

**A SOCIAL NETWORK ANALYSIS OF
INTERNATIONAL TOURIST MOVEMENT PATTERNS FOR
GREEN AND LANDSCAPE SPACES IN PENANG**

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UNIVERSITI TEKNOLOGI MALAYSIA

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**In the name of Allah, the Beneficent, the Merciful
All the Praises be to Allah...**

I want to dedicate this dissertation to:

My beloved wife and lovely kids....

And to my mum and sisters who always believed in me.

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In the name of Allah, the Beneficent, the Merciful

All the Praises be to Allah...

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Subhanallah. Lahaw la wala quwwata illa billah...

ABSTRACT

Penang is well known as the *Pearl of the Orient*, and one of Asia's famous islands. It is an international tourist destination famous of its multiple attractions which are rich in history as well as for its scenic natural beauty with white sandy beaches, beautiful landscape and its unique and diverse cultures and food. Penang's cultural diversity which is a mixture of Malay, Chinese, Indian, Siamese and European highlighted as one of the best well preserved heritage routes globally. In line with the tourism bodies or states government effort in promoting 'The Visit Penang Year 2015' a well diverse blend of programs and activities were conducted using tag line "Where the Festivities never end", and some of them are Penang Festival, City Walk, Georgetown world heritage day, Penang Flower festival and Penang Food Fair. As mentioned above there are variety of different events to enjoy every day during visit Penang year which been initiated with visit Malaysia year in 2014. Therefore Visit Malaysia Year had a great impact on the tourism industry in Penang, especially on tourism flow and movements. This study used content analysis and social network analysis methods to examine 500 online trip diaries for 10 years and analyse overseas tourist movement patterns in Penang at 3 main period of pre, during and post Visit Malaysia Year. The result revealed that overseas tourists were most interested in famous traditional attractions and their movements were focused in the central city area of Georgetown. The study identified the diversity of tourist attractions, mobility and the expansion of main visiting areas as the three (3) main changes during the Visit Malaysia Year.

ABSTRAK

Pulau Pinang terkenal sebagai “Pulau Mutiara” dan merupakan destinasi yang terkenal di Asia. Ianya merupakan destinasi pelancong luar negara yang sangat terkenal dengan pelbagai tarikan termasuk warisan sejarah, pemandangan alam semulajadi dengan pantai yang putih, lanskap yang menarik serta pelbagai budaya dan makanan yang unik dan tersendiri. Kepelbagaian kaum di Pulau Pinang yang meliputi bangsa Melayu, Cina, India, Siam dan Eropah merupakan kombinasi yang mewujudkan laluan warisan yang terpelihara yang dianggap antara yang terbaik di dunia. Sehaluan dengan Badan Pelancongan dan Kerajaan Negeri yang mempromosikan Tahun melawat Pulau Pinang 2015 pelbagai aktiviti telah dirancang menggunakan moto “Where The Festivities Never End” dan ianya termasuk Pesta Pulau Pinang, “City Walk”, “Georgetown world heritage day”, Pesta Bunga Pulau Pinang, dan Festival Makanan Pulau Pinang. Pelbagai acara dan aktiviti yang tersebut di atas dan pelbagai acara lagi disediakan di sepanjang tahun melawat Pulau Pinang 2015 yang dimulakan oleh Tahun Melawat Malaysia 2014. Oleh yang demikian Tahun Melawat Malaysia memberikan impak yang sangat besar ke atas industri pelancongan di Pulau Pinang terutama sekali dalam skop arah dan pergerakan pelancong. Kajian ini menggunakan aplikasi “Content Analysis” dan “Social Network Analysis” untuk memeriksa 500 diari perjalanan atas talian dalam tempoh 10 tahun dan menganalisa corak pergerakan pelancong dalam tiga (3) peringkat iatu sebelum, semasa dan selepas Tahun Melawat Malaysia. Hasil kajian mendapati pelancong luar negeri kebanyakannya lebih tertarik dengan tempat tarikan pelancong yang telah tersohor secara tradisi dan aliran serta pergerakan mereka lebih tertumpu kepada pusat bandar Georgetown. Kajian ini juga mendapati kepelbagaian tarikan pelancong, pergerakan pelancong dan penambahan keatas kawasan tarikan yang dilawati adalah tiga (3) perubahan yang ketara semasa Tahun Melawat Malaysia.

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CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter provides an introduction to the research. In general, the purpose of this research is to identify the tourist movement pattern of green and landscape spaces at Penang Island through Social Network Analysis (SNA). The Netdraw is used to map the networking between each attraction. This chapter contains the following sections: background of the study, problem statement, purpose of the study, research goal and objectives, research questions, theoretical framework, significant of research and research scope and limitation.

