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FACULTY OF ARCHITECTURE,
PLANNING AND SURVEYING

FULL PAPER
PROCEEDING



3RD UNDERGRADUATE
S E M I N A R
BUILT ENVIRONMENT & TECHNOLOGY

SEPTEMBER
2018

ISBN 978-967-5741-67-8

FACULTY OF ARCHITECTURE, PLANNING & SURVEYING
UNIVERSITI TEKNOLOGI MARA PERAK BRANCH
SERI ISKANDAR CAMPUS

UiTM PERAK @ *Seri Iskandar*

AN INSIGHT OF SUSTAINABLE TRANSPORTATION: A STUDY IN KLANG VALLEY

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Abstract:

The quality of transportation service is the main factor to increase the level of economic and social. By increasing the system may buzz-up all sectors and may contribute the benefit to the community. This research was conducted in Klang Valley. The reason in choosing this location is because of the role that the location plays in contributing to the economic sector in Selangor state itself. The methodology used to conduct this research was a quantitative method; 200 set of questionnaire were distributed to get the perception on the concept of sustainable transportation among respondents. The questionnaire was distributed to those who have knowledge towards sustainable transportation and it was limited to those who have experience in construction sector only. The objectives of this research were to investigate the construction player's perception towards sustainability transportation in Klang Valley and to identify the barriers factor in implementing this concept. It is hoped that this research able to create awareness on implementing this concept because of its beneficial to the routine activities as well as can generate and increase awareness to the public.

Keywords: Sustainable transportation, construction player's, perception, constraint factor, progress, potential

1.0 INTRODUCTION

Transportation assumes a key part in advancing the live ability of groups (Velazquez et al., 2015 and Miller et al., 2013) because of its cooperation with each of the three regions of maintainable advancement (Velazquez et al., 2015; Souza & Kahn, 2013). Under this condition, partner inclusion is fundamental with a specific end goal to consolidate differing points of view and inclinations (Velazquez et al., 2015; Rangarajan, 2013). Remembering this, the goals of this research are to explore the development player's discernment towards supportability transportation in Klang Valley; and to recognize the limitation component in actualizing this idea.

The transportation segment incorporates the development of individuals and merchandise via autos, trucks, trains, boats, planes, and different vehicles (Velazquez et al., 2015). The high development rates of transportation movement have created negative consequences for nature and on populaces (Velazquez et al., 2015 and Eppel, 1999), who are encountering various activity issues. For example, extreme movement blockage and street mischances combined with air and clamor contamination groups (Velazquez et al., 2015).

Any idea that incorporates the descriptive word reasonable stems from the root idea of feasible improvement. Understanding it has been one of the significant difficulties for maintainability scientists and specialists from the time when supportable improvement was initially instituted as an advancement that addresses the issues of the present without trading off the capacity of future era to address their own issues. This definition has unmistakable give implications to individuals in various settings. Despite the fact that this entanglement has been discussed widely (Ayes, 1993), the base specialized prerequisites are frequently obscure (Prugh et al., 2000). In spite of errors about the significance, individuals concur that the idea includes, at any rate, natural, social, and monetary contemplations (Dragun and Jakobsson, 1997) what is known as the triple primary concern (Hacking and Guthie, 2008).

The idea of maintainable transportation includes a similar open deliberation about significance and vulnerability. There is still no political or logical concurrence on a supportable transportation definition. It can mean the least expensive indicate point transport accessible, or dependable and unsurprising trips, or the fastest intends to move perishable cargo, or excursions that utilization minimal measure of vitality or assets to satisfy the errand (Sweeting and Winfield, 2012). Toward the end, there is likewise a rising accord that transportation framework manageability ought to catch properties of framework viability and framework impacts on monetary improvement, natural honesty, and social personal satisfaction (Jeon et al., 2013). A definition fitting in the general meaning of supportable improvement is given by the Association for Financial Participation and Advancement (OECD), characterizing a feasible transportation framework as "one that does not jeopardize general wellbeing or environments and addresses versatility issues reliable with utilization of renewable assets at underneath their rates".

2.0 LITERATURE REVIEW

Transit service quality is one of the main drivers of sustainable transport policies as it increasingly steers user choices toward energy and space-efficient transport modes (European Commission 2011, 2014). Public transport quality depends on several factors (attributes) of the service; some are quantitative (e.g., average travel time and its reliability, transit waiting time, monetary costs) while others are qualitative, whose effects on user behavior are more difficult to assess (riding comfort, information, personal security).

