UNDERSTANDING SPATIAL PATTERNS OF SOUTH ASIAN COMMERCIAL ACTIVITY IN THE TORONTO CENSUS METROPOLITAN AREA (CMA)

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this Research Paper.

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ABSTRACT

Toronto is one of the most multicultural cities in the world, and South Asians form the largest visible minority group in the Toronto Census Metropolitan Area (CMA). The increased inflow of South Asians over the past few decades has resulted in further development of South Asian commercial activities which contribute significantly to the retail landscape of Toronto. From 2000 to 2009, the South Asian population grew, however the number of South Asian retail stores saw an increase in the first five years followed by a gradual dip in the next five years. The types of businesses that have seen a constant increase in number are those that serve both ethnic and non-ethnic clientele. Spatial autocorrelation measures were used to determine the spatial patterns of South Asian population and retail stores. Clustering of South Asian population was observed in 2004 that became more pronounced in 2009. No clustering of South Asian commercial activity was detected in 2004; however, there was some clustering in 2009. It was also observed that businesses tend to be set up near areas of high South Asian population which resulted in the formation of ethnic enclaves. The clusters of South Asian population and South Asian businesses were analyzed to assess where the South Asian enclaves have developed, and were found to be mainly in the areas of Mississauga, Brampton and Scarborough.

A trade area analysis was also conducted for the Sitara Mall which is being developed as the largest South Asian mall in Toronto. It was found that the mall is situated in a strategic location which already has many South Asian points of interest, a high South Asian population and a general demographic that has a reasonably high purchasing power.

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CMA – Census Metropolitan Authority

CSCA – Centre for the Study of Commercial Activity

EET – Ethnic Economy Theory

ESDA – Exploratory Spatial Data Analysis

LISA – Local Indices of Spatial Autocorrelation

LQ – Location Quotient

MAUP – Modifiable Areal Unit Problem

MC – Moran Coefficient

CHAPTER 1: INTRODUCTION

1.1 Introduction

Toronto is one of the most multi-cultural cities in the world. Census data from 2006 indicate that it is more culturally diverse than cities like Los Angeles and Miami with 49.9% of the population of Toronto being foreign born (Toronto Star 2007). Statistics Canada has also projected that by 2012, more than half the population of Toronto will be visible minorities (Statistics Canada, 2007).South Asians (including Indians, Pakistanis, Sri Lankans and Bangladeshis) form the largest group of visible minorities in Toronto.

Ethnic commercial activities contribute a great deal to the retail landscape of the Toronto Census Metropolitan Area (CMA). They can be defined as those commercial activities that provide goods and services required by specific groups to satisfy their cultural preferences (Wang 1996). The increase in culturally diverse population from over 200 different groups from all over the world has led to an increase in the number of retail stores in the Toronto CMA. According to Jones & Simmons (1993), the demand for ethnic commercial activities results from the propensity of ethnic group members to shop at businesses catering to their needs, where familiar brands and cultural brands may be found, along with a cluster of complimentary services. Wang (1996) suggests that these commercial activities can occur when the number of these households reaches a threshold in order to generate sufficient demand for a range of goods and services, after which a constant increase of immigration would increase the demand for more ethnic services and retailing.

The purpose of this study is to understand the spatial patterns of South Asian commercial activity in the Toronto CMA and to identify the changes it has undergone in the last five years (2004 – 2009). An objective assessment of the location of the proposed largest South Asian mall in Toronto forms another part of this study.

There are many ways to categorize retail stores as ethnic. The data used in this study were obtained from the Centre for the Study of Commercial Activity (CSCA). The CSCA distinguishes retail stores based on their signage. However, there are other ways to distinguish ethnic stores based on the owners, employees, customers, source of goods and types of goods and services.

The South Asian population has been growing over the last few decades. A change in the Canadian immigration regulations in 1967 brought about an increase in the inflow of the South Asian immigrants. Since then, Canada has encouraged the immigration of South Asians with the exception of the period 1977 – 1985 due to a weaker Canadian economy. However, the inflow of South Asians has been very high since the 1990's (Dangwal 2004).

After the initial inflow of the South Asians in 1967, some South Asian retail stores were established in Toronto to cater to their needs. One of the earliest inceptions of South Asian commercial activity was the Gerrard Indian Bazaar that is still in existence today. In the late 90's due the steep increase in the South Asian population, there was a sizeable market that allowed for the establishments of various South Asian retail stores in Toronto. A study conducted by Dangwal in 2004 suggests that South Asian commercial activity flourished in the late 90's and early 2000's; with a steep increase in the number of South Asian retail stores over the years. This research focuses on the period after that, from 2004 to 2009 when the world has gone through an economic crisis and South Asian immigration has been growing steadily (Statistics Canada 2010).

