FACTORS LEADING TO DECENTRALIZATION OF OFFICE FIRMS: THE CASE OF MULTIMEDIA SUPER CORRIDOR

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ABSTRACT

Technological development in the information and communication sector is an unavoidable phenomenon to attain sustainability in today's global era. Cities have developed satellite towns at the periphery with hi-fidelity digital and physical infrastructure which startup as a small town offering competitive economic environment that, later turns into a larger urban setting and thus converts a single centered city into a multi centered one. In case of Klang Valley Metropolitan Area the shift of civic services to Putrajaya and in addition, development of Multimedia Super Corridor offering avant-garde global competitive incentives to local and foreign companies in order to develop a super block of research and development based economic sector to spearhead the Malaysian Vision 2020 of a knowledge based economy and society, is an attraction to the business community all over Malaysia. The purpose of this study is to discuss the key factors that have lured the companies from Kuala Lumpur Metropolitan Area to move to Multimedia Super Corridor physically. For which, companies were selected focusing on businesses in Finance, Insurance and Real-estate and a survey was conducted, the data gathered was analyzed to evaluate the ranking of variables of Bill of Guarantees offered in Multimedia Super Corridor policy using Mann-Whitney U test. The findings of the study has been that in addition to good infrastructure and good working environment the incentives offered in Bill of Guarantees of tax exemption primarily, has been the driver for companies to decentralize. The other factors include low cost of doing business as well as competitive conditions as attraction for companies to take up the special status. There are the problems of accessibility for clients and workers, high rental rates of the property in addition to limited estate and slow development of supportive public amenities such as public telephone booths, restaurants, shopping areas, etc. which is restricting companies from taking up the special status. Thus, the problems identified should be dealt by the Multimedia Development Corporation in order to achieve the task of getting more global companies to take up the Multimedia Super Corridor status in the second phase of development till 2010.

ABSTRAK

Pembangunan teknologi maklumat dan komunikasi (ICT) adalah merupakan suatu fenomena yang tidak dapat dielakkan lagi demi pengekalan pembangunan di era global ketika ini. Pembangunan pusat bandaraya kemudiannya membentuk bandar satelit yang lingkungannya dilengkapi dengan kemudahan digital dan kemudahan fizikal terkini, dimana permulaannya hanyalah sebuah bandar kecil yang menawarkan persekitaran ekonomi yang sangat berdaya saing dan maju seterusnya berkembang menjadi pelbagai pusat bandaraya. Di dalam kajian kes KLMA, perpindahan pusat perkhidmatan pentadbiran awam ke Putrajaya, juga dengan kehadiran MSC, telah memberikan kesan persaingan global kepada syarikat-syarikat tempatan mahupun syarikat-syarikat global yang lain terutamanya ke arah perkembangan ekonomi yang berasaskan blok utama R&D (penyelidikan dan pembangunan). Ini sebagai faktor pemangkin utama Wawasan 2020 dalam kontek masyarakat dan ekonomi; yang terus berteraskan pengetahuan ke arah komuniti niaga ke seluruh Malaysia. Tujuan penyelidikan ini adalah untuk meninjau faktor-faktor utama yang secara fizikalnya menggalakkan penyelerakan syarikat- syarikat dari Kawasan Metropolitan Lembah Kelang (KLMA) ke Multimedia Super Coridor (MSC). Bagi mencapai matlamat tersebut, kajian lapangan telah dijalankan terhadap syarikat yang memfokuskan urusniaga kewangan, insuran dan juga hartanah. Seterusnya, data terkumpul dianalisa dengan menggunakan Ujian Mann-Whitney yang bertujuan mengkaji serta menilai siri peringkatan oleh faktor pembolehubah daripada Bil Jaminan yang telah ditawarkan didalam polisi MSC. Kajian ini mendapati bahawa faktor penarik penyelerakan syarikat ke MSC ialah pembangunan infrastruktur dan persekitaran kerja yang baik disamping kelebihan nilai cukai yang rendah. Selain itu, faktor lain yang menyumbang ke arah penyelerakan syarikat termasuklah kos perniagaan yang rendah selain kebanyakan syarikat berminat untuk mendapatkan status MSC. Namun begitu, terdapat faktor penghalang penyelerakan tersebut iaitu masalah aksesibiliti kepada klien mahupun pekerja, kadar sewaan hartanah yang tinggi dalam menghadkan hak milik, ditambah dengan faktor pembangunan kemudahan awam yang agak lambat seperti telefon awam, restoran dan pusat membeli-belah. Keadaan ini seterusnya akan menghadkan penglibatan syarikat didalam status MSC. Maka, pihak berkenaan seperti Multimedia Development Corporation (MDC) adalah dicadangkan mengambil langkah bijak bagi menangani permasalahan yang timbul supaya dapat menarik lebih banyak syarikat global demi kelangsungan pembangunan status MSC terutamanya pembangunan fasa kedua hingga ke tahun 2010.