Assessment of service quality in Public Passenger Transport (PPT) requires methods for defining standard quality indicators and related measurement techniques such as assessment should be used both by service providers in presenting and monitoring their services and by local decision makers and procurement agencies in preparing tendering requirements and monitoring PPT services. Through this way, customer's expectations and perceptions of quality can be translated into measurable and manageable quality parameters.

There is an on-going debate in the scientific community about what is the best quality definition and how it should be measured, while it is widely recognized that service quality is intrinsically related to the user. There is also a continued debate as to whether quality indicators should be objective and or subjective. It seems appropriate to define both objective and subjective measures of transit quality as suggested by EU regulations, since they are relevant to achieving different purposes. The former are direct measures of indicators perceived as significant by the customers. As an example, traditional level-of-service indicators (in-vehicle time or percentage of passengers departing-arriving) can be considered as objective performance measures from the service provider's point of view.

Some critiques made to objective indicators suggest that not all quality attributes are measurable (seat comfort or aesthetic quality). By contrast, subjective measures are based on direct (statements) and indirect (choices) customer perception of service quality. In the literature many techniques for measuring subjective indicators have been proposed. Service quality and customer satisfaction can be evaluated according to different methods. For example, by asking users their perception and satisfaction or expectation is also important on service quality. Alternatively, it is possible to estimate a utility function, given a set of assumptions on an underlying set of preferences, that is able to measure the attribute's reciprocal substitution such as the willingness to pay for an attribute (punctuality, station aesthetics, information mobility).

The quality of transportation service is the main factor in increasing the level of economic and social in Selangor. By increasing the system may buzz-up all sector that may contribute the benefit to the community. Therefore, this research was conducted in Klang Valley. The reason to choose these four locations is because of the role that each location plays in contributing to the economic sector in Selangor state itself. One of the reactions raised at subjective measures is that these markers are frequently constructing just in light of travel clients' assessments, overlooking non-clients' discernments. This is the situation for direct articulations and models evaluated just for travel benefit clients. By complexity,

reviews could be completed on all modes clients. This is not generally the situation for direct fulfillment review, while backhanded decision display based measures regularly manage all modes explorers.

The fundamental investigation on the subjective pointers is their constrained part in outlining (arranging) administrations since they cannot be dependably watched for non-existing administrations. Few reviews have examined both subjective (voyager fulfillment) and goal (transit execution) measures (Cascetta & Carteni, 2014). Techniques to gauge benefit quality markers (both subjective and goal) can be ordered in two distinct classifications: non-behavioral and behavioral measures (for a refreshed survey see for instance: The principal class incorporates pointers assessed through factual investigation methods. For example, quadrant and hole examination, scramble charts, and bunch examination (Cascetta & Carteni, 2014).

The second classification of techniques comprises of behavioral models (Cascetta & Carteni, 2014). A few cases are mode decision models considering diverse client based administration quality traits (Cascetta & Carteni, 2014). In Ennio and Armando (2014), a Nested-Logit model was proposed for contrasting administration quality levels inside and between transport administrators. A Mixed Logit model was proposed by Cascetta & Carteni (2014) to investigate watched and surreptitiously heterogeneity among clients.

Parameters of behavioral models could be evaluated utilizing both reviews of real travel conduct in a genuine setting (uncovered inclination or RP studies) and studies of theoretical travel conduct in invented situations (Cascetta & Carteni, 2014). The significant preferred standpoint of SP information over RP information is given by the likelihood of a broader properties space, considering speculative situations (new astounding administration lines) and characteristics (stylish nature of stations or data frameworks). By difference, the principle limitations of SP strategies concern the dependability of client reactions to speculative and, now and again, unreasonably complex situations. Along these lines, SP studies quality relies on how data are exhibited to respondents (Ennio & Armando, 2014).

3.0 METHODOLOGY

This study employed a quantitative research method. 200 set of questionnaire were distributed to target respondents in Klang Valley as to get a perception on the concept of sustainable transportation among respondents. The set of questionnaire was distributed to those who have a basic knowledge towards sustainable transportation and was limited to those who have experience in construction sector only. The aims of this study was to cater for two objectives; first is to investigate the user's perception towards sustainability transportation in Klang Valley; second is to identify the constraint factor in implementing this concept in the stated four areas. Expected distribution from this research was to create awareness by implementing this concept, provide benefits to the routine activities as well as generate and increase the Sarawak's economic sector.