1.2. Research Objectives

The main objective of this study is to understand the spatial patterns of South Asian commercial activity in the Toronto CMA with respect to the settlement pattern of South Asians. The spatial change in South Asian commercial activity from 2004 to 2009 will be studied and the change in distribution patterns over the last 5 years will help in locating "hot spots", and also provide an idea of whether the growth of commercial activity is on par with the growth of the South Asian population. Spatial ethnic economies, which are areas with high concentrations of South Asians and South Asian commercial activities, will be identified.

The second objective is to assess the location and trade area of the largest South Asian Mall in Toronto. The first of its kind, Sitara will be the largest South Asian mall in Toronto. It is under construction, and is expected to be completed by 2012. The plans call for more than 500 shops that mainly cater to the needs and desires of the South Asians. An assessment of this mall will help in reasoning out why this particular location (Markham Road and McNicoll Avenue) was chosen. To construct a mall specifically for South Asians in Toronto, the demand must be high enough so that it is economically sustainable. Therefore, an analysis of the mall and its trade area will give a clear picture of the economic viability of the mall and its other attributes.

1.3 Study Area

The Toronto Census Metropolitan Area (CMA) includes the City of Toronto and 23other municipalities. Taking into consideration the distribution of the South Asian population and the concentration of South Asian retail stores, the entire Toronto CMA was not considered in this study. The study area shown in Figure 1.1 includes the City of Toronto and the six surrounding municipalities: Mississauga, Brampton, Vaughan, Richmond Hill, Markham and Oakville. The City of Toronto includes the municipalities of Scarborough, North York, East York and Etobicoke.