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LIST OF ABBREVIATION

ATM	-	Asynchronous Transfer Mode
APCN	-	Asia Pacific Cable Network
APCN2	-	Asia Pacific Cable Network 2
BOG	-	Bill of Guarantee
BPO	-	Business Process Outsourcing
ADSL	-	A Symmetric Digital Subscriber Line
CBD	-	Central Business District
CCC	-	City Command & Control Centre
CCTV	-	Close Circuit Television
EDI	-	Electronic Data Interchange
E-commerce	-	Electronic Commerce
E-community	-	Electronic Community
E-economy	-	Electronic Economy
FDI	-	Foreign Direct Investment
FLAG	-	Fiber Loop Across Globe
GDP	-	Growth Domestic Product
GLC	-	Government Link Company
FIRE	-	Finance Investment and Real estate
HRD	-	Human Regional Development
IBMS	-	Integrated Business Management System
ICT	-	Information and Communication Technologies
IP	-	Internet Protocol
IPP	-	Intellectual Property Protection
ITO	-	Information Technology Outsourcing
IDN	-	Integrated Digital Network
INTA	-	International Association for Urban Development
ISDN	-	Integrated Service Digital Networks
IT	-	Information Technology

ITA	-	Investment Tax Allowance
JV	-	Joint Venture
K-economy	-	Knowledge Economy
KLCC	-	Kuala Lumpur City Centre
KLIA	-	Kuala Lumpur International Airport
KLMA	-	Kuala Lumpur Metropolitan Area
KLSE	-	Kuala Lumpur Stock Exchange
LAN	-	Local Area Network
MDC	-	Multimedia Development Corporation
MESDAQ	-	Malaysian Exchange For Securities Dealing and Automatic Quotation
MGS	-	Multimedia Super Corridor Grant Scheme
MTDC	-	Multimedia Technical Development Corporation
MMU	-	Multimedia University
MNCs	-	Multi National Corporations
MSC	-	Multimedia Super Corridor
MSCVC	-	Multimedia Super Corridor Venture Capital
MW	-	Mega Watt
NASSCOM	-	National Associate of Software and Services Company
NITA	-	National Information Technology Agenda
NITC	-	National Information Technology Council
PABX	-	Private Automatic Branch Exchange
PMSB	-	Pendinginan Megajana Sdn.Bhd
Psf	-	Per square foot
R&D	-	Research & Development
RM	-	Ringgit Malaysia
RT	-	Refrigerant Ton
SAFE	-	South Africa Far East
SCADA	-	Supervisory Control of Data Acquisition
SDH	-	Synchronous Digital Hierarchy
SMEs	-	Small and Medium Enterprises
SMW3	-	South East Asia, Middle East, Western Europe~ 3 Submarine Cable Network
STILL	-	Strategic Trusts Implementation Committee

S&T	-	Science & Technology
TNB	-	Tenaga National Berhad
TM	-	Telekom Malaysia
UPM	-	Universiti Putra Malaysia
U.S.A	-	United Stated of America
USD$	-	United States Dollar
U.K	-	United Kingdom
VoIP	-	Voice over Internet Protocol
VSAT	-	Very Small Aperture Terminal
WAP	-	Wireless Application Protocol

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CHAPTER 1

INTRODUCTION

1.1 Prologue-Basic Parameters

The importance of information to urban and regional economies is evident from the continuous growth of the information sector in the economic base of all major metropolitan cities (Newton, 1995). Networks allow cities to play global as well as regional roles. Such technologies are facilitating a shift in resource from production of goods to provision of services, particularly information based services (Brotchie *et al,* 1995). This increases the competition between cities for the provision of goods and services and for the attraction of new industries, in particular company headquarters or regional offices, associated services, new technology, knowledge and information based services and industries (Brotchie *et al,* 1995).

