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GIS and Spatial Analysis of A Historical Phenomenon

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ABSTRACT

Until now historians have relied mainly on textual, architectural and art-historical analyses of monumental structures in order to understand their historical context. This paper outlines the importance of spatial analysis and GIS on historical phenomenon. Using spatial analysis, structures are treated not as individual archaeological items but as a system. The paper also presents a case study that demonstrates the significance of using GIS and spatial analysis for historical research.

Keywords: GIS, spatial analysis, Umayyad qusour, historical phenomenon, socio-political history.

1. INTRODUCTION

GIS is an information system that is designed to work with integrated referenced data. Data can be spatial and/or non-spatial. The system is capable of storing, managing, transforming, analysing, retrieving and presenting the data as a final output in order to answer questions or provide solutions to unsolved problems.

Analysis of historical phenomenon requires historical data over a range of temporal and spatial scales. While historical data offers a wealth of information about where, when and how a historical phenomenon occurred, managing the data remains problematic. Since GIS deals with spatial and non-spatial data, as a tool it allows accurate and rapid data management for establishing relationships between textual and spatial information for the generation of new datasets.

Until now historians have relied mainly on textual, architectural and art-historical analyses of monumental structures in order to understand their historical context. This paper shows the importance of spatial analysis and GIS of historical phenomenon that lends to a new dimension of spatial analysis where structures are treated not as individual archaeological items but as a system.

GIS tool enhances access to historical data and allows a better visualisation of GIS database, with easier data management and greater uniformity of historical information. In particular, the archived data permits preliminary subdivisions of an area according to different hazard levels. GIS tool offers effective support for solving problems related to geomorphologic process analysis based on the historical data. The problems of the specific temporal and spatial span of each historical archive are obviated since GIS tools can collect information from several sources. At the same time, missing some important details (i.e. date or magnitude of events) and differences in reporting styles and presentations can be solved with the use of predefined interpretations to obtain a standard description.
Furthermore, the use of a GIS database overcomes the problems of identifying the same data reported in different archives and thus, avoids the risk of data duplication (Chiara et al., 2009).

2. SPATIAL ANALYSIS AND COMPUTING IN THE DISCIPLINE OF HISTORY

Historians and scholars in humanities have a documented reluctance to use computers in their research. Boonstra et al. (2004), claims that: “If we look back at what ‘history and computing’ has accomplished, the results are slightly disappointing. They are ‘disappointing’ because ‘computing’ failed to do what it was intended to do, which was to provide ‘history’ with computerised tools and methods historians could use to expand their possibilities and to improve the quality of their research, as ‘history’ failed to acknowledge many of the tools ‘computing’ had devised”.

In the United States, computers were first incorporated into historical research by social and economic historians who focused on computation and quantitative aspects (Greenstein, 1997). From the 1980s onwards, computing – first in the form of databases and searchable texts – has become more thoroughly integrated into the social sciences and historical research (Greenhalgh, 1987). Relational models and data modelling techniques have evolved such as the “Entity Relationship Model” of Burnard (1990) and Harvey (1990), multilevel regression analysis and event history analyses of Raffalovich and Knoke (1983) and lesser quantitative techniques have also become widespread. Today, there are several journals devoted to computing in the humanities, one of which is History and Computing. In the 1990s the British Library Research Series published a series of monographs devoted to computing in humanities (Katzen, 1990; Kenna and Ross, 1995; Mullings, 1996).

While the role of computing in the humanities and social sciences has advanced since the 1960’s, “the profession remains divided between a small minority of historians who use computers as tools for analysing historical data and the vast majority, who, while they might use a computer for word-processing, remain unconvinced that it can become a ‘methodological asset’ (Speck, 1994). Since GIS is primarily a methodological tool, its role in historical research is still far behind the role that it has performed in other disciplines.

In Chapter Six of Boonstra’s in his Geospatial Technology and the Role of Location in Science (2009), there is a section discussing the Geo-ICT and uses of geography in historical research and the methods of using Geo-ICT in historical science. He claims that there is a shift in interest towards geography due to development within historical sciences and this has to do with the coming of age of Historical Geographic Information Systems. For instance, in 2007 the Historical Department of Idaho State University was the first to initiate a graduate study programme in geographically integrated history based on GIS, and there is a Historical GIS Research Network and a Historical GIS Discussion List. Boonstra (2009) also claims there are five different ways of using Geo-ICT related tools in historical sciences; tools for presentation, exploration, fashion reconstruction, analytical and a portal to historical information to facilitate research.

3. GEOGRAPHICAL INFORMATION SYSTEMS IN HISTORICAL RESEARCH

So far, only limited uses of spatial statistical techniques have been made by historians. A. K. Knowles' Past Time, Past Place: GIS for Historians was the first collection of case studies on the applications of GIS in historical research. Except for Knowles, the literature on using GIS for historical applications is sparse. However, ‘Historical GIS’ is a term that is now used to describe approaches to historical research involving the use of GIS (ESRI, 2002).
In the 1970s and 1980s, GIS was marketed for its ability to handle complex sets of spatial information more quickly and cost-effectively than human computation. In the words of Goodchild (2000), “although human have highly developed visual systems, they are easily misled by optical illusions and unable to perform the kinds of precise rapid manipulations of data that computers are designed for. The computer seemed much better at the kinds of rigorous and logical analyses demanded by the scientific methods than common researchers”.

An overview of the field in 1994 documented the use of GIS in historical research in several countries in Europe as well as the U.S. (Goerke, 1994), but that number has risen dramatically. GIS has improved in visual quality, its flexibility in handling data in a variety of formats, and its availability. Most important, the problems of geographic changes over time have been noted by historians, geographers and information scientists alike. In the 21st century, GIS is most widely used for resource management, utilities management, telecommunications, urban and regional planning, vehicle routing and parcel delivery, and in all of the sciences that treat problems associated in some way to the surface of the earth (Boonstra et al., 2004).

Several examples illustrate the growing use of techniques of spatial analysis via GIS in history-related disciplines. In the early 1990s, several introductions to cluster analysis in historical research were published (Bacher, 1989; Boonstra, et al., 1990). In historiography, ‘cluster analysis’ uses geographical information systems to visualise the results of historical research, and since the 1990s this ability to visualise information has made the method more appealing to historians. GIS has also been used to test historical hypotheses about nations (Obinger and Waggschal, 2001), provinces (Delger, 2003), districts (Debuissone, 2001), municipalities (Boonstra, 2001), parishes (Song, 2002) and households (Galt, 1986; Spree, 1997). ‘Nearest Neighbor’ analysis was used in an article by Vasiliadis and Kobotis (1999), who used “nearest neighbor analysis” to analyse the distribution of tourist locations in Macedonia in 1999.

Anna et al. (2003), studied archaeological settlements located in the mid-Tiber Valley. Two integrated layers of vector and raster were created in order to study geographic data on historical settlements in the areas considered. Both layers were coupled with GIS-based spatial analysis methods in order to identify archaeological site patterns. Eric and Kerstin (2005) investigated the historical ecology of Elkhorn Slough, a 1200-hectare tidal wetland system in Central California. GIS was used to identify patterns of change in the extent and distribution of wetland habitats during the 150 year study period and to investigate the causes of these changes, and also to interpret historic maps, charts and aerial photographs. A series of summary maps was created to illustrate and quantify tidal flow and habitat types for six representative historical periods, and spatial analysis of historic aerial photographs was carried out to quantify changes in marsh cover and tidal creek width at fixed quadrants.

A study by Levin and Galilee (2009) reviewed 375 historical maps covering the Negev Desert which covers the total land area of Palestine between 1799 and 1948. The historical maps are very important to understand colonial developments, landscape and settlement processes, and the sedentarisation of the Bedouin population. The maps were scanned and rectified using GIS to enable a quantitative analysis of their accuracy, and to expose new insights on settlement and sedentarisation processes.

Dagmar et al. (2007) carried out historical landscape analysis with the examples of Saxony, Central Germany and four case studies using different ways of investigation were presented along with the results. The case studies dealt with the development of land use and how its
structure changed in different types of Central European cultural landscapes. The study was conducted to discuss methodological aspects of spatially explicit GIS based landscape analysis in historical maps, utilising maps of Saxony dating back to 1780.

A study by Ayhan and Cubukcu (2009) aimed to answer the question as to whether the historical spatial development of a large-size city can be approximated using historical geographical and categorical data that pertain to its places of worship. The study used data for 525 mosques built in Izmir in Turkey covering the years 1550 – 2008 and maps of built-up areas for the same period.

In 2001 Ian Gregory, Daniel Dorling and Humphrey Southall published an analysis of 20th century patterns of poverty in England and Wales. Data were drawn from census records and the study tried to distinguish between patterns of real change in income vs. apparent changes that actually result from changing administrative areas and means of collecting and publishing census data. In order to deal with the mechanical changes, they “interpolate data published for a variety of mosaics of spatial units onto a single set of administrative units. Based on a common geography, it is possible to compare patterns from different dates using a combination of simple statistics and sophisticated visualisations” (Gregory et al., 2001).

GIS has become a powerful tool in historiographical methodology as it integrates spatial and attributed components of geographical information, GIS can analyse the information in traditional historical texts describing places, and from other forms of historical geographical investigation. Bertrum MacDonald and Fiona Black’s work (2000) on the ‘spread of print culture’ demonstrates the importance of spatial analysis in historical research. Their argument is that print culture spread across continents and oceans as a result of the interaction of a complex set of spatially distributed variables, and that the diffusion of new reading practices can be modelled using spatial analysis. What these researches show was that within historical science, GIS is mostly used as a tool for visualising and arranging historical events and situations, and its bigger role in the discipline of history.

4. GIS IN CULTURAL HISTORY

Research problems in cultural history, however, are different from socioeconomic questions in that the data is rarely quantitative. Furthermore, the deeper past is more obscure than the present or recent past. In the question of historical sites such as the Umayyad qusour (Alhasanat, 2010) for example, there is no textual record of the ‘intentions’ of their builders, not even the builders’ names. State patronage is assumed because of the massive richness of the structures but this is anchored by very few textual references to the Caliph’s activities. The data to be analysed in this, as in many other studies, is hardly quantitative at all – the qusour for example, not data.

Commercial GIS software as yet is awkward at ‘managing uncertainty’. So the researcher is more or less on his own in figuring out how to transform cultural and historical cases into quantitative data. As one author says, “History and computing are not only about historical research, but also about historical resource creation” (Woollard, 1999).

One example of this kind of problem is seen in the study of Bartley and Campbell regarding land use in medieval England. In the 1990s, Bartley and Campbell used GIS to produce a land use classification system for medieval England based on 6,000 records in the Inquisitiones Post Mortem, a detailed record of information on the estates of deceased landholders. They identified the records as points on a map of England using a gazetteer of place names. Many of the points overlapped, so they may have represented large areas with a variety of land uses; so they then used kernel estimations to construct a raster grid to

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overlay the map of England. They then used a weighted ranking to assign primary and secondary categories of land use to each cell in the grid. The result was a land use map for medieval England (Bartley and Campbell, 1995).

The very expression of “historical site” denotes an intersection between space (“site”) and time (“historical”). As such, any historical site should be an ideal candidate for analysis by GIS. In this regard, it is worthwhile to quote in full the following paragraph from the study of Chiu et al., 2002:

“Historical sites are proof of history. They represent interaction between different cultures throughout history reflecting the social values, economic situations, and behaviors of a particular time. Documenting historic sites is important. It preserves information for future generations to learn from the past. A rich architectural and urban heritage provides future architects and urban planners and designers with design and planning solutions to various problems. There are many related documents that describe in detail the historical sites’ spatial structures, characteristics, categories, value of arts, and educational meanings. However, these documents that use paper-based static media have several shortcomings. They represent the past historical events of a specific site using descriptive lists, words, and simple marked maps to display the urban environment information despite that these historical sites should belong to a structure of spatial-temporal data. Historical sites interact dynamically with the place they locate and over time. The using of the traditional ways cannot fully describe the past historical events which occurred, the reasons for their occurrences, their impact on historical buildings, and the evolution of these historical buildings. In other words, they lack the capability to represent the meanings and changes of historical sites in a spatial and temporal manner”.

In past time and place, Knowles asserts that “if we define geography as the study of spatial differentiation, and history as the study of temporal differentiation, historical GIS can be defined as the study of spatial patterns of change over time” (Knowles, 2002). In this case, however, the question is posed about the relationships between several disparate sets of spatial data in the past. It is described similarly by Chiu et al. (2002) – a matter of describing spatial-temporal data relationships fully in ways that paper-based media are not capable of doing.

In summary, spatial analysis draws data from archival and archaeological research and reconfigures it spatially and visually. This reconfiguration not only makes it easier to draw and demonstrate relationships between phenomena; it can actually reveal relationships that are invisible in the textual description or on the ground. Analysing and verifying historical maps by modern GIS technology within the context of historical geographical studies provides a valuable tool to assess their accuracy (Levin and Galilee, 2009).

5. GIS AND SPATIAL ANALYSIS

The origins of spatial analysis lie in the development of quantitative geography and regional sciences in the early 1960s and many developments have taken place ever since (Chou, 1997). Spatial analysis and GIS have enjoyed a long and productive relationship over the past decades (Goodchild et al., 1992). GIS has been seen as the key to implementing methods of spatial analysis, making them more accessible to a broad range of users, and hopefully more widely used in making effective decisions.
Unlike other statistical analyses, GIS has established links to maps for visual analysis using tabular data (Clarke, 1997). Any statistic that one can think of to describe the data automatically having geographic properties can be placed on maps for visual processing. It has been argued that, in this sense, that the relationship between spatial analysis and GIS is similar to the relationship between statistics and statistical packages. Specialised GIS packages directed specifically at spatial analysis have emerged (Bailey and Gatrell, 1995). The implementation of spatial analysis methods in GIS has led to a new exploratory emphasis (Chou, 1997).

GIS and spatial analysis methods become extremely useful when investigating historical and archaeological phenomena. GIS and spatial analyses have yielded helpful information on archaeological and historical research areas (Bacher, 1989). Levin and Galilee (2009) claimed that only by using GIS can a series of old maps be combined, and the location of their features and spatial distribution can be extracted and compared.

