bujang (2006) and United States Department of Housing and Urban Development, when a family has to allocate more than 30 percent of their income just to pay for the cost of housing, there is a cost burden and they will face difficulties in providing for basic needs such as food, clothing, transportation and medical care. Rawley and Ong (2012) concluded that the housing affordability stress is the financial hardship faced by owners of housing. Thus, if a household spends more than 30 percent of the income for housing, this household would be sitable candidate for measuring the level of housing affordability.

According to the survey done by the Household Income and Basic Amenities Survey 2016, it shows that Malaysia's median monthly income continued to grow from 2014 until 2016 but in a small pace.

Malaysia's median monthly household income grew from RM4,585 in 2014 to RM5,228 in 2016, up 6.6% per year at nominal value and 4.4% in real terms, according to the Department of Statistics Malaysia's (DoSM) report on the 2016 Household Income and Basic Amenities Survey. The bottom 40% (B40) households can only afford homes priced up to RM108,000 each while the middle 40% (M40) households can afford up to RM225,900, based on the B40 and M40's median monthly household income of RM3,000 and RM6,275 respectively. The Graph 1 below shows the house prices way above what the average Malaysian household can afford in 2016.



Source: DOSM, JPPH, NAPIC, Bank Negara Malaysia.

Graph 1. House prices way above what the average Malaysian household can afford in 2016.

The residential property market in Malaysia saw a general decline in 2016 due to various factors including high home loan rejection rates by Banks.[3] Bank Negara Malaysia (BNM) introduced stricter lending guidelines with mortgage eligibility assessments based on net income.[4] BNM in its Financial Stability and Payment Systems Report (2016) stated that its Financial Services Committee (FSC) would continue monitoring all finance providers for potential unintended consequences.[5] Malaysia already has a household debt of 89.1% or RM1.03 trillion, one of the highest in the region, which has led BNM to maintain its prudent measures.[6] These are specifically: "(i) curb excessive speculative activity in the housing market; and (ii) deter over-borrowing". The maximum loan-to-value ratio (LTV) of 70% introduced in 2010 is imposed only on borrowers with three or more outstanding housing loans.[7] However it noted that risks from household lending currently remained stable as households generally reduced borrowings in line with loan affordability.[8]

The National Property Information Centre statistics show that less than 30% of new housing launches between 2015 and 2016 were for houses priced at less than RM250,000, compared to 70% during 2008 – 2009.[9] The number of unsold properties is due to the mismatch

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3 Global Property Guide Malaysia, 'Subdued house price rises in Malaysia'(14 Feb. 2017), available at <https://www.globalpropertyguide.com/Asia/Malaysia/Price-History> accessed on 24 Feb. 2018.

4 *Ibid.*

5 Bank Negara Malaysia, 'Managing Risks Arising From Household Indebtedness' The Financial Stability and Payment Systems Report (2016)12, available at <http://www.bnm.gov.my/files/publication/fsps/en/2016/fs2016_book.pdf> accessed on 24 Feb. 2018.

6 Emmanuel Surendra, 'The New PR1MA Financing Plan: A Step Up Or Step Down?' iMoney.my Learning Centre (15 Feb.2017), available at <https://www.imoney.my/articles/pr1ma-step-up-end-financing-home-malaysia> accessed on 24 Feb. 2018.

7 Lim Le Sze, 'Debunking the Myth: Property Measures Have Led to Higher Loan Rejection Rates' BNM Quarterly Bulletin, 1st. Quarter, 33, available at <https://www.bnm.gov.my/files/publication/qb/2017/Q1/p5_ba1.pdf> accessed 26 Feb. 2018.

8 *Supra* n 4.

9 Ng Min Shin, 'BNM defends strict housing loans criteria' (19 July 2017) *Malaysian Reserve*, available at <https://themalaysianreserve.com/2017/07/19/bnm-defends-strict-housing-loans-criteria/> accessed on 24 Feb. 2018.

between the prices of new launches and households' affordability.[10] Generally, first time home buyers, especially the young and those in the lower income group experience difficulties in obtaining home loans. In response thereto, the Malaysian government introduced the Malaysia People's Housing (PR1MA) with various fiscal incentives.[11] However there were issues of availability and location. Subsequently, at the 19th National Housing & Property Summit 2016 on 8 September, Tan Sri Noh Omar the then Minister for Urban Wellbeing, Housing and Local Government Housing (the Ministry), announced a novel scheme enabling housing developers to provide home buyers with financing for their home loans.[12] The requisite licence would be issued under the Money Lenders Act 1951 and Pawnbrokers Act 1972 which do not come under the purview of Bank Negara Malaysia (BNM).[13] The objective is to assist home buyers who are unable to secure home financing to obtain up to 100% financing or just a top-up to assist with their differential financing problems. The loan tenure would be between 10 to 20 years while the interest rate would be capped at 12% per annum for borrowers with collateral, and 18% for those without.[14]

Currently 54 property developers in Peninsular Malaysia have money-lending licences issued by the Ministry, to provide bridging loans to secure end financing especially to first time home buyers.[15] However eligibility is not automatic as the developers also perform a risk assessment of the potential borrower. According to the Real Estate and Housing Developers' Association Malaysia, developers would be

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[10] Cheah Su Ling, Stefanie Almeida, Muhamad Shukri, Lim Le Sze, *Imbalances in the Property Market, BNM Quarterly Review* (Third Quarter 2017) 26, available at <https://www.bnm.gov.my/files/publication/qb/2017/Q3/p3_ba2.pdf> accessed on 24 Feb. 2018.

[11] See n 1.

[12] Shawn Ng, 'Update:Housing Ministry to issue money lending licences to property developers' *Malaysia Property News* (8 Sept. 2016), available at <https://www.edgeprop.my/content/877948/housing-ministry-issue-money-lending-licences-property-developers> accessed on 24 Feb. 2018.

[13] *Ibid.*

[14] *Ibid.*

[15] The Malaysian Reserve, '54 developers have money-lending licences' (3 April 2017), available at <https://themalaysianreserve.com/2017/04/03/54-developers-have-money-lending-licences/> accessed on 24 Feb. 2018.

willing to provide financing of between 10% and 15% of property prices for units priced RM500,000 and below, for first-and second-time home buyers.[16]

The big difference between the affordability and the house price has forced them to live in a low quality and uncomfortable residents, as weel as lack of amenities hence putting sress on housing affordability.

RESEARCH QUESTIONS

This paper represents the first stage of research on the topic and consequently is a literature review that examines four research questions related to factors influencing housing affordability stress in Klang Valley area and subsequently to examine the alternative financing schemes for home buyers to overcome the housing affordability stress. What are the:

(i) factors influencing housing affordability stress?
(ii) currently available home loan financing schemes?
(iii) eligibility criteria and problems encountered in qualifying for home loans.
(iv) resulting legal financial implications?
(v) possible alternative home financing schemes?

RESEARCH METHODOLOGY

The study adopts a qualitative method based on documentary studies, historical archives and public records to arrive at the findings. Interviews have also been conducted with selected households in Klang Valley area. The data reveals that there are three major factors influencing housing affordability stress in Klang Valley area and particularly in Petaling Jaya, Subang Jaya and Jalan Old Klang, namely economy factors, property market and demography.

Structured interview method was used in the research to ten interviewers. Questions are prepared before hand and the categories of answers/respons predetermined. Open ended questions often used and each respondent received same questions with same methods. Selection criteria and results were as follows:

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[16] *Ibid*.

No.	Gender	Age	Monthly income (RM)	Do you own at least a house in Klang Valley area? If not, please state the reason.
1	M	22	2500	No. Not afford to buy.
2	M	25	3000	No. Staying with family.
3	M	24	2800	No. Not afford to buy.
4	M	32	4200	Yes, apartment with 750 square feet.
5	M	45	6500	Yes, single storey house.
6	F	35	3500	No. Not affort to buy.
7	F	48	3800	No. Staying with family.
8	F	21	1800	No. Not affort to buy.
9	F	38	4500	No. Not affort to buy.
10	F	37	4000	No. Not affort to buy.

Source: Interview conducted by author between 10 respondents in Klang Valley conducted from June 2018 until September 2018.

For the abovesaid result, it shows that most of the people staying in Klang valley area are not afford to buy the house due to insufficient income and the price of the properties is too high.

FINDINGS

Economy

Most of the households are unable to own a house because of high house price. Most of the stratified properties or landed properties start from RM300,000 minimum, (especially in Klang valley area) and above. An additional factors to be budgeted for in the housing cost are the high legal professional fee and stamp duty for the sale and purchase and loan transactions. The higher the price of the property, the higher the professional fee according to the Solicitors' Remuneration Order 2005[17] and stamp duty pursuant to Stamp Act 1949.[18] Renovation costs is another burden for most of the households. Graph 2 belows show that the house pricing in Kuala Lumpur, Selangor and Penang area.

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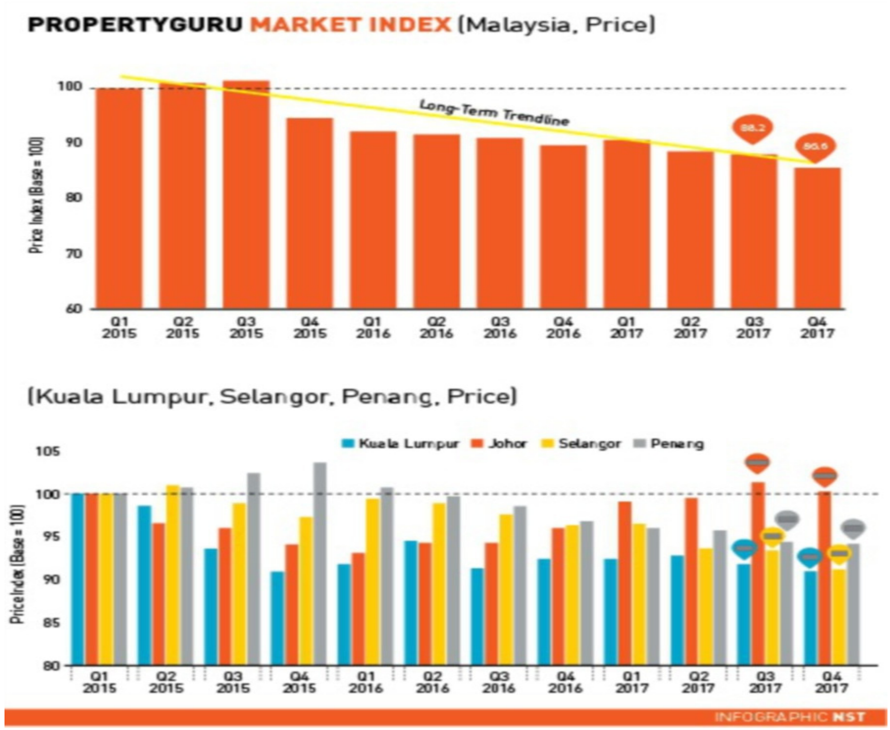
[17] Legal Profession Act 1976 (Act 166), Rules & Orders.
[18] A378.



Source: https://www.nst.com.my/property/2018/04/353364/downtrend-property-prices

Graph 2. The house pricing in Kuala Lumpur, Selangor and Penang area.

CBRE/WTW managing director Foo Gee Jen said, "In January 2018, that the Malaysian property market is expected to be "flattish" this year". Speaking at the 2018 Asia Pacific Real Estate Market Outlook briefing, he said property developers are restrategising their products to cater to demand.

According to Foo, "the price range that has been deemed acceptable by the public within the Klang Valley is RM500,000 for landed property. For outside the Klang Valley, it is RM300,000 to RM350,000".[19]

[19] Sharen Kaur, Downtrend in property price (05.04.2018), available at <https://www.nst.com.my/property/2018/04/353364/downtrend-property-prices> accessed on 09 October 2018.

On the other hand, according to PropertyGuru, "real estate prices in Malaysia continued to decline in the fourth quarter of last year as the market corrected itself amid a complex scenario of growing oversupply in certain segments and a prevailing lack of consumer affordability". The PropertyGuru Market Index (PMI), which tracks the asking prices of residential properties in Malaysia, showed a decrease of 1.6 per cent for the quarter compared with the previous quarter.[20]

Property Market

A contributory factor to high property prices in the Klang valley is foreign buyers who bought the properties for own residentials or investment. This has led to speculation in the property market which has resulted in the current mixmatch between the demand and supply in the property market as Malaysians are unable to afford the high prices.

Demography

Another contributory factor to housing affordability stress is the mismatch between the education level of the households and income. This applies to most of the B40 group of households. Meanwhile, the factor that increase the demand for houses would be due to increasing growth in population in Malaysia (Gin & Sandy, 1994). Grwoth in population would represent the changes of demographic. Buyers' behavior is likely to be influenced by this factor (Schuler & Adair, 2003; Nayyab et al, 2011), especially when they are in the decision making process in selecting the right unit for their home (Majid, 2010; Lutfi, 2010; Jain & Mandot, 2012).

CURRENT HOME LOAN FINANCING SCHEMES

Bank Negara Malaysia (BNM) in its *Financial Stability and Payment Systems Report 2017* stated that, "The rejection rate of housing applications has declined to below the average rate of about a quarter of all cases". The report stated that the rejection rate of housing applications currently

[20] *Ibid*.

stands at 23.1%, below the 2012-2016 average of 26.1%.[21] Half of household debt for Malaysian is housing loan and this scenario reflects affordability issues among the Malaysian.

There are a few traditional home financing options available in Malaysia. These range from conventional bank loans, Islamic home loans, government loans and withdrawals form the Employees Provident Fund (EPF). These are considered below.

My First Home Scheme (SRP)

This is a government initiative for home buyers who qualify under PRIMA homes eligibility criteria.[22] It offers:

- "100% financing, including the first 10% down payment on a house;
- Single borrower gross income not exceeding RM5,000 per month and joint borrowers' gross income not exceeding RM10,000 per month (based on gross maximum income of RM5,000 per month per borrower);
- Property value between RM100,000 and RM400,000;
- Must occupy property upon purchase;
- Financing tenure not exceeding 40 years, or not more than 65 years old;
- Installment payable via monthly salary deduction;
- Compulsory fire insurance / Takaful and
- Amortising facility only, without re-drawable features
- Those blacklisted through CCRIS are not eligible for the scheme".

The scheme is offered in collaboration with BNM, EPF and four local banks, namely Maybank, CIMB, RHB, and AmBank. They provide stepped-up financing with fixed instalment for the first five years of the loan. Thus, for the first five years, borrowers will only be paying the

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[21] Natalie Khoo, Rejection rate of housing loan applications drops below average, says Bank Negara (28.03.2018), available at <http://www.theedgemarkets.com/article/rejection-rate-housing-loan-applications-drops-below-average-says-bank-negara> accessed on 09 October 2018.