4.0 ANALYSIS AND FINDINGS

Both primary and secondary source were used as research methodology in order to achieve clear picture and understanding of the results. The primary source used a set of questionnaire survey, while the secondary source was obtained from the desk stop study. Literature review resources were obtained from the form of journal, research paper and articles; relevant references books, newspaper and electronic data or also known as desktop study. Most of the time in conducting this research the researcher did desktop study in order to obtain the sources to support the literature for this study.

However, this research has its limitation where the research area coverage was only at Klang Valley. The rationale by choosing this area is because of the function of the area contributing to the movement of Selangor's economies. The data collections for the study were through structured questionnaire which was sent to 350 respondents. The respondents involved those who have a good profession because the result from this group will affect the level of accuracy of the data collection.

The structured questionnaire scale on answer was limited to five point Likert scale; strongly agree, agree, neutral, disagree and strongly disagree it's a choice of answer expecting from the respondents. In

In addition, the frequency analysis has been used too to analyse the data for structured questionnaire which focus on getting the respondents simple answer either 'yes' or 'no'. Furthermore, the data analysis was based on frequency or by percentage analysis. The highest percentage indicates the higher indicator or momentum to the point of description tested to the respective respondents.

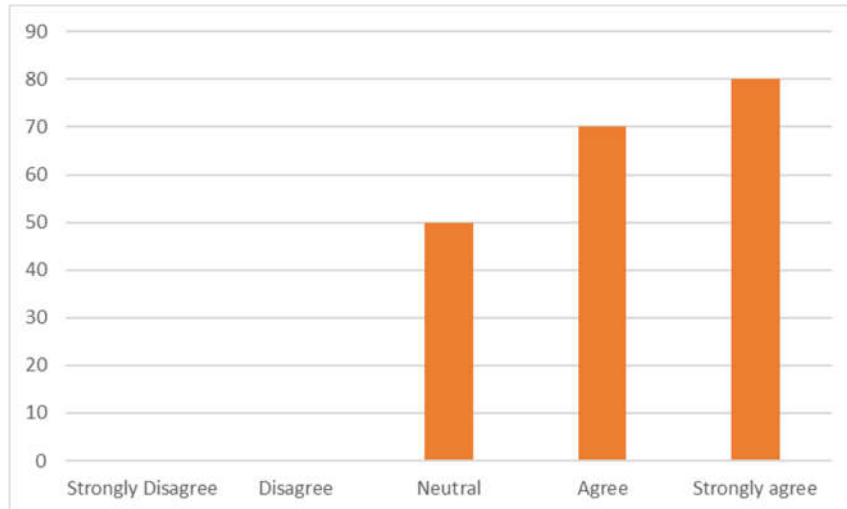


Figure 1: Respondent's perception on the momentum of sustainable transportation in Klang Valley.

Figure 1 describes about the respondent's perception on the momentum of sustainable transportation. 50 respondents stick with the neutral and 70 number of respondents agree that Klang Valley actually has a momentum towards sustainable transportation implementation and only 80 respondents strongly agree on the stated statement.

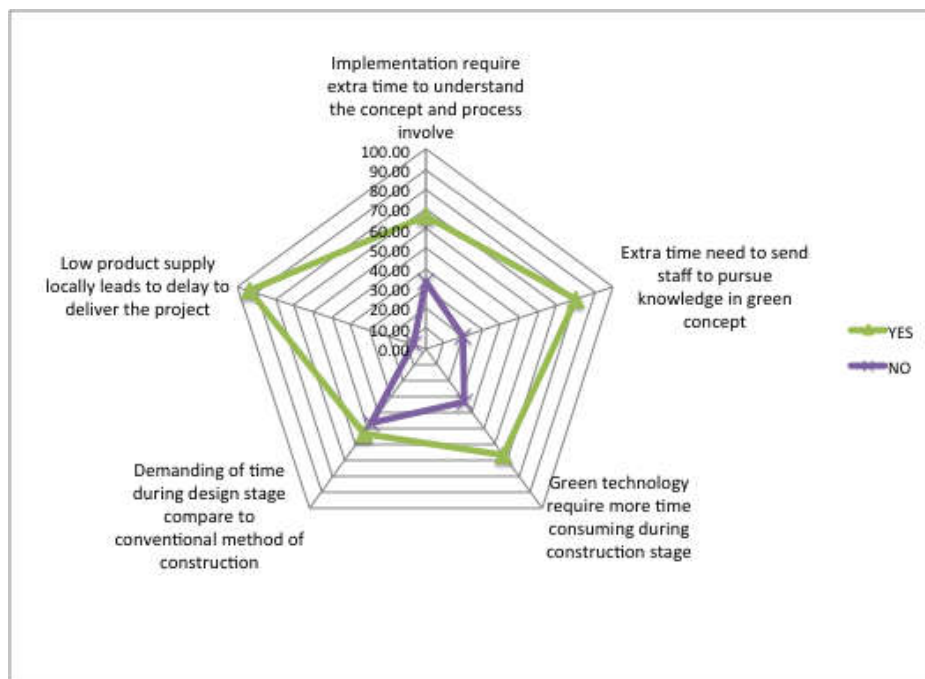


Figure 2: Perceived barriers in perspective of time.