6. CASE STUDY

An ideal case study on GIS and spatial analysis of a historical phenomenon is illustrated by the study of Alhasanat et al. (2010), entitled “Spatial analysis of a historical phenomenon: using GIS to demonstrate the strategic placement of Umayyad desert palaces.” The Umayyad qusour (desert palaces) are monumental structures built during the reign of the first caliphate of Islam. Usually dismissed as “pleasure palaces” or “hunting lodges”, some scholars are beginning to argue that these prominent structures were strategic interventions in the landscape. Until now, historians have relied mainly on textual, architectural and art-historical analyses of the qusour in order to understand the Umayyad architectural state. The study proposed the use of spatial analysis through GIS to lend a new dimension to the discussion. The results of the analysis show that the Umayyad qusour are carefully situated at routes of transhumance and water sources. The distribution pattern of the Umayyad qusour is clustered at the outlet of Wadi Sarhan, and there is actually a line-of-sight communication between Azraq, Amra, Haranah, Muwaqqar, Umm al Walid, Mushatta, and Qastal. There is also a positive association between Umayyad qusour and their water sources. These results support the argument that the Umayyad qusour were built strategically at perennial water sources in order to monitor routes of transhumance amongst the socio-political centres of that period.

The study demonstrated in quantitative terms that the Umayyad qusour constituted a strategic network of observation and control structures. Contrary to the once-prevalent, romantic view that the qusour were nostalgic “pleasure palaces” and “hunting lodges”, the study uses spatial analysis to quantify relationships between the qusour structures, water resources and transhumance routes. The methods of analysis employed include visualisation, proximity analysis, terrain profile analysis and point pattern analysis. The results of these analyses showed that the qusour were carefully situated at routes of transhumance and perennial water sources that existed during the Umayyad period.

The relationship between the qusour and their water sources grows out of the simple fact that desert travellers must stop at water sources. By placing the qusour close to these scarce water resources, the builders of the qusour effectively exerted power over the water sources. The perennial water sources were not built by the Umayyads, but the extensive water infrastructure associated with the qusour maximised their potentials and displayed their power over the region. By using buffering in the proximity analysis to quantify the relationship between the qusour and water points, it was possible to visualise which water sources lay outside the buffer area. Water sources that lie inside the buffer are interpreted
as having a positive association with the qasr. If the source of water is located out of the buffer, it is interpreted as having no indicator for a positive association (see Table 1). Out of 21 water sources, only one source, ‘Ain Soda, was located outside the buffer and thus, did not indicate a positive association with the qusour. This indicates that the water sources for the Umayyad qusour tended to be located significantly (at 95%) close to each other.

Analysis of terrain profiles between the qusour indicated that there is an unobstructed line-of-sight communication between ‘Azraq and Qusayr ‘Amra, Muwaqqar and Haranah, Muwaqqar and Mushatta, Muwaqqar and Qastal, Muwaqqar and Umm al Walid, Qastal (see Figure 1). These results were derived from GIS and spatial analyses and support the argument that these prominent structures were strategically placed in the landscape for highly functional purposes such as to carefully monitor and protect the routes that led to Damascus—the centre of the Umayyad caliphate—from the rival political centres of Kufah and Madinah (see Figure 2).

The distribution pattern of the Umayyad qusour is clustered at the outlet of Wadi Sirhan. The result of the quadrant count analysis indicates that the qusour pattern is clustered because the variance to mean ratio was 2.32847 (VTMR[1]). Furthermore, K–S– D = 0.459951 and the Critical Value = 0.391; thus the K–S–D [Critical value with Alpha 5%), so the null-hypothesis was rejected. This indicates that the locations of the qusour are
dependent on certain factors, which in this case are the relative positions of the harrah, the outlet of Wadi Sirhan, the positions of water sources, and the resulting disposition of travel routes.

The desert castles were carefully situated at water sources in the landscape to monitor important routes of transhumance; especially access to Damascus. If, for example, travellers come from the south, they would travel the Jauf-Wadi Sirhan route or the Ma’an-Amman route, on which they would face official observation from Umayyad cavalry. The southernmost patrol station, Qasr al-Tubah, is located exactly in the middle of these routes at about 52kms. Umayyad cavalry could convey the information to their stations in approximately 78 minutes because a camel’s speed is approximately 40km per hour. The information could have been evaluated and then conveyed once again to the nearest qasr within 69 minutes. The nearest qasr to Qasr al Tuba is Qasr al Haranah, part of the network of communication, so the whole string of qusour along the diagonal of the diamond shape would have been informed (see Figure 3).

Figure 1: Terrain profiles between two successive qusour (Alhasanat et al., 2010)
In the event of an alert, Umayyad officials could close off the southern part of Jordan from the northern part. If travellers came from the north, it would have been the same procedure, except that the patrol station would have been Qasr al Hallabat, and it would have taken 55 minutes for the information to be communicated. If travellers were to approach from Wadi Sirhan, they would have to go east or west around the black desert to get to Damascus. Approaching from the east, they would have to go around the harrah and there is no water available on that route except at Qasr Burqu’ or Jabal Sais, which is why there are qusour there. If they go west of the harrah, they would be observed by the second group of qusour, which are clustered at the outlet of Wadi Sirhan. ‘Azraq, ‘Amra, Haranah, Muwaqqar, Mushatta, Qastal and Umm al Walid, providing a strong net of communication around the outlet of Wadi Sirhan. Qasr al-Hallabat and Qasr al-Tubah function more as two main patrol stations.
7. CONCLUSION
Spatial analysis and GIS draw data from archival and archaeological research and reconfigures it spatially and visually. This reconfiguration not only makes it easier to draw and demonstrate relationships between the phenomena; the attributed data also establishes links to maps for visual analysis. Consequently, researches with the aid of GIS show great potential for employing GIS to problems concerning history with limited data available. So far, only limited uses of spatial statistical techniques have been made by historians, but there is a shift of interest towards geography due to developments within historical sciences and this has to do with the coming of the age of Historical Geographic Information Systems.

Analysis of historical phenomenon requires historical data over a range of temporal and spatial scales. While historical data offers a wealth of information about where, when and how a historical phenomenon happened, managing the data remains problematic. Since GIS deals with spatial and non-spatial data, GIS tools allow accurate and rapid data management for establishing a connection between textual and spatial information for new data generation. This paper illustrates that within historical science, GIS is mostly qualified as a tool for visualising and arranging historical events and situations, and playing a big role in the discipline of history. Analysing and verifying historical maps by modern GIS technology in the context of historical geographical studies also provides a valuable tool to assess their accuracy.

REFERENCES


Malaysian Housing Co-Operatives: Past Performance, Current Problems And Future Direction

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ABSTRACT

Housing co-operatives used to be one of main housing providers in Malaysia. Nonetheless, their eminence as a housing provider has rapidly diminished since the late 1980s, as evidenced by the reducing number of houses developed by them. Seeing that housing co-operatives in other countries have grown in stature and have succeeded in providing significant amount of housing for the people, it is worthwhile to examine why Malaysia housing co-operatives have been lagging behind. This paper aims to reveal current issues and challenges faced by Malaysian housing co-operatives in undertaking housing development. A qualitative approach driven by semi-structured interviews was adopted in obtaining information related to the barriers faced by Malaysian housing co-operatives. Findings revealed that there exist prevalent management, operational and funding issues among Malaysian housing co-operatives. Being part of a research into alternative housing tenure for Malaysia, this paper points out the inherent weaknesses within the current housing co-operative structure and proposes the “re-invention” of housing co-operatives in providing proper and adequate housing for their members. A new form of housing co-operatives for Malaysia is proposed, but the highlighted weaknesses need to be addressed before the potentials can be harnessed.

Keywords: housing co-operatives, alternative housing tenure

INTRODUCTION

Housing is a basic human need that has been high on the agenda of policymakers, the focus being adequate affordable housing for the population. Other than the public and private sector, the co-operative movement was once a main housing provider in Malaysia. In general, co-operatives are involved in housing besides banking and finance, consumer, industrial and construction. Originally, the housing co-operative was conceived based on socialist principles, i.e. to improve the living conditions of people by offering access to affordable housing, which is an alternative to the market housing. As time progresses, housing co-operatives throughout the world have evolved in terms of function and operation to reflect changes in the socio-economy, although the basic social bias remains. To date, co-operative housing is a significant type of housing tenure in Western countries such as Sweden, Norway, the United Kingdom and the United States, whilst housing co-operatives become an important third provider of housing besides public and private developers.

According to the Malaysia Co-operative Societies Commision (2014), housing co-operatives in Malaysia play the dual role of developing and constructing housing projects for their members. Most of the projects are focused on low and medium cost housing, with prices about 20%-30% cheaper than the market price. Cheah (1986) stated that Malaysian
housing co-operatives were once popular as an alternative to conventional or market housing that involved high housing loan charges. These reasons led to the firm support for housing co-operatives during their early years, as seen in their 13.7% contribution to the total housing units constructed in the First Malaysia Plan (Rahim, Bakar, & Abdullah, 1991). This performance was not sustained in the following years. Subsequent Malaysia Plans reported small contributions from housing co-operatives, ranging from 0.84% to 2.67%. After the Eighth Malaysia Plan, the housing contribution of housing co-operatives was not reported, a reflection of the marked decline of Malaysian housing co-operatives as a housing provider.

On the other hand, seeing that housing co-operative in other countries play an important role in housing provision, it is worthwhile to examine the recent decline of Malaysia housing co-operatives. A review of Malaysian housing literature indicated that there has been no recent study on housing co-operatives except the study that was carried out by Salleh & Bujang in 2008. This paper forms part of a larger research into the feasibility of introducing an alternative housing tenure besides home ownership and renting among the Gen Y in Malaysia, by piggybacking on the current housing co-operative structure. This paper aims to reveal issues and challenges faced by Malaysian housing co-operatives in undertaking housing development. A qualitative approach frames the study, with key informant interviews being the main method of data collection. The findings point out the inherent weaknesses within the current housing co-operative structure. We conclude by proposing the “re-invention” of Malaysian housing co-operatives based on the established model of housing co-operatives in other countries.

LITERATURE REVIEW

The co-operative movement in general

Currently, the co-operatives system can be found in various economic activities including transportation, businesses, housing, consumerism and so forth. The layman definition of a co-operative is any activity that involves a group of people who operate with a similar objective. The co-operative movement has been around for over 200 years and has been instrumental in providing significant services which would otherwise be unattainable (Das, Palai, & Das, 2006). According to the International Co-operative Alliance (2015), the earliest modern co-operative movement was established in 1844 when the Rochdale Pioneers founded the Co-operative Movement in Lancashire, England. The main purpose of that particular co-operative was to provide an affordable alternative to poor-quality and adulterated food and sundry provisions, using any surplus to benefit the community. Since then, the co-operative movement has developed rapidly, spreading throughout the world in a myriad of economic sectors.

Nevertheless, the co-operative movement has their own issues and problems. For example co-operatives have existed in India for 100 years but despite the rapid growth in the co-operative movement, Das et al. (2006) cited problems of government interference, mismanagement and manipulation, lack of awareness among the people, restricted coverage due to inadequate size of co-operative and limited function in terms of single purpose co-operatives. These issues have also plagued co-operatives in most countries, including Malaysia.

Housing co-operatives throughout the world

The economic liberalisation policies of early 1990s across the globe had reduced the scope of public housing and enhanced the role of private housing market (Ganapati, 2010).
However, the withdrawal of public housing developers and the inability of private housing developers in fulfilling all housing demands has led to the involvement of third sector organisations such as housing co-operatives. This new development has become the focus of attention among the policymakers, scholars and community activist both in developed and developing countries. The housing co-operative is seen as a good mechanism in the provision of affordable housing since it is believed to be able to minimise speculation (Saegert & Benitez, 2005).

Co-operatives housing members do not receive a deed to their housing unit, and thus do not own the property (Mallin, 1990). The members only own a share towards the house, becoming part of the shareholders in the corporation, with the corporation owning the title to the property. However, members can enjoy all occupational benefits as long as they obey the corporation rules. The members have a right to a long-term lease which is up to 99 years called “occupancy agreement” or “propriety lease” to the unit (Mallin, 1990).

Table 1 shows the types of housing co-operatives available in other countries. It can be seen that there are a few models available to be implemented by housing co-operatives, depending on the local institutional needs and conditions. According to the (Northcountry Cooperative Development Fund, 2012), housing co-operatives may be divided into market rate co-operative, limited equity housing co-operative, leasing co-operative, mutual housing co-operation and senior-housing co-operative.

<table>
<thead>
<tr>
<th>Types of Housing Co-operative</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Market rate co-operative</td>
<td>The co-operative sells shares at full market value in original sale and allow future units sales at the market price. The market price is alike conventional real estate whereas the unit’s sale price is determined by the market, allowing for potential accumulation (or loss) of equity by the members</td>
</tr>
<tr>
<td>Limited equity housing co-operative</td>
<td>The co-operative in which residents buy a low-cost share of the ownership of a building but are limited on the return from resale value of the housing (Graves, 2011).</td>
</tr>
<tr>
<td>Leasing co-operative</td>
<td>The property is leased by the investor on a long term basis, sometimes with an option to buy. The property is operated by the residents as a co-operative</td>
</tr>
<tr>
<td>Mutual housing association</td>
<td>Non-profit corporation set up to develop, own and operate housing. The residents of the housing own and control the association.</td>
</tr>
<tr>
<td>Senior housing co-operative</td>
<td>A co-operative that has designed and service features appropriate to senior residents.</td>
</tr>
</tbody>
</table>

Table 1: Types of Housing Co-operative

Source: Northcountry Cooperative Development Fund (2012)

As shown in Table 2, the presence of housing co-operatives can be observed in various countries with different levels of involvement in the national housing provision. The country where housing co-operatives has been a substantial provider of housing is Sweden, whereby about one fifths of the total housing supply came from co-operatives. It should be noted that housing co-operatives were only introduced in Sweden about 40 years ago. Additionally, if the absolute number of co-operative housing was considered rather than proportion against the total housing stock, Germany have produced well over 2 million co-operatives housing, which is almost half of the total housing stock of Malaysia.

The history of Malaysian housing co-operatives

In post-independence Malaysia, there was scarcity of accommodation in urban area due to the changes in socio-economic activities and urban pattern as a result of rural-urban
migration (Newcombe, 1956). The widespread demand for *tea money* (bribe) to obtain a house, escalation of house prices and the high cost of borrowing with short repayment term triggered the growth of Malaysian housing co-operatives (Cheah, 1986). In 1949, two housing co-operatives were registered i.e. Teluk Anson English School Teachers’ Housing Co-operative and the Kuala Lumpur Housing Co-operative. The number of housing co-operatives increased from two pioneer co-operatives in 1949, to 30 in 1957 and 66 in 1967 (Rahim et al., 1991).