[22] Starproperty.my, 'Different financing alternatives for your housing loan', available at <http://www.thesundaily.my/news/2013056> accessed on 24 Feb. 2018.

interest on the loan. Although this would ease their initial financial burden, in reality it is only from the sixth year onwards that they will be repaying the principal sum with interest. The banks collect on their interest income upfront and in the case of a long term 35 -40 year loan the borrower would have paid almost double or more than the cost of the house.[23] So the only advantage is that, those who meet the less onerous eligibility criteria stand to receive 100% financing.

EPF also permits withdrawal from Account 2 for PR1MA home instalment up to retirement or end of tenure.[24] However these come with certain restrictions. All other permitted withdrawals under Account 2 example for medical and educational purposes, withdrawal at age 50 and for Hajj purposes will no be suspended until the PR1MA loan is fully settled. With an age cap at 60 years the scheme ostensibly targets the young. These new entrants to the employment market and those in the lower income group would not have accumulated much by way of EPF savings putting them at real risk should they withdraw their modest EPF savings. So contributors will have to weigh the implications carefully before availing themselves of the EPF withdrawal facility.

EPF withdrawal criteria

The facility for withdrawal of savings from Account 2 to either reduce or redeem housing loan balance is only available for financial institutions approved by the EPF. Further, the contributory should be below the age of 55 years at time of application and must have a minimum of RM500 in Account 2.[25] A degree of flexibility is given in that it is also available for a joint purchase with immediate family members. Further it does not discriminate between Malaysian or non-Malaysian contributories.[26]

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[23] Everst Home Mortgage, 'The Pros and Cons of Mortgage, available at <Amortization' http://www.everesthomemortgage.com/mortgage-amortization/> accessed on 24 Feb. 2018.

[24] *Ibid.*

[25] EPF Reduce/ Redeem Housing Loan Balance, available at <http://www.kwsp.gov.my/portal/documents/10180/153718/REDUCEREDEEM_HOUSING_LOAN_BALANCE_WITHDRAWAL-final_19.6.2017_EN_21.06.2017.pdf.> accessed on 24 Feb. 2018.

[26] *Ibid.*

Bank Loans

Most commercial banks offer various home loan packages including flexible home loan permitting the borrower to pay off the loan earlier and reduce the interest payable by depositing the entire salary in the home financing account. Withdrawals from the excess payment are permitted anytime without charges.[27] Monthly repayments are lowered with longer tenures which invariably increase the total cost at the end of the term. Additionally, borrowers will be continuously in debt with for their entire working life with household debt only increasing with growing requirements over time eg. for educational and medical needs.

As for eligibility criteria, all financial institutions Follow BNM's guidelines namely:

- "70% loan margin on the third property onwards;
- Nett Financing i.e. after deducting free packages given by developer;
- Abolishment of Developer Interest Bearing Scheme (DIBS) i.e. no interest payable on loans while property is under construction;
- Loan approval based on net income instead of gross income;
- Loan tenure reduced to a maximum of 35 years and
- A Maximum 10-year tenure for personal financing"[28]

Banks will refer to BNM's Central Credit Reference Information System (CCRIS) to verify the credit worthiness and risk to the bank of the applicant. Generally, eligibility for a loan depends on a number of factors such as: the applicant's income and monthly expenditure, employment i.e. salaried or self-employed, credit reports, residence status i.e. whether a Malaysian or an expatriate, the project status i.e. whether the construction is in the bank's approved list, the cost of the property and the available financing margin. Careful credit assessment and prudent lending is necessary to mitigate loan default and or a fall in the financial value of the asset secured.[29]

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[27] HSBC Bank Bhd. Malaysia, 'Property Financing', available at <https://www.hsbc.com.my /1/2/personal-banking/home-loans/buying-your-first-home> accessed on 24 Feb. 2018.

[28] Michael Yeoh, 'Bank Negara Malaysia"s Lending Policies: How Do They Affect You?' (4 May 2017) iProperty.com, available at <https://www.iproperty.com.my/guides /bank-negara-malaysia-s-lending-policies-how-do-they-affect-you/> accessed on 24 Feb. 2018.

[29] Catherine Soke Fun Ho and Nurul Izza Yusoff (2009), "A preliminary Study of Credit Risk Management Strategies of Selected Financial Institutions in Malaysia", 28 ***Jurnal Pengurusan*** 45-65.

Government loans

Government servants including employees of Statutory bodies and Local Authorities are eligible for any of seven types of housing loans.[30] The amount of loan approved is based on the loan eligibility, house price, amount applied, outstanding bank loan and market value, whichever is the lower.[31] The interest on government loans has also been fixed at 4%, much lower than a bank loan and does not fluctuate making it attractive and affordable.

Islamic Home Loans /Islamic Housing Finance

Why Islamic Home Loans/Islamic Housing Finance

An alternative scheme is the Islamic home financing. According to Kuwait Finance House (KFH Research 2010)[32] there has been increasing growth of Islamic home finance from RM6.8 billion as at end 2001 to RM23.3 as at end of November 2009. Its attractiveness lies in the interest free and flat rate loans.[33]

What are the Instruments in Islamic Housing Finance?

The procedure involves the Bank purchasing from the applicant through a 'Property Purchase Agreement' for the amount of the approved 'loan' and selling back to the applicant through a 'Property Sale Agreement'

[30] Jabatan Penilian dan Pinjaman Harta, 'Types of Housing Loan'. Seven types of housing loan including but not limited to purchase of a completed house or residential parcel, construction of a house on land belonging to the applicant, purchase of a house or a residential parcel under construction, purchase of land for the purpose of constructing a house, redemption of an exisiting loan from a bank or financial institution, construction of a house on the applicant's land which has been purchased by a government housing loan and renovation of a house, available at <https://www.jpph.gov.myV2/pdf/Government_Housing_Loan.pdf> accessed on 24 Feb. 2018.

[31] *Ibid*.

[32] KFH Research (2010), "Islamic finance research", Kuwait Finance House, available at <www. mifc.com/index.php?ch¼151&pg¼735&ac¼402&bb¼670>, assessed on 24 Feb. 2018.

[33] Bassir, Nur Fadhli; Zakaria, Zarina; Hasan, Haslida Abu; Alfan, Ervina, (2014), "Factors Influencing the Adoption of Islamic Home Financing in Malaysia,Transformations in Business & Economics". 2014, Vol. 13 Issue 1, p155-174. 20p.

at the end of the agreed tenure at a predetermined price. These instruments are based on the concept of Islamic contracts namely, murabahah, ijara wa iqtina, bay bithaman ajil (deferred payment sale (BBA)) and musharakah mutanaqisah (diminishing musharakah (MM)). A brief descriptions of these instruments is given in Table 1 below.

Table 1. Instruments in Islamic Housing Finance

Property own by	Customer	Customer	Financier/Lessor	Both the financier and customer own the property according initial share
Type of property	Completed	Completed and Under construction	Completed	Completed and Under Construction
Liability held by	Financier	Customer	Financier/Lessor	Both the financier and customer held the liability according to share
Monthly payment fixed or variable	Fixed	Fixed/Stepped-up	Variable	Variable
Is early sale allowed	Yes, and the customer entitles to the gains from the difference between purchase and sale price	Yes, and the customer entitles to the gains from the difference between purchase and sale price	Yes and the customer entitles to the gains from the difference between the principal and sale price	Yes and the customer entitles to the gains from the difference between principal and sale price according to the portion of share owned.
Is home improvement allowed	Yes	Yes	Yes	Yes
Is early payment allowed	No	No	Yes	Yes
Is securitization suitable	No	No	Yes	Yes
Are taxes and insurance included	Not included in the purchase price	Normally insurance/takaful included in the purchase price	Typically included in the cost of lease	Typically included in the cost of lease
Bank Risk (based on the length of ownership by the bank)	Low risk	Low risk	High risk	High risk

Source: HANAFI, HANIRA,BINTI (2012) Critical Perspectives on Musharakah Mutanaqisah Home Financing in Malaysia: Exploring Legal, Regulative and Financial Challenges, Durham theses, Durham University. Available at Durham E-Theses Online:

The controversial issues of profit and interest raised in *Arab-Malaysian Finance Bhd v Taman Ihsan Jaya Sdn Bhd & Ors; Koperasi Seri Kota Bukit Cheraka Bhd* (Third Party),[34] was overcome with the Musharakah Mutanaqisah (MM) house financing concept where the customer and Islamic banking institution jointly acquire and own the property. In practice, it has been argued that MM concept is superior to the BBA as MM is seen to better promote the welfare of the people because the outstanding balance of financing at any point in time will not exceed the original price of the asset.[35]

[34] [2009] 1 CLJ 419.
[35] *Supra* n 29.

LEGAL AND FINANCIAL IMPLICATIONS OF DEVELOPERS AS FINANCIERS

The scheme to permit developers to become licensed money lenders under the Money Lenders Act 1951 and the Pawnbrokers Act 1972 raises numerous concerns. First, no criteria have been given for the scheme.[36] Secondly, will developers who themselves need project financing be able to offer loans to homebuyers with or without security? If it is without security, what will be the collateral for the developer? It is to be noted that developers will also have their own conditions and undertake a risk assessment of the potential borrower. What would be the probability of a developer granting finance to those who have been rejected by banks? The scheme places the developer in a position of conflict of interest vis-à-vis the homebuyer. Moreover, will the homebuyer who does not qualify for a bank loan be able to afford the exorbitant interest rates of between 12% - 18%? How long will a borrower be able to sustain such high repayment? How will developers deal with loan defaulters and how long could they endure non-performing loans? Ultimately it looks like a recipe for insolvency and prove to be counter-productive.[37]

In practice, developers who have responded to the scheme have done so under a separate subsidiary financing company.[38] Even then it could only work with the 'build and sell' projects, not the usual 'sell and build' concept. According to Land & General Bhd (L&G), the scheme is too costly for most developers to implement besides not being experienced in the moneylending business.

ALTERNATIVES

***My Deposit scheme*.**

First House Deposit Financial Scheme (MyDeposit) was introduced by the Ministry on 6th April 2016 to assist the middle income group (M40)

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[36] Diane Foo Eu Lynn, 'Government to Review Proposal to Give Lending Licence to Developers', available at <https://www.propertyguru.com.my/property-news/2016/9/135838/government-to-review-proposal-to-give-lending-licence-to-developers> accessed on 24 Feb. 2018.

[35] *Ibid.*

[38] Pressreader, 'The Domino Effect', available at <https://www.pressreader.com/malaysia/the-star-malaysiastarbiz/20160910/281479275865962> accessed on 24 Feb. 2018.

to own their first house. a budget of RM200 million has been allocated for this purpose. The scheme offers a one-time only gift from the government to the successful applicant of 10% of the purchase price of the property or RM30,000 whichever is the lower. To qualify the applicant must be:[39]

"1. Malaysian

2. Aged 21 and above;

3. The applicant is first time house buyer within one household family;

4. Able to secure financing for the property from financial institutions;

5. Gross monthly household income lies between RM3,000 and RM15,000

6. The property must be priced below RM500,000.

7. Successful applicant will receive an approval letter from KPKT with a condition that the Sale And Purchase Agreement should be executed within 30 days.

8. Property purchased under MyDeposit cannot be sold for 10 years, from the date of the Sale & Purchase Agreement.

9. the deposit will be paid directly to the developer's account or in the case of a sub-sale property, to the account of the lawyer".

The scheme is good as it does not differentiate between public and private sector employees and safeguards against abuse of the scheme.

Perumahan Penjawat Awam 1Malaysia (PPA1M)

Under the 2018 Budget the PPA1M will be constructing more affordable housing priced between RM90,000 and RM300,000.[40] The scheme is open to all Malaysian citizens employed in the public sector, including those who are retired or serving on a contractual basis. However, the successful applicant will be prohibited from selling or otherwise transferring ownership except to the immediate family, for a period of 10 years.[41]

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[39] Malaysia Housing Loan, available at <MyDeposit https://malaysiahousingloan.net/mydeposit-first-home-deposit-funding-scheme/> accessed on 24 Feb. 2018.

[40] The Malaymail online, 'Affordable housing among focus of BN government, says Najib, available at <//www.themalaymailonline.com/malaysia/article/affordable-housing-among-focus-of-bn-government-says-najib#8LvXoYoYH5ttEeXM.99> accessed on 26 Feb. 2018.

[41] PPA1M 'Conditions for application', available at <https://www.ppa1m.gov.my/application/condition> accessed on 26 Feb. 2018.

The Public Sector Housing Financing Board (LPPSA) has recently been empowered to exercise more flexibility where loans are being provided for houses under the 1Malaysia Civil Servants Housing Project. They can now apply for housing loans beyond their 60% salary limit as part of the government's effort to encourage home ownership among its employees.[42] Whilst this may ease the access to financing, it calls into question the subsistence capability of the borrower whose card debts and other short term borrowings may increase, raising the household debt.[43]

LPPSA has also introduced additional measures to facilitate homeownership for public servants from 1 January 2018 being:[44]

1. "Allow financing by LPPSA to construct property on waqf land;
2. Include legal fee-related to sale and purchase agreement as part of financing by LPPSA;
3. Allow LPPSA joint-loan for husband and wife or children with a condition that all applicants must be public servants; and
4. Allow joint-home financing between husband and wife or children, with a condition at least one of the applicants is a public servant. The non-public servant needs to secure loans from financial institutions or agencies that provide financing facilities which agrees to be the second mortgage holder".

Whilst these initiatives are laudable, it does not detract from the fact that homebuyers still need to look for additional sources to cover their differential financing which only goes to increase the individual's indebtedness. Moreover, the scheme only benefits public sector employees.

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[42] The Malaysian Reserve, 'Govt. removes 60% salary limit for civil servants housing loans'(16 Nov.2017), available at <https://themalaysianreserve.com/2017/11/16/govt-removes-60-salary-limit-civil-servants-housing-loans/> accessed on 26 Feb. 2018.

[43] Lim Le Sze, 'Debunking the Myth: Property Measures Have Led to Higher Loan Rejection Rates' BNM Quarterly Bulletin, 1st. Quarter, 33, available at <https://www.bnm.gov.my/files/publication/qb/2017/Q1/p5_ba1.pdf> accessed 26 Feb. 2018.

[44] Malaysia Housing Loan, 'Malaysia Budget 2018, Housing Sector', available at <http://malaysiahousingloan.com/malaysia-budget-housing-sector/> accessed on 26 Feb. 2018.

The Smart Sewa Programme

PR1MA has introduced a Rent–to-Own (RTO) scheme for city dwellers. Rental accommodation for between 2 - 3 years at fixed monthly rental is offered whereby part of their rental will channelled as savings to finance their future home purchase. It is directed at low income earners but the homes are not for sale. The scheme has been introduced in Selangor and Johor.