1.1 Background of Research

Tourism in reality is a mobile phenomenon, in which networks plays a very important role in determining the nature of tourist activities. It can be seen clearly for simple single destination holidays, or with scheduled coach tours. The borderless world nowadays influences the raise number of free independent travellers, who create their own itineraries as they move informally throughout the country. Thus it creates more complex and subtle of transport dependency. Tourist movement pattern analysis, flows in between attractions is primary ingredient in tourism planning. It is true for any aspects of tourism planning such as: product development; marketing; regional resource planning; scenarios; or transport planning (Lew and McKercher, 2006).

The movement of people through time and space directly related to tourism. According to Lew and McKercher, 2006, differences in tourist movement pattern indicate that tourists experience differently on destinations of attractions (Leung et. al., 2011). Lau and McKercher, 2007 defines tourist movement pattern as spatial changes on locations of activities. Asakura and Iryo, 2007 outline tourist movement pattern have various information that can be used to design better tourist packages, provide more attractive combinations of attractions and develop better travel guidance

in terms of policies and marketing services (Leung et al.,2011). The understanding on how tourists move through time and space has important implications to the infrastructure and transportation development, product development, destination planning and the planning of new attractions, as well as management of the social, environmental and cultural impacts of tourism (Lew and McKercher, 2006).

Visit Malaysia Year (VMY) had a great impact on tourism industries which partly lift up country's economy. The proven data and statistics shows Malaysia only had about 27,000 tourists in 1963 and gradually increased to 76,000 in 1972, and 7.4 million during VMY 1990. VMY 2007 is the greatest success of the country which manages to attract about 20.9 million tourist arrival compared to 16.3 million on 2006. (Refer Table 1.1). The increasing number of the tourists indicates positive impact on tourism industry in Malaysia. Three (3) major sources of tourist arrivals are from neighbouring countries. As an example in 1990, 73.8% from ASEAN countries (Mostly from Singapore), 6.8% from Japan, 2.6% from Taiwan, 2.6% from United Kingdom, 2.0% from Australia, 2.0% from United States and rest mainly from Hong Kong, Germany, Korea and France (Kahn, J.S, 1997 and Hall, 1994).

Penang is known as "Pearl of Orient" and considered as one of Asia's most famous islands. The Pearl of the Orient continues to draw a good and healthy number of visitors. Number of tourist arrival to Penang grows at an average of 6% to 7% annually. During VMY 2007, Penang recorded 540,736 international tourist arrivals (Jayaraman K. et. al., 2008). Famous attractions in Penang such as Penang Hill, Penang National Park, Penang Botanical Garden, Penang Butterfly Farm, Tropical Fruit Farm, Kek Lok Si Temple, Khoo Kong Si Temple, Penang Muzeum Art and Gallery, Fort Cornwallis, Tuanku Fauziah Art and Gallery, Kapitan Keling Mosque, Cheong Fatt Tze Mansion, Penang Peranakan Mansion, Kompleks Tun Abdul Razak (KOMTAR), Perangin Mall and Jerejak Island are commonly receive flocks of national and international tourists especially during VMYs. As stated by Badaruddin et..al., 2000, visitors are mainly attracted to its natural beauty and exotic heritage for decades but lately it has been developed and promoted as heritage tourism attraction.

Table 1.1: Tourist Arrival of Malaysia

Year	Tourist Number
1963	27,000
1972	1.2 million
1976	2.2 million
1980	2.25 million
1985	2.7 million
1989	3.67 million
1990	7.4 million
1999	7.93 million
2000	10.22 million
2005	16.43 million
2007	20.97 million
2010	24.58 million
2013	25.72 million

Source: Tourism Malaysia, 2011

Penang continues to be one of the top destinations in Malaysia together with the capital city of Kuala Lumpur, the heritage town of Malacca and Johoe Bahru in the south (Badaruddin et. al., 2002 and Jayaraman K. et. al., 2008). A lift to the heritage tourism is derived from the announcement been made to George Town, the Capital City as World Heritage together with Malacca, by United Nations Educational, Scientific and Cultural Organization (UNESCO) on 7th July 2008 (T. Ramayah et.al., 2011). It is officially recognized that Penang has a unique architectural and cultural townscape without parallel anywhere in the East and Southeast Asia region. The Visit Penang Year (VPY) 2010-2012 was launched on 31st December 2009 due to commitments agreed by the Penang State government to restore the luster of Penang's status as the Pearl of the Orient, especially in tourism sector. Many programs or

activities were conducted by the Penang State Tourism and Development Department such as Dragon Boat Festival, Thaipusam and The Penang Bridge International Marathon apart from “1 Malaysia” event on “Parks and Gardens” Carnival at Penang Botanical Garden (Yusni, A, 2012). In conjunction with this they also invited public and private companies to join in “Penang Tourist Attractions Fair’. In order to attract more tourists to the state, the federal government has allocated about RM51 million for development projects such as the Penang Hill funicular train and Botanical Gardens (Yusni, A., 2012). As such, Penang has recorded over 40% increase in the number of international tourist arrivals between January and June on 2010 compared to 2009.