The expansion of Malaysian housing co-operatives in the 1950s may be attributed to good institutional support. Firstly, the Federation of Co-operative Housing Societies and the Housing Trust were formed to control and co-ordinate the housing co-operatives in terms of technical assistance, advice and also finance to the co-operatives (Rahim et al., 1991). Moreover, most of the members of housing co-operatives were also members of the Thrift and Loan Societies that provide credit and finance for their co-operative purchases (Rahim et al., 1991). In 1958, the Co-operative Central Bank (CCB) was established, which further availed resources from the Thrift and Loan Societies to the housing co-operatives and effectively provided more housing loans to members (Rahim et al., 1991). Subsequently, CCB became an essential element for housing co-operatives as a source of funding. The government also played an important role in fostering the growth of housing co-operatives in terms of development fund assistance and providing supply of development land.

From the 1970s to mid-1980s, housing co-operative began to decline in number, but still attracted new members due to their improved organisational structure based on government support, such as the government’s assistance in building 12,500 houses at an estimated cost of RM933 million (Rahim et al., 1991). However, in the mid-1980s, the government limited the new membership of housing co-operative due to prevalent issues such as housing co-operative’s inability to complete housing projects. Additionally, this period saw CCB having serious financial difficulty which impeded credit facilities to its customers.

**Current situation of Malaysian housing co-operatives**

At present, Malaysian co-operatives are involved in many economic functions such as banking and finance, housing, consumerism, industrial, construction and others. Although once co-operative developers were one of the main housing providers in Malaysia, their importance has declined since the mid-1980s. According to Hassan as cited in Rahim et al., (1991), initially the co-operatives built houses only for the members of co-operative but eventually offered their houses to the public. Generally, however, current housing co-operatives undertake development of housing schemes for their members (Malaysia Co-operative Societies Commision, 2014). According to Salleh & Bujang (2008), all

---

**Table 2: Housing co-operatives in selected countries**

<table>
<thead>
<tr>
<th>Country</th>
<th>Date of establishment</th>
<th>No of housing co-operative units</th>
<th>Total housing stock</th>
<th>Percentage of housing co-operative units against total housing stock</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>1895</td>
<td>368,000</td>
<td>4,200,000</td>
<td>8.76%</td>
</tr>
<tr>
<td>Egypt</td>
<td>1908</td>
<td>500,000</td>
<td>12,200,000</td>
<td>4.10%</td>
</tr>
<tr>
<td>France</td>
<td>20th century</td>
<td>300,000</td>
<td>31,264,000</td>
<td>1.00%</td>
</tr>
<tr>
<td>Germany</td>
<td>19th century</td>
<td>2,180,000</td>
<td>40,136,000</td>
<td>5.43%</td>
</tr>
<tr>
<td>Italy</td>
<td>Mid 19th century</td>
<td>672,000</td>
<td>30,038,200</td>
<td>2.24%</td>
</tr>
<tr>
<td>Portugal</td>
<td>After WW2</td>
<td>180,000</td>
<td>5,880,000</td>
<td>3.06%</td>
</tr>
<tr>
<td>Sweden</td>
<td>1970s</td>
<td>997,969</td>
<td>4,508,000</td>
<td>22.13%</td>
</tr>
</tbody>
</table>

*Source: Own analysis*
Malaysian citizens are eligible to register as member of co-operatives. In order to become a member, the person must be 18 years old or 12 years old for certain matters in a co-operative and is a resident, has employment or owns land within the co-operative area.

As mentioned above, Malaysian housing co-operatives failed to contribute significantly to the total housing supply under each Malaysia Plan. Table 3 shows the percentage of completed housing units by co-operatives to waver between slightly under 1% to about 3% from 1971 to 2009 against total completion.

Table 3: Performance of Malaysian housing co-operatives from 1971-2009

<table>
<thead>
<tr>
<th>Malaysia Plan (MP)</th>
<th>Target units for housing co-operatives</th>
<th>Completed units of housing co-operatives</th>
<th>Achievement of housing cooperatives (Completed/Target)</th>
<th>Actual Contribution to Total Overall Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2MP (1971-1975)</td>
<td>N/A</td>
<td>3,585</td>
<td>N/A</td>
<td>0.97%</td>
</tr>
<tr>
<td>3MP (1976-1980)</td>
<td>12,000</td>
<td>4,120</td>
<td>34.3%</td>
<td>0.64%</td>
</tr>
<tr>
<td>4MP (1981-1985)</td>
<td>25,260</td>
<td>4,570</td>
<td>18.1%</td>
<td>0.90%</td>
</tr>
<tr>
<td>5MP (1986-1990)</td>
<td>12,500</td>
<td>7,483</td>
<td>59.9%</td>
<td>2.43%</td>
</tr>
<tr>
<td>6MP (1991-1995)</td>
<td>12,600</td>
<td>11,305</td>
<td>91.4%</td>
<td>1.72%</td>
</tr>
<tr>
<td>7MP (1996-2000)</td>
<td>15,000</td>
<td>13,703</td>
<td>91.4%</td>
<td>1.57%</td>
</tr>
<tr>
<td>8MP (2001-2005)</td>
<td>14,000</td>
<td>23,151</td>
<td>165.4%</td>
<td>2.67%</td>
</tr>
<tr>
<td>9MP (2006-2009)</td>
<td>19,000</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>TOTAL</td>
<td>110,360</td>
<td>67,917</td>
<td>61.5%</td>
<td>1.6%*</td>
</tr>
</tbody>
</table>

Note: Total completed for housing co-operative units is as per reported under the Eighth Malaysia Plan, whereas the total overall completion is as per reported under the Ninth Malaysia Plan.

Source: Compiled and analysed from various Malaysia Plans

Based on the Interim Statistic Report (2014) as shown in Table 4 below, the current number of co-operative societies involved in housing development stands at 202 compared to 180 in 2013. However, the increase in the number of housing co-operatives did not lead to more houses being built by co-operative developers. Notably, the number of housing co-operative members is fairly substantial i.e. 154,253 (2% of total co-operative members) with a total asset of RM1,044,890 (3.1%). This shows that housing co-operatives are still active in Malaysia, albeit lesser in degree from the 1960s and 1970s.

Table 5 shows several housing co-operatives that are still active in Malaysia. The active co-operatives located in the Greater KL area became the subject of this paper.

In Malaysia, the housing co-operatives had contributed 13.7% from the total housing units constructed in the First Malaysia Plan (Rahim et al., 1991). Most of the housing projects by co-operative developers focus on the low and medium cost housing. However, the contribution of housing co-operatives has continuously declined since then, with 0.97% in the Second Malaysian Plan period and 0.64% in the Third Malaysian Plan period. In the next Malaysia Plans, the trends of housing co-operatives distributions showed fluctuation i.e. Fourth Malaysian Plan (0.90%), Fifth Malaysian Plan (2.43%), Sixth Malaysian Plan
Although there was a slight improvement in the Eighth Malaysia Plan, the improvement did not have a significant overall impact on the Malaysian housing market and the performance of housing co-operatives ceased to be reported altogether from the Ninth Malaysia Plan.

Figure 1 below is the typical model for existing Malaysian housing co-operatives as summed from the literature review. This model indicates the develop-for-outright-sale operation of Malaysian developers, a characteristic of market-rate co-operatives. Although the houses developed by co-operatives is sold around 20%-30% cheaper than the market price for its members (Salleh & Bujang, 2008), there are no restrictions to the re-sale price. Members are also free to sell their units at market price in the future. There are a few ways to obtain land for housing co-operatives, including through land alienation by the state authority and through purchase of private land (Salleh & Bujang, 2008). As such, the Malaysian housing co-operatives are not much different from market developers in terms of operations.

The provision of housing by housing co-operatives has become less substantial due to several factors. According to Rahim et al., (1991), housing co-operatives have suffered poor track record due to several factors, including difficulty in obtaining cheap land, difficulties in getting suitably located land, difficulty in getting finance, management problems as the co-operatives administration is based on part time basis, lack of expertise in building as well as high cost of infrastructure in housing project. Similarly, Salleh and Bujang (2008)

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Housing Co-operative</th>
<th>State</th>
<th>Date Established</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Koperasi Tunas Muda Sungai Ara Berhad</td>
<td>Penang</td>
<td>1966</td>
</tr>
<tr>
<td>2.</td>
<td>Koperasi Perumahan Malaysia Berhad</td>
<td>Selangor</td>
<td>1989</td>
</tr>
<tr>
<td>6.</td>
<td>Koperasi Guru Melayu Kelantan Berhad</td>
<td>Kelantan</td>
<td>1940</td>
</tr>
<tr>
<td>7.</td>
<td>Koperasi Perumahan Melayu Perak Berhad</td>
<td>Perak</td>
<td>1953</td>
</tr>
</tbody>
</table>

Source: Own analysis

Table 4: Types and details of Malaysian co-operatives

<table>
<thead>
<tr>
<th>Functions</th>
<th>No. of co-operatives</th>
<th>Members</th>
<th>Shares/FEES (RM Million)</th>
<th>Asset (RM Million)</th>
<th>Earning (RM/Million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banking</td>
<td>2</td>
<td>1,009,750</td>
<td>3,320.99</td>
<td>87,848.95</td>
<td>2,893.45</td>
</tr>
<tr>
<td>Credit</td>
<td>596</td>
<td>1,357,897</td>
<td>5,580.55</td>
<td>11,269.76</td>
<td>905.44</td>
</tr>
<tr>
<td>Agricultural-Adult</td>
<td>2,439</td>
<td>738,810</td>
<td>602.54</td>
<td>2,383.82</td>
<td>511.67</td>
</tr>
<tr>
<td>Agricultural-School</td>
<td>6</td>
<td>446</td>
<td>0.02</td>
<td>0.06</td>
<td>0.03</td>
</tr>
<tr>
<td>Housing</td>
<td>202</td>
<td>154,253</td>
<td>211.56</td>
<td>1,044.89</td>
<td>546.85</td>
</tr>
<tr>
<td>Industrial</td>
<td>235</td>
<td>16,605</td>
<td>10.66</td>
<td>75.87</td>
<td>23.18</td>
</tr>
<tr>
<td>Consumerism-Adult</td>
<td>2,514</td>
<td>600,112</td>
<td>301.32</td>
<td>1,344.54</td>
<td>524.82</td>
</tr>
<tr>
<td>Consumerism-School</td>
<td>2,295</td>
<td>2,127,397</td>
<td>22.96</td>
<td>257.88</td>
<td>227.25</td>
</tr>
<tr>
<td>Construction</td>
<td>185</td>
<td>132,576</td>
<td>52.13</td>
<td>419.35</td>
<td>42.09</td>
</tr>
<tr>
<td>Transportation</td>
<td>450</td>
<td>147,377</td>
<td>66.30</td>
<td>300.62</td>
<td>483.65</td>
</tr>
<tr>
<td>Services</td>
<td>2,526</td>
<td>920,807</td>
<td>3,171.40</td>
<td>7,632.41</td>
<td>11,242.03</td>
</tr>
<tr>
<td>Total</td>
<td>11,450</td>
<td>7,197,030</td>
<td>13,340</td>
<td>112,578</td>
<td>17,400</td>
</tr>
</tbody>
</table>


(1.72%), Seventh Malaysia Plan (1.57%) and Eighth Malaysia Plan (2.67%) Although there was a slight improvement in the Eighth Malaysia Plan, the improvement did not have a significant overall impact on the Malaysian housing market and the performance of housing co-operatives ceased to be reported altogether from the Ninth Malaysia Plan.
found similar problems in the Johor State Land Development Co-operative Limited Kluang (KOPKETA) housing development projects, comprising financing problems, administrative problems and insufficient experienced staff to decide on and implement housing development activities.

**METHODOLOGY**

A review of Malaysian housing literature indicated that there has been no recent study on housing co-operatives, the latest being Salleh & Bujang (2008). Based on the premise that Malaysian housing co-operatives could attain similar achievements as their counterparts in other countries, this paper endeavours to reveal issues and challenges faced by Malaysia housing co-operatives in undertaking housing development before proceeding to “re-imagine” the role of Malaysian housing co-operatives based on the established model of housing co-operatives in the abovementioned countries.

A qualitative approach frames the study, with key informant interviews undertaken to examine the issues and challenges in housing development by housing co-operatives. Using purposive sampling, three personnel from different housing co-operatives around Kuala Lumpur were selected as interviewees. The selected housing co-operatives that have been chosen for this research were Koperasi Perumahan Angkatan Tentera Malaysia Berhad (KPATMB), Koperasi Perumahan Sentul Pasar Berhad (KPSPB) and also Koperasi Perumahan Malaysia Berhad (KPMB). All of these housing co-operatives are located in Klang Valley area. The main aim of the interviews was to reveal current issues and problems experienced by these selected housing co-operatives.

Details of the interviewees are provided in Table 5.

Although the number of interviewees seemed small, the interviewees fulfilled the five requirement of an ‘ideal’ key informant as stated by Tremblay (1989, cited in Marshall, 1996). The five characteristics are role in community, knowledge, willingness, communicability and impartiality. Thus, the small number of interviewees were not seen as compromising the quality of interview data obtained. The findings by both Salleh and Bujang (2008) and Rahim et al., (1991) were used as the basic premise to guide the key
informant interviews. Trigger questions were asked on Site, Finance, Management and Expertise; these pre-determined major themes were extracted from the two main references. After the initial trigger questions, probing and follow-up questions were asked to further explore in detail any issues that were revealed.

Interviews were then transcribed. The qualitative data was manually coded using open, axial and selective coding. The implementation of open coding was guided by an inductive approach in examining the current issues and challenges faced by housing co-operatives, whereby themes and sub-themes were generated from the open coding. Axial coding then eliminated overlapping sub-themes by linking and collapsing similar sub-themes. Finally, the selective coding process identified the significant sub-themes to be reported in this paper.

**FINDINGS AND DISCUSSION**

The main and sub themes are summarised in a fishbone diagram (Figure 2). The themes, sub-themes and sample quotations are provided in the Appendix 1.
The findings revealed the inherent weakness in the structure of housing co-operatives, which led to their lukewarm performance since 1980s. The scarcity of land and high demand for housing in Malaysia, especially in major cities have caused the price of residential land to keep increasing over the years. This has caused the attainment of affordable and suitable sites beyond the reach of the housing co-operatives, as previously mentioned in Rahim et al. (1991). The difficulties in obtaining affordable and suitable sites could cause housing co-operatives to develop in less expensive locations, which unfortunately suffer from poor locations in terms of lack of social amenities and infrastructure. Additionally, poor locations could affect in the saleability of the new units. Thus, the overall profitability of the project and housing co-operative business performance may also be affected.