INITIATIVES FROM DEVELOPERS

Developers who adopt the 'build and sell' concept are offering limited leasing or 'Rent –to-Own (RTO) schemes to help the homebuyer tide over the financing. Among these are UEM Sunrise Bhd., Mah Sing Group Bhd., TAHPS Group Bhd's "Stay and Own" scheme, Selangor Dredging Bhd (SDB) "Reside and Purchase" (RAP) programme and Khoo Soon Lee Realty Sdn Bhd's "Rent Now Buy Later" programme. It offers both conventional and Islamic RTO options. Typically, under the RTO scheme, buyers sign a tenancy agreement for between 2 -3 years and a Sale and Purchase Agreement with the developer and enter into occupation. They will have to pay at least a 5% down payment. Part of the rental will go towards financing their purchase price. Rentals could range from RM3,000 to RM10,000 per month.[45] Sunway Bhd. also offers leasing options for a limited period at higher interest rates than banks. The financing plan offers 88% guaranteed loan upon property completion, a deferred payment scheme, and a voluntary exit plan.[46] Innovative as the schemes are they come with their own challenges. Though it assists medium and high –end buyers who do not qualify for a 100% loan to cover the differential sum, the monthly rental could be prohibitive. Further this only applies to completed projects under the 'build and sell' concept. Consequently, only developers with a strong financial base could afford to offer such a scheme.

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[45] Lum Ka Kay, 'Property Developers open to Rent- to-Own, (17 Nov. 2017) The Edge market, available at <http://www.theedgemarkets.com/article/property-developers-open-renttoown> accessed on 26 Feb. 2018.

[46] iMoney.My Learning Centre, 'Property Developers To Offer Home Financing (9 Sept. 2016)', available at <https://www.imoney.my/articles/property-developers-to-offer-home-financing> accessed on 24 Feb. 2014.

Another innovative scheme is MayBank Group's 'HouzKey' in collaboration with five developers. This is an alternative method of home financing by way of leasing, based on the Islamic concept of Ijarah (lease) that provides customers with the option to purchase the property at a predetermined price at the end of the lease.[47]

CONCLUSION

Housing and Local Government Minister Zuraida Kamaruddin announced in July 2018 the formulation of a a new housing loan package targeting the first-time home buyers that will be finalised by BNM soon. Discussion was underway between the central bank, the commercial banks, the EPF and the Finance Ministry for this purpose.[48] Towards this end, the ministry was studying various initiatives that could be taken to address the issue of 'affordable housing 'in Malaysia. Among the proposed initiatives is the formation of a National Affordable Housing Council (NAHC) that will centralise and synchronise all public affordable housing schemes to enable the ministry to provide guidelines on pricing, design and distribution of housing schemes. Meanwhile the Ministry was also looking at Singapore's Housing Development Board (HDB) scheme and the Industrialised Building Scheme (IBS) to lower the cost of construction.[49]

Stress occurs when elements that pushing beyond capacity to deal with and affect to the mental health. In current scenario, if the housing affordability stress continues to exist, it will bring a negative effect and influence on household wellbeing. It is because household wellbeing could be determined by the level of housing affordability stress for each family. The heart of the problem of home financing is the

[47] Lum Ka Kay, 'Malaysia's first-of-its-kind rent-to-own scheme'(24Nov. 2014) The Edge market, available at <https://www.edgeprop.my/content/1240171/malaysia%E2%80%99s-first-its-kind-rent-own-scheme> accessed on 26 Feb. 2018.

[48] Bernama, 'Cabinet paper to coordinate all entities under KPKT' (4 June 2018), available at <https://www.malaymail.com/s/1638346/cabinet-paper-to-coordinate-all-entities-under-kpkt> accessed on 15 August 2018.

[49] Coach Rashid, 'How far has the new government caught up on its manifesto?'Berita Hartanah (25 Aug. 2018), available at <https://coachhartanah.com/how-far-has-the-new-government-caught-up-on-its-manifesto/> accessed on 3 Sept. 2018.

disparity between income and affordable housing. The pricing of houses is in turn affected by various factors such as cost of labour and materials, taxes, general economic conditions and the value of the currency. There is no easy single solution. The scheme for turning developers into financiers is fraught with high risk and attendant issues for both parties. The Government initiative to provide more affordable housing is a step in the right direction. However, offering longer term loans is not an ideal solution as it only increases the household debt. A more viable option would be to offer a limited period of leasing where you rent and pay your way towards property ownership. It is suggested that the government policy should be considered in order to understand the factors that influence stress for household to own a house.

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PROMOTING EDUCATION FOR SUSTAINABLE CONSUMPTION AND PRODUCTION: AN ANALYSIS OF MALAYSIAN SECONDARY SCHOOL CURRICULUM

TEE LIAN HONG[1], SABRINA HO[2], SIDEK MOHD NOAH[3]

ABSTRACT. This paper provides understanding of education of sustainable consumption and production (ESCP) and its implementation, Education for Sustainable Consumption (ESC) and Education for Sustainable Development (ESD). These are the driving tools to address the challenges of sustainable consumptions such as environmental degradation, depletion of natural resources, pollutions, global warming and poverty that negatively affect the quality of life. Therefore, the practical approach to promote ESCP was presenting its purpose and its potential to positively affect the education system. The objective of this study is to assess the existing initiatives in ESCP for Malaysian public education system. The document analysis method was conducted towards the secondary public school for their curriculum materials and textbooks. The result from the analysis shows that some of the elements in the content are related to sustainable consumption and production of education. One of the learning outcomes was that it matches the desired behavioral of sustainable consumption. It is concluded that education plays a vital role in strengthening the sustainable consumption choice and it is evidently supported by government policy as stated in The National Sustainable Consumption and Production Blueprint 2016-2030. The integration of ESCP into curriculum is indisputably important to facilitate and provide adequate transformation for the sustainable consumption behavior into daily life practice.

Keywords: *Education for Sustainable Development (ESD), Education for Sustainable Consumption and Production (ESCP), sustainability*

JEL Classification: Q5, Q56, I25

[1] *Universiti Putra Malaysia sherrytee22@gmail.com*
[2] *Universiti Putra Malaysia yuekming@upm.edu.my*
[3] *Universiti Putra Malaysia smn@upm.edu.my*

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Introduction

Malaysia, together with other world leaders adopted the 2030 Agenda for Sustainable Development during the United Nations General Assembly in New York on 25th September 2015.(K. N. Adham, Siwar, & Bhuiyan, 2015) Inline with this agenda,Goverment Transformation Programme (GTP), Economic Transformation programmes (ETP), New Economic Model (NEM), National Transformation (TN50), the11th Malaysia Plan (11MP) and other national policies are driving to promote sustainable development as the main focus to achieve being an economically rich nation. The aim is to empower population from all ages and various walks of life to make fundamental changes on how our societies produce and consume goods as well as services towards sustainable and resource efficient society. Hence, to materialise this, the core concern of government is to strenghten its policy and institution framework shifting to Sustainable Consumption and Production (SCP) patterns at all levels. The SCP is the government's initiative to ensure that consumers and industries work hand in hand and enable the change towards SCP practices in daily life and also businesses well. Fundamentally, SCP's overarching objective is to connect the dots between SCP and SD. The phenomenon of climate change, water scarcity, energy shortage of energy, global health, food security, women's empowerment, the loss of biodiversity, atmospheric pollution and waste are the challenges for SD (UNEP, 2016)

Changing the SCP pattern is an excessively complex action. It depends on the fundamental changes of how we live and operate. Without adequate knowledge and dexterity of SCP, we could end up weakening. "Both ESC and ESD is about learning for change and learning to change," (UNESCO, 2011). The role of SC is to empower the people, culture and the ecosphere, while ESD emphasizes on the responsibilities and the human right. The educational foci of ESD and ESC explain the background for this research. ESC and ESD are interrelated and brought to promote sustainable consumption. SCP is aiming to create green markets which indirectly make it easier to promote sustainable consumption while ESD aims to educate individuals to be aware of the impact of excessive consumption and influence of behavioral change. Consequently, SCP and ESD are best explained as a continuum approaches towards ESC. Both ESC and ESD are integrated as environmental education under Malaysian curriculum. It was conducted via formal or informal education and some were carried out as "the project base learning to solve the environmental issues such as waste management, reduce carbon foot print and recycling project," (Mahat et al., 2014)

There is a gap concerning ESC and the secondary school curriculum. It was highlighted that ESC and ESD had lack of intent and cohesiveness. In addition, "the conceptual understanding is also considerably vague and lacking in explanation," (Sabrina Ho Abdullah, 2015a). This research intends to explore the gap mentioned above. Thus, the general objective is to assess the current status of Curriculum Standard of Secondary School within the Malaysian Public School education system that incorporated the ESCP or at least the ESC in the content list. This paper presents results from one specific research objective which is to analyze the secondary school curriculum system for ESCP content and behavioral practices in sustainable consumption. The background and the concept of ESC and ESCP are first presented followed by an insight into Malaysia's School Curriculum. The methodology and the result analysis were then discussed. Subsequently, the teaching approach and best practices are presented to support and promote ESCP curriculum. Lastly, the conclusion was drawn.

Why Sustainable Consumption and Production is Needed

Sustainable consumption and production (SCP) is pivotal to a number of international efforts to advance SD. During the World Summit on Sustainable Development (WSSD) in Johannesburg in 2002, the world leaders had called for action on a 10 - year - framework of program to encourage and promote regional and national initiatives to shift towards SCP on social and economic development within the carrying capacity of ecosystem (WSSD). "As the world faces the unprecedented challenges from inter-linked social, economic and environmental crisis, the broad global consensus on the ways of goods and services are produced and consumed and how we pursue economic growth needs to be shifted towards sustainable ways of living in harmony within communities, our ecosystem and natural resources" (United Nations, 2010). Unsustainable consumption and production, including inefficient use of resources, contribute significantly to these challenges (UNEP, 2012b). Therefore, goods and services in developing and developed countries are required to produce more efficiently, use fewer resources, and create generation which cause less wastage and pollution. Innovative and concerted strategies to decouple economic growth from extraction of natural resources and environment degradation are the efforts that need to achieve. SCP also aims at "doing more and better with less" in regards with the life cycle of goods and services using less resources and environmental degradation to improve the quality of life of everyone. Thus, SCP has the potential to help the global community for poverty eradication. In short, it helps to achieve the ultimate goal of Sustainable Development Goals. While the World Business Council for Sustainable Development (WBCSD) highlighted that SCP involves business, communities, household and government to raise environmental quality with efficient production and use of natural resources, minimize the waste and optimization of products and services. Both take the lead to produce more from and turning waste into wealth. It is hope to improve quality of life and to protect the environment. SCP in context within Malaysia is a concept that promotes economic growth without compromising the environment or jeopardizing the needs of future generations. ("Eleventh Malaysia Plan, 2016-2020 | Laman Web Rasmi Unit Perancang Ekonomi," n.d.)This means efficiently using natural resources, minimizing use of hazardous substance and reducing pollution and waste over the life cycle of products and services. Thus SCP invites everyone to consider the environmental impact and ensure resource efficiency of both production and consumption stages.

Conceptual Background

Education for Sustainable Consumption (ESC)

Sustainable consumption regards as mirroring the production side that is related to how and why goods and services are demanded, used and consumed while sustainable production is about the production and upstream perspective in more sustainable way (UNEP, 2008). The concept of sustainable consumption was coined in Oslo on 1994 under the Brundtland commission. The definition of sustainable development includes both consumption and production. "Sustainable consumption and production is the use of goods and services that response to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations" (Prierre McDonahg, Andrea Prothero, 2011). The scope of sustainable consumption includes food, energy, waste generation, water, house, building, and mobility. Recently it also considers the perspective of infrastructure, city design and urban planning.

Environmental Education (EE) and consumer education are at the core of ESC implementation. Both EE and consumer education are considered as a key cross curricular themes for students learning (UNESCO, 2005). ESC is acknowledged as an element of ESD. It aims to spread awareness and empowerment towards everyone and encourage them to make good decisions, to be responsible, to be resource efficient and to be able to adopt environmental friendly lifestyle through sustainable consumption. ESC consists of the acquisition of knowledge, attitudes and skills which are necessary to make a society functional. It exposes about responsibility in learning, encourage individual to manage their own lives and participating in the collective global life. Under the UNEP programs for countries like Indonesia and Tanzania, ESC has used as an integrated tool to evaluate the feedback of the national policy including SCP (UNEP). This means ESC provides the guidelines to facilitate SCP program and consumer education. ESC, therefore works hand in hand to promote SCP. ESC provide students with appropriate information and knowledge on the environmental and social impact of their daily choices, actions, alternatives and workable solutions. Besides, the education that responds to the needs of alleviating poverty, hunger, gender equity, diseases and improvement of life expectancy are brought up under ESC. In most cases, ESC is regarded as an instrument that integrates the basic consumer right to live, to communicate and education (UNEP, 2010a).

As such, ESC is interdisciplinary that enhances knowledge, skills and behavioral changes that encourages sustainable consumption. This means if you are a responsible consumer, you need to be a critical thinker with consumption moral and independent decision making for sustainable lifestyle. Therefore, ESC acquires knowledge and enhances attitudes that form the basic attribute of responsible consumer. ESC must able to lay a solid foundation and significant role for our life style choices in the communities. ESC gives better understanding on how the unsustainable consumption pattern affects the environment which indirectly causes pollution, climate change, biodiversity loss, land degradation and inequality among others. This is extremely important as nowadays, "most consumptions are unbridled consumption which promises happiness," (UNESCO, 2015). They are exposed to images and messages that influence them to make unnecessary choices. The messages obviously do not highlight the impact of unsustainable consumption on environment. Through ESC, it is hope that it can empower the community to better understand and change their behavior to adopt sustainable lifestyle. As of now, only the educated and informed consumers are able to make demand on environmental-friendly products through their purchasing decision and have the capacity to influence a range of factors including waste generation and management, air pollution and energy conservation. With the ESC it is hope to deliver positive impact on the environment, societies and communities among others to shape and develop a sustainable consumption for future generation.

Education for Sustainable Development (ESD)

ESD is relevant for sustainable development as it links to different stages of production and consumption as a large system (UNESCO, 2011). The ability of learning to understand and process critical questions about the effects of each stages of the product life cycle is one of the important learning outcomes to achieve. The ideas of Education for Sustainable Development (ESD) emerged from the report of the World Commission on Environment and Development (1987) entitled "Our Common Future." The United Nations Decade for education for Sustainable Development (DESD 2005-2014) had encompassed action themes which include solving poverty, achieving gender equality, promoting health, cultural diversity, protect environment, rural development, sustainable urbanization, peace and human security (UNESCO 2005). During the world Conference on Education for Sustainable Development (2009), ESD was defined as "an approach to teaching and learning lying on the concepts that underlie sustainability". "The key issues are human rights, poverty reduction, sustainable livelihoods, climate change, gender equality, corporate social responsibility, and production of indigenous cultures in an integral way. It constitutes a comprehensive approach to quality education and learning," (Laurie, Nonoyama-Tarumi, Mckeown, & Hopkins, 2016) (UNEP, 2012a).