Figure 2 displays the results of perceived barriers of time. There are five elements or descriptions that have been tested to the respective respondents. The descriptions include low product supply locally leads to delay to deliver the Project, implementation require extra time to understand the concept and process involve, extra time is needed to send staff to pursue knowledge in green concept, green technology require more time consuming during construction stage and demanding time during design stage compare to conventional method of construction. Out of five questions, the highest score was on the description of low product supply locally that leads to delay the deliver the project with 93% said 'yes'. This was followed by 80% said 'yes' on the extra time needed to send staff to get knowledge on green concept itself. 67% of the respondents agree on implementation requires extra time to understand the concept and process involve as well as the respondents also agree with the same percentage on green technology that require more time consuming during construction stage. However, 53% said that demanding of time during design stage compared to conventional method of construction.

Figure 3 explains the perceive barriers in perspective of cost. There are five questions given to the respondents and the questions are as follows: expensive cost on services and product's relating to green, low demand in green design from local buyer, no exempted on the taxes, no incentives provided by relevant organization and implementation require extra time and cost. Out of five questions have been tested among respondents, most of them (87%) agree that low demand in green design from local buyer is perceived as barriers in perspective of cost to implement the green building concept in their project. Other four descriptions have almost the same percentage 60% to 67%. 67% agree that expensive cost on services and product related to green and implementation require extra time and cost, while 60% agree on no exempted on taxes and no incentives provided by relevant organization.

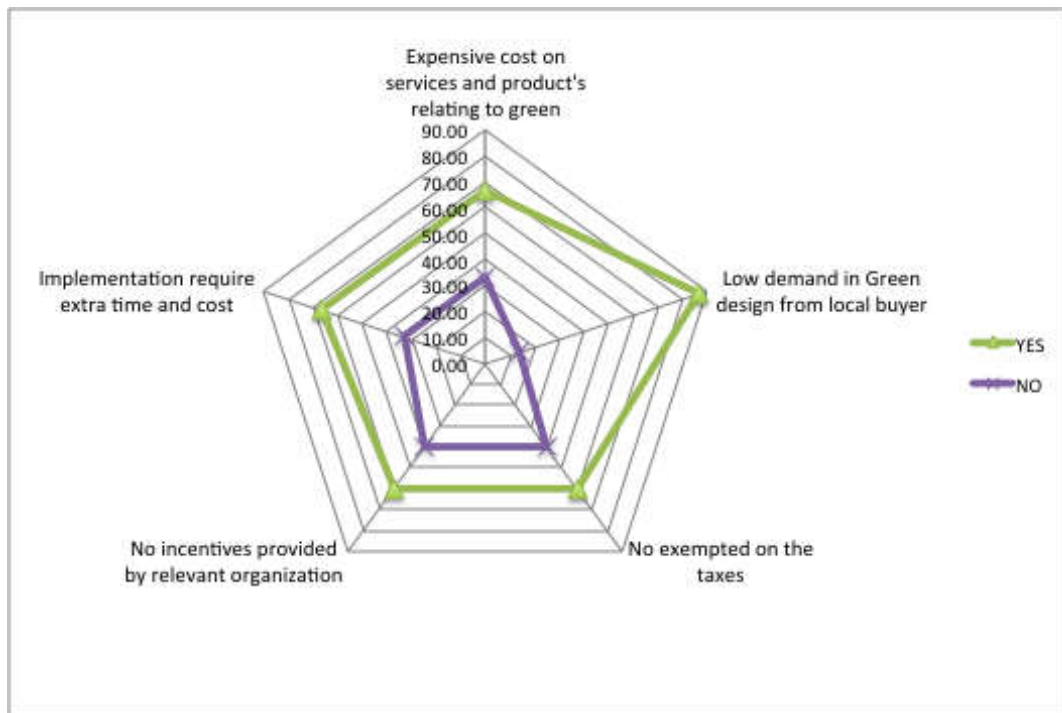


Figure 3: Perceive barrier in perspective of cost.