In any housing development, the funding aspect can determine the final outcome of the project. The problem of insufficient capital has been described as a very serious issue among Malaysian housing co-operatives (Rahim et al., 1991), and was found to still be a significant impediment among interviewees’ organisations. The existing structure of Malaysian housing co-operatives entails the reliance on shares and subscriptions paid by their members, funding by the Malaysia Co-operative Societies Commission (MCSC) or funding from third parties, including financial institutions for project funding. The housing co-operative membership has suffered in the 1990s due to the government’s concern about the poor track records of housing co-operatives in delivering housing units on time on quality. The government’s tighter control over co-operative activities and less liberal funding support to housing co-operatives have suppressed membership and led to low subscriptions. In turn, housing co-operatives have had to resort to finance facilities from commercial banks and financial institutions. In getting funding from financial institutions, housing co-operatives have to compete with private developers. Inevitably, the less experienced and less market-oriented housing co-operatives would be looked upon less favourably compared to the more experienced and more market-savvy private developers.

Although site and finance pose a substantial challenge to housing development ventures by co-operative developers, more serious issues can be attributed to the inherent flaw in the structure of co-operative housing provision. As stated by Salleh and Bujang (2008), co-operatives can be defined as “an organisation which is owned, financed and managed by its members with the aim to enhance social economic situation and fulfil the requirements of the members”. From this definition, it can be seen that the administration matters are controlled by the members of the co-operatives themselves. The lead in a housing co-operative lies with its Board of Directors. However, the interviews revealed that the Board of Directors of a housing co-operative may comprise people from different backgrounds with different motivations and values. Interviewees indicated how the diversity in socio-economic backgrounds can complicate the management of housing co-operatives, resulting in lengthy negotiations among board members during the decision-making process that can result in delays in the housing project. Additionally, the Board members of co-operative undertake administration on a part-time basis, whereas any housing project requires a full commitment and effort to ensure its smooth running. Such part-time administration could negatively impact development activities, which in practice have been known to deviate from the original plan due to various internal and external factors. The election of a member into the Board of Directors of a housing co-operative indicates a certain level of trust and belief in the skillset possessed by the member. Although that is the assumption made by other members, oftentimes members of the Board of Directors display deficiency in the required skill, knowledge and experience. Among others, the ability in decision-making, planning, loan arrangement, implementation and monitoring could be missing from Board
members. Additionally, the Board of Directors may change during the annual general meeting, further affecting the project flow.

The administration and management of housing development activities require a particular set of technical, legal, procedural and financial knowledge in housing development to successfully complete the project. Due to the lack of expertise, oftentimes the housing co-operatives have to enter into joint venture with another developer to undertake the housing project. The interviews indicated how the lack of expertise among Malaysian housing co-operative’s top personnel had affected the development activities. Due to this insufficiency, the housing co-operatives have to appoint other developers to execute the housing project. In some cases, the partner developers caused further problems to the housing co-operatives by abandoning the project before completion. According to the interviews, such unsuccessful partnerships could ultimately lead to the failure to deliver houses on time to housing co-operative members and loss of reputation of the housing co-operatives.

CONCLUSION AND RECOMMENDATIONS

In this paper, the poor performance of housing co-operatives have been shown to be attributed to their organisational structure. Ironically, the main cause of the problem could be attributed to the basic principles of the co-operative movement – among others – voluntary and open membership and democratic member control, which result in insufficient skill, experience and knowledge required in housing development. Housing development is a major economic activity that requires a specific skillset that may not be available among the elected Board of Directors on the co-operative. Such deficiency may result in outsourcing the expertise and entering into unsuitable joint venture partners.

All the three housing co-operatives in the study were facing the same problems, including obtaining affordable and suitable sites and acquiring project funding. Strong leadership from the Board of Directors seemed to be lacking due to insufficient knowledge and background in property development and the election system of Board members. From the statistical data provided, housing co-operatives have not managed to bounce back to their glory days which saw the co-operatives contributing double digits to the housing supply in the country.

To stay relevant in the future, there needs to be a paradigm shift in the function and operation of housing co-operatives. Looking at the current performance of Malaysian housing co-operatives, the time has come for a ‘re-invention’ of the housing co-operatives. A brave leap is needed in the mindset of current co-operative leaders in order to survive in the current housing market condition. In providing guidance to the future direction of housing co-operatives, consideration must be given to the original spirit of co-operatives. Co-operatives were established to provide an alternative to the conventional market system, whereby the members would strive to ethically and honestly improve the collective well-being of other members. The current structure of co-operative housing provision in Malaysia seems to have lost the original direction, whereby the housing co-operative is no longer distinguishable from the private developer. Malaysian housing co-operative may want to re-look the current develop-for-outright-sale model which has proven to be problematic and venture into other co-operative housing models, such as the Limited Equity Housing Co-operative (LEHC).

If implemented, LEHC will present a new dimension to Malaysian housing co-operatives. Taking into account the existing institutional arrangements in Malaysia, Figure 3 represents the proposed LEHC for Malaysia that incorporates the pre-existing institutional framework. In contrast to a typical LEHC, Malaysian LEHCs will be controlled by the MCSC to reflect
the current housing co-operative structure in Malaysia. In most countries, the members of a typical LEHC are the sole controllers of LEHC as they own shares in the LEHC that carry voting right. In contrast, the proposed Malaysian LEHC is not only controlled by its members but also is supervised by the MCSC. The supervision by MCSC may ensure a proper governance by Board members, who may be hampered by their lack of skill, experience and knowledge in housing provision. As such, the current organisational shortcomings that have hampered the performance of housing co-operatives can be rectified in the new proposed LEHC. Further study into the finance and legal aspects of the proposed LEHC is necessary to provide a more complete outlook of the new structure of co-operative housing provision. Nonetheless, there is a good prospect for the proposed LEHC to transform the present under-performing Malaysian housing co-operatives into a formidable provider of alternative housing.

**ACKNOWLEDGEMENT**

The authors would like to gratefully acknowledge the financial support under research grant ERGS/UM.TNC2/IPPP/UPGP/628 from the Ministry of Higher Education, Malaysia for this research project.

**REFERENCE**


Appendix 1: Themes, sub-themes and sample quotations

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-theme</th>
<th>Sample quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site</td>
<td>Land scarcity</td>
<td>“There are a lot of problems faced by us in obtaining affordable and suitable land. Eventually, in order to get the affordable land, we have to choose land that is far from the town. In fact, at the beginning the land chosen was not suitable for housing development” (Interviewee A)</td>
</tr>
<tr>
<td></td>
<td>High land prices</td>
<td>“….before this has a lot of problems in getting suitable lands. For example, the land located in the middle of town is more expensive compared to outskirts areas. Therefore, we have a lot of problems to get the money to pay.” (Interviewee B)</td>
</tr>
<tr>
<td></td>
<td>Unstrategic location</td>
<td>“It is very hard to get affordable land... If the co-operatives are supported by government then it should be okay. But, if co-operatives have to stand by themselves, for example, seeking viable land, it is next to impossible” (Interviewee C)</td>
</tr>
<tr>
<td>Finance</td>
<td>Difficult MCSC funding</td>
<td>“……..we can make a loan from the bank but it depends on the reputation of the housing co-operative. Other than that, the capital is supplied by Malaysia Co-operative Societies Commission (MCSC) through the “Kumpulan Wang Amanah Pembangunan Koperasi”. However, it is for limited amounts. Maybe for a small scale project it could be considered” (Interviewee A)</td>
</tr>
<tr>
<td></td>
<td>Limited members</td>
<td>“It is very difficult to get the funding from the MCSC. When we apply, it takes almost a year to deal with them. The forms of government funding assistance is not the problem. However, there is a problem in the aspect of implementation. The way they handle should be improved. For example, the government already gave about RM200 million to MCSC. But when we applied for RM10 million, it was very difficult to get it. There were no strong reasons given why they rejected our application and when we appealed, it also was rejected.” (Interviewee C)</td>
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<tr>
<td></td>
<td>Limited commercial institutions funding</td>
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<td></td>
<td>Limited membership fee</td>
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<tr>
<td>Management</td>
<td>Complicated decision-making process</td>
<td>“In management aspect, we have a problem in decision-making. In this co-operative, we used to have about 16-20 board of directors. So, when there are a lot of people that have to sit down to come out with one final decision, it is really difficult and it is next to impossible. But now there are only 6 left after we made a change on the by-laws and we got no problem when have to come out with a decision. When we execute a housing project, we need a long time to manage everything, more than 2 years and at least 3 to 5 years to complete it. When board of directors have to change, it may cause difficulty to the project. For example, when the chairman changes, he may not agree with the certain things and this situation can affect the flow of the project”. (Interviewee C)</td>
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<td></td>
<td>Admin problems</td>
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<td></td>
<td>Senior members’ resistance</td>
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<tr>
<td></td>
<td>Member’s apathy</td>
<td></td>
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<tr>
<td>Expertise</td>
<td>Need for joint venture</td>
<td>“We have to look for the developer as we have no expertise among the members. This is also a main problem of housing co-operatives in Malaysia...the abandoned project faced by our co-operative is not about the inadequate fund supply. But, it is because of the developer ran away, gone bankrupt and left the project incomplete.” (Interviewee B)</td>
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<tr>
<td></td>
<td>Outsourcing costs</td>
<td>“The ones who manage the co-operative are board members themselves. A lot of problems such as they have different opinions and it is very hard to come out with final decisions. Other than that, the main problem faced by the co-operative is about misconduct in term of money among the board members. When it involves a middle-man to look up for the developer, the board members will pay a lot to middle-man causing misuse of money and thus giving a lot of problems to the co-operative”. (Interviewee B)</td>
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<tr>
<td></td>
<td>Partner abandonment</td>
<td></td>
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<td></td>
<td>Late delivery</td>
<td></td>
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<td></td>
<td>Loss of reputation</td>
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</table>
Internationalisation of Singapore’s Architectural, Engineering and Quantity Surveying Consultancy Firms

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ABSTRACT

Why do firms tend to venture into neighbouring/regional markets? Is the choice of a firm’s market due to geographical nearness and cultural familiarity? Why are foreign direct investments concentrated in a few cities in each region? In this study, the concept of a core and peripheral system of cities is used to elucidate the phenomenon of the concentration of architectural, engineering and quantity surveying consultancy services in key cities in the Southeast Asian and East Asian region.

Singapore’s architectural, engineering and quantity surveying consultancy firms are jumping onto the bandwagon of burgeoning economic growth in the Southeast Asian region and beyond. In Southeast Asia’s mosaic of cities, Singapore is considered to be a core city in terms of economic activities and commerce, surrounded by semi-peripheral or peripheral cities such as Johor Bahru, Kuala Lumpur, Penang, Hat Yai, Bangkok, Nonthaburi, Ho Chi Minh City, Hai Phong, Hanoi, Jakarta, Surabaya, Bandung, Manila, Cebu and Davao. This can be extended further afield to cities in China that include Shanghai, Beijing and Tianjin where Singapore firms are also active in. Besides elucidating the choice of markets and identifying the pitfalls and success factors through the experiences of Singapore’s architectural, engineering and quantity surveying consultancy firms in Southeast Asia and East Asia, the paper evaluates and provides an overview of the competitiveness of these firms in the region, and study how they adapt their strategic and organisational strategies to “acclimatise” to these different cities. This paper presents a strategic and organisational overview of the internationalisation phenomenon of Singapore’s consultancy firms based on in-depth interviews with 50 management and professional staffs of such firms in nine different Asian cities that extend from Johor Bahru (Malaysia) to Tianjin (China) along the North-eastern direction away from Singapore.

Keywords: mosaic of cities, internationalisation strategies, built environment firms

1. INTRODUCTION

The propensity to internationalise and the level of embedded-ness depend much on the nature of the firm’s strategic resources. Consultancy firms are considered to be “borne global” (McGuiness, 1994). Thus, master planning, architectural, engineering and quantity surveying consultancy firms tend to be more mobile and successful in regionalisation or internationalisation than contractor firms.

Singapore’s Lilliputian and cyclical domestic construction market has led to many Singaporean architectural, engineering and quantity surveying consultancy firms diversifying into the burgeoning regional markets. The objectives of the study are to (a)
investigate the choice of markets by Singapore’s architectural, engineering and quantity surveying consultancy firms, (b) appraise the competitiveness of these firms in regional markets; and (c) describe the internationalisation and organisational strategies of these firms in the different cities of Southeast Asia and East Asia. However, it should be appreciated that a paper of this nature covering such a macro topic cannot present all details of the study. The paper is therefore meant to provide an overview of the regionalisation strategies of these consultancy firms emanating from Singapore.

2. INTERNATIONALISATION OF SINGAPORE’S CONSULTANCY FIRMS

Singapore’s architectural, engineering and quantity surveying consultancy firms have increasingly been getting involved in international or regional markets because of both push factors from Singapore such as the Lilliputian and cyclical domestic market, and pull factors such as liberalising and generalising markets in the region.

In exporting their professional services, these firms need to consider the geographical distance of the host cities from the home city of Singapore. By extension, there may be discontinuities at national and geographical boundaries, or different forms of distance such as cultural distance, administrative distance, and economical distance, as espoused by Ghemawat (2001) that may sap the firm’s access to home-based resources and erode the competitive advantages of firms in domestic or nearby markets (Peh and Low, 2013). Hence, it has been suggested that domestic firms have considerable advantages over foreign firms because they have better access to resources, channels, networks and markets in their home-market. Hence, international firms often make use of their geographical and cultural propinquity to reach out to countries or cities nearer to their home market, because of lesser logistical constraints and more operational similarities to their home market. In this context, it is noteworthy that the Singapore government has recommended that Singapore firms should exploit these advantages by keeping to within a 7-hour flight time radius from Singapore’s Changi International Airport.

On the other hand, the global market is such that a disproportionate amount of economic activities are agglomerated in a few key cities in the world. In this system of cities, a core city resides at the centre of the regional market and is surrounded by semi-core and peripheral cities. The Central Place Theory (Christaller, 1933) suggests that cities complement each other on services and more higher-ordered services are provided in larger cities or economies. This study postulates that Singapore stands out as a core city, Kuala Lumpur as a semi-core city and Penang as a peripheral city in the Southeast Asia mosaic of cities. This postulation is backed by the Globalisation and World Cities Research Network (GaWC) study (based in Loughborough University in the UK) of leading world cities and their hierarchies in 2008. The GaWC study indicated that Singapore is an “Alpha +” city, Kuala Lumpur is an “Alpha City” and HCM City is a “Beta -” city.

Multinational firms tend to venture into these core and semi-core locations in their search for markets. The size of the overseas subsidiary, e.g. in terms of investments and staff-size tend to commensurate with the perceived size of the economy. This in turn shapes the organisation, in terms of Strategy, Systems, Structure, Style, Staff, Skills and Shared Values (Peh and Low, 2013).