Apart from understanding the ESD concept as above mentioned, "ESD is about education with holistic approach," (Osman, Gapor, & Zainal Abidin Sanusi, 2005) which requires students' ability to think for themselves and encourages more independent and participatory decision-making process. It also encourages students to reflect and debate issues as well as forming their own opinions, being able to think critically and solve problems. ESD is also fostering learning which emerged from discovery and exploration through various pedagogy which does not depend on the conventional chalk and talk method but to embark on the 21st century multi-method of learning through visual media, drama, 'TEDtalk', gaming and experiential learning through field work. In other words, action is the key component of the implementation of ESD as it will create and promote awareness and indulge in deeper understanding between an individual and its surroundings to enable the understand of the responsibility for sustainable development the young generation.

Education for Sustainable Consumption and Production (ESCP) in Malaysia

The Education for Sustainable Consumption and Production (ESCP) was set along with ESD which was also responsible and geared towards national sustainable development goals. It was recommended as one of the instruments supporting SCP implementation. "It is "Malaysia's "green strategies" for environmental protection and raising the awareness through formal and informal education to promote sustainable lifestyle," (Khairul Naim Adham, Karin Merle, Gerhard Weihs, 2013). In relation with sustainable development, ESCP has become a guiding paradigm in school. ESCP was added in the secondary school curricula as requested by 11MPs. The practice curriculum update was used to extend ESCP for primary education. "By 2020, the first batch of students will finish their lessons about SCP in daily life. These students will become the ambassadors of SCP, sharing their obtained knowledge, skills and appropriate attitudes with friends and family. By 2030, Malaysia will see the first generation of young parents passing on the passion for SCP which they acquired in school to their children." (The National SCP Blueprint 2016-2030, 2017). This is the commitment and the government's effort combatting with the global sustainable consumption issues. The Malaysian version of the ESCP has listed eight themes as an introduction to SCP, which are "sustainable water consumption, sustainable energy consumption, sustainable waste management, consumption, sustainable mobility, sustainable house and building, sustainable food consumption and sustainable tourism and leisure," (Bahagian Pembangunan Kurikulum, 2017) This ESCP is not a single teaching subject by itself, it was integrated in all the teaching subjects which is relevant to SCP theme. This provides a wide opportunity for students to learn the deep understanding about the current sustainable consumption pattern and to make necessary changes to adjust to sustainable consumption that helps to reduce environmental impact. Subsequently, the collaboration of SCP demonstrates the "constrain of society growth related to its negative impact on environment with finite natural resources on this planet to exploit," (Tukker, Cohen, Hubacek, & Mont, 2010). The future course of planet is subjected to humanity's ability to provide quality of life for an approximate 9 million people without exhausting the Earth's resources. ESCP is focusing on changing towards sustainable consumption behavioral. Through this newly recommended ESCP framework, the students and teachers are able to embed Malaysia's Green Vision where Malaysia is aiming towards a high-income developed nation. Obviously, it needs ESCP to be the catalyst of the process until we could actually achieve the green growth vision we targeted for sustainable development goal 2030. The key focus is to make changes and shape the sustainable consumption for the betterment of the environment.

Practical Approach for ESCP

Participation, System thinking and action learning (PSTAL approach)

(Birney,A.,Jackson,G and Hallen, 2008) approach was referred as the strategy to infuse for responsible consumer behavior to take action. The three principles: - participating, system thinking and action learning. I suggest this approach to be implemented for SCP practices purpose. Through participation for ESC learning, it connects the people from local and around the world involving local and global community of various backgrounds and cultures. They would have meaningful exchange of ideas and make imperative decision making. Participation for up-cycle activities, zero hunger program, community garden or advocate to save wild-life awareness campaign are all available. The willingness to participate and make changes of personal lifestyle is therefore an advantage to secure a sustainable future. As for the digital activation to encourage participation for sustainable-consumerism campaign, it had been proven by (Liu, 2014) as the China Dream Program successfully engaged throughout the nationwide to support sustainable practices. Where, what and how to participate will be explained in the best practices for companies that exercise their corporate social responsibilities.

The second principle is system thinking. The sustainability is inherent with various systems to relate the foundational concept of sustainability network such as the ecosystem balance, and the carrying capacity of the planet to support so as to avoid environmental degradation. Lifecycle analysis and cradle to grave system analysis makes it possible to understand how the product functions from the beginning to the end life. This can save over consumption as some of old products can still be repurpose for other functions. The circular economic will encourage people to consume less resources by turning waste to profit, like upcycling the old textile for house hold product. This fundamental system analysis emphasizes on consumer's responsibilities who should pay attention to the reasons behind the practices. (UNESCO, 2012). "The system thinking allows schools and community to manage the operation system to enhance for better and more sustainable environment to develop," (Uvalić-Trumbić & Daniel, 2016).

The third principle is action learning. It means to observe, to think and make appropriate action on which approaches work best for the environment, people and economic dimension. This action learning or experimental learning using the approach of 'doing' or 'hands on' will result in constructing and obtaining new knowledge, skills, values and experiences. (Government, 2005). They are the skills to identify, investigate, evaluate and take action of SCP issues. For example, learning how to read product label, compare the brand, and search for the product information from the Internet are necessary skills before making the decision to buy a new product. The initiative and ability to acknowledge uncertainty using problem-solving skills and observation skills into the new situation must take place to make sustainable and responsible consumption practices happen. For example, to solve the illegal logging, open burning and river pollution problems, one must know the suitable channel to advocate and take action for the solution. Apart from that, to know how to count the carbon emission, to repair simple house hold devices, to make food compose, and to grow vegetables for own consumption are sustainable skills that are crucial to learn. Thus, “Education for Sustainability is more than just a new curriculum, it is about how the content and process of education can be interwoven with real life contexts to create opportunities and take the lead in building sustainable communities” (Constanza & Kubiszewski, 2014).

Best practice of corporate social responsibilities (CSR) to support SCP education program

“In Malaysia, the changing role of company is demonstrated by their involvement for sustainable development solution and promote healthy environment,” (Hezri, 2011). In order to encourage the SCP programs to relate to the real world practices, schools should encourage collaboration with the community partners and corporate companies to educate and provide case study such as lifecycle thinking system, sustainable innovation, cradle to cradle concepts, product disposal and supply chain. This CSR supports informal education learning for better understanding of SCP. “The local council throughout the nation function with the Local Agenda 21 had promoted various awareness and sustainability projects like waste separation, tree planting, monitoring open burning, community garden and urban farming within and without the school,” (Jabatan Pengkomposan Sisa Semenanjung Malaysia, 2013). Toyota Eco-Youth Programs had since 2001 started the community programs with the schools to mitigate climate change, waste management, reduce carbon footprint and carbon emission. (Toyota Eco Youth, 2018) “Sime Darby had also actively involved in preserving residential green belt, the sustainable ocean, forest resources and native tribes,” (Yayasan Sime Darby, 2019). While Biji-biji is a social enterprise that promotes upcycle and shares economy concepts for the communities. It conducts workshop to teach the skill of repairing household appliances and repurpose the old items (Biji-biji, 2019)

Basically, besides the sustainable consumption themes that were stated in the curriculum, the teacher should not only just focus on environmental issues. Health issues such as obesity which are caused by over consumption should be addressed among young students who fall under this category. The poverty and literacy (Pierre McDonagh, Andrea Prothero, 2011) that hits the developing countries should pay attention with the SCP as human equality topics. Apart from that the circular and shared economy approach (Harald Heinrichr, 2013) should be introduce to support SCP. These two models of economic enable the participation from school and local communities to work hand in hand to promote local sustainable product and upcycle making. For example, encouraging book to book exchange by sharing novels or story books, selling upcycle products make from recycle items or set up bicycle rental booth for the needy students instead of purchasing a new one.

MATERIALS AND METHODS

The Malaysia National School Curriculum content for secondary school was used to analyze the learning outcome as desired behavioral in sustainable consumption. The specifications of official curriculum documents which were issued by the Ministry of Education (MOE) were referred for this analysis. The unit of curriculum development was in charge to develop the standard curriculum (CS) specification document for Standard Curriculum for Secondary School (Kurikulum Standard Sekolah Menengah KSSM) (Kurikulum Sekolah Menengah - KSSM - Portal Rasmi Bahagian Pembangunan Kurikulum,). The CS gives details of the curriculum which cover from the learning areas, objectives and intended outcome of the curriculum. The learning skills such as thinking strategies, sustainability, environmental issues, environment management and noble values were included for geography curriculum.

The approach opted to analyze the curriculum material may be regarded as qualitative content analysis. This was as defined by (Fitzpatricks JL, Sanders JR, 2004) and (Flick U, 2006). The Standard Curriculum for Primary (Kurikulum Standard Sekolah Rendah KSSR), Secondary School (Kurikulum Standard Sekolah Menengah KSSM) ("Buku Penerangan KSPK/ KSSR/ KSSM - Buku Penerangan - Portal Rasmi Bahagian Pembangunan Kurikulum," n.d.) and Global Sustainability ("Buku Panduan Pelaksanaan KSPK/ KSSR/ KSSM - Buku Panduan - Portal

Rasmi Bahagian Pembangunan Kurikulum,") were perused for ESC related contents to determine its learning objectives for desired behavioral change. The findings were presented systematically in data tables.

RESULTS AND DISCUSSION

The Standard Curriculum for Secondary School (Kurikulum Standard Sekolah Menengah KSSM) was introduced with effect in 2017. Of all the 60 subjects for secondary students under new curriculum of KSSM, there is no specific core subject on environmental education in school. But the topics that are related to the sustainable consumption and production are found in all learning subjects such as Geography, Sciences, Living Skill, Biology, Chemistry, Physics and Economic and languages subjects. In addition, MOE had provided a guide book on Global Sustainability for the teachers. It was proposed to be integrated with the relevant topics to promote sustainable consumption to secondary school level students. As of 2016, there were approximately 2.05 million students enrolled in government secondary schools in Malaysia ("Malaysia: public secondary school student number 2016 Statistic, 2018). These are the groups that will become the future generation and they are the only generation that need to understand and adopt more sustainable ways of living. They need to adapt towards more sustainable consumption behaviors. In this regard, "ESC plays a vital role to enhance the attitude of learning to know, learning to do, learning to be and learning to live together towards more sustainable development future," (UNEP, 2010b).

There are a total of 20 subjects in primary school level and 60 subjects in secondary school level, and a total 16 subjects are core subjects which are offered in the government aided school (Table 1). Findings from the document analysis show that while there are contents which relates to the sustainable consumption and production (Table 2), the content which highlighted the eight themes of SCP was the main sources for education of sustainable consumption and production (ESCP). The themes included SCP concepts; ranging from sustainable water consumption, sustainable energy, sustainable waste management, sustainable food, sustainable mobility, sustainable house and building and sustainable tourism. (Buku Panduan Pelaksanaan KSPK/ KSSR/ KSSM - Buku Panduan - Portal Rasmi Bahagian Pembangunan Kurikulum)

Table 1. Number of KSSR and KSSM learning subject

Level	Curriculum	Number of Subjects
Primary	Standard Curriculum for Primary Schools (Kurikulum Standard Sekolah Rendah)(KSSR) (with effects from 2011)	20
Secondary	Standard Curriculum for Secondary Schools (Kurikulum Standard Sekolah Menengah KSSM) (with effects from 2017)	60

Source: Extract from Curriculum Development Unit, Ministry of Education

Table 2. Secondary School Core subjects with ESCP Contents

ESCP Themes	Subjects	Learning Outcomes
1 .Introduction to Sustainable consumption and production	i. Form 4 Chemistry Chapter 9 - Manufactured substances in industry ii Form 4 English Unit 5 - Giving opinion on building dams	i. To identify the function of composite ii. Give the opinion on building the dams.
2. Sustainable waste management.	i. Form 4 Chemistry Chapter 4 - Periodic Table of elements ii. Form 4 Moral Education Unit 18- Think before you throw.	i. To handle chemical compound wisely to avoid wastage. ii. To carry out recycle campaign in school/ community center.
3.Sustainable energy consumption	i. Form 2 Sciences Unit 2- Electricity ii. Form 2 Malay Language Theme 16 - Sustainable Environment	i. To explain the energy and sustainability of life. ii. To identify the biomass energy that generates from agricultural waste.
4.Sustainable water consumption	i. Form 4 English Unit 2- Saving every drop ii. Form 2 sciences Theme 2 - Exploration of element in nature	i. Recalling past experiences on water shortages. ii. To explain water purification and supply.
5.Sustainable food consumption	Form 4 Chemistry Chapter 1- Carbon compound Form 4 English Unit 11 - Healthy living	i. To identify the organic compound in everyday life. ii. To choose healthy food and understand the information that printed on food label
6.Sustainable mobility	i. Form 4 Malay Language Unit 5 Sustainable environment ii. Form 4 Physics Chapter 2 Forces and Motion	i. To advocate the ways to create sustainable environment ii. To identify inertia, momentum, the effect of force and safety features of the vehicles.
7.Sustainable home and building	i. Form 2 Art and Visual Studies Chapter 9 man and art ii. Form 4 Chemistry Chapter 1 Introduction to chemistry	i. To understand the harmonizing role of man and nature in art drawing. ii. To understand reduce the use of chemical that harmful to man in daily life.
8.Sustainable tourism and leisure	i. Form 4 Malay Language Unit 6 Recreation ii. Form 4 Biology Chapter 9 Endangered ecosystem	i. To challenge the Kinabalu Peak ii. To identify the human activities that endangered the ecosystem.

Source: Extract from Curriculum Development Unit, Ministry of Education

The results from the findings of document analysis show the government's effort in promoting SCP by integrating it into all learning subjects for all schools as required by Eleventh Malaysia Plan ("Eleventh Malaysia Plan, 2016-2020 | Laman Web Rasmi Unit Perancang Ekonomi,"). The ESCP curriculum provides guidance for school teachers to inspire, encourage and provide opportunities for students to explore the fascinating world of SCP. The only subject that has the direct focus on ESCP is Geography subject. The ESCP themes are very related in the content of Geography subject for secondary one, two and three students. The learning areas, learning objectives and learning outcomes greatly correspond with ESCP, as shown in (Table 3)

Table 3. Learning Objectives and learning Outcomes for Geography

Learning Areas	**Learning Objectives**	**Learning Outcomes**
1. Water resources	Analysing the water crisis in Malaysia.	●identify the root cause for water crisis. ●explain the effects of water crisis. ●suggest smart ways to reduce water crisis effect.
2. Domestic waste	The effect of increasing domestic waste	●identify the type of domestic waste. ●explain the effects of domestic waste ●suggest the effective solutions to reduce domestic waste.
For Secondary two students		
3. Weather and Climates of Malaysia	Evaluating of human activities towards weather and climate of Malaysia	● justify the impact of human activities towards weather and climate of Malaysia. ●suggest solutions to reduce the weather and climate change of Malaysia.
4. Transportation in Malaysia	Evaluating of the importance of public transportation in Malaysia.	●list the importance of public transportation for the local communities. ●suggest effective ways to increase the services of public transportation. ●adopt the sustainable way of mobility.
5. Global warming	Analyzing the effects of global warming	● state what global warming is ●explain the cause for global warming ● identify the steps to reduce global warming
6. Green technology	Evaluating the importance of green technology	●state the concept of green technology ●identify the example of green technology ●justify the needs to adopt green technology for sustainable living ●generate creative and innovative ideas of green technology
For secondary three students		
7. Natural vegetation	Evaluating the impact of human activities towards the natural vegetation in Malaysia.	●advocate the human activities that endangered the natural vegetation in Malaysia

Learning Areas	Learning Objectives	Learning Outcomes
8. Natural resources in Malaysia	To identify the renewable resources and non-renewable resources in Malaysia	●explain the importance of natural resources for economic development in Malaysia. ●advocate the consumption of natural resources for economic development in Malaysia. ●suggest the potential of natural resources for local community development.
9. World natural vegetation and wildlife	Analyzing the importance of the world natural resources and wildlife	●advocate the importance of the world natural resources and wildlife
10. World natural resources and economic cooperation.	Evaluating the importance of world natural resources and economic cooperation.	● justify the importance of world economic cooperation. ● advocate the world energy crisis and natural resources crisis.
11. Forest resources	Conservation and preservation effort of forest resources in Malaysia	●explain the importance to conserve and preserve the forest resources. ●plan the ideas to protect the wildlife and preserve the Geopark in Malaysia.
12. Recycle	Evaluating the importance of recycling.	●state the importance of 3R (reduce, reuse and recycle) practices ●adopt 3R (reduce, practices in daily life. ●compare 3R practices in Malaysia and foreign countries. ●create a product from recycle material.