This study focuses on the effects of such growth parameters in information sector on office firms in the Kuala Lumpur Metropolitan Area (KLMA) because of development of Multimedia Super Corridor (MSC).

This chapter gives a brief introduction on the effects of information and communication technologies (ICT) on urban land use pattern; furthermore, it provides an introduction to the overall structure of the thesis. This includes; the background of this study, aims and objectives of the research, formulation of research hypothesis, identification of research questions, application and significance of research and the organization of thesis. (For further elaboration on chapter sequence, refer to section 1.9)

1.2 ICT and the Global Village

At the end of the 20th century the world has seen advancements in the field of information technology as never before. Whereas the impact has been evident in all development sectors; the most significant result is ICT, due to which it has now been termed as a 'Global Village' in which all communities act as one and are linked by the web of optic fiber and other means of telecommunication. Bender (1997) has described it as the situation in the 19th century whence with the invention of telegraph and telephone; one could speak from one side of a continent to the other being on the line. The 20th century has seen a move towards the next cycle of wireless and trackless radio, television, satellites and the World Wide Web (WWW). Within this 'Global Village' it is possible to respond to everyone virtually in any part of the world (Bender 1997).

In context of a city, ICT plays an important role in a country's overall economic development. Information and communication have had a primary economic and administrative role throughout the history. Twentieth century has seen the rise of Suburbia and "non-urban" lifestyle especially in post-industrial societies. The previous "urbane" lifestyle has been altered by the development of the virtual world also known as 'cyberspace'. Especially this decade (i.e.1990's) has witnessed

the birth of virtual environments that are distributed by the WWW or the Internet (Velibeyoglu, 1999).

Nowadays, new technologies have taken significance in the global world. Technologies sometimes emerge because they are needed; that is the reason why researchers are motivated to develop a technology because they are aware of a need that the technology can satisfy. Often, there is a cyclical interrelationship between technological and social issues related to the work environment. The social context gives rise to the need for a given technology and from time to time this technology may have social impacts that are significant enough to alter the social context, giving rise to the need for another round of technological innovation (Kraut, 1994). The development of ICT has made an impact on overall socio-economic fabric of a city. Thus, there is a need for planners to explore new ways of planning strategies which encompass the needs of today's as well as future requirements in a city's profile.

The notion of a computerized or virtual community is structured into four main parts. First a review of the emergence of post-industrial society and the growth of information networks, computers, software and hardware. Second, an outline of the geography of high-technology manufacturing, services and globalization. Third, the development of an information infrastructure in cities largely involving telecommunication but also smart buildings and electronic highways. Finally, the emergence of cyberspace and virtual communities (Brotchie, *et al*, (1995).

Advancements in ICT has encouraged decoupling of office activities of a firm in many knowledge based cities. This has facilitated the offices to use high level of technology to decentralize from city centre because of factors such as increased travel cost to the city centre, increase in floor space rent, traffic congestion, air pollution, image, prestige, competitive conditions, availability of labor and tradition (Chua, 2001). Office activities can be divided in two components. First, there are corporate headquarters or front-office functions and secondly, there are back-office functions. The front office contains those functions that relate to organizational

development and marketing and as a result they rely heavily on face-to-face communication with clients. The back office, on the other hand contains activities that relate to routine operations such as security processing, claim payment and other support services that do not involve direct client contact (Moss, 1999).

Large-scale information-intensive companies devote approximately 55% of employment to headquarter activity and 45% of the employment to back-office activity. Within the back office, the labor pool is estimated to be 75% clerical and 25% managerial or professional. In terms of space, the typical back-office employee will occupy 14 to 15 square meter of space, while the managerial or professional employee will occupy about 20 square meters (Moss, 1999).