3. RESEARCH METHODOLOGY

McGuiness (1994) advocated that firms are embedded or mobile, subject to site specificity, physical asset specificity, human asset specificity, dedicated assets and time specificity. McGuiness (1994) suggested that consultancy firms are “borne global” or are more
predisposed to be mobile and transnational. This study seeks to elucidate the phenomenon that there are three main blocks – the European/US, Chinese and Southeast Asian blocks for architectural, engineering and quantity surveying consultancy services.

Insofar as the theoretical constructs of this study are concerned the Eclectic Diamond Framework/SWOT Analysis Matrix for Competitiveness of Firms is used to evaluate the competitiveness of Singapore’s multinational architectural, engineering and quantity surveying consultancy firms in regional markets. The Eclectic Diamond Framework is formulated by merging Dunning’s Eclectic Paradigm (1988) and Porter’s Diamond Theory (1990). This Framework synergises the advantages of both models and propounds that a firm uses different strategies to internalise its factor conditions, demand conditions, related and supporting industries, government intervention, chance, ownership qualities and locational factors, in the way that the fit is efficient, effective and valid.

To achieve the study’s objectives within the abovementioned theoretical constructs, interviews were conducted with senior, middle management and professionals from Singapore’s architectural, engineering and quantity surveying firms across the cities of Singapore, Johor Bahru, Kuala Lumpur, Penang, Ho Chi Minh City, Hanoi, Shanghai, Beijing and Tianjin. These cities were selected based on their popularity in terms of these firms’ choice of location in the region. A total of 50 in-depth interviews were conducted with management and professional staff of top government-linked firms and private firms from Singapore in these cities (annotated in this study as Firms A, B, C, D, E and F). All architectural, engineering and quantity surveying firms operating out of Singapore in the regional market were first identified from the directories/reports of the government (e.g. the Building and Construction Authority) and relevant professional institutions (e.g. the Association of Consulting Engineers, and the Singapore Institute of Surveyors and Valuers). Purposive sampling was adopted to identify all such firms originating from Singapore in these cities. Their senior management and professional staffs stationed in these cities were then contacted for face-to-face interviews by the first author who flew to these cities to meet them personally. The interviews were tape-recorded with the consent of the interviewees and transcribed. Findings from the interview transcripts, following content analysis, were distilled to extrapolate noticeable trends and phenomena. The results are presented and discussed below.

4. RESULTS AND DISCUSSIONS

4.1 Interview findings

The transcripts of in-depth interviews with 50 senior management and professional staffs conducted in nine different cities across Asia have provided rich qualitative insights of reasons for the internationalisation efforts of these firms from Singapore. However, because of word limitations in this paper, selected verbatim reporting of interviews from numerous senior management and professional staffs can only be presented below.

Insofar as the reasons for Singapore’s architectural, engineering and quantity surveying firms to internationalise their operations are concerned, the Vice-President of Firm C based in Shanghai explained that:

“Singapore is so small. The workload also fluctuates a lot. For example, just some time back, we were having an economic and construction boom, but now, we are facing a crisis. Therefore, we need to balance our workload by going overseas, so that in time of recession, we still have projects to do. We must already plan to go overseas in good times, and not only do it during a recession. We can spread our risks by going overseas.”
Similarly, the Managing Director of Firm C based in HCM City echoed the same view but nevertheless clarified that:

“Our base is still in Singapore. Most of our works, like conceptual designs, are done in Singapore. We are here (in Vietnam) to follow up and coordinate work only.”

Nevertheless, the internationalisation process is often fraught with problems and obstacles that can vary from country to country. The Senior Technical Manager of Firm D based in Singapore comprehensively explained that:

“In Singapore, we are much more organised as we abide by rules but things are flexible and not so rigid but when we go abroad, there are much more regulations to abide by and the boundaries between black and white is pretty clear. In addition, it is difficult to take action there as we are overseas and we lack resources. I had set up an office in Beijing and the process was very complex. It is unlike in Singapore where everything is streamlined. There are a lot of procedures involved. In addition, there are a lot of departments we have to go to get the legislation settled but the distance between the departments are so far apart, so one must allow time and resources to register a company overseas. This is unlike Singapore which has a one-stop place to register the company.”

It would also appear that logistical constraints do become increasingly more complex as firms move further away from their base in Singapore. In relating to the recommended 7-hour flight time away from Singapore as the limit that firms should consider, an architect of Firm C based in Singapore lamented that:

“I am a guy who likes travelling very much but the feeling for me when I fly to some cities is bad as I fly to airport, do my work and fly back. For example, I have been to Tianjin five times but I don’t know how the city looks like. I only know how the airport looks like. Actually, I don’t like this kind of feeling because beside job, you still have your life but sometimes they will allow you to stay there for one or two days to look around. However, sometimes after meeting, you have to fly back to meet your boss. Flying is great if you are on a holiday. It is tiring for work.”

Similar sentiments were expressed by the Senior Vice-President of Firm C based in Shanghai who added that:

“Flying in and out has its limitations. You may be rushed to complete your work. You cannot serve your clients well enough. Flying in and out was tiring. Worse still, when you have to shuttle between cities in China and Singapore, the sense of belonging to either places erode away from you. My personal preference is that if flight distance is less than two hours, then I am willing to commute regularly. If not, I would rather be stationed in the overseas city, like what I am doing now in Shanghai.”

However, the 7-hour flight time as recommended for consultancy firms exporting their services overseas is not limited to the outbound journey. The return journey should also be factored into the equation, the length of which does seem to have an adverse effect on the personal wellbeing of those involved with the travelling. The Project Management of an Engineering Firm C in HCM City added that:
“Singapore is too small. Singapore’s construction industry is too small and too competitive. Therefore, firms are venturing out into foreign markets. When you fly to places like Dubai, which is about 8 hours away, you are actually spending 8 x 2 = 16 hours on flight-time alone. When flight-time is less, you can afford more time for your work and family. However, I do not agree that Singapore is limited by 7 hours. 9 hours should be closer to the truth.”

Despite the seemingly negative impact from long flight-time, most interviewees however appear to recognise the importance of providing a physical presence in the host cities in order to assure their overseas clients of their ready availability. In this context, the Senior Manager of Firm E based in Shanghai explained exhaustively that:

“When you have design and new projects, we will organise a team consisting of architects, engineers and project directors and managers. This team will fly to clients’ office and get as much information as possible, interacting as much as possible with clients, their staff and relevant personnel. After which, they will come back to the office to start on the design. After which, we will have the review in clients’ office. It will happen two to three times and this is taken into consideration into computing the project cost. Sensitivity is heightened for design as you have to fly the architect there to listen to the clients’ wants. The project management will be stationed at site where the construction will be so clients will normally be nearby the site. Our project directors have to visit the clients once a month to provide with a review. He will visit the site once a while and he will have weekly meetings for the project manager with all the manpower and et cetera. Then the project director will endorse the report and send it to the client. That is how the system works. The project management team does not need to visit the clients, only the project directors. It is client management that the project directors have to visit the clients, instead of just emailing.”

When exporting their services overseas, consultancy firms also need to deal with the competition coming from other foreign firms (including those from Europe, US and Singapore) as well as local firms in the host cities. The issue of competitiveness is therefore a very real one indeed. Nevertheless, the Senior Vice-President of Firm C based in Shanghai explained that some overseas clients prefer to engage international consultants instead of local firms even though international consultants charge much higher fees and that:

“The locals may not have experience in certain concepts if they have not done certain designs before, not to say that Singapore knows a lot but we have been exposed to a lot of western influences so it is easier for us. Some local firms are very honest and they say they have not done before but they are very good in their submissions so the client is willing to let us team up together. Foreign developers or clients prefer international brand-names like how some people may prefer Gucci and Prada. Local consultants lack exposure and experiences.

It is a threat whenever there are newcomers and we believe that there may be a day the locals would be able to catch up and be as good as the foreigner. For us, it is important and also a long-term strategy for us to be localised because these local partners will improve in their services and very soon, we will reach the same level. Of course, there are other
architecture firms like SOM* but honestly we are not in direct competition because they are in upmarket market for tall buildings. There are our competitors like Zhong Jian International. They are very competitive. They even employ foreigners and export their services abroad [*Skidmore, Owings & Merrill LLP, a world-class architectural firm based in Chicago, US].”

In facing off the competition, Singapore’s consultancy firms have also seriously considered appropriate business strategies that are related to geographical distance, to be adopted as they export their services overseas. As the Senior Technical Manager of Firm B based in Singapore explained:

“We will first look at the potential of growth. That is our first criteria. After which, we will prefer somewhere where we have a local presence. It makes things easier when we go overseas. We will get clients whom are attracted to how we are like and we will also look at what we are strong at. We will then repackage our strengths to target certain market... We will build up our base and bring in an expert whom very often than not, will go with us when we are overseas initially doing marketing. The expert will then assess the clients’ needs and see ways in which we can solve that if we do not have the strengths needed. We will fly there, especially when we are not familiar with the country, so that we can feel the site. Very often, we will want to go to the most happening area to look at what is their best project over there to be used as a benchmark. Many a times, we start through social connections. The local context and the developers available are very important. We also get referents from consultants and our present clients so that is more effective.”

Likewise, on the reasons for venturing abroad and the appropriate business strategies to be considered, the General Director of Firm F based in Vietnam added that:

“They are three mainly: 1) business contacts by clients so clients who want to do projects overseas and have contacts, we will help them to go overseas and launch the projects; 2) local markets such as conducting a market research there or going down to investigate the site; 3) purposely set up an office there for presence and marketing purpose. It was then we assess the profitability of it. The third mode is very expensive so we decided to only set up an office if we have a project.”

Upon identification and adoption of specific business strategies to deal with the competition, Singapore’s consultancy firms also considered the manner in which their organisations are best structured to support the business strategies for implementation. In this context, the Director of Firm A based in Kuala Lumpur (KL) explained that:

“In KL, we have one director, one associate, eight architects, eleven draftspersons, and three administrative staff. In Penang, we have one director, one architect, two draftspersons, and two administrative staff.”

When overseas, there is also a corresponding need to assimilate operational processes of the overseas office with those of the head office based in Singapore. Hence, an architect of Firm D based in Beijing opined that:

“Firm D worked like a big family. Like what the director always said, the door is always open. There is no close-door policy in Firm D. It is easy to approach the directors which are quite different from certain architectural firms whereby the star architect is not as approachable. Even though there is
hierarchy, I feel that there are connections in between. We have less hierarchies and we started as a very small office of about 4-5 people. Firm D (Beijing) is a young establishment. Everyone has to cover everything, overlapping each other. Most of the time, we communicate with the headquarters in Singapore and get the general direction. After which, we will do things by ourselves. We try to be self-sufficient but if we need assistance, we will get them from Singapore.”

As part of the revamp in operational processes, procedures and routines, Singapore’s consultancy firms exporting their services overseas have also tweaked their expectations to meet demands of the host cities. Hence, the Senior Project Manager of Firm E based in Shanghai added that:

“Processes may change abroad. When you are abroad, you do not adhere to exact processes. The bottom-line is to get your work done. Work and life traditions, and cultures may be different abroad.”

In the same city of Shanghai in China, the Planner of Firm E reiterated that:

“We do not have regular meetings. Our meetings are informal. We organise meetings whenever there is a need or we feel that we should update each other on events. So there are no complicated relationships and conflicts. People are open to one another. Employees have their freedom and not strictly bound by the company’s management or regulations.”

Furthermore, Singapore’s consultancy firms do not view business strategies to be static when exporting their services overseas. Competitive strategies have frequently been viewed as dynamic in nature to cope with changing demands of the marketplace. In so far as dynamic strategies are concerned, the Senior Vice-President of Firm C based in Shanghai argued that:

“We cut down the dependency (on our HQ) down to almost insignificant level, meaning that we are quite independent in terms of delivering our services. When we started in 1999, the business development people here have no resources to do anything, except a brain of track record used to sell our services so we have to make sure that HQ could meet up with what is stated in contract. In 2001, we set up legal entity and started to recruit people up to 80 people.

We used to be a representative office. Now, we are a design office. We have also gained a lot of local knowledge. For example, we have familiarised ourselves with playing “Cha Bian Qiu”. It used to be “us” and “them” for expatriate staff and local staff, but now, we do not have such a sense of segregation anymore.”

The need to constantly review competitive strategies is also emphasised by Singapore’s consultancy firms on a regular basis, and as pointed out by the Vice-President of Firm F based in Singapore:

“We have to re-evaluate our position from time to time. The organisation is like a big tree – everyone will have to contribute. The rethinking process might be cascaded down, so that everyone can chip in some suggestions on how to improve the company. Market forces are the biggest agents of change. When demand changes, firms have to react with new business strategies. Firm F is also looking at how to use technology to enable consultant to do their work more competitively. This is the evolution of services provided by
In general, apart from the above verbatim reports, findings of the in-depth interviews conducted were also verified by the Senior Advisor of Firm Y, a government-linked firm offering architectural and engineering service overseas who added that:

“The most important consideration (for a firm’s overseas office’s organisation structure) would be its business case. The firm would have to consider its vision, mission, local laws, market conditions, and the fundamentals of business management and organisation. One of the key decisions would be whether to have an overseas office at all. For business, we always start small. A firm would probably need to be sufficiently big enough to be able to venture overseas. By that, I mean the firm size should be more than 30. At least three employees would have to pay attention to an export market. It is the same for a representative office – you may station one staff there, but you would also need two other support staff in the home-office. A firm would have to have at least six staff in a technical office. Some of them would have to be from Singapore. 30 is an ideal, for a Small Medium Enterprise (SME). There are firms that had ventured out despite having only four or five staff, but they did it more out of no choice.”

Further observations arising from the empirical findings are presented below.

4.2 Choice of markets due to system of cities

Firms have often faltered and succumbed to pitfalls in unfamiliar markets. Therefore, correct and appropriate choice of markets is important, if not critical. Peh and Low (2013) suggested that there are several forms or manifestations of distance, such as cultural, administrative, geographical, economical, technological, socio-demographical, affinity and organisational distance. This study focuses on gravitational distance, an inverse function of the intervening geographical distance between the home and host city.

The study found that these firms’ choice of and commitment in these cities is largely based on the sizes of these economies and the geographical distance between home and host city, and tries to elucidate this phenomenon with the concept of gravitational distance – by synthesising the system of cities and the mosaic of the region with distance (this may be in the form of geographical or cultural distance). The gravitational or spatial distance (R) could be understood as $R = (\text{size of market } A \times \text{size of market } B)/(\text{distance between } A \text{ and } B)^2$.