Tourist attractions in Penang have about six (6) categories inclusive cultural and heritage, nature and adventure, park and recreational, coastal, shopping and homestay (Bureau of Innovation and Consultancy, Universiti Teknologi Malaysia, 2008). Refer Figure 1.1. Among those categories, the first three (3) categories are the most popular attractions in Penang which require attention to maximize economical benefits from the tourism industry. Therefore, those categories which considered being the green and landscape spaces attractions are most important tourism assets that need to be managed and maintained in sustainable manner.

In the year 2013, Penang receives 6.09 million tourists, both domestic and international (Penang State Government Portal, 2013). Majority of international tourists are from Association of Southeast Asian Nations (ASEAN) countries which dominated by Thailand and Singapore and a few other major sources of international markets such as The United Kingdom, Australia and Japan (The Star Online, 2013). Sustainable tourism industry requires Penang to move ahead and create balance between man-made development and preservation of nature and green spaces. Recently the terms ‘Liveable City’ attracted much attention to Penang and the state government has progressively undergone social and economic development to achieve that. As highlighted by Ee C. O. K, and Leng K S (2014) the popularity of Penang has increased after Georgetown is scripted into UNESCO’s world heritage in 2008, ranked the 4th greatest place for retirement as well as ranked the 8th most liveable city by Employment Conditions Abroad (ECA) (Fuscaldo, 2013).