A significant reason for locating back-office facilities in the periphery of a city or in suburban location is occupancy cost. Currently, Central Business District (CBD) rental rates are generally 20 to 50 percent higher than those found on the periphery of a city or in a suburb. Occupancy cost, however, is strongly influenced by factors other than existing rental rates such as area prestige, availability of skilled labor, infrastructure, competitive conditions for business, connectivity options, communication rates and taxes (Moss, 1999). Therefore, it is critical for planners to research and to observe the urban shifts in the informational city. The information revolution has begun to transform central cities and towns, travel patterns and floor space requirements. The signals of this trend have been currently available in some post-industrial cities in the world (Velibeyoglu, 1999).

1.3 Background of Study

The Kuala Lumpur Metropolitan Area (KLMA) with its importance in national socioeconomic and urban development has been historically the city to be

equipped with extensive telecommunication infrastructures meant for socioeconomic and administration activities. Kuala Lumpur, the largest city within the KLMA region, is the commercial capital of the nation. Its economic catchments encompass the entire country. It covers a total area of approximately 4,000 square kilometers. It is estimated that the population of Kuala Lumpur in the year 2000 was 1.423 million people and it is expected to grow to 2.2 million by the year 2020. The per capita GDP for Kuala Lumpur during the period 1995 to 2000 rose from RM21,157 to RM25,968, an average annual growth rate of 6.1 percent which was more than twice that of the national average (Malaysia, 2003).

In Malaysia, it is specially Kuala Lumpur that received latest information and communication technology infrastructures and services such as Integrated Services Digital Networks (ISDN) and fiber optics. This showed that offices in KLMA enjoy more advanced communication infrastructures and services than other major cities in this country. This also means offices in this city could have a higher information and communication sophistication and utilization level, which has great impact on the decision to decentralize. Hence, offices in the city of Kuala Lumpur could be more adaptive towards ICT applications which might influence the office decision to locate outside the city centre area.

Due to the increasing congestion in the capital city and the global attraction of the city as market hub in the South East Asia, new satellite towns such as Technology Park Malaysia and Cyberjaya has been developed for the multi national companies to locate there regional offices in this region as such companies make use of high level modern information and communication technologies (Malaysia, 2003). These new towns offer the best possible infrastructure and incentives by the government to turn the economy to meet the challenges of globalization and adapt to the knowledge based economy.

For such purpose a super corridor was developed to the south of Kuala Lumpur which is 50 km long and 15 km wide namely the Multimedia Super

Corridor. In order to attract international business setups to cater the potential market of the South East Asian region, many incentives were offered which are defined in the policy of the MSC.

In order to keep pace with the global changing economic environment, the government was forced to face these main challenges; Firstly, there is the need to attract and retain technology intensive firms. Secondly, the development of high speed telecommunication access and thirdly, to guarantee that low income residents can have access to information at their homes.

The development of the MSC is proposed to create a high technological environment and infrastructure that can attract national and international investors. The aim and objective of this technology region is to replicate the economic success in Silicon Valley, USA and also to develop applications through the use of ICT to transform key economic sectors such as finance, insurance and real-estate sectors (Malaysia, 2002).

1.4 Aim and Objectives of Study

Information and communication technologies are leading to the demise of traditionally core dominated cities. What used to be a mono-centric urban fabric is now changing to multi-centered one, interlinked by commercial belts or industrial parks.

Countries such as India, The Philippines, China, Singapore, Australia and Czech Republic are competing to convince information intensive firms to be located in their cities like finance, insurance and real-estate sectors as these are the strongest

growing sectors in urban economies. In order to attain this goal they are offering greater tax incentives, avant-garde infrastructure and competitive conditions.

In the context of Malaysia, the government has developed the Multimedia Super Corridor (MSC) piloted by its development agency, Multimedia Development Corporation (MDC) to market the real estate in such scene of global changing economics to attract the information intensive firms. At the same time, MSC is meant to form a cluster of information intensive local based and foreign companies to adapt the research and development strategy in key information based areas in order to transform the economy into a knowledge-based economy.

This study focuses on key factors through which the companies from Kuala Lumpur are migrating to the development corridor and the driver which is the prime mover for such shift. The hypothesis is that such a shift is taking place due to the attraction to the Bill of Guarantees (BOG) provided in the MSC status policy.