This study observes that economic and commercial activities tend to concentrate in a few locations as illustrated in Figure 1 which conceptually shows the cross-sectional view of the Central Place Hierarchy involving Core cities, Semi-core cities and Peripheral cities. This may be reflected by, for example the city’s population and Gross Domestic Product (nominal) per capita of the city (Peh and Low, 2013) that determines the economic potential of these cities as they emanate outwards from the core location. These physical clusters or growth poles are the result of localisation and agglomeration of commercial firms in global core locations, such as New York, London, Tokyo, Shanghai and Singapore. Firms localise or agglomerate together if centripetal forces prevail over the centrifugal forces of the location. These locations then grow to become “sticky places” and attract more firms to localise and agglomerate, and as these places develop into central places, they act like black-holes, causing back-wash effects on neighbouring semi-core and peripheral
locations, and making the core-periphery mosaic of regions even more distinct. The concept of the Central Place Hierarchy suggests that these central cities evolve to become marketing, administration and transportation hubs and command-centres of transnational firms.

It is suggested that the economic potential of a city first falls, but then rebounds and increases with increasing flight-time, as a proxy for distance, away from a core location (in this case, Singapore). It should however, be noted that the relationship could also be affected by factor such as (1) the power of the core city and the host city in the region; (2) the between-ness of both the home and host cities; (3) the proximity of both home and host cities to other markets; (4) the complementarities of cities in the region; (5) the centrality of the home and host cities; (6) the connectivity of the home and host cities; and (7) industry’s prospects in the host city.

This does not mean that all activities have to be located in core cities, nor that transnational firms could only be motivated to invest into core locations. There are four main reasons why firms venture overseas: (1) market seeking, (2) resource seeking, (3) efficiency seeking and (4) strategic asset seeking (Dunning, 1988). Firms may continue to set up offices in semi-core or peripheral cities to tap into less competitive markets, cheaper resources, to strut against resources sap and for strategic purposes.

The empirical findings from this current study on Singapore’s architectural, engineering and quantity surveying consultancy firms provided the following observations:

1. Consultancy firms tend to be more mobile than contractor firms.
2. These firms tend to set up site offices or regional offices in cities such as Kuala Lumpur, Penang, HCM City, Hanoi, Shanghai, Tianjin and Beijing.
3. More firms tend to venture into Kuala Lumpur in Malaysia, HCM City or Hanoi in Vietnam, Shanghai and/or Beijing in China.
4. These firms’ organisational set-ups tend to be more established in Kuala Lumpur, Shanghai and Beijing.

These findings concur well with the Central Place Theory (Christaller, 1933), that there are functional hierarchies of places with regards to spacing, size and function, and that:

1. The number of large cities is few, but the numbers of small towns are many.
2. The larger the settlements, the greater the distance between them.
3. The larger the settlement, the more function it holds.
4. The larger the settlement, the more higher-ordered services are provided.
4.3 Competitiveness of Singapore’s consultancy firms in regional markets

This study also evaluates the competitiveness of Singapore’s architectural, engineering and quantity surveying consultancy firms in the region by identifying the strengths, weaknesses, opportunities and threats using the Eclectic Diamond Framework/ SWOT Analysis Matrix, as illustrated in Table 1. This approach to evaluation will be useful to better understand geographical distance and corresponding strategies of these consultancy firms originating from Singapore.

<table>
<thead>
<tr>
<th>Eclectic Diamond Framework</th>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities/ Success Factors</th>
<th>Threats/Pitfalls</th>
</tr>
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<tbody>
<tr>
<td>Factor</td>
<td>Concentration of firms and talents in the region Making use of cultural and geographical propinquity</td>
<td>Lack of incubational home demand Lack of flexibility or inability to manoeuvre around restrictions No hinterland for more growth stimulus</td>
<td>Export of services to fast-developing economies in the region</td>
<td>Local competitors are catching up in terms of knowledge and technology, and are offering their services for much lower professional fees</td>
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<tr>
<td>Demand</td>
<td>Sophistication of demand</td>
<td>Only a handful of iconic/landmark projects (often designed by internationally renowned firms instead)</td>
<td>Technology transfer to regional cities Brand-name may get advertised if overseas job are well-done</td>
<td>Local clients are more concerned about prices than quality of design and services Brand-name may get tainted if overseas jobs are botched</td>
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<tr>
<td>Complementary services</td>
<td>Agglomeration of professional activities in Singapore</td>
<td>Firms are individualistic, unlike Japanese Keiretsu. For Chinese markets, Singapore’s firms are less savvy in networking as well as firms from Hong Kong and Taiwan, thus losing project opportunities to them in the process</td>
<td>Enter foreign markets with fellow Singaporean partners, or as a consortium</td>
<td>Problems of communication, coordination and cooperation between firms of different work cultures and backgrounds</td>
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<tr>
<td>Strategy (due to competition)</td>
<td>Experiences in selling their niches along with geographical diversification</td>
<td>Have not ventured into developed markets in USA and Europe, and thus have not gained from the vibrancy of the industries there</td>
<td>Green and sustainable buildings; Multi-disciplinary one-stop services</td>
<td>Many international firms already have a presence in the region’s top cities</td>
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<td></td>
<td>Brand-name of Singapore and of firm</td>
<td>Reputation not as stellar as US, European, Japanese and Australian firms</td>
<td></td>
<td>Competition between consultancy firms is intense, may lead to cut-throat price-wars</td>
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<td></td>
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<td>Taiwan and Hong Kong’s firms are vying for Chinese markets, and they share even closer cultural affinities and are located more proximate geographically</td>
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<tr>
<td>Government</td>
<td>Architecture of Free Trade Agreements (FTAs) and good bilateral or multilateral ties</td>
<td>Firms may lack initiative and tend to look to the government for “answers”</td>
<td>International Enterprise (IE) Singapore, set up by the Ministry of Trade and Industry, informs Singapore’s firms of project opportunities abroad</td>
<td>Restrictions imposed by host authorities</td>
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<tr>
<td>Chance</td>
<td>Singapore has historical and cultural affinities with, and enjoy geographical proximity to Southeast Asia, China and India</td>
<td>Mostly relying on word-of-mouth recommendations – not enough marketing</td>
<td>Business seedlings, representative offices to find new businesses</td>
<td>Risks of defaults on payments by local clients</td>
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Table 1 classifies the SWOT analysis based on the following concepts expounded in the Eclectic Diamond Framework: (1) Factor, (2) Demand, (3) Complementary services, (4) Strategy due to competition, (5) Government and (6) Chance. Consultancy firms can start their SWOT analysis focusing on one concept at a time, although it is possible that the SWOT analysis outcomes anchored on one concept can influence or be influenced by the corresponding SWOT analysis outcomes based on another concept. The interrelationships between these concepts must be recognised by consultancy firms when undertaking the SWOT analysis.

4.4 Geographical distance - Internationalisation and Organisational Strategies adopted

From the fieldwork interviews, the study also identifies the corporate, business and functional-level internationalisation strategies adopted by Singapore’s architectural, engineering and quantity surveying consultancy firms for internationalising into regional markets. These strategies are summarised in Table 2, adding on to better understanding of geographical distance and strategies of these consultancy firms originating from Singapore.

It can be seen from Table 2 that there are three stages in the internationalisation process: Preparation for exports, Securing a beach-head and Expansion. In tandem with these three stages, various actions were also taken correspondingly by the consultancy firms to meet specific purposes. The findings presented in Table 2 suggest that the consultancy firms have a structured plan for appropriate actions to be taken to achieve specific purposes as part of the strategic thrusts overseas when they ventured into the regional market.

Extrapolating from the results of the fieldwork interviews, Figure 2 demonstrates how Singapore’s architectural, engineering and quantity surveying consultancy firms organise themselves in the region, including establishing Wholly-owned Subsidiaries (WOS).
Table 2: Strategies adopted by Singapore’s architectural, engineering and quantity surveying firms

<table>
<thead>
<tr>
<th>Actions</th>
<th>Stages</th>
<th>Purposes</th>
</tr>
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<tbody>
<tr>
<td>Adding and improving competences and capabilities</td>
<td>Preparation</td>
<td>Improve work, Attract talents, Develop niches</td>
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<tr>
<td>Building brand-name by winning awards and competitions</td>
<td></td>
<td>Improve reputation, Build up firm’s and staffs’ confidence</td>
</tr>
<tr>
<td>Building up project references (both overseas and in Singapore)</td>
<td></td>
<td>Improve firm’s profile, Develop competencies</td>
</tr>
<tr>
<td>Using both Singapore’s and firm’s brand-name</td>
<td></td>
<td>Marketing</td>
</tr>
<tr>
<td>Making use of alliances and networks</td>
<td></td>
<td>Partner with clients</td>
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<tr>
<td>Consortium</td>
<td></td>
<td>Benefit from one another’s strength</td>
</tr>
<tr>
<td>Diversifying in terms of geographical markets</td>
<td>Beach-head</td>
<td>Diversify into new markets, Acquire knowledge of markets</td>
</tr>
<tr>
<td>Exporting</td>
<td></td>
<td>Enter to understand new market</td>
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<tr>
<td>Business seedling or representative offices</td>
<td></td>
<td>Seek new market opportunities</td>
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<tr>
<td>Due diligence on prospective clients</td>
<td></td>
<td>Risks management</td>
</tr>
<tr>
<td>Ethnocentric work culture and management</td>
<td></td>
<td>Quality control and portrait of image</td>
</tr>
<tr>
<td>Customer-relationship management</td>
<td></td>
<td>Retain clients</td>
</tr>
<tr>
<td>Strategic advice/ consultancy</td>
<td></td>
<td>Value-added services</td>
</tr>
<tr>
<td>Collaborating with local design institutes</td>
<td></td>
<td>Satisfy regulations and to learn about market</td>
</tr>
<tr>
<td>Enhancing IT infrastructure within the organization</td>
<td></td>
<td>Enhance efficiency of virtual collocation and enabling sharing of informational resources</td>
</tr>
<tr>
<td>Training and sharing of knowledge</td>
<td></td>
<td>Human resource development</td>
</tr>
<tr>
<td>Multi-disciplinary one-stop services</td>
<td></td>
<td>Provide convenience and synergy</td>
</tr>
<tr>
<td>Niche</td>
<td></td>
<td>Forte</td>
</tr>
<tr>
<td>Iconic design</td>
<td></td>
<td>Win bid-for-project by design</td>
</tr>
<tr>
<td>International-level service at regional-level prices</td>
<td></td>
<td>Value-for-money</td>
</tr>
<tr>
<td>Hedging currencies or stipulation of contractual terms on payment</td>
<td></td>
<td>Financial strategy</td>
</tr>
<tr>
<td>Localisation</td>
<td></td>
<td>Lower operational costs/to become sustainable in a foreign market</td>
</tr>
<tr>
<td>Setting up a RHQ abroad to manage a few offices in the region</td>
<td></td>
<td>Heightened awareness of businesses’/ projects’ conditions in region</td>
</tr>
<tr>
<td>Outsourcing</td>
<td></td>
<td>Firms outsource non-critical and non-core activities so that they can focus on their core competences.</td>
</tr>
<tr>
<td>Incrementalism</td>
<td></td>
<td>Firms incrementally internationalise into markets which are geographically further away, or/and incrementally increase their commitment in these overseas markets</td>
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</table>


overseas in some of the host cities. Essentially, these firms start off with minimal commitment, but will build up their involvement (e.g. number of staffs) incrementally to the point of the city’s commercial/built environment potential. This is consistent with the Uppsala or the Staged Growth Theory (Johanson and Wiedersheim, 1975) which states that firms initially choose to enter into geographically nearby markets with low market commitments. Therefore, in the first stage, a firm begins with exporting their design services to nearer-by overseas markets, without any permanent staff or office in the overseas city, though they may have a project office on-site. Then, in stage two, if there are considerable opportunities, the firm may leverage on the project as a beach-head to set up a representative office for business seedling. In stage three, as the firm gets involved in more projects in the overseas city, it will evolve to become a wholly-owned subsidiary technical office. Finally in stage four, as the firm gains more experience and starts to have more presence in the overseas market, it will add more business and organisational functions, mature to become a full-fledged design office, and be able to perform most, if not all of the functions in the home/headquarter office.

5. CONCLUSION
Technology (especially Info-Communications Technology or ICT) has been breaking down barriers, allowing organisations and individuals to build seamless connections. The concept of virtual teams and virtual collocation in the built environment industry has been reinforced by recent developments such as the proliferation of Building Information Modeling (BIM). Merits of BIM include 3D modelling and improved visualisation, improved coordination and productivity due to easy retrieval of information, reduced teething problems, conflicts and changes, clash detection, reduction of reworks, etc. These developments are making a stronger case where it seems that geographical distance is no longer a lingering concern in a borderless world.

However, the phenomenon of economic and commercial activities being concentrated or agglomerated in a few cities is testament that distance is immortal. This paper discusses the gravitational relationship between cities, determined by the roles of cities in the system of cities and the intervening distance between them. The concept of the mosaic of cities, as illustrated in Figure 3, is essential to understand the role of distance and its impact on a firm’s (1) competitiveness and (2) internationalisation and organisational strategies. It is established that the market size of a city profoundly hinges on its geographical distance away from a central or core location. The study then propounds that the lure of a foreign market is determined by its gravitational distance from the home-market, which takes into account the geographical distance away from the home-market, and the size of the opportunity or market abroad. The study of Singapore’s architectural, engineering and quantity surveying consultancy firms as they export their services into cities in the Southeast Asian region and East Asian region provides empirical evidence of this phenomenon unfolding. Lessons may be drawn from this study for other built environment consultancy firms from other countries as they strategically plan to similarly export their professional services overseas.

To reiterate, in formulating the appropriate business strategies and organisational structure eventually in Figure 3 as firms consider geographical distance and export overseas, many influencing factors come into play. These include considerations of flight-time, available transportation hubs, location, characteristics of the cities (both home and host), complementarities of services among these cities and balancing the opportunities and risks in the export venture. It is pertinent for firms to consider these factors when formulating
In general, Singapore’s architectural, engineering and quantity surveying consultancy firms are considerably strong in terms of capabilities and good-value for money, and are in a favourable position to tap into market opportunities in the region because of the geographical and cultural propinquity between Singapore and these regional markets. However, Singapore’s architectural and engineering consultancy firms are still considered to be one tier below top international and renowned firms. These firms focus on building competitive advantages and promoting their brand-names, adopt entry modes that require less commitment but build up their commitment incrementally if necessary, and provide customer-focused services.