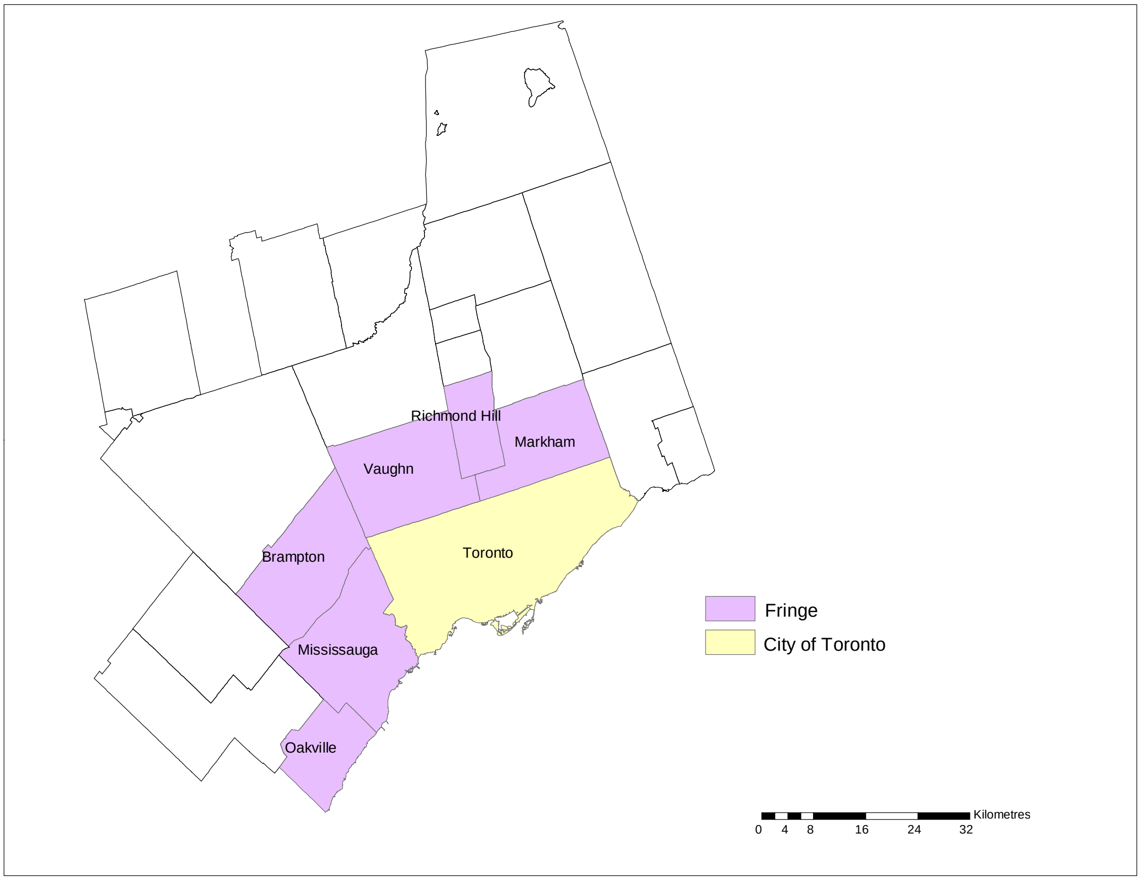

Figure 1.1 Study Area: The City of Toronto and its Fringe

The municipalities of Ajax and Pickering were not included as part of this study as they have very low South Asian population and South Asian commercial activity.

1.3. Sitara Mall – A Case Study

The Sitara Mall is under construction at a site located at the intersection of McNicoll Avenue and Markham Road in the City of Toronto. Figure 1.3 shows the location of the Sitara Mall.

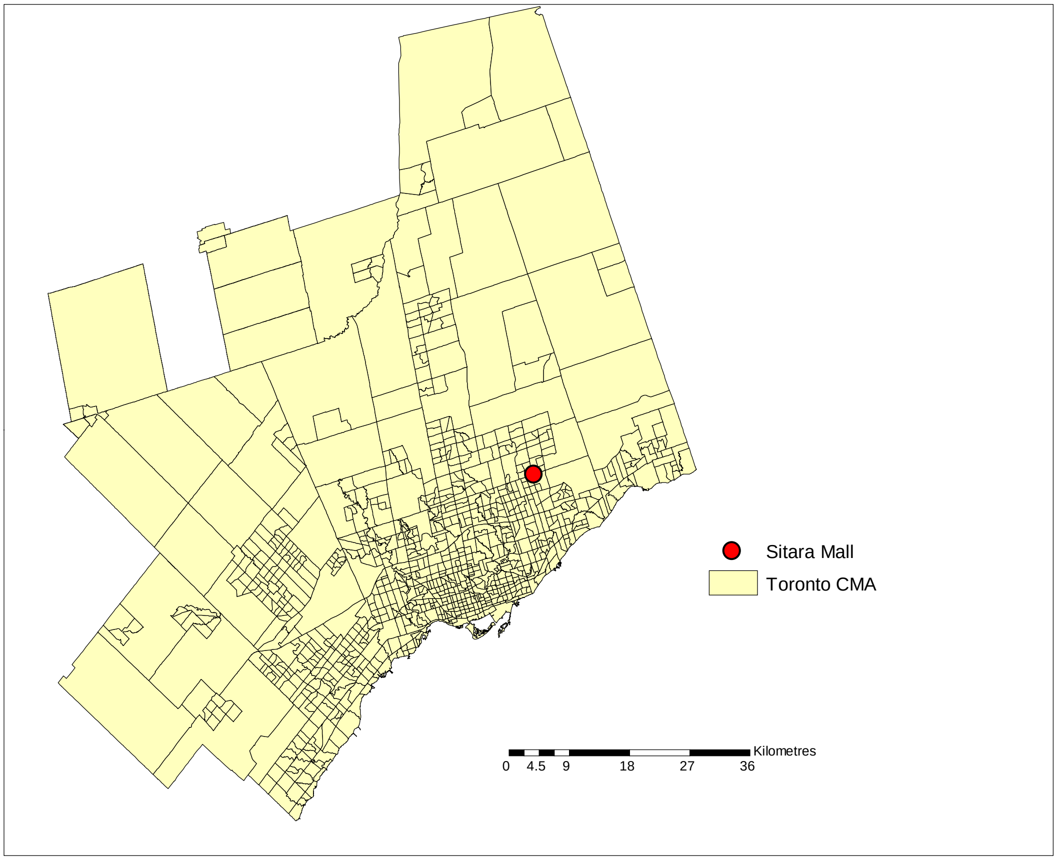

Figure 1.2 Location of the Sitara Mall

Originally, the pioneer of Sitara Mall, Mr.David Lam (who is a seafood importer) decided to construct a Chinese mall at this location. However, due to some issues, the project did not commence. Mr.Lam observed a growing South Asian population in that area and decided to come up with the largest South Asian mall in the GTA (National Post, 2007).

The Sitara Mall has been designed along the lines of the Chinese Pacific Mall, which is the largest indoor Chinese mall in North America and has around 450 stores catering to the needs of the Chinese and Asian population in Toronto. Similar to the Pacific Mall, it is a mall/condo development. The Gerrard Bazaar is currently the largest South Asian outdoor shopping centre in Toronto. Nowadays, there are many South Asian stores all over the Toronto CMA. However, the Sitara Mall will be the largest indoor mall in the Toronto CMA that caters to the needs of the South Asians.