Source: Extract from Curriculum Development Unit, Ministry of Education

As referred in Table 3, most of the learning outcomes are instructional statements such as to identify, explain, suggest, and other forms of action verbs as conform to taxonomy learning. However, the learning outcomes that required students to practice, protect, advocate, create and compare are the actions that are needed for SCP behavioral change. (Bahagian Pembangunan Kurikulum, 2017) In view of this, how actions are taken remain vague and ambiguous. The problems occurred when it cannot be known whether the students were aware of the environmental impact of their own consumptions which contribute towards the pollution and domestic waste or whether or not they were aware of their decision that buying single use products will contribute towards the deterioration of the environment or depletion of the natural resources. As highlighted by (Quoquab & Mohammad, 2017), managing sustainable consumption to reduce environmental pressure can be achieved by three pillars of sustainable consumption, mainly environmental concern, meeting basic needs wisely and considering the needs of the future generation. Thus, embedding education for sustainable consumption will turn in more efficient resources consumption, reduce waste, and eradicate poverty without undermining the basis of human development.(Bizikova et al., 2015) As such, ESCP in the school education will lay the foundation towards the generation change as emphasized in the Eleventh Malaysia Plan.

Based on the studies by (Sabrina Ho Abdullah, 2015b), social participation with the public especially for food waste composting activities, recycling campaign, cycling and jungle trekking are some of the practical approaches to encourage sustainable consumption practices. “The multiple aspects of educational instrument via formal and informal education such as awareness campaign, training, research and development are essential to support ESCP,” (N. Adham, Merle, & Weihs, 2013). “Whereas adoption of sustainable lifestyle, behavioral change and decision making that leads to sustainable use of resources which cause minimal environmental impact and have learning outcomes should be focused to ensure environmental sustainability,” (Wang, Liu, & Qi, 2014). It is undoubtedly plausible that the responsibilities of ESCP are so important in order to find solution that positively affect and cause better change for human kind and the planet. Collectively, it is a shared responsibility of all people by taking small actions in leading towards sustainable behavioral change. The discussion above provides some possible avenues for future actions to shift the current unsustainable consumption and production into sustainable consumption and production.

CONCLUSIONS

There is an ample adoption of sustainable consumption elements in the new Standard Curriculum of Secondary School. The government had taken the step forward to promote ESC specifically through ESCP in the new school curriculum commencing from 2017. This is to move in parralel with the global 2030 SDGs and implementing Eleventh Malaysia Plan. Malaysia SCP Blue Print as a driving force to materialise the shift to sustainable consumption. The learning outcomes for sustainability action in those particular contexts that were presented by ESCP provide valuable mechanism in connecting the individual and sustainable practices. Various internal and external attribute provide valuable insight on how

ESCP can be achieved. "The cooperation among teachers, students and various government agencies, NGOs, private corporation and learning institute will create positive impact to steer towards sustainable development," (Quoquab & Mohammad, 2017). Generally, SCP practices need a dynamic and adaptable way to fill the gap to collaborate in instilling responsible consumption. Government's function as a catalyst SCP should not be undermined. The efforts and adequate approaches in ensuring the success of SCP progress needs a holistic method in order to meet the SCP key performance indicators.

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ANALYSING THE PURCHASE INTENTION AND BEHAVIOUR TOWARDS GREEN FOOD PACKAGING FOR ACHIEVING ENVIRONMENTAL GOALS IN MALAYSIA

CHINNASAMY MALARVIZHI[1], SREENIVASAN JAYASHREE[2], SHAMIMA RAIHAN MANZOOR[3]

ABSTRACT. Background/Objective: The study aims to analyse the green purchase intention and green buying behaviour towards the green food packaging in Malaysia based on the Theory of Planned Behaviour (TPB). With an increasing environmental concern, the food/drink companies are trying to contend people as they are becoming more aware. 3.5 billion people in the world's urban areas buy their food products which usually come packaged. Most of it comprises disposable plastic containers and plastic bags. The current research endeavour is to analyse the purchase intention and buying behaviour in Malaysia to promote green food packaging practices.
Methodology: A structured questionnaire is developed and convenient sampling followed to record the responses in the 5-point Likert scale. Mean values of various categories (e.g. race and gender) achieved through the use of SPSS and 'One-Way ANOVA' are counted.
Results: Indian population in Malaysia dominates equally by showing higher purchase intention and green buying behaviour towards green food packaging compared to others. No such significant difference is found in green buying behaviour across genders. The findings are expected to provide fruitful insights about the working and student population in Malaysia in terms of their existing behaviour pattern towards eco-friendly food packaging.
Implications: The implications of this study on the green buying behaviour of the male and female consumers across different races not only serve as a benchmark for the food manufacturers and food marketers but also guide them to comply with 3R's (reduce, reuse, recycle) policies to achieve smart environmental goals in Malaysia.

[1] *Faculty of Management, Multimedia University Malaysia, malarvizhi@mmu.edu.my*
[2] *Corresponding author. Faculty of Management, Multimedia University Malaysia, jayashree@mmu.edu.my*
[3] *Faculty of Management, Multimedia University Malaysia, 1161402023@student.mmu.edu.my*

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Introduction

Developing countries like Malaysia are facing great challenges in sustainable development. Deforestation, water quality, household waste and industrial waste are some of the reasons that cause environmental deterioration. The Malaysian Ministry of Housing and Local Government (2008) reported that solid waste consists of household waste (36.5%), paper (27%), plastic (16.4%), steel (3.9%), glass (3.7%) and others (12.5%)[4].

According to the European Union (EU) reports by European Environment Agency (2010), it is about an average 17,000 tons of domestic waste per day and Malaysia is expected to produce 30,000 tons per day in 2020. Statistics from the Environmental Protection Agency (EPA) reports that paper packaging alone generated 1.5 million tons of waste and similar figures were found for plastic packaging with over 13 million tons generated as reported by European Environment Agency (2010). Specifically, in Malaysia, there is limited information about consumers' perceptions and their practices towards going green (Rezai et al., 2012).

Yet while studies on pro-environmental consumer behaviour are considered in the context of developed markets, such studies are still at the infant stage in many emerging markets including in Asia. This is supported by Biswas and Roy's (2015a, 2015b) calls for new research efforts to examine the progression of pro-environmental consumer behaviour in the Asian region. Green purchasing behaviours differ from

[4] http://www.kpkt.gov.my/

country to country. Although green products exist in Malaysia, the concept of green is still very new to Malaysians. The market for green products in Malaysia is at the beginning of its development. Since Malaysia is a multiracial and multicultural society, it is inevitable for green producers to understand their potential consumers well.

Based on its population statistics, Malays are 61.7% (Malays and indigenous peoples, including Orang Asli, Dayak, Anak Negeri), Chinese 20.8%, Indian 6.2%, other 0.9%, non-citizens 10.4% (2017 est.)[5]. The male population in 2018 outnumber the females with 16.7 million (male) and 15.7 million (female). The sex ratio in 2018 remains at 107 males per 100 females[6].

With the above view in mind, the objective of the study is to investigate the purchase intention and buying behaviour among the various ethnic groups and genders of Malaysia, which can truly reflect the prospects of green food packaging practices in the country. Accordingly, this study has formulated its research objectives based on the following research questions.

Research questions:

1. How the green purchase intention for green food packaging differs in terms of race in Malaysia.
2. How the green buying behaviour towards green food packaging differs in terms of race in Malaysia.
3. How the green purchase intention for green food packaging differs in terms of gender in Malaysia.
4. How the green buying behaviour towards green food packaging differs in terms of gender in Malaysia.

Research objectives:

1. Analysing green purchase intention for green food packaging in terms of race in Malaysia.
2. Analysing green buying behaviour towards green food packaging in terms of race in Malaysia.

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[5] https://www.indexmundi.com/malaysia/demographics_profile.html

[6] https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=c1pqTnFjb29HSnNYNUpiTmNWZHArdz09

3. Analysing green purchase intention for green food packaging in terms of gender in Malaysia.
4. Analysing green buying behaviour towards green food packaging in terms of gender in Malaysia.
5. Testing the influence of green purchase intention for green food packaging buying behaviour in Malaysia.
6. To provide recommendations to the green packaging companies on how they can improve their marketing strategies based on the green buying behaviour patterns of the consumers to achieve smart environmental goals in Malaysia.

This paper starts with the background, research problem, research questions and objectives, which are subsequently followed by relevant literature review, research framework, and research methods. Furthermore, the paper concludes with the detail research findings and necessary implications to achieve sustainable environmental goals in Malaysia.

Literature Review and Research Framework

Safe food is an intense public safety matter to avoid the toxic threats coming the food or its packaging. From the consumers' perspective, safe food, which means food that does not make a person, is essential. It also implies that there is no package leak or drip in juice packs which can make the consumers wonder about the integrity of the initial seal (Ronald and Gary, 2003). Food poisoning, which can be defined as "a situation where taking a contaminated food or ingestion of contaminated food affected by bacteria or toxin bacteria" (Yahaya, 2005) affect human bodies, can cause various symptoms such as "diarrhoea, vomiting, nausea, discomfort, headache, dizziness and abdominal pain" (Ismail, 2000; Crosby, 1981). Among the various types of the diseases, food poisoning is the most common in 'Food and Water Bourne Diseases' (FWBD) in Malaysia (Table 1). In this regard, food packaging is one of the effective approaches to overcome and reduce the toxicity of food that leads to food poisoning.

Food packaging is defined as wrappers or containers used to protect food or other products from dirt, germs and damaged. The use of various plastics has developed as new materials for packaging in 1950 when there was a rapid rise in the number of food poisoning cases that reported to the authorities in the United Kingdom (Crosby, 1981). Nowadays, packaging manufacturing uses a variety of materials and labelling methods to protect and promote a product but some of the products may have chemical materials with possible effect upon the health conditions. Therefore, it is important to identify environmental management approaches in dealing with the safety control of food packaging to overcome food poisoning and other FWBD.

Table 1. Number of cases and incident rates every 100,000 population (KI) for FWBD from 2002 to 2010

	Food poisoning		Typhoid		Cholera		Dysentery		Viral hepatitis A	
Year	Case	(KI)	Case	(KI)	Case	(KI)	Case	(KI)	Case	(KI)
2002	7,023	28.6	853	3.5	365	1.5	292	1.2	295	11.0
2003	6,624	25.4	785	3.0	135	0.5	310	1.2	-	-
2004	5,957	23.3	484	1.9	89	0.4	356	1.4	107	0.4
2005	4,641	17.8	1,072	4.1	386	1.5	141	0.5	44	0.2
2006	6,938	26.0	204	0.8	237	0.9	105	0.4	64	0.2
2007	14,455	53.2	325	1.2	133	0.5	146	0.5	94	0.4
2008	17,322	62.5	201	0.7	93	0.3	92	0.3	36	0.1
2009	10,238	36.2	303	1.1	276	1.0	154	0.5	40	0.1
2010	12,519	44.2	210	0.7	443	1.6	104	0.4	39	0.1

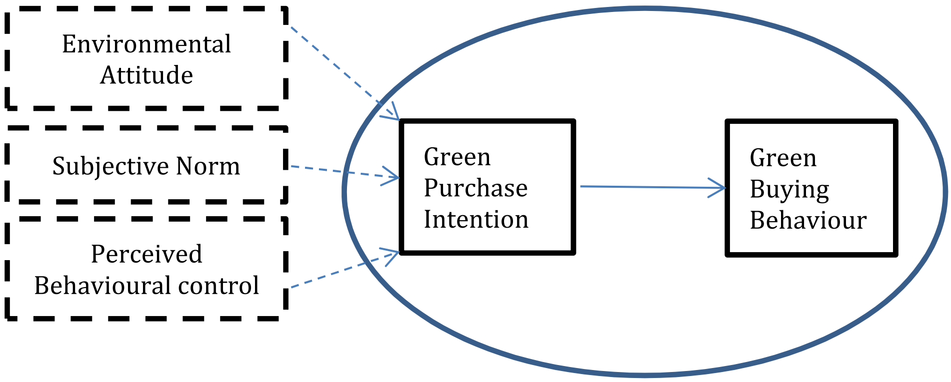
Source: as cited in N H Nordin et al 2017 IOP Conf. Ser.: Earth Environ. Sci. 67 012009

TPB Framework

This study builds on the framework of TPB (Theory of Planned Behaviour), which posits that attitudes, subjective norms and perceived behavioural control contribute toward individuals' behavioural intentions, which in turn determines their behaviour (Ajzen, 1991). Attitude refers to "an individual's favourable or unfavourable assessment of the performance of concerned behaviour" (Ajzen, 1991). Subjective norm is a "social factor that refers to perceived social pressure toward performance or non-performance of a particular behaviour" (Ajzen, 1991). Perceived behavioural control refers to "the perceived ease or difficulty (time, money and opportunity) of performing a particular behaviour and reflects past experiences and anticipated impediments" (Ajzen, 1991). TPB has been used widely to examine green consumer purchase intentions and behaviours (Yadav and Pathak, 2017; Chan and Lau, 2002; Liobikienė et al., 2016).

Furthermore, unlike most of the previous studies that were restricted to purchase intention, this study goes a step ahead to explore the linkage of purchase intention with actual buying behaviour. Purchase intentions are found to successfully translate into purchase behaviour among green consumers by a limited number of studies by Yadav and Pathak (2017) and Chan (2001). This study advances the use of the TPB framework in comprehending consumer green product purchase intention and behaviour in the multicultural setting of Malaysia.

Figure 1 shows the model of TPB as employed for the purpose of this research. This study mainly analyses the two outcome variables, green purchase intention and green buying behaviour placed inside the circle of the above figure, with an aim to see how these variables change based on the different groups i.e. race and gender towards green food packaging practices in Malaysia.