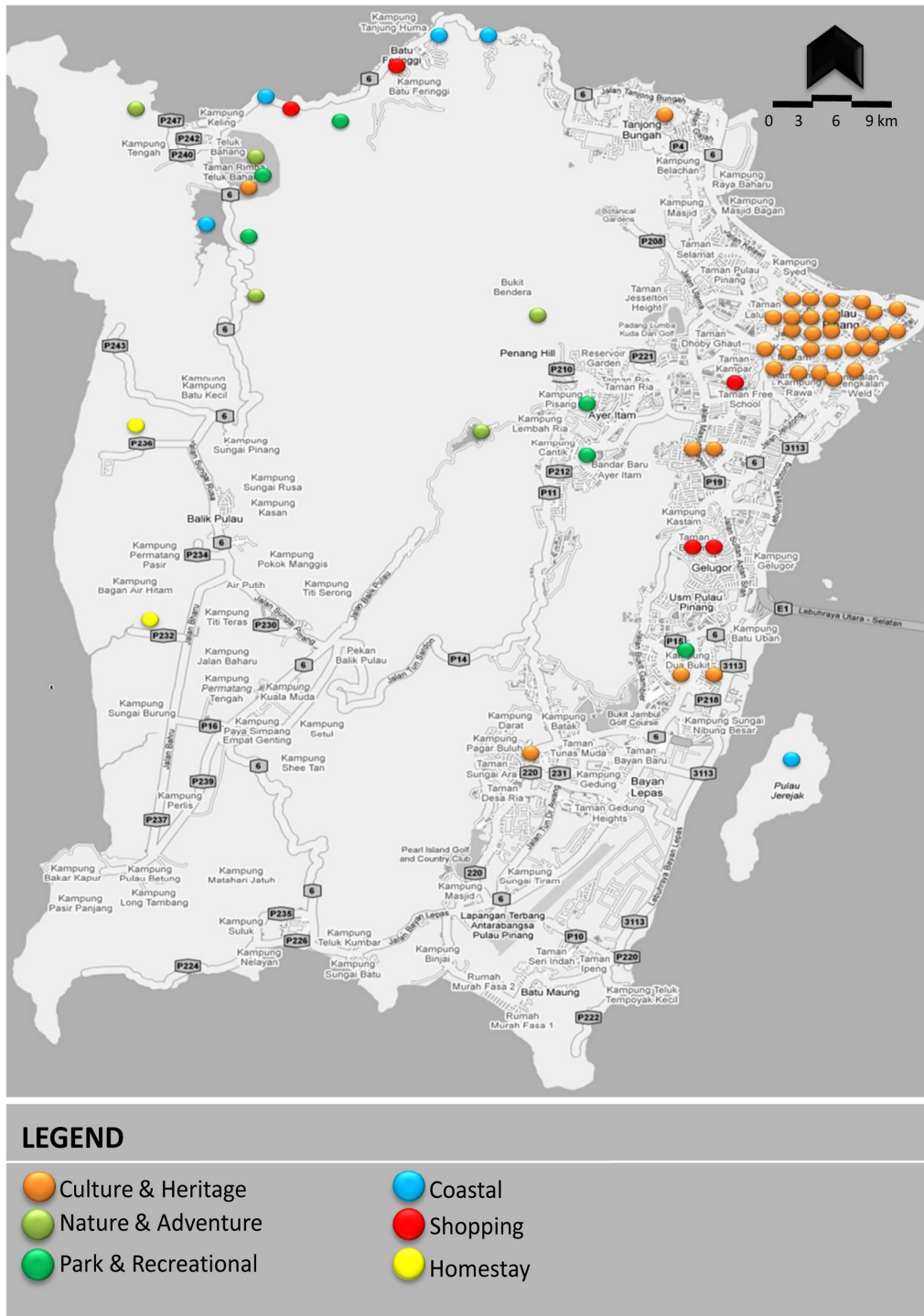


Figure 1.1: Tourism Attractions in Penang

Adapted from: Bureau of Innovation and Consultancy, UTM (2008)

In this scenario the importance of green and landscape spaces is crucial to be maintained and upgraded from time to time. The movement patterns between these green and landscape spaces must also concurrently be improved for Penang's long run tourism industry. Given the strong relationship between networks and tourism attractions, it is not surprising that green and landscape spaces networks becomes an important element in the tourism promotion. Especially when it combines with food which has been found to be the most famous attribute for tourists to perceive the attractiveness of a destination for a reason other than climate, accommodation and captivating scenery in Penang. Thus, it is a fundamental element of the tourism industry.

Tourist movement patterns are vital to park managers or tour operators to understand the location of popular sites and the timing of visitation. More importantly, an understanding of movement patterns can indicate how tourists choose attraction, link and arrange their schedule. All well-established tourism products management are not well integrated in the sense that all products are not well connected to each other. Therefore, this research is designed to develop and focus on the analysis of tourist movement pattern of green and landscape spaces network at Penang, which will be valuable for managing resources in sustainable manner in response to the tourism demand of the industry.

1.2 Problem Statement

All issues related to tourism industry in Penang associated with connectivity or movement patterns that form networking between attractions. It will become the major factor to ensure Penang able to sustain and maintain attractive to the tourists all over the world. In the workshop on Successful Island Management: Building a Sustainable Tourism Economy of An Island, the Honolulu Mayor, Jeremy Harris claimed that Penang has the potential to turn into a model tourist destination similar to Hawaii, but it requires collaboration between tourism industry with the transportation systems. Penang should invest in an efficient public transportation system. Currently improvement on the connectivity of tourism attractions in Penang are still in progress

and not good enough to impress tourists globally. Socio Economic and Environmental Institute (SERI), 2006 highlights all well-established tourism products are not well maintained, horrendous traffic and inconsistency of public transport become major threat to tourism industry in Penang (Yusni, A, 2012). Thus this research concentrates to collect and analyse travel time from each destinations as indicated by tourists in their e-diaries.

Penang Tourism industry faces several issues to maintain attractive in the eye of tourists due to high global competition. It includes cheaper with similar island destinations, more attractive and more innovative products especially islands of Southern Thailand (Chaw I, J. B, 2005). UNESCO Heritage site of Georgetown invites a lot of comments from tourists as well as researchers. Most tourists only come to Penang and Malacca without wanting to know too much about the physical and social realities behind those 'interesting' facades and history alone but rather interested to the ambience of the place which should be made to become acquainted by the urban reality (Badaruddin et al 2002). This includes the originality of a place which again refers to geographical ambience and settings. Therefore green and landscape spaces that promote originality of Penang must be improved. Due to that matter, this research analyzes the existing green and landscape spaces attractions in Penang from 500 e-diaries through length of stay on each attraction.

Serious problem also due to quality of connectivity inclusive traffic jammed and lack of ground handling of tourists which in turn giving bad image to the industry. As such, efforts should be made to upgrade the touristsm connectivity, products and services, by emphasizing on maintenance and tourist infrastructure development rather than profit orientation. To do so, there is an urgent need to identify the actual mobility and networking problems in Penang. As stated by Hall (1999), there is a need for coordination, both horizontally and vertically, across state, regional and local levels of sub government tourism-related agencies and authorities. Furthermore, it requires coordination to be developed at the destination levels involving public and private sectors. Lack of comprehensive collaboration among tourism industries players has created inefficient communication and commitment in business performance as stated by T. Ramayah et al (2011). Therefore, it reduces levels of

services throughout the industry and requires diagnostic approach that will show the exact source of problems to be resolved.