The Sitara Mall is a 22,300 square metre indoor mall that will have 500 retail shops, restaurants, food court, a huge banquet and convention centre, a two-storey atrium for pop concerts, several patios and a 1,000-car parking facility. It extends to four floors with the availability of all kinds of South Asian goods that enable one-stop shopping. (http://www.thesitara.com/index.php).

There are various highlights of the Sitara Mall that could enable it to be a profitable venture. According to the Sitara home page (http://www.thesitara.com), the location is where multicultural Canada meets a fast-growing South Asian population. This area has had a lot of commercial activity with many complexes going up in the recent years. Most of the major ethnic groups like South Asians, Chinese and East Europeans are part of this area's demographics.

CHAPTER 2: BACKGROUND

2.1. History of South Asian Immigration to Canada

The cultural diversity of the South Asian countries is reflected by the ethnic diversity of the South Asian Canadians (Trans et al 2006). Figure 2.1 shows the different countries in the South Asian sub-continent. Over 50% of the South Asian Canadians are from India, which is a land of diversity with over 25 spoken languages and different religions. The majority of Indians practises Hinduism, while the other major religions practised are Islam, Sikhism and Christianity. Other South Asian countries like Pakistan and Bangladesh have a majority of Muslims. People from India, Bangladesh, Pakistan and Sri Lanka are collectively referred to as South Asians and are culturally very diverse. However, the South Asian communities established outside South Asia tend to be more homogenous and these people have developed an identity for themselves (Van Der Veer 1995)

Figure 2.1 South Asia: India, Pakistan, Bangladesh, Nepal, Bhutan and Sri Lanka

The immigration of South Asians to Canada started in the early 20^{th} century. The first South Asians arrived in the year 1903 at Vancouver. The majority were Sikhs who had heard of Canada from British Indian troops in Hong Kong who had heard from soldiers travelling to the coronation celebrations of King Edward VII.(Basran et al 2003) Most of the early immigrants worked in the sawmill industry. By 1908, there were around 5000 South Asian immigrants. This influx of immigrants created an unfavourable response by the native Canadians, and thus in the year 1907, South Asians were provincially disenfranchised. This meant that they could not vote or hold position in the government and had no access to the political office. The federal government also imposed a regulation that specified that immigrants travelling to Canada had to have continuous ticketing arrangements from their country of origin. There was no such arrangement with India; as a result, many men were separated from their families. It was recorded that there were only 878 South Asians that entered Canada from 1908 to 1943. Following the end of World War II, immigration restrictions were gradually loosened. By 1947, faced with the new Independence of India from the British, the Canadian government removed the continuous-passage law, replacing it with an annual immigration quota for the South Asian countries. Also, the federal government passed the 1962 and 1967 legislations that liberalized immigration, following which immigration of South Asians increased drastically. In the 1950’s South Asians who migrated were mainly relatives of the previous Sikh settlers. However, in the 1960’s South Asians immigrated from other parts of India, and also from other South Asian countries like Pakistan and Bangladesh. One thirds of these immigrants were qualified professionals like doctors, teachers and professors. This was mainly due to the high skilled worker immigration that came into effect in the 1960's. (Buchignani 1985)

In the 1950's, the majority of South Asians settled in Vancouver, BC.. However, when the high skilled worker immigration was enforced, South Asians settled across the country, but mainly in the Toronto area and British Columbia. In 2006, the South Asian population in the Toronto CMA was about 713,630, while British Columbia's South Asian population was about 266,000, concentrated mainly in the Vancouver area. (Buchignani 1985)

Before 1960, the major ethnic groups that arrived in Canada were Chinese, Italians, Jews and Portuguese. They settled in Toronto and formed ethnic enclaves like Chinatown, Little Italy etc. These ethnic enclaves served as the reception for new immigrants where they could be assisted for the integration into the Canadian society. These enclaves also became business centres where ethnic goods and services were present. As the years went by, these ethnic enclaves slowly spread to other parts of the city. The assimilation of the different ethnic groups in Toronto led to a composite mosaic of ethnic pockets. (Murdie et al 2003)

The South Asians did not form an ethnic enclave until the 1980s. This was because there were fewer immigrants from South Asian countries as compared to immigrants from other countries, and also because South Asians as a group have diverse cultures, languages and religions. So, they were scattered throughout Toronto. However, in the past 20 years, Canada has seen a drastic increase in the number of South Asian immigrants. According to Census 2006 data from Statistics Canada, South Asians form the largest visible minority group in Canada. This has resulted in the development of South Asian ethnic commercial activity in different parts of Toronto.