Source: Adapted from Ajzen, 1991

Figure 1. Theoretical Framework

Green purchase intention

Green purchase intention (GPI) is conceptualized as "the probability and willingness of a person to give preference to products having eco-friendly features over other traditional products in their purchase considerations" (Rashid, 2009). Chan (2001) defines green purchase as "a specific kind of eco-friendly behaviour that consumers perform to express their concern to the environment". Purchase intention is a critical factor to predict consumer behaviour (Fishbein and Ajzen, 1975). Consumer intention has been used as a proxy for actual behaviour (Follows and Jobber, 1999).

There is considerable evidence that intention to perform a behaviour is correlated to the enactment of the behaviour. Although intentions do not perfectly predict behaviour, intentions can be the most accurate predictor of behaviour (Ajzen and Fishbein, 1975), because behaviours are usually aligned with intentions (Ajzen and Fishbein, 1980). Several studies (e.g. Bock et al., 2005; Ryu et al., 2003) have reported a positive correlation between behavioural intentions and actual behaviours in the context of knowledge sharing. However, this study intends to assess this combination (Intention-Behaviour) across genders and the ethnic groups available in Malaysia in green food packaging practices in Malaysia.

Green purchase behaviour

Green purchasing behaviour (GPB) refers to "the consumption of products that are benevolent/ beneficial to the environment, recyclable/ conservable, or sensitive/responsive to ecological concerns" (Mostafa, 2007). Past studies have focused on what factors affect environmental behaviour in general (e.g. household, environmental group joining etc.) (e.g. Johnson et al., 2004). These studies suggest that environmental attitude, affect, knowledge and memory could be important determinants of eco-friendly behaviour (Chan, 2001).

Comparatively speaking, existing literature on environmental behaviour has paid less specific attention to green purchasing behaviour. Chan (2001) has evidenced "the effects of Chinese adult consumers' human-nature orientation, degree of collectivism, ecological affect and ecological knowledge on their attitudes toward green purchases and purchase intent". However, actual green purchases were not examined. To date, little is known about the gender effect on green purchasing behaviour among Hong Kong adolescent consumers. Evidence from the existing Western literature establishes that women have significantly more participation in general environmental behaviour and specific green consumption than men (Maineri et al., 1997).

However, in this study, the green purchase behaviour towards the green food packaging is analysed in terms of different groups in Malaysia such as race (e.g. Malay, Chinese, Indian and others) and gender.

Research Method

In this study, the researchers focus on the two categories of population in Malaysia such as students and working people. The number of employed persons in Malaysia increased from 14852.60 thousand in June of 2018 to 14863.20 thousand in July 2018[7]. Employed Persons in Malaysia average is 12385.22 thousand from 1985 until 2018, reaching an all-time high of 14863.20 thousand in June of 2018 and a record low of 5624.60 thousand in December of 1985. This growing number of labour force justifies the decision to consider them as a significant group to analyse their green purchasing behaviour towards green food packaging in Malaysia.

The second group of respondents used for this project is the student population comprising the three levels of education: primary, secondary and tertiary. In 2015 there were 7,763 government and government-aided primary schools with 2,683,992 students; 2,397 government and government-aided secondary schools with 2,072,162 students; and 576 higher education institutions (including private institutions) with 1,272,071 students[8]. This statistics also signifies the importance to analyse the green buying behaviour among the student population in Malaysia.

Sampling and Measurements

A self-administered structured questionnaire was distributed by the researchers using convenient sampling method. The targeted sample size was minimum 100. Bagozzi and Yi (2012) opine that the sample size for a study should be 100, and if possible, 200.

A 5-point Likert-scale was utilized to measure all the variables, where 1=strongly disagree and 5=strongly agree. The data were collected from restaurants and cafeterias located in the malls and university areas throughout the Selangor state.

[7] https://tradingeconomics.com/malaysia/employed-persons

[8] http://penangmonthly.com/article.aspx?pageid=165&name=the_numbers_on_education_in_malaysia_and_penang

Selangor state was chosen to conduct the survey for this project. The survey consists of 3 sections. The first section focuses on the demographic items such as age, gender, marital status etc. Section B focuses on Green Purchase Intention (GPI) which is measured using a five-item scale from Paul et al. (2016). In Section C, Green Buying Behaviour items are taken from Ahn et al. (2012). The completed questionnaires have been checked for accuracy, coded and entered into the computer using Statistical Package for Social Sciences (SPSS) version 23.0. Descriptive statistics based on One Way ANOVA (Analysis of Variance) was utilized to compare means from several groups that have an impact on the green buying behaviour towards green food packaging.

Findings and Discussion

Many important themes emerged from careful analysis of the data. Based on the Descriptive statistics, it has been shown that 45% of the respondents are Male and 55% of the respondents are female. Since Malaysia is a multiracial country, the true behaviour can be reflected in this study from the racial distribution which is 37% Of Malay, 30% Chinese, 15% Indian and 18% others.

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	45	45.0	45.0	45.0
	Female	55	55.0	55.0	100.0
	Total	100	100.0	100.0	

Source: authors' work; SPSS output

Race

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	37	37.0	37.0	37.0
	Chinese	30	30.0	30.0	67.0
	Indian	15	15.0	15.0	82.0
	Others	18	18.0	18.0	100.0
	Total	100	100.0	100.0	

Source: authors' work; SPSS output

Based on the research framework, this study is going to analyse mainly the Green Purchase Intention and Green Buying Behaviour according to the races and genders which are the two main demographic factors that can create an impact on the green food packaging practices in Malaysia or elsewhere.

Tests of Normality (Race)

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Race	Statistic	df	Sig.	Statistic	df	Sig.
PI	Malay	.151	37	.033	.916	37	.009
	Chinese	.260	30	.000	.900	30	.008
	Indian	.338	15	.000	.701	15	.000
	Others	.198	18	.059	.872	18	.019
GPB	Malay	.110	37	.200*	.985	37	.882
	Chinese	.125	30	.200*	.965	30	.403
	Indian	.156	15	.200*	.963	15	.741
	Others	.241	18	.007	.850	18	.009

Source: authors' work; SPSS output
**. This is a lower bound of the true significance.*
a. Lilliefors Significance Correction

Tests of Normality (Gender)

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Gender	Statistic	df	Sig.	Statistic	df	Sig.
GPB	Male	.129	45	.059	.970	45	.282
	Female	.108	55	.159	.962	55	.081
PI	Male	.166	45	.003	.921	45	.004
	Female	.170	55	.000	.908	55	.000

Source: authors' work; SPSS output
a. Lilliefors Significance Correction

Based on the Kolmogorov-Smirnov[a] test of normality, it appears that the P-value for the different races in terms of purchase intention is .033, .000, .000, and .059 respectively which is <0.05 (at 5% significant level). On the other hand, in the case of Green Buying Behaviour, the P-values are .200, .200, .200 respectively which is more than 0.05 (at 5% significant level). However, only in case of others, the P-value is .007 which is less than 0.05 (at 5% significant level). Similarly, the P-value for PI in case of male and female is .003 and .000 respectively, which is <0.05 (at 5% significant level). The Shapiro-Wilk test of normality also shows similar results. Therefore, we can conclude that there is a significant departure from normality. Therefore, we have decided to go for K Independent Samples Nonparametric Test to evaluate the effects of race and gender upon Green Purchase Intention and Green Purchase Behaviour towards Green Food Packaging in Malaysia.

However, in the case of GPB, the Shapiro-Wilk test of normality shows a different scenario where the P-value for male and female is .282 and .081which is >0.05 (at 5% significance level). Therefore, there is no significant departure from normality for the data. Hence we can go for a parametric test to see whether male and female significantly differ from each other in case of green purchase behaviour.

Nonparametric Kruskal-Wallis Test for Race:

Test Statistics[a,b]

	PI	GPB
Chi-Square	7.179	8.840
df	3	3
Asymp. Sig.	.066	.032

Source: authors' work; SPSS output
a. Kruskal Wallis Test
b. Grouping Variable: Race

The P-value of this test for PI is .066 which is >0.05 and for GPB is .032<0.05. there is some evidence based on ranking that there are differences in purchase intention and green buying behaviour in terms of races in Malaysia.

Ranks

Race		N	Mean Rank
PI	Malay	37	51.41
	Chinese	30	40.82
	Indian	15	64.40
	Others	18	53.19
	Total	100	
GPB	Malay	37	41.07
	Chinese	30	53.75
	Indian	15	66.37
	Others	18	51.25
	Total	100	

Source: authors' work; SPSS output

In case of PI, the Mean ranks for Malay, Chinese, Indian and others are 51.41, 40.82, 64.40 and 53.19, respectively. Hence Indians rank higher in terms of purchase intention towards green food packaging in Malaysia. On the contrary, for Green buying behaviour, the Mean ranks for Malay, Chinese, Indian and others are 41.07, 53.75,66.37, 51.25 respectively. Therefore, again Indians rank higher compared to the rest of the groups.

Kruskal-Wallis Test for Gender

Test Statistics[a,b]

	PI
Chi-Square	2.086
df	1
Asymp. Sig.	.149

Source: authors' work; SPSS output
a. Kruskal Wallis Test
b. Grouping Variable: Gender

Ranks

Gender	N	Mean Rank
Male	45	45.93
Female	55	54.24
Total	100	

Source: authors' work; SPSS output

In case of PI, the mean ranks for male and female are 45.93 and 54.24 respectively. The mean rank for purchase intention is higher for the female population in Malaysia compared to the male population.

Test of Homogeneity of Variances
GPB

Levene Statistic	df1	df2	Sig.
.069	1	98	.794

Source: authors' work; SPSS output

In the case of green purchase behaviour, the P-value is .794>0.05; therefore, equality of variances assumption is met. The groups are homogenous in GPB towards green food packaging in Malaysia.

ANOVA
GPB

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.018	1	.018	.025	.874
Within Groups	67.943	98	.693		
Total	67.961	99			

Source: authors' work; SPSS output

From the ANOVA table above, the P-value is .874 which is > 0.05 (at 5% significance level). Hence male and female do not differ significantly in terms of green buying behaviour towards green food packaging in Malaysia.

Conclusion and Implications of Research Findings

The research findings have provided some insights and feedback for the green food packaging marketers in formulating their various strategies on how to attract customers to purchase eco-friendly packaged food items. Marketers should be aware that in a multiracial and cosmopolitan country like Malaysia the purchase of green packaged food can also vary based on Malay, Chinese, Indian and other groups of consumers residing in this country. This study intends to analyse the purchase intention and green buying behaviour among various race group in Malaysia towards eco-friendly food packaging. The findings show that Indian consumers mean rank is higher compared to Malay, Chinese and other consumers in Malaysia both in case of Purchase intention and green buying behaviour towards green food packaging. The second mean rank for purchase intention goes for other races/ nations consisting of consumers from Pakistan, Bangladesh, Indonesia, Arab countries, India, Iran, Sudan and many more. A majority of the consumers from these countries comes to Malaysia for study purposes. Hence based on our study focus these international student groups are also very crucial that should be considered by the Packaging and food companies to redesign their marketing strategies towards green food Packaging.

On the contrary, in the case of gender, the green purchase intention found to be higher for the female population compared to male in Malaysia. This finding is similar to that of Connell et al. (1999) who has mentioned that women have been found to be more concerned and responsible regarding the environment and environmental protection issues. But interestingly, male and female showed no significant differences in the case of green buying behaviour towards green food packaging in Malaysia.

Based on the results of this study, the food packaging companies can redesign their green packaging style in such a way that can attract food manufacturers as well as consumers to clearly distinguish their quality compared to normal packaged food. Besides, different restaurants and cafés in the educational institutions and office areas can arrange various campaigns which can attract the students and working people in Malaysia to motivate them to buy food that is served or sold using eco-friendly food packaging.

Additionally, Malaysia Government can give subsidies to those food packaging and manufacturing companies that use eco-friendly packaged food so that it can increase their motivation. This motivation can also help them to transmit more interest in the near future to the various consumer groups to achieve sustainable environmental goals in Malaysia as well in the near future. Undoubtedly, similar studies can be carried out in the near future with more sample size to generalise the findings of this study.

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GENDER DIFFERENCES IN ORGANIZATIONAL CITIZENSHIP BEHAVIOUR: A STUDY OF MALAYSIAN MANUFACTURING SECTOR

JEN LING GAN[1], HALIMAH MOHD YUSOF[2]

ABSTRACT. Many companies emphasize on the efficiency of employees, thus, organizations have been seeking for the methods that can improve the employees' performance and efficiency. Organizational citizenship behavior (OCB) has been recognized as one of the significant factors that can enhance the organizational efficiency and overall productivity. Among the variables that could affect the level of OCB, the differences of genders on OCB should be concerned. This is because different genders of perceptions could influence employees' behaviors in organizations. Hence, it is crucial to examine the significance of gender differences in OCB among employees. However, limited studies were conducted to investigate the significance of the gender differences in OCB. Hence, this paper intends to minimize the research gap by examining the significance of genders' difference, as well as determining the level of OCB among the genders. A total of 85 valid respondents from few Malaysian manufacturing companies participated in this research. The results revealed that there is no significant genders' difference on both dimensions of OCB, namely OCBI and OCBO. No significant genders' difference was found in overall OCB as well. Future studies are recommended to conduct more studies on larger sample size, as well as to conduct their studies on wider scope of respondents.

Keywords: *Gender differences, organizational citizenship behavior, manufacturing industry, Malaysia.*

JEL classification: D23, O14, O15

[1] *Azman Hashim International Business School, University Teknologi Malaysia. ganjenling@gmail.com*
[2] *School of Human Resource and Psychology, Faculty of Social Sciences and Humanities, University Teknologi Malaysia. halimahmy@utm.my*

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Introduction and Literature Review

Employees are known as the important asset to assist company in reaching its optimum goals (Lee and Ha-Brookshire, 2018). It is believed that by having a team of good human resources, company's competitiveness could be enhanced through ideal performance by the employees (Indrawiani, Anggraeni, and Indrayanto, 2018). A good employee is the one who performs with positive behaviours in the organisation, which are known as Organisational Citizenship Behaviour (OCB) (Shaemi, Shabani, and Khazaei, 2014). In the past years, many researchers have had concerns about the dysfunctional behaviours that could negatively influence organisations, hence neglecting the importance of investigating positive behaviours of employees, such as OCB (Zhu, 2013). OCB is known as one of the approaches that could develop organisations effectively, making it equally vital in organisational behaviour research (Khosravizadeh *et al*., 2017). In the field of management, employees who have voluntary actions that are not designed in formal reward system are known as the employees who engage in OCB, which will improve overall productivity (Salajeghe and Farahmand, 2014). Chelagat, Chepkwony, and Kemboi (2015) revealed that a good employee tends to remain good attitude which could help organization to achieve goals effectively. Besides, Borman and Motowidlo (2014) believed that a company may grow and develop more effectively because good employees in the organisation will voluntarily exhibit OCB, such as giving constructive ideas to the management.