The main purpose of this study is to identity the factors that are the reasons for office activities to be sub-urbanized from the CBD towards the MSC area. Furthermore, to point out the driver for such shift is another objective.

Thus, objectives of this study are as follows:

a.) To identify the effects of technology on decentralization of the city and the driver for such decentralization.

b.) To identify the factors due to which the decentralization of office spaces is taking place from the CBD of Kuala Lumpur towards the MSC area.

c.) Analyze and assess the effectiveness of existing BOG offered by the MSC for offices to move physically to the development area and

d.) To recommend future policy direction for the existing development policy.

1.5 Research Hypothesis

The research hypothesis is formulated thus;

"Due to advanced ICT infrastructure and incentives provided by the MSC, global as well as local business companies are moving from the city centre of Kuala Lumpur towards the MSC in order to get maximum output of the advanced infrastructure and greater incentives offered by the corridor's development policies".

The basis for this hypothesis is that MSC is offering several incentives through a comprehensive Bill of Guarantees in its development policy which should be an attraction to companies that are high level users of ICT.

1.6 Research Questions

The research questions addressed in this study are:

How the sector wise migration of business companies belong to Finance, Insurance and Real-estate sectors of economy from Kuala Lumpur towards the MSC is taking place and what is its percentage participation to the overall equity?

What are the drivers of such shift for offices to migrate from the previous location which may lead to, for instance; infrastructure, digital connectivity, low taxes, land cost, security, labor cost, competitive conditions?

What are the responses of companies towards the Bill of Guarantees offered in the MSC policy?

What measures should be taken in the form of infrastructure and incentives in order to attract more global and local companies to take up the MSC status?

Thus, evaluating the influx of business and employees towards the MSC and concluding the further measures for policy guidelines and future development for building of a more sustainable environment by introducing information and communications technology (ICT) in the new urbanism where technology plays a major role in the urban economics.

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1.7 Scope of Study

The study focuses mainly on the spatial movement of firms, physically from KLMA towards MSC. The background information about these companies and reasons for such movement were obtained by a questionnaire survey constructed for such purpose. The area selected for this study has been the designated MSC area which is 50 km long and 15 km wide stretching from Kuala Lumpur International Airport (KLIA) to the Kuala Lumpur City Center (KLCC) housing Petronas Twin towers..

The aspects that are covered by this study were the reasons for which a company has chosen to locate in MSC and the choice of companies on the Bill of Guarantees provided in the policy for taking up MSC development status. Furthermore, the description of company, its size and the location time were chosen as the determinant factors. The aspects have been identified after a thorough research on available literature.

The aspects being covered believed to be sufficient enough to draw conclusion as these has been noted as the determinants of relocation of office firms in the information age according to the literature available. The conclusion drawn is trusted as the population chosen has diversity of major information sectors.

1.8 Research Methodology

The research methodology has been adopted as follows:

First, an extensive study was conducted on the location of firms, the drivers for relocation in the information era, the role of cities in the new economy formed by the information and communication technologies (ICTs) and the challenges faced with it to remain competitive with the growth of information sectors.

Afterwards, a thorough study has been done on similar kind of studies with the reference of the developed as well as fast developing economies in different regions and their impact on overall world economic scene.

The study was further taken up in the case of Malaysia on efforts being taken to retain information intensive firms and a background study was conducted on the MSC and its progress up to date through published material available. Then a hypothesis was formulated according to the review of literature.

Thus, companies were selected according to the profiles which are dealing in business related to finance, insurance and real-estate (FIRE) as being the intensive users of information.

Moreover, a questionnaire was developed after the study of major influential factors on the location decision for the business conducted in today's global economy and the policies offered in support to attract such businesses from their current or contemporary location.

A pilot survey was conducted of MSC status holder companies selecting a number of 10 respondents residing in Cyberjaya area only.

For sampling design, the method of stratified random sampling was used to select samples from the population which was of a total of 71, out of which, a response of 30 respondents was gathered accumulating to 42.86%.