It is hoped that this study provides a fresh perspective on geographical distance and the challenges of internationalisation through the lens of distance and centrality of cities as they apply to architectural, engineering and quantity surveying consultancy firms from Singapore.
REFERENCES


Drivers Influencing Customers’ Visit to Shopping Centres in Malaysia

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ABSTRACT

Every shopping mall is developed with various attractions to enhance patronage and shopping activities. These attractions are regarded as visitation drivers. These visitation drivers have played the main role of attracting customers with different preferences to the shopping centres, each contributing differently to each customer’s preference. This research was carried out to study the extent of influence of these visitation drivers on the customer preference of shopping centres. A questionnaire survey was carried out focusing on the city of Shah Alam and its surrounding areas, in the state of Selangor, Malaysia. The respondents were asked about their preferences on 25 elements that were generated from eight visitation drivers. The collected primary data were analysed using the significance (Chi-square) and correlation (correlation matrix) tests. The result shows that 23 elements of the visitation drivers are significant. Three visitation drivers are highly important to customers, three presenting moderate importance. There is a high negative correlation between respondents’ profile (age and race) with four visitation drivers which are architectural, atmosphere, quality of customer service and loyalty programme. The study presents the customers’ most influencing factors to shopping centres and in respect of age and race. This helps developers and management team of shopping malls to focus on factors of utmost consideration towards a more income yielding retail property investment.

Keywords: customer preference, influence, Malaysia, shopping centre, visitation driver

1. INTRODUCTION

Shopping centre has been defined as a building that contains many units of shops (Pitt & Musa, 2009). It is also defined as a retail group together with commercial establishments (Omar & Baker, 2009). Most retail properties were planned, built and managed as a single entity which comprises commercial rental units and communal areas (Lambert, 2006). Shopping centre could appear different according to various characteristics or attributes such as size (Adnan, 2013), the number of anchors, dominant use or concept (ICSC, 2010). Lambert (2006) identified two types of shopping centres as traditional and specialised. ICSC (2010) grouped shopping centres into four categories to include (i) traditional, (ii) specialty, (iii) hybrid (iv) mixed-use. Meanwhile, these four types are measured under general purposed built, specialised purposed centre, limited purpose property such as airport retail and total industry which combines the traditional and specialty concept (ICSC, 2014). However, Adnan (2013) classified shopping centres into eight basic types which refer to neighbourhood centre, community centre, regional centre, super-regional centre,
fashion or specialty centre, power centre, theme or festival centre and outlet centre. Shopping centres are often developed in different sizes, types and characteristics (Lambert, 2006 and Adnan, 2013). It provides a variety of retail outlets such as supermarket, boutiques and other services (e.g. banks and cinema). Therefore shopping centres within good reach could attract and satisfy shoppers by offering a variety of products and services (Chan, 2011). The number of such shopping centers has steadily increased due to critical mass and community demand. However, different shopping centres could have different attributes which serves as attraction factors for the shoppers. Therefore, it is essential for a commercial property developer to know the factors that influence shoppers to visit a shopping centre before embarking on the development of shopping malls.

Development and management of shopping centres is a substantial investment opportunity and may generate optimum revenue for the owner or developer (Cheng et al., 2004). In fact, each shopping complex is unique and presents its own attractive factors from the customer perspective (Reimers & Clulow, 2004). In line with the efforts to strengthen the operation of shopping complexes, development of various promotional activities are employed by merchants/retailers in order to attract more visitors (Parson, 2003). The success of a shopping centre (in terms of profit making and business continuation) is highly dependent on the degree of customer visits. Regular visits give a high chance of a thriving shopping centre in the property market. Furthermore, the arrival of customers in a shopping centre is often tied to the tastes and preferences of different users (Sohali & Shanmugham, 2003). Hence the preference of the customer should be given priority to ensure every shopping center is able to operate successfully (Durkin et al., 2003). Consumer preference is highly dependent on various aspects of the shopping centre that could attract their attention (Poor et al., and Thannakon, 2009). The presence of visitors/shoppers in a shopping complex typically depends on numerous driven factors that are influenced by their own needs and taste. These driven factors are examined in the following section in other to see how far they could draw visitors to the shopping centres as presented by the earlier studies.

2. LITERATURE REVIEW

There are a number of literature and studies on the issue of shopper’s choice of shopping centre. The visitation drivers to a shopping mall located in city centre may be different from those of a suburban shopping centre. Lend Lease Retail (2008) refers to Visitation Drivers (of a shopping centre) as a series of factors that encourage customers to visit a shopping centre. Anselmsson (2006) proposed that the impact of these attractiveness factors could be reflected in the number of visits to the shopping centre. Visitations Drivers are initially developed by the attractiveness factors that define the key attributes and selling points of the shopping centre over and above a strong retail plan and retail mix (Lend Lease Retail, 2008). It can also act as development parameters that need to be taken into consideration when carrying out the planning and conceptual design for proposed retail development.

In the past studies, authors have looked into the visitation drivers to shopping centres under various captions. Dennis et al. (2001) used market segmentation and shopper’s choice of shopping centres in their study, focussing on the influence of visitation drivers on the ‘Relative Spend’ of individuals in the shopping centres and found attractiveness and distance as visitation drivers that influence customers choice of shopping centres. Other studies identified proactive marketing (Mintel 1997), promotion, price and place (Parson, 2003), quality of stores and availability of toilets (Hacket & Foxall, 1994). Noble et al. (2006) argued that gender influences loyalty of a customer to a shopping centre with shopping motivations as a mediating factor. Gender is also one of the bases of Dennis et al.
Customer service was found to be an important driver along with the physical environment that shows significant influence on consumer behaviour in a study by Keng et al. (2007). Tang et al. (2001) in a study of five supermarkets in Chicago postulated that pricing and customer satisfaction is the key drivers of customers to shopping centres, and it influences their spending. Size, distance and travel time are also driving factors to shopping centres (Wong et al., 2001). In this study, the visitation drivers identified from various aspects comprised of 25 items/elements and are grouped into eight. They include Accessibility, Convenience, Architecture, Atmosphere, Point of Difference, Customer Service, Quality of Retailer and Loyalty Program. They are discussed further in turn.

Accessibility has a positive and significant effect on customer visitation. Accessibility can be divided into macro-accessibility and micro-accessibility (Ala’Eddin, 2012). Macro-accessibility concerns access road conditions to the shopping centre. According to Sit et al. (2003), macro-accessibility is considered as the external aspects of accessibility which include the shopping centre’s location in reference to its consumers. A shopping centre shall incorporate an excellent accessibility by personal vehicles including car and motorbike, public transportation and pedestrian walkways. Retail location theory also posits that customers prefer to shop as close to home as possible (Zafar et al., 2007). Micro-accessibility is considered as the internal aspects of accessibility which involve the facilities, including the ease and comfort of access, circulation, and parking, among others (Lend Lease Retail, 2008; Bell, 1999; Finn & Louviere, 1996; Frasquet et al., 2001 and Sit et al., 2003). Ala’Eddin (2012) found that customers visit a particular shopping centre because it is easier to find a parking space. Loudon and Bitta (1993) stated that customers disliked spending a lot of time finding a parking space. The shopping centre needs to provide a sufficient car parking with easy access in and out of car parks, sun and rain protected and sheltered parking (Lend Lease Retail, 2008).

Convenience also could have a positive and significant effect on customer visitation. Bodkin and Lord (1997) concluded that one of the most important reasons for selecting a shopping centre is convenience. A shopping centre is considered as convenient if it is a one-stop shopping place where customers can buy all their needs (Zafar et al., 2007). Shopping centres must appeal to customers’ social motives and experiential needs to gain customer visitation (Keng et al., 2007). Shopping centres have grown larger in response to changing shoppers’ needs and the convenience of one-stop shopping has expanded to include service outlets and entertainment providers (Yiu & Yan, 2006). Shopping centres today offer fast-food courts, restaurants, video arcades, movie theatres, beauty salons, dental clinics and more (Wong, 2012). Shopping centres have also become important meeting places especially for young people and seniors (Wagner, 2007). The term one-stop shopping implies that all but the most esoteric of shopping needs can be satisfied in the one shopping centre, all at the one time (Kaufman, 1996). Shopping centres moved toward more expensive assortments, typical of hyper stores, facilitating shopping that could be completed in one-stop (Zafar et al., 2007). Customers will tend to favour shopping centres that enable the completion of all essential shopping and related tasks in one concentrated location (Kaufman, 1996). A convenience providing shopping centre shall remain open for a long time (Zafar et al., 2007). Ala’Eddin (2012) found that customers visit a particular shopping centre because the shopping centre store hours are convenient. Anselmsson (2006) found that convenience comprising trading hours served as the fifth largest influence over the shopping centre visit frequency. Hence, trading hours appear to exert a salient influence on customer behaviour (Ala’Eddin, 2012). According to Kaufman (1996), many
customers select shopping areas based on hours of operation and travel time. One of the items in a convenient shopping centre is ease of reach (Chebat et al., 2009).

Architectural design also has a positive and significant effect on customer visitation. Wakefield and Baker (1998) found that architectural design had the strongest positive influence on the excitement generated by a shopping centre and the desire to stay. Customers are usually in a good mood when the shopping centre has interesting architectural features (Ala'Eddin, 2012). Architectural design features become impact assessments by customers. Architectural elements are being used by developers to increase the drama of shopping centre interiors and to satisfy customer-seeking sensory stimulation. The shopping centre and store environment are about manipulating architectural design, interior layout, use of space and the choice of surroundings. Architectural design features concerns structural elements of retail environment such as general, exterior and interior decoration; high ceilings, flooring or carpeting; building layout, store layout, interior displays, space or function; signs, symbols or artifacts (Bitner, 1992; Turley & Milliman, 2000). Dennis et al. (2001) found an enclosure to be one of the most five important attributes that influence retail spending. Enclosed shopping centres have offered customers the advantage of climatic comfort and freedom from the noise and traffic that categorises other shopping venues since a “noisy” environment creates a different image than is characterised by silence or soft background music (Bitner, 1992; Turley & Milliman, 2000). The design also proposed good interior decoration as a strongest positive effect on shopping centres which could attract the customer (Ala'Eddin, 2012; Wakefield & Baker, 1998; Zafar et al., 2007). According to Lui (1997), modern shopping centre interiors have evolved from comfortable to architecturally rich with lavish materials and sophisticated design elements. The interior design actually continues the shopping centre’s image-fostering process (Loudon & Bitta, 1993). Lend Lease Retail (2008) found that the desirability to attract customers to all parts of the shopping centre and particularly to each end of the shopping centre is reflected in a retailing planning of a shopping centre. Consideration should be given to the possibility to situate the two anchors at opposite ends of the shopping centre. The shopping centre shall remove the ability for pedestrian traffic to bypass prime shop fronts and maximise sight line and shop front exposure. The shopping centre shall also make maximum use of existing land form contours.

The atmosphere of a shopping centre also provides a significant effect on customer satisfaction. Atmospheric features may be an extension of the products display and are chosen to modify customers’ knowledge and mood, thereby affecting behaviour and enhancing the shopping centre or store image to differentiate it from that of other shopping centres (Yiu & Yan, 2006). Atmospherics are critical because they act as environmental cues that customers use to imply the quality of the shopping centre (Smith & Burns, 1996). Customers broadly evaluate shopping centres in terms of their intangibles, including Atmospherics (Zafar et al., 2007). Common atmospheric items measured are ambience, colour and music (Bell, 1999; Frasquet et al., 2001). Ambient factor includes non-structural elements of the retail environment such as music, scent and lighting. Light colours impart a feeling of spaciousness and serenity and signs in bright colours create excitement (Solomom, 1994). Additionally, some shopping centres have successfully used restful music and warm colour schemes to encourage customer to linger (Peter & Olson, 1994). More generally, shopping centres are trying to become more conducive to sensual or aesthetic shopping by offering on-premises features such as bakeries, which fill the air with warm and homey scents (Underhill, 1999). A shopping centre’s environment must be spacious (Zafar et al., 2007). Lend Lease Retail (2008) believed that a shopping centre shall be open and spacious with as much use of natural light as possible. The shopping centres’
use of indoor plants and the provision of ample seating and relaxation whether it be in the form of cafes, restaurants or simple passive seating areas is adorable. If there is a water body nearby, the shopping centre shall make use of it and overlay into the shopping centre design including the potential for a food court outside seating area and entertainment area to interact with the lake.

The point of difference is another factor for customer satisfaction. Lend Lease Retail (2008) found it is important that the shopping centre have a point of difference and have some unique features that pertain particularly to the local area making it an attraction in its own right. It is useful if the centre has a postcard shot which is a signature look externally that can be used for marketing. This aspect has generated another characteristic such as a landmark, product variety and entertainment (Adnan, 2013). An adjacent park and additional amenity that brings an outdoor programme of events enhance the attractiveness of a shopping centre. A food and beverage retail mix that include some unique retailers and compelling food precincts will deliver to a higher standard than the competition. The point of difference also can be identified under product variety. Dennis et al. (2002) demonstrated that techniques of varying product can be used for shopping centres. It could help towards customer visitation and commercial success for shopping centres (Dennis et al., 2001, 2002). Boatwright and Nunes (2001) suggested that customer preferences are affected by the perception of variety within a selection, which in turn depends on more than just the number of distinct products on the shelves. The point of difference may involve entertainment which has a positive and significant effect on customer visitation. Bloch et al. (1994) examined that shopping centres were viewed by customers as a place for other activities such as entertainment. In the same line, Nicholls et al. (2002) found that today's shopping centre customers tend to be more leisurely driven. Three entertainment items, namely events, exhibitions and attractive leisure offer, were associated with the atmosphere attribute (Frasquet et al., 2001)

The quality of customer services has a positive and significant effect on customer visitation. Service quality is one of the primary determinants of customer visitation (Anderson & Sullivan, 1993; Anderson et al., 1994; Athanassopoulos, 2000; Cronin & Taylor, 1992; Fornell et al., 1996; Parasuraman et al., 1994). Over the past two decades, service quality has been regarded as one of many main factors affecting customer visitation (Wong, 2012). There is a positive relationship between service quality and customer visitation as better service implies better performance, an increased likelihood of expectations being fulfilled and correspondingly higher levels of visitation (Caruana et al., 2000). Previous research has offered some evidence that service quality perceptions significantly influence visit intentions. For example, (Taylor et al., 1997) have found a positive relationship between customers’ perceptions of service quality and their willingness to visit the shopping centre. Boulding et al. (1993) also uncovered a significant correlation between service quality and behavioural intentions. A shopping centre shall provide the customers good customer services and information (Chebat et al., 2009). The customer service staff are also expected to be responsive and friendly (Zafar et al., 2007). Ala’Eddin (2012) found that customers were attracted to a particular shopping centre because the sales personnel were helpful, polite and gave good advice.