Development planning in Malaysia has been done comprehensively in order to reach optimum level of growth (Akoum, 2016). Manufacturing is one of the important industries in Malaysia, thus it is imperative that the employees in this industry are highly dedicated, efficient, and excel in performance. In this regard, OCB should be one of the concerns of this industry. However, the lack of dedicated workers in this industry is the most severe problem, with the highest percentage (49.5%), as compared to the other human resource problems (Osman *et al*., 2015). There were comments that employees in Malaysian manufacturing industry are less likely to exhibit OCB in their workplace, due to lack of dedication and the will to be a good employee. Nevertheless, there are limited studies that investigated the antecedents of OCB in Malaysian manufacturing industry which have triggered the intention as stated in this paper: to determine the level of OCB among the employees of the selected Malaysian manufacturing companies in Negeri Sembilan.

For the purpose of investigating OCB, this research is based upon the recommendations made by the scholars in the recent years that there should be studies to investigate gender difference on OCB among employees (Cameron and Nadler, 2013). This is because it is believed that different genders might have different perceptions, which might lead to different actions by different genders (Chen, Yan, Fan, and Gordon, 2015). This assumption is formed when the scholars believed that female employees are expected to exhibit particular OCB dimensions which are disparate as compared to the male employees (Uzonwanne, 2014). Tabassum (2016) argued that gender should be focused as one of the main contextual variables that could affect OCB. However, there is a dearth of studies that examined genders of respondents and OCB, which could be one of the research gaps in the studies of OCB (Anu and Radhey, 2017). It was claimed that the research of examining the gender differences in OCB has been overlooked (Ng, Lam, and Feldman, 2016). Therefore, this paper intends to examine the significance of gender difference on OCB in the Malaysian manufacturing companies in Negeri Sembilan.

Concept of OCB

OCB is defined as the actions of workforces which is not limited to any job scopes, not being acknowledged under official compensation scheme, and improving overall performance of companies (Organ, 1988). Tsai and Wu (2010) explained further, OCB refers to the willingness of employees in a company to act beyond formal responsibilities in order to satisfy all the stakeholders. According to Luthans (2011), OCB is an action that is willingly demonstrated by workers, instead of being motivated by the compensation scheme in organisations. Kinicki and Kreitner (2008) claimed that, an employee is demonstrating OCB when he/she has the sense of belonging and is willing to assist fellow workers. In this paper, OCB is divided into two dimensions, namely, Individually Directed Organisational Citizenship Behaviour (OCBI) and Organisationally Directed Organisational Citizenship Behaviour (OCBO).

Individually Directed Organizational Citizenship Behaviour (OCBI)

OCBI is defined as the positive actions that are exhibited to individual workers, such as colleagues, superiors, and top management (William and Anderson, 1991). There are two aspects in this dimension, namely, altruism and courtesy. Altruism is defined as voluntary and unrestricted behaviour when an employee provides support to another employee to assist in accomplishing tasks (Organ, 1988; Podsakoff *et al*., 2000). Meanwhile, courtesy is defined as the behaviour of an employee which prevents occurrence of problems in an organisation (Organ *et al*., 2006). One of the examples of courteous behaviour is meeting and consulting fellow workers before making a decision that can affect the parties (Podsakoff *et al*., 2000).

Organizationally Directed Organizational Citizenship Behaviour (OCBO)

OCBO is described as the positive behaviours that are demonstrated to organisations, where the actions can affect overall organisational performance (William and Anderson, 1991). In this dimension, there are three aspects involved, namely, conscientiousness, sportsmanship, and civic virtue. Conscientiousness is defined as the behaviour that obeys the rules that are set by the organisation and being punctual (Organ, 1988). When employees have conscientiousness, they will perform beyond their superiors' expectations. When employees are willing to handle unfavourable situation without hostility, they are exhibiting sportsmanship (Newland, 2012). When employees have civic virtue, they demonstrate responsibility by participating in organisation's politics and being aware of the issues in the organisation (Organ, 1988).

Gender Difference

In recent years, gender difference in different variables has been brought to light by several researchers (Anu and Radhey, 2017). Since different genders have different perceptions, it is believed that there is a probability that significant difference exists when OCB is rated by different genders (Ng, Lam, and Feldman, 2016). It is claimed that gender could affect the interpretation of behaviours, which in turn affects employees' views and actions at workplace (Anu and Radhey, 2017). Gender is also believed to have influence on the connection between co-workers, which affects workplace environment (Prabhakaran, Reid, and Rambow, 2014). For the dimensions of OCB, females are believed to have more frequency in demonstrating OCBI as compared to males, while males are believed to have more frequency in demonstrating OCBO as compared to females (Cameron and Nadler, 2013). This is because Anu and Radhey (2017) mentioned that female is more social oriented, therefore helping behaviour (OCBI) is more frequent exhibited by female. While, Males give more attention to organisational politics or updates, hence exhibiting more OCBO than females (Anu and Radhey, 2017). Few studies were conducted to investigate the significance of gender difference on OCB. However, the results of previous findings were inconsistent, hence triggering the needs for more research on this topic. For example, Cameron and Nadler (2013) reported that there was no significant genders' difference on OCB. On the other hand, Anu and Radhey (2017) revealed that there was a significant genders' difference on overall OCB, however, no significant difference was found for the dimensions of conscientiousness and altruism. Contradictorily, Uzonwanne (2014) claimed that there was no significant genders' difference on OCB in the study. Different with Jenaabadi, Okati, and Sarhadi (2013), the scholars found that there was significant difference on genders in measuring OCB. Due to the inconsistency of findings as above, the hypotheses of this study are developed as below.

Hypothesis 1: There is no significant gender difference on OCBI.
Hypothesis 2: There is no significant gender difference on OCBO.
Hypothesis 3: There is no significant gender difference on overall OCB.

Material and Method

The purpose of this study is to investigate the level of OCB among employees of different genders, as well as the difference between genders on organisational citizenship behaviour in Negeri Sembilan manufacturing companies. The responses were collected from 85 employees of two companies, where multi-stage sampling method was adopted in selecting the samples. Individual respondents were randomly selected from the companies. The 11-item questionnaire that was developed by Lee and Allen (2002) was used in this study. Of 100 sets of questionnaires, 85 questionnaires were usable in this study. For the purpose of measuring OCB variable, a total of 16 items was answered by the respondents. Each item was given five-point Likert scales, where 1 indicates strongly disagree, while 5 indicates strongly agree. The reliability and validity of questionnaire items was assessed and reported in the next section. After the reliability and validity tests were conducted, the data was analysed using Statistical Packages Social Sciences (SPSS) version 23.0.

Results and Discussions

Measurement Analysis

Composite reliability (CR) was adopted to test the items' reliability. Value of reliability that exceeds 0.60 suggests that the items are reliable and in satisfactory status (Hair, Hult, Ringle, and Sarstedt, 2014). Indicator reliability (IR) was also tested in this study to see the variance rate of a particular indicator (Hair et al., 2014). As shown in Table 1, the internal consistency of each variable is in satisfactory level. As for validity, convergent validity and discriminant validity could help in the process of validation (MacKenzie Podsakoff and Podsakoff, 2011). Convergent validity is acceptable when AVE value of the construct is at least 0.50. Table 1 indicates that all AVE values are more than 0.50, hence, the validity of constructs is acceptable. Similarly, the value of discriminant validity in this study is also acceptable, as shown in Table 2.

Table 1. Internal Consistency and Indicator Reliability

Dimensions	CR	AVE	Items	IR
OCBI	.85	.53	BI 1	.91
			BI 2	.90
			BI 3	.90
			BI 4	.90
			BI 5	.90
			BI 6	.90
			BI 7	.90
			BI 8	.92
OCBO	.90	.58	BO 1	.91
			BO 2	.90
			BO 3	.91
			BO 4	.90
			BO 5	.90
			BO 6	.90
			BO 7	.90
			BO 8	.90

Source: Authors' work

Table 2. Fornell-Larcker Criterion

Dimensions	OCBI	OCBO
OCBI	0.864	
OCBO	0.580	0.875

Source: Authors' work

Level of OCB among Genders

Descriptive statistic was conducted to evaluate the level of OCB among the employees of different genders in the said manufacturing companies. The result indicates that more than half (69.4%) of the employees are male, while the remaining (30.6%) are female. The result of mean depicts that male employees are prone to have higher OCBI and OCBO, as compared to female employees. As for overall OCB, male employees scored higher than female employees, where the male employees exhibited high level of overall OCB. The findings are presented in the table below.

Table 3. Level of OCB among Genders

Dimensions	Gender	N	Percentage	Mean	Standard Deviation	Level of OCB
OCBI	Male	59	69.4%	3.74	.57	High
	Female	26	30.6%	3.60	.60	Moderate
OCBO	Male	59	69.4%	3.79	.61	High
	Female	26	30.6%	3.62	.50	Moderate
Overall OCB	Male	59	69.4%	3.77	.54	High
	Female	26	30.6%	3.61	.47	Moderate

Source: Authors' work

Significance of Genders' Difference on OCB

For the purpose of assessing the significance of gender difference on the dimensions of OCB, independent samples t-test was conducted. From the result in Table 4, the findings revealed that there is no significant gender difference on OCBI, $t(83) = 1.042$, where p-value is more than significance level of 0.05, hence supporting Hypothesis 1. The findings also discovered that there is no statistical difference in OCBO that is attributable to gender, $t(83) = 1.311$, where the p-value is more than the significance level of 0.05 as well, hence supporting Hypothesis 2. The gender difference of the overall OCB is found insignificant, where $t(83) = 1.312$, $p > 0.05$, hence supporting Hypothesis 3. The findings are illustrated in Table 4 as below.

Table 4. Significance of Genders' Difference on OCB

Dimensions	*t* statistics	df	*p* value	Significance	Hypotheses Decisions
OCBI	1. 042	83	0.30	Non-significant	Supported
OCBO	1. 311	83	0.19	Non-significant	Supported
Overall OCB	1.312	83	0.19	Non-significant	Supported

Source: Authors' work

Discussions

In this section, the findings are discussed based on previous literature. The purposes of this study are to determine the level of OCB among the genders in the target group, as well as to investigate the significance of gender difference on the dimensions of OCB. Firstly, the findings revealed that overall OCB is more frequent in male employees, as compared to female employees. As for the dimensions of OCB, male employees scored higher in OCBI and OCBO, as compared to female employees. This brings a meaning that the positive behaviour of OCBI and OCBO are more frequent in male employees in Negeri Sembilan manufacturing companies. The findings of this study contradict with previous studies. For example, Ariani (2013) claimed that female employees are prone to exhibit higher OCBO than male employees while Conway, Kiefer, Hartley, and Briner (2014) mentioned that female employees display OCBI more frequently as opposed to male employees. To some extent the finding of this study is similar to the study of Cameron and Nadler (2013), where both studies revealed that male employees exhibit OCBO more frequently than female employees. From the result of this study, it revealed that both genders scored higher on OCBO as compared to OCBI. According to Cameron and Nadler (2013), role congruity theory explains that exhibiting OCBO can be perceived as overlooking OCBI, hence OCBI has lower score than OCBO. As for the overall OCB, the result of this study shows that male scored higher OCB than female employees. The result is similar with previous study that was conducted by Anu and Radhey (2017), where the scholars found that female employees display OCB less frequently than male employees.

The significance of gender difference was also investigated. Three hypotheses in this study are supported: there is no significant gender difference on OCBI, OCBO, and overall OCB. The finding is consistent with several past studies. For example, Uzonwanne (2014) revealed that there is no significant gender difference on OCB. Besides, Jenaabadi *et al*. (2013) as well as Berbaoui, Silimani, and Sadek (2015) found similar finding where no significant differences were found on genders in assessing OCB. However, the finding of Anu and Radhey (2017) was slightly different than the finding of this study in which the scholars revealed that there is a significant gender difference on overall OCB, as well as the dimensions of sportsmanship, civic virtue, and courtesy. However, they did not find any significant gender differences on conscientiousness and altruism, which is one of the aspects of OCBI and OCBO respectively.

Conclusions

As a conclusion, the purposes of this study had been achieved successfully. The levels of the dimensions of OCB among the male employees are high, while the levels of the dimensions of OCB among female employees are moderate. Hypotheses 1, 2, and 3 are supported: there are no significant gender differences on OCBI, OCBO, and overall OCB. This study has few limitations. Firstly, the sample size is small. It is suggested that more studies are conducted in the future with larger sample size to increase the validity of result. Secondly, the limited number of manufacturing companies in Malaysia that participated in this research. This could affect the generalisation of result. It is recommended that future studies are conducted in wider scope within Malaysia, in order to improve generalisation.

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AN IMPROVED RESIN SUPPLY CHAIN FRAMEWORK FOR MALAYSIA AUTOMOTIVE INDUSTRY – CASE STUDY OF A FOREIGN CAR MAKER

ROSDAN ROSMAN[1], SHA'RI MOHD. YUSOF[2]

ABSTRACT. Objective: The purpose of this paper is to investigate the current resin supply chain model of a foreign car maker in Malaysia by studying the resin supply chain of Company A. A conceptual model is proposed for the improvement of current resin supply chain model of Company A.
Methodology: A case study of Company A supply chain model is observed and analysed based on quality, cost and delivery (QCD) process. A conceptual framework is proposed to Company A on achieving target cost.
Results: The proposed frameworks established for enhancing the current resin supply chain model.
Implication: This research presents a conceptual resin supply chain framework to describe the significance of current supply chain model against the improved supply chain model. The study is particularly useful for foreign car manufacturer mainly Japanese car makers to identify the advantages of improved supply chain model on achieving better costing for localisation. This paper gives valuable reference to Japanese car makers to consider the adoption of conceptual supply chain model in Malaysian automotive industry.

Keywords: *Supply chain framework, localization, Malaysian automotive industry & resin.*

JEL classification*:* F60; F63

[1] *Corresponding author. Razak Faculty of Technology and Informatics, University Teknologi Malaysia, rosdan99@gmail.com*
[2] *Razak Faculty of Technology and Informatics, University Teknologi Malaysia, sha'ri@utm.my*

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Introduction

Recent decade has witnessed a plethora of research examining the characteristics of first-tier suppliers and the nature of buyer-supplier relationships within a number of geographic and commercial contexts (Ford, 1998; Lamming, 1988, 1994; Sako, 1992, 1999; Hines, 1996; Langfield-Smith and Greenwood, 1998; Correa and Miranda, 1998; Spekman et al., 1998). The most common traditional view which has dominated the automotive sector is that "first-tier" suppliers deliver discrete components to their customer(s) – the original equipment manufacturer (OEM) – and in so doing able to manage that part of the supply chain that provides services and parts for its product.