Afterwards, the data was analyzed using statistical Software for Social Sciences (SPSS). This software is commonly used among social sciences researchers for its effectiveness in sorting data and convenience in running analytical techniques. Mann-Whitney U-test technique was applied to test the hypothesis. This technique was selected for analysis because it is a non-parametric statistical test requiring two independent sets of data. This technique does not require any assumptions about the nature of the population from which the samples have been taken. Unlike many other significance tests, the null hypothesis in the Mann-

Whitney U test cannot be rejected, so there should be no consistent difference between the two set of values. According to the analysis of the response, incentives offered in Bill of Guarantees of MSC policy are expected to be the major attraction for companies to move their office location for the reason of taking up MSC status.

1.9 Epilogue-Significance of Study

Sustainability has been the prime concern for the future of the cities growth. According to the "Agenda 21" United Nations Conference on Environment and Development the Earth Summit in Rio de Janeiro in 1992 (United Nations, 1992). To achieve this task many countries have developed new ways of urban decentralization to tackle problems such as traffic congestion, urban sprawl, pollution and environmental decay (Chua, 2001).

For such decentralization, high value incentives are offered which do not only attract the local CBD but in the era of globalization convert the newer developed satellite towns with hi-fidelity infrastructure into a global city which, in due time, is to attract the city centre and to convert into the centre of regional socio economics.

Generally, the findings of the study of change in the CBD due to MSC is to benefit mostly the planning authorities on the national and regional level, policy makers, developers, urban planners, researchers and academicians. Ultimately it is to help in overview of the policy offered by the MSC is to evaluate the locational trend on the choice of office activities due to incentives offered in the policy of MSC. It will provide some guidelines to the further development of structure plan for the Kuala Lumpur Metropolitan Area (KLMA).

The findings provide some basis of guidelines on reviewing office development strategies and the impacts of office decentralization on the existing CBD of a city. For researchers, this could be a guide for further research on the topic. For practicing planners, this study will show some dynamics of changes into CBD of a city and could help in formulating more comprehensive planning policies according to the future requirements of sustainable growth.

1.10 Organization of Thesis

The thesis is divided into seven chapters as follows:

Chapter one describes the introduction to the research, the research background, statement of issues and the introduction to the policies offered by the MSC, leading to research objective, research hypothesis, the scope of study, the importance of the research and finally, to the organization of thesis.

The second chapter provides an extensive literature review based on the past and present office development pattern in the cities. Furthermore, past and current literature on location decisions and their impact on office decentralization with studies of the other developed city's perception examples are conducted. This provides thorough background understanding of the research issue. The theoretical framework is developed and elaborated in detail in this chapter, too.

Chapter three provides the background about the incentives offered by the MSC and its Vision 2020 to change Malaysian economy into the knowledge based economy. It also looks on the KLMA structure plan for the future development. This chapter mostly highlights the policies adopted to meet the challenges for future sustainability.

In chapter four, the research method is highlighted in order to achieve the goals and objectives of research. This includes the selection of population for analysis, the method of analysis, the setting up of variables for the hypothetical test and the method of testing the hypothesis. It also shows the ways adopted to minimize the error of data collection and also indicates the hindrances that have been tackled with, during the course of data gathering.

Chapter five presents the analysis of the data collected and elaborates the outcomes. It has concluded that the incentives offered in the Bill of Guarantees of MSC policy, namely, tax exemption and world class infrastructure provision are the primary drivers forcing the companies to move physically to the MSC. In addition, freedom to employ foreign workers and globally competitive telecommunications tariffs remain significant.

Chapter six is based on the testing of hypothesis on the results of the analysis and leading to the measurement of the magnitude of decentralization of offices using the nonparametric hypothesis testing technique of Mann-Whitney U test. The test hypothesizing that companies are taking up the MSC status and thus locating in the MSC due to the lucrative incentives offered in the MSC Bill of Guarantees which has been proven true and a very significant factor for companies locating in the MSC.

Chapter seven discusses the outcomes of the research, it has been concluded that the Bill of Guarantees offered in MSC policy is quite comprehensive. It also concluded that there is a need to accelerate the development of public amenities such as; telephone booths, transport and restaurants etc. Furthermore, it concludes a need for the provision of more rental space on cheaper rental value to attract small and medium sized companies to cluster in the MSC area. It also provides suggestions for the future research on the topic.

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