1.3 Research Goal and Objectives

The aim of this research is to map tourist movement pattern using social networks analysis (SNA) of Penang's green and landscape spaces network using Netdraw. Tourist movement pattern map should be able to diagnose on ground problems cost effectively for a sustainable and valuable resource management.

The main objectives of this research are to examine the existing itinerary been made by tourists, which was derived from 500 e-diaries as the followings:

- i. to identify and quantify total lengths of stay on each tourism product attractions through content analysis and SNA methods;
- ii. to map and quantify the intra-destination trip made for each tourist that visit Penang through content analysis and SNA methods; and
- iii. to analyse and identifies differences in terms of tourist movement pattern and its implications of the Penang VMY.

1.4 Research Questions

The objectives of the research are supported with several research questions as follows:

- i. What are the current intra-destination tourist movement patterns in Penang?
- ii. How many trips tourists had made for intra-destination in Penang?

- iii. What is the impact of VMY campaign to the tourist movement patterns?
- iv. Among all tourism products in Penang which one are considered as the major and minor attractions?

1.5 Theoretical Framework

Varieties of research involve attempt to map the movement of tourists. Among them are Gunn (1972) who proposes two (2) basic types of trips namely destination trip and touring trip and four (4) movement patterns such as direct route, partial orbit, full orbit and fly drive pattern, resulted from studies on domestic tourists in Yellowstone National Park, United States. Compared to the huge body of interdestination movement studies, less research had been done to examine tourist movement within a destination. Most researchers admitted that interdestination movement pattern have some implications in intradestination movement because both reflect tourist movement at different scale. More quantity of attractions in destinations creates more potential and complicated intradestination movement patterns than interdestination patterns (McKercher and Lau, 2008). Study on Hongkong tourists shown that intradestination tourist movement are unique and personalized based on visitors' own interest (McKercher, 2004).

As stated by Lew and McKercher (2006) model of intradestination movement pattern is divided into two (2) dimensions with four (4) types of territorial models and three (3) types of linear path models. There are also differences between first timer and repeater visitors in Hong Kong as stated by McKercher (2004) where by repeater visitors shows varied movement pattern and first time visitors shows more confined movement pattern. McKercher and Lau (2008) also examine the daily movements of the fully independent pleasure tourists in Hong Kong and identified 78 discrete movement patterns and 11 movement styles. Six (6) factors are considered giving direct implication to the tourist intradestination movement patterns on the aspects of territoriality, the number of journeys made per day, the number of stops made per

journey, participation in a commercial day tour, participation in extra destination travel and observed patterns of multistep journey.

The framework of this research concentrates on content analysis and SNA of tourist movement pattern to examine 500 online trip diaries using time and space and the factors that influence their movement (travel mode) in Penang. In turn it indicates current status of infrastructure and transport development, product development, destination planning and also important indicators for planning of new attractions. SNA is applied to diagnose and measure relationships and flows between attractions as stated in the e-diaries. The SNA software namely Netdraw is adopted to map the flows between attractions. The SNA and content analysis which map and measure relationships and flow between people, groups, organization, and other connected information or knowledge entities expected to give visual and mathematical analysis of human relationships and attractions. Based on graph theory a social network represents entities and their relations as nodes and links which form a network (Scott, 1991).

1.6 Significant of Research

The significant of research are as follows:

- i. The tourist movement pattern have various information that can be used to design better tourist packages, provide more attractive combinations of attractions and develop better travel guidance in terms of policies and marketing services.
- ii. The understanding on how tourists move through time and space has important implication to the infrastructure and transportation development, product development, destination planning and the planning of new attractions, as well as management of the social, environmental and cultural impacts of tourism.

1.7 Research Scope and Limitation

The scope of this research concentrates on analyzing tourist movement patterns to the existing green and landscape spaces attractions in Penang. It covers all specified attractions which have been stated in the travel diaries by international tourists. Travel time and lengths of stay are the two (2) variables chosen to measure and map the movement pattern of these international tourists in Penang.

The main scopes of works are to focus on landscape spaces and green areas consists of parks, open spaces, recreational areas urbanscape and heritage landscape areas. The research focusses on connectivity in relation to those green and landscape spaces particularly in the aspects of travelling time and mode of travelling.

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