Lee, Ik-Whan, & Severance (2007) in their research tested the relationship among supply chain performance and supply chain linkages. Their study developed a multivariate regression model for identifying the determinants and characteristics of linkages in the supply chain stakeholder which are suppliers, customers, and internal stakeholders. The study found that for the cost containment an internal integration gives significant contribution while a best supply chain performance is achieved through integration with the supplier. A strategy of economic order quantity provides a good contribution toward cost management. Orders are managed in faster and easy way through economic order quantity system, and the it gained customer reliability. A broad supply chain operation is the best way of collaborating with the supplier and managing the customers. At the same time, a favorable environment is created through internal integration which provides good access to the inventory information systems. The study concluded that a relationship between supply chain performance and supply chain linkages develop a better supply chain system in an organization. More over, the study provides some reliable and valid measurement instruments which practitioners, as well as academicians, use in the measurement of supply chain performance.

This conceptual model which is to develop a specific resin supplier through the localisation activitites is incorporated with global resin supply chain models. Thus, the reduction is greater towards cost management. The reduction of logistics cost and local sourcing are the contribution to this studies. Incorporating localisation activities towards Company A resin supply chain would provide great impact not only in term of cost management, as well as techonology transfer apart from local economics growth for Malaysian resin supplier.

Literature Review

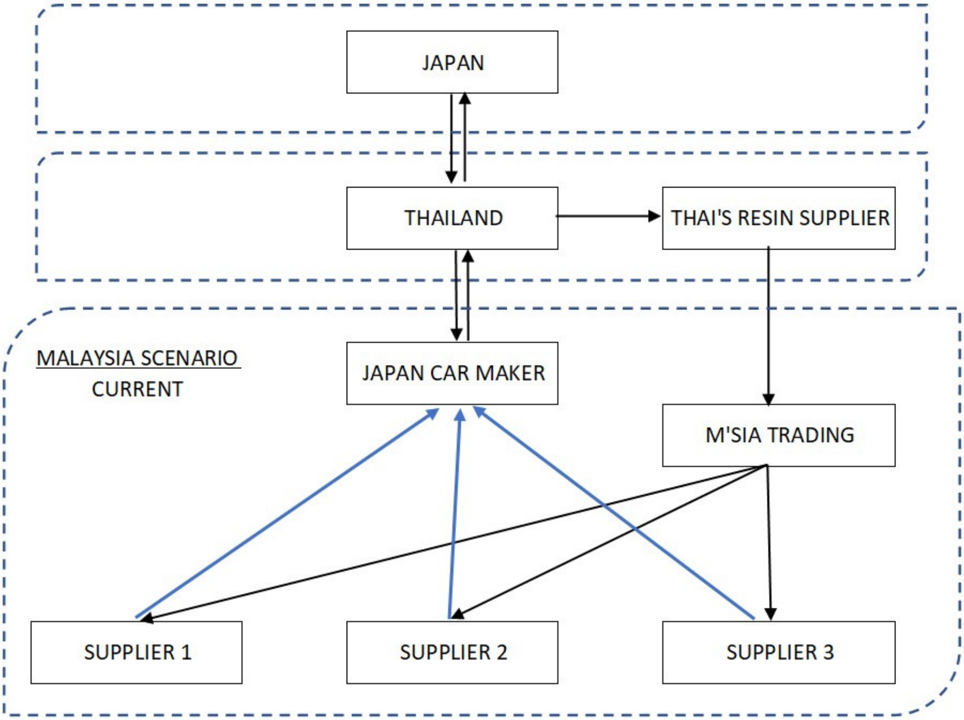
Towill, Chiderhouse & Disney (2018) in their study analyzes that the supply chain of the real world is different both concerning standard performance as well as the effective action necessary for the world-class supply of automotive products. This study assesses the 20 supply chains from the automotive industry from European countries by using a “quick scan” audit method. The sample taken was not a true representation of the sample because it did not use a randing selection procedure, abut provide a picture of the overall health of the automotive industry. The study concluded with the output which explains clear portrayal of the supply chain’s health status. It is also found that 10 percent of the performing supply chain provide best practices at the present day level, moreover further 20 percents within sight of this goal. Some specific re-engineering requirements are found in the other remote gaining 70 percent which show’s maturity level at present. In this case, the “quick scan” audit method is applied to specific resin supplier in Malaysia and to develop them together in order to meet Japan’s global resin standard. Discussion and explanation from Japan’s Research and Development (R&D) team is important as it will guide local resin supplier.

Vanichchinchai (2014) focused on supply chain management practices (SCMP) level, firm’s supply performance (FSP) and total quality management practices (TQMP). His study focus on Thailand’s automotive industry in which he investigated the differences in organizational characteristics on TQMP, SCMP, and FSP. His study based on the analysis of prior studies which measures the three instruments which are TQMP, SCMP, and FSP. These three instruments validated the pilot test, experts tests and used other statistical techniques. In Thailand automotive industry the material and information flow at operational level decrease the transaction cost. Japanese companies, first-tier companies, and suppliers and large companies tend to apply the TQMP and SCMP intensively and also achieve a high level of FSP.

Thus, it is crucial for Japanese car makers to review their current SCMP and apply it to the Malaysian market. A new framework of supply chain will be required for the improvement particularly in the resin supply chain. Application of TQMP and FSP will be another instruments for further improvement upon implementation of the new resin supply chain framework.

Rugraff (2012) identified sources of competitive advantages. The study explains that an exit behavioral model and an efficient voice articulation model lead to the competitive advantage for the automobile manufacturing industry. An analytical framework is developed for this study for the global chain value studies and analyze the combination of relational linkages, hierarchy and market linkages which lead to the better supply chain management system. As a global player in an automotive industries, the Japanese car maker should develop an analytical frmework for their resin supply chain which lead to better resin supply chain management system.

Johri and Petison (2008) analyzed the strategies of local firms and its effect on the performance of international companies subsidiaries in the automobile industy in Thailand. The localisation strategies analyzed by using a case research appraoch of seven big companies (Hino, Isuzu, Toyota, DaimlerChrysler, Auto Alliance, BMW, and Honda). Against the thinking about the International organizations which implement the strategy of localization to match their needs according to the local environment, this study finds that implementation of localisation strategies by MNE's aim to achieve multiple benefits. The objective focuses on the nine major areas of localisation which are localisation of research and development (R&D); local human resources deployment; exploiting and building the local knowledge pool; strategic decision making of localisation; using networks of local suppliers; localisation of products; manufacuring processes adoptations; localisation of corporate image and deployment of subsidiary profit at local level. These strategies of localisation are not because of the "cost-based localisation" but mainly focus on the "value based localisation.



Source: Authors' compilation

Figure 1. Flowchart of the current supply chain model

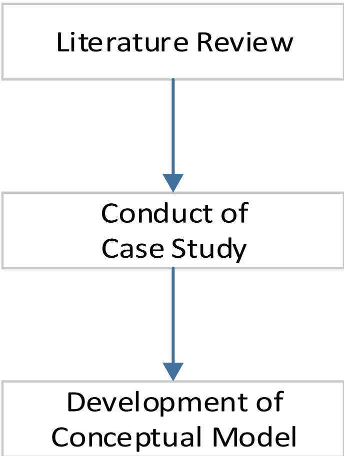
In the case of Malaysian automotive industry for the foreign car maker especially the Japanese car maker, the resin was develop and manufactured in Thailand. Thailand is the main hub for Japanese car maker in south east asian region due to the government policies and it competitively low labour cost. Thus, the resin which already develop in Thailand will be handled by the appointed trading agent for local distribution of the resin in Malaysia. Company A will inform their Thailand plant the forecast volume required by the Malaysia plant for production and the resin will be handle by the trading agent for deliveries. Figure 1 shows the flowchart of the current supply chain model which being used by Company A. base on the observation of this case study, others Japanese car maker follows the same supply chain model for their Malaysian production plant. There is no specific supply chain framework for the Japanese car maker for their resin supply. Thus, Figure 1 was developed based on the observation for the current resin supply chain framework.

Methodology

An observation of Company A current resin supply chain framework was analyzed after reviewing from some literature. The development of the Company A resin supply chain framework will be based on qualitative case study approach. Various data sources is used for qualitative case study investigation of phenomenon. Stake (1995), and Yin (2003, 2009a) discussed about two approaches that guide case study methodology. Both by Yin (2003) and Stake (1995) case studies applied the naturalist theory. Constructivists asserted the reality is comparative and is based on a person's view and judgement. The involvement of researcher as well as the participant will benefit the alliance and partnership. Thus, the participants tend to inform and share their experience (Crabtree and Miller, 2002). Reality views and perspective will be described by the participants of the matters being studied. Hence, the researcher is able to learn and increase the knowledge of the participants' action and ways of doing things (Lather, 1992).

Yin (2009) suggested that exploratory studies have the goal of developing hypothesis and propositions for further inquiry. Case study method helps the researcher to assess and examine persons or organizations using the following facts and characteristics: multifaceted, interventions on what to be observed, associations, groups (population) or programs (Yin, 2003). He also had pointed out that case study design should be used in the following situations: (1) emphasis on answering what and how type of questions; (2) the participants' behaviour cannot be manipulated; (3) the contextual conditions should be covered when involved in the aspect under study; and (4) the precincts extents are not apparently visible between the context and the aspect (or phenomenon).

Case study methods produces a variety of outcomes which is not the same as controlled experiments. Case studies offer insightful knowledge of the subject being studied (Runeson and Höst, 2008). Zainal (2007) defined the design, categories, advantages, and disadvantages of case studies. Case study can be conducted in single or multiple modes. The drawback of a single-case design is its inability to provide a general conclusion. In this case, a conceptual model of an improve resin supply chain is develop base on case study design. According to Yin (2003) a case studies are divided into exploratory, explanatory, and descriptive. The differences among single, holistic and multiple case studies are also determined. Figure 2 shows the research methodology approach used for the development of the conceptual model for Malaysian resin supply chain framework.

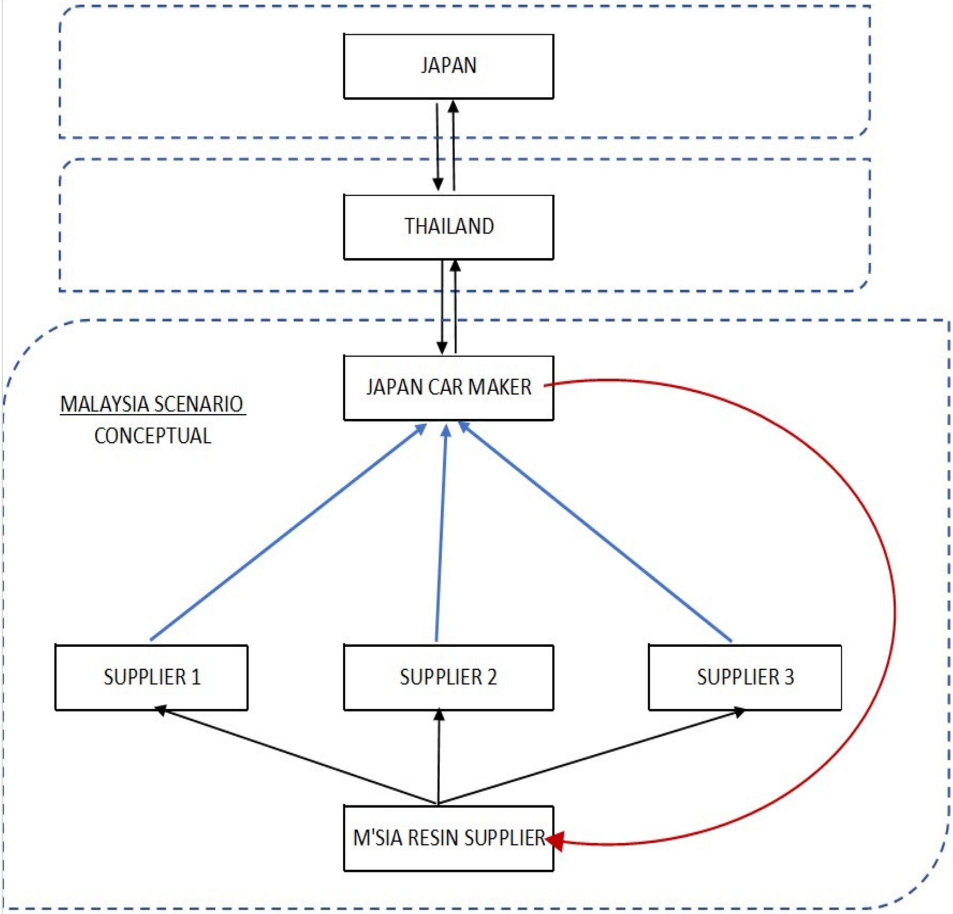


Source: Authors' compilation

Figure 2. Research methodology

Conceptual framework for resin supply chain.

Company A needs to join and develop with the local resin manufacturers or suppliers to meet their resin standards which refers to Japanese standard. Initially, the resin supplier will be competing on the cost prior qualifying to the next round. The development of the resin in order to meet the resin specification and target cost is based on the resin supplier knowledge. The resin needs to comply with the basic test requirement prior complying to the full specifications. The resin has to meet the specification prior supplying to Company A. The R&D team based in Thailand will verify the resin quality by conducting the same testing when they developed with the Thailand resin supplier initially. The material has to undergone the lengthy process of development which also include the product testing depending on the resin classification and application. The resin testing must satisfy the Japanese requirement for every specific resin standard.



Source: Authors' compilations

Figure 3. Conceptual model of resin supply chain framework for Honda Malaysia Sdn. Bhd. (HMSB)

Upon approval of Japan R&D team together with Thailand R&D team, the resin will be ready to be used by Malaysian vendors or supplier to Company A. In the event of short supply of the resin in Malaysia, the Thailand resin supplier will always there to support for the demand and vice versa. Figure 3 shows the conceptual model of resin supply chain framework for Company A. This conceptual framework will have to be validated by Company A in order to be implemented for Malaysian usage as it has some commercial issue with current resin trading agent. The agent might not be able to supply to Malaysian market since Malaysia already have its own resin supplier. The acceptance of the resin supply chain framework is very much depending on Company A itself considering all the advantages in Quality, Cost, Delivery (QCD) which is described earlier.

Conclusions and Future Research

The conceptual model of resin supply chain framework for foreign car maker develop for Company A will be very useful to others Japanese foreign car makers in Malaysia to benchmark such as Nissan, Mazda, Toyota to name a few. The Japanese car makers' concept of resin supply chain differs from continental car makers which using Complete Knock Down (CKD) parts. Japanese car makers mostly produce the plastics parts locally. The conceptual supply chain model would significantly improve in term of better logistics timing, good quality control, continuous supply ability, resin supply consistencies, resin standard changeability, low resin inventories, lower risk and ultimately resin cost reduction. Resilient supply chain management practices, have a positive significant impact on operational performance in terms of delivery flexibility, product quality and customer service in addition to economic performance in terms of reduced costs of procurement, inventory and manufacturing. The next stage of the research involves the expansion of the conceptual model to others foreign car makers. This will hopefully be useful to other manufacturer to join effort with their suppliers in their quest for excellence in order to maintain stability and continuous growth in the competitive automotive industries in Malaysia.

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