The importance of quality of retailers in shoppers’ visiting decision has been fully recognised in the case of durable goods (Brucks et al., 2000). Retailers offer high-quality products and provide the customers goods after sales service (Chebat et al., 2009). The quality of retailer may be improved through the loyalty programmed which has a positive and significant effect on customer visitation. Kendrick (1998) found that different
components of loyalty programme have an influence on the visits. There is a relationship between customers visit and loyalty programmes’ attributes, visitation and loyalty, where the shopping centre shall provide the customers discounts, gift vouchers or cash coupons (Bridson et al., 2008). Customers who received gifts or discounts were more loyal than those who were given only a complimentary note and receiving a discount of equivalent value (Adnan, 2013). At the same time, loyalty programmes which offer discounts, free items, coupons, gift vouchers and accumulation may satisfy customers and could increase their likelihood of visiting again (Wirtz and Chew, 2002).

3. METHODOLOGY

A questionnaire survey was adopted for this study and administered to customers from one of the suburban areas in Klang Valley, Shah Alam. Section I of the questionnaire dwells on respondent profile capturing their demographic data. Section II of the questionnaire asked about 25 items that were generated from 8 mains component of visitation drivers. The questionnaire was administered to 200 respondents who are residents of Shah Alam, Setia Alam and Bukit Jelutong. These areas are in close proximity to suburban shopping centres namely Plaza Alam Sentral, SACC Mall, Kompleks PKNS, Plaza Masalam and Setia City Mall. The respondent is expected to be one of the visitors of any of these suburban shopping centres. Questionnaires were distributed to all respondents and it was fully and correctly completed, yielding a response rate of 100%. Non-random sampling method was used in order to get 50% male and 50% female respondents. The data were analysed with the use of the SPSS software to generate the result of chi-square test and correlations value. Under chi-square analysis, a particular variable (visitation driver) is considered significant when it has indicated the value less than 0.05 and 0.01. The probability of significance together with total frequency of significance computes the importance level of each Main Driven Factor (MDF) by using the following formula:

\[
\sum \frac{TFS}{TPS} \times 100
\]

Pearson correlation coefficients for all items were derived from SPSS analysis. The correlation coefficient shows the association between two continuous variables represented by a range of possible values from -1 to +1. The strength of the association is expressed by the value, while the direction is represented by the sign (+ or -). A particular visitation driver in these research is considered important if the correlation coefficient value is higher than 0.5 with a positive sign. The correlation coefficient values indicates the importance level of each Sub Driven Factor (SDF).

4. EMPIRICAL RESULTS

Table 1 shows the respondent profile information. 66% of the respondents live in Shah Alam and 17% each lives in Setia Alam and Bukit Jelutong respectively. Malay respondents become the majority of the total number of respondents (50%) followed by Chinese 25%, Indian 13% and others 12%. 60% of respondents are parents who have children. The majority (50%) of the respondents’ have monthly household income equal to or below RM2000. The data also saw an equal rate for each category of age profile, gender and occupation of respondents.
Table 2 shows the significance of visitation drivers. Through chi-square analysis, each variable displays different values in term of various elements of driven factors and different demographic profiles. It also shows the number of frequencies for each element studied. The analysis presents significant status on 23 elements of the total, within the different number of total frequencies ranging from 1 to 8. Meanwhile, two sub-driven factors which do not show any significance are ‘High-Quality Product’ and ‘Good After Sales Service’ which fall under Main Driven Factor – Quality of Retailer. Based on information from Table 2, frequency of significance was computed to determine the importance level of Main Driven Factor.

Figure 1 presents the importance level of each Main Driven Factor expressed in percentage. 3 of 8 factors show the highest value which is 75%. These factors are Architecture, Atmosphere and customer services. Two factors, Convenience and Quality of Product present 25% importance level and become less important indicator of customer preferences. Six of these Main Driven Factor (MDF) with importance level above 50% are the important visitation drivers which could influence customer preference at shopping centres in Malaysia.

Table 3 show the correlation value which defines the relationship between all of SDF and eight types of respondent profile. In overall MDFs (Architecture, Atmosphere, Customer Service and Loyalty Program) present high correlation for all related SDF with the place of residence characteristics of the Respondent (0.661). However, all 3 Architecture SDF and 5 Atmosphere SDF have high negative correlation value for other respondent’s profiles of...
### Table 2: The indication of significantly driven factor

<table>
<thead>
<tr>
<th>Main Driven Factor</th>
<th>Sub-Driven Factor</th>
<th>Place of Residence</th>
<th>Gender</th>
<th>Age</th>
<th>Race</th>
<th>Marital Status</th>
<th>Occupation</th>
<th>Monthly Household Income</th>
<th>Frequency of Visit</th>
<th>Total Frequency Significance status</th>
</tr>
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<td>Reputable Retailers</td>
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Significance level at P =<0.05 and < 0.01

---

**Figure 1: The importance level of Main Driven Factor**
Drivers Influencing Customers’ Visit to Shopping Centres in Malaysia

Table 3: Correlation status between Sub Driven Factor (SDF) and eight criteria of respondent profile

<table>
<thead>
<tr>
<th>Main_Driven Factor (MDF)</th>
<th>Sub_Driven factor (SDF)</th>
<th>Place of Residence</th>
<th>Gender</th>
<th>Age</th>
<th>Race</th>
<th>Marital Status</th>
<th>Occupation</th>
<th>Monthly Household Income</th>
<th>Frequen-cy of Visit</th>
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<td>0.209</td>
<td>0.337</td>
<td>-0.552</td>
<td>-0.175</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
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<td>Enclosure</td>
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<td>0.031</td>
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<td>Spacious</td>
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<td>-0.742</td>
<td>-0.565</td>
<td>-0.296</td>
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<td>-0.072</td>
<td>-0.827</td>
<td>-0.809</td>
<td>-0.742</td>
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<td>Good Information</td>
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<td>Responsive &amp; Friendly Staff</td>
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<td>-0.072</td>
<td>-0.827</td>
<td>-0.809</td>
<td>-0.742</td>
<td>-0.565</td>
<td>-0.296</td>
<td>-0.102</td>
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Key/Legend

- SDF does not indicate any significant correlation
- SDF indicated Negative & Positive Correlation <50%
- SDF indicated Negative correlation > 50%
- SDF indicated Positive correlation > 50% (may be referred as a visitation Driver)

Age, Race, Marital Status and Occupation (-0.552 – 0.827). The result also indicated high value for Land Mark under MDF Point of Difference in relation to Age (0.78), Race (0.61), Marital Status (0.86) and Monthly Household Income (0.50), so also did Product Variety with Age and Marital Status with correlation value 0.526 and 0.579 respectively. Convenience Factor of Long Time Operation also indicated 0.552 under Frequency of Visit Respondent Profile. Again Parking Facilities also indicated a high correlation with Age (0.526), and Marital Status (0.579).

Generally, the green shaded values show high positive correlation of SDF to relevant respondents’ profile characteristics of +0.5 and above. The red shaded values indicate the high negative correlation value with the concerned SDF to relevant respondents’ profile characteristic. For the purple shaded values of correlation, value ranged between negative 0.49 to positive 0.49 (-0.49 ≤ r ≤ +0.49). We infer from Table 3 that the correlation with a value less than 0.5 are of no significant association with customers’ preference of shopping centres. The high negative correlations SDFs portend an inverse relationship to consumer preferences for shopping centres. Only the SDF items with high positive correlation (r ≥ 0.5) are considered to be visitation drivers for consumer’s preference of shopping centres.
For further clarifications, all positive correlation values are converted to percentages and presented in Figure 2.

![Figure 2: The importance level of Sub Driven Factor (SDF)](image)

All of the SDF, which indicated a positive correlation \( (p > 0.50) \) were transformed to percentages in order to identify the most influencing Visitation Drivers towards Customer Preference at Shopping Centre in Malaysia. Figure 2 displays the level of importance for each SDF review. SDF, which recorded the high percentage, thus become visitation driver that can influence customer preferences when visiting any of the shopping centres. The best SDF is Landmark, which falls under Point of Different factor (86%). Nevertheless, the majority of other SDF indicated 66% which include MDF Loyalty Program, Customer Service, Atmosphere and Architecture. Besides that, two SDFs under Quality of Retailer and Road Condition under Accessibility do not influence customer preferences (5%, 0%). Entertainment and the concept of One Stop Shopping centre also do not really influence customers with 16%. However, 72% of all SDF have a potential to become visitation drivers which could influence customer preferences with an importance value of more than 50%.

5. DISCUSSION AND CONCLUSION

This study has examined the influence of visitation drivers on shopping customers to shopping centres. The study found that seven out of eight main visitation drivers show significant influence on consumers’ preference for visiting a shopping centre. However, six
have relevantly high level of importance and are thus selected as the main important visitation drivers in the study area. They are Accessibility, Architecture, Atmosphere, Customer Service, Point of Difference and Loyalty Program.

The finding of accessibility as an important driver to shopping malls in this study agreed with Sit et al. (2003) and Zafar et al. (2007). This includes the distance of shopping centres to residences of customers or residential neighbourhood as reported by Dennis et al. (2001) and Frasquet (2001). In respect of Architecture, Wakefield and Baker (1998); Ala’Eddin (2012) and Turley and Milliman (2000) found a similar result that architecture in term of design, interior space and layout have a great influence on the shoppers frequency of visit to a shopping centre. Keng et al. (2009) also found the physical environment of a shopping centre as a driving force to customers/shoppers. The atmosphere is also an important driver as found in this study. This corroborates earlier findings of Smith and Burns (1996) and Yiu and Yan (2006). This suggests that a shopping centre that creates an ambient, colourful and serene environment will undoubtedly attract customers. Adnan (2013) found Point of Difference as a factor of high importance in shopping preference. This study could not agree less with the opinion of Adnan (2013) and supports the earlier studies of Boatwright and Nunes (2001), Nicholls et al. (2002) and Dennis et al. (2002). Landmark posture of a shopping centre with varieties of goods and entertainment will be a pleasant scene for shoppers and thus constitute a visitation driver. Quality customer service is another main driver found by this study. Accurate information, response, respect, courtesy and friendly staff, as well as customer satisfaction of services, will surely attract customers to a shopping centre and make them want to visit again. This is in support of earlier studies of Althanassopoulos (2000); Chebat et al. (2009) and Wong (2012). The study also found loyalty programme to customers as attractions and driving factor. This suggests that, a shopping centre that gives discounts, coupon or gift vouchers (as it used to be experienced in the festive periods and season sales) will attract customers. Shoppers will, therefore, be looking up to discount sales periods who will plan their shopping activities towards such time. Where discount is frequently offered, there will be an increase in visit frequency. This finding is in agreement with the reported findings of previous studies (Bridson, 2008; Wirtz & Chew, 2002 and Adnan, 2013).

Contrary to the findings of earlier studies, this study found Convenience and Quality of Retailer to be of less important drivers to shopping centres. This is against the position of Wanger (2007) and Wong (2012) that a one-stop shopping place with varieties of goods present attraction to customers. However long hours of operation which is a subfactor of convenience is positively correlated to frequency of visit to shopping centres corroborating Anselmson (2006), but not enough to make convenience an important driver. The elements of quality of retailer have no significance correlation with frequency of visits to shopping centres suggesting that quality of retailer is not an important visitation driver to shopping centres. Perhaps this can translate to mean that all shopping centres in this study offer the same level of retailer’s quality in terms of quality products, after sales services and reputation. Brucks et al. (2003) and Chebat et al. (2009) posit that there are differences in good durability and after sales services which influence customer patronage. Kendrick (1998) stated that quality of retailer can be influenced and improved by the loyalty programme. The intertwine of the quality of retailer and loyalty programme may subdue the influence of retailers quality as found in this study. Therefore, the influence of quality of retailer could be embedded in the loyalty programme.

The study further look into the correlation between the elements (subfactors) of the main drivers and the respondents profile to identify the important and influencing elements of the main drivers that are really influencing visitation to shopping centres. All the elements of
architecture, customer service, loyalty programme and atmosphere have a positive correlation with customers' place of residence significantly. This suggests that those four factors are main drivers to the customers. This finding also confirms the accessibility factors in terms of location and travel distance in support of Dennis (2001). For instance, a shopping centre that is far away from customer’s residence may not attract visitation irrespective of the quality of indoor or loyalty programme but with easy accessibility and less travel time, the patronage will increase. Parking facilities have a positive and significant correlation with age and marital status of customers. This will be more applicable to couples with children and senior citizens probably above 50 years of age who will require adequate and safe parking for their cars for the duration of their shopping activities. However, parking does not positively correlate with frequency of visits. This finding contradicts the position of earlier researchers that parking and circulation influences visits to shopping centres (Land Lease Retail, 2008; Bell, 1999; Ala’Eddin, 2012). Hours of operation have significant positive correlation with a number of visits to shopping centres suggesting that a shopping centre that operates for long hours will attract more shoppers. This agrees with the results of Ansalmon (2006). Landmark is positively and significantly correlated with age, race, marital status and household income. This suggests that visits to shopping centres can be affected by the age, race, marital status and income of potential customers with respect to the landmark. Therefore, shopping malls need to take into consideration the profile of potential customers in their immediate neighbourhood when creating a landmark. For instance, in relation to income, a high serenity landmark will attract high-income earner/group to a shopping centre while a romantic environment will attract the dating youth and newly married. Product variety also presents a significant and positive correlation with age and marital status indicating that varieties of goods in a shopping centre creates attractions for different age group and marital status of the customers. The study shows that married people of age beyond the youth class prefer to have a one-stop shopping destination rather than visiting different shopping centres. This is in agreement with the findings of Zafar et al. (2007), Yiu and Yan (2006), Wanger (2007) and Wong (2012). Physical observation also confirmed that young adults will like to visit different places as they often relate their shopping with leisure and tourism. This corroborates Bloch et al. (1994), Nicholls et al. (2002) and Frasquet et al. (2001).

This study concludes that there are many influencing factors and elements that can drive customers to a shopping centre. The variety of methods and programmes that apply to every shopping centre is capable of generating its own charm and becoming preference among customers. Each of these priorities (Visitation Drivers) is closely linked to the demographic criteria. These show that every emphasis on these factors should be driven based on the demographic profile of the community and potential customers to the relative shopping centres. Therefore, developers should take these parameters into considerations when building a new shopping centre so that it will attract customers from its neighbourhoods. The management team of a suburban shopping centre should focus on these drivers when planning marketing initiatives.

REFERENCES


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