Figure 4 states about the perceive barriers in perspective of knowledge. There are five questions under these factors which lead to the barriers in implementing green concept among Klang Valley's construction's players. The questions were distributed to the respondents. The questions include as challenge to get cooperation from others construction parties, lack of expertise in green technology, lack

of research and development to be conducted in green area, lack of basic knowledge towards green concept, and lack of activities involve in transferring technology and knowledge. The highest percentage goes to lack of expertise in green technology with 74% followed by 67% for lack of activities involve in transferring technology and knowledge. In addition, 60% agree that it is due to the lack of basic knowledge towards green concept, 53% said lack of research and development to be conducted in green area. Unfortunately, 53% said 'no' to the statement of challenge to get cooperation from other construction parties.

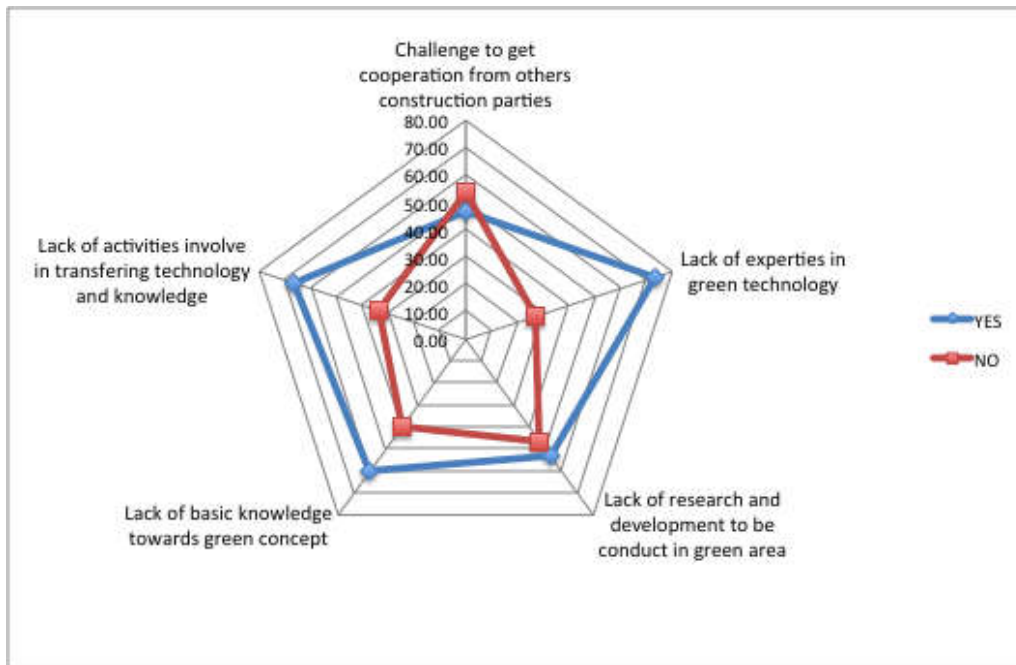


Figure 4: Perceive barrier in perspective of knowledge

5.0 CONCLUSION

Several recommendations that can be speed up to overcome the stated issues which are providing knowledge and training like organizing seminar, talk or workshop and conferences to educating the and offering to the targeted construction's players on sustainable transportation principles on the concept and the benefits that can be generated by implementing this concept in their project and at the same time may increase the potential in implementing the concept in Selangor state itself. In addition, actions must be initiated to enable this concept to be applied efficiently in future construction projects. The actions such as provide assistant to government, contractors and consultants in incorporating the sustainable issues at the project conceptual stage and planning stage. Even sustainable concept in transportation field is a slightly higher investment at initial stages, but then, it is still a good investment to be considered for long-term and by implementing this concept it brings different character and interpretation from normal practices.

Furthermore, government's representative actions are influenced by the market situation and budget approve from the federal government as in Malaysia all the transportation matters are fully controlled by government. To increase the momentum in order to implement the sustainable concept, a little bit of pushing factors must be used to the government representative and also contractors to improve the specification of the current practices, method and technology to be used for future project as what sustainable concept may offer to future project. The modern and modest design and technology must be played in the design of the transportation so that it can fulfill the need and to enhance to potential of sustainable transportation itself.

In summary, more efforts are necessary to enhance the level of environmental awareness and civic consciousness among the Klang Valley's people to build sustainably and greener project in the future. These are the point that should be put into an account to make them ready to implement this concept. It should start from the most important people in that particular state so that this concept can be successfully implemented in their area.

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