One of the categories of immigrants is the business class which includes self-employed immigrants, entrepreneurs and investors. The immigrants who fall under this category are expected to have a net worth of CAD $300,000, and the investors must invest around CAD $400,000 in the Canadian market. Immigration of people in the business class was very low in the past due to the limited convertibility of the Indian rupee, which made it almost impossible to transfer the required capital into Canada. The changes in India's foreign-exchange regulations led to an increase in the number of business class immigrants, making it the 7th ranked source country of business immigrants (Roberts 2003).

2.2. Ethnic Economy

Ethnic commercial activities are an integral part of the Toronto commercial sector. The influx of immigrants from all over the world has created an ethnically diverse population of about 200 different ethnic groups in Toronto. As the concentration of ethnic groups increase over the years, retail stores catering to the needs of the ethnic people become more prevalent leading to ethnic commercial activity. Ethnic commercial activity can be defined as those commercial activities that provide goods and services required by specific ethnic groups to satisfy their cultural preferences (Wang 2006). This includes grocery stores, restaurants, jewellery stores, malls, business services etc. The presence of ethnic retail stores and commercial activity lead to an ethnic economy within a larger economy.

According to Kaplan (1997), the growth of a particular population within a defined and often segregated geographic area fosters the emergence of an ethnically oriented business and labour market. Light et al. (1994) claim that the terms ethnic economy and ethnic enclave economy designate an immigrant or minority business and employment sector that coexists with the general economy.

According to Light and Bonancich (1991), while conceptualizing immigrants and ethnic economies, there are different theories that can be used. The widely used theories *are middle man minorities theory*, *ethnic economy* and *ethnic enclave economy*. These are often interchanged and are used synonymously. However, these concepts organize frameworks differently and lead to different research directions.

The perception of ethnic economy has been derived from the *middleman minorities theory* which was developed by Blalock and Bonacich (1973) This focuses on immigrant adaptation strategies within a larger society. According to this theory "the main characteristics of an ethnic economy are (a) a concentration in small retail businesses that serve communities of diverse other minorities (b) a strong ethnic cohesion and (c) a conflict with other ethnic groups." According to Bonancich (1973), middlemen minorities are ethnic minorities that occupy the "intermediate rather than low" status in the society, and are often in the commerce and trade sector, and play middleman between producer and consumer. It includes groups such as the Chinese in South East Asia, Jews in Europe and Indians in East Africa. However, the middleman minorities theory had a lot of limitations because it could not explain modern immigrant entrepreneurs especially those who were not historic trading people. Therefore, Light and Gold (2000) decided that immigrants and ethnic economies could not be conceptualized using this theory, so they came up with the Ethnic Economy Theory (EET). Light and Gold (2000) stated that according to the EET “every middleman minority has an ethnic economy, but every ethnic economy cannot be considered as middleman minority”

The ethnic economy has no spatial component to it. It requires no location clustering of ethnic firms, and does not require the customers to be of the same ethnic groups. It does not require an ethnic cultural ambience within the firm or among buyers and sellers. Light and Bonancich (1991) state that “the ethnic economy is simply ethnic because the business owners are ethnic, and to the extent that their employees are coethnic too”. ‘Coethnic’ people can be defined as people belonging to the same ethnic group.

2.3. Ethnic Enclave Economy

The ethnic enclave economy was derived from the *dual labour market theory*. According to the dual labour market theory, the economy is divided into primary and secondary sectors. Minorities are in the secondary sector which is characterized by short term employment with little or no prospect of more lucrative jobs and access to the superior primary market (Light et al 1994) . The *dual market theory* does not take into account the self-employed. However, with the increase in immigration to countries like Canada, USA and Australia from developing world countries, self-employment has become an integral part of ethnic economies. Since self-employment of immigrants changes the social structure of the labour market, it was important to include this while conceptualizing ethnic economy. Therefore, the ethnic enclave economy theory was developed.

Portes (1987) derived the ethnic enclave economy theory by studying the settlement of Cubans in Miami. He concluded that an ethnic enclave economy existed along with the primary and secondary market sectors. Light and Gold (2000) state that “the ethnic enclave economy consists of a locational cluster of business firms whose owners and employees are coethnics. These firms provide goods and services to a coethnic clientale and are often supplied by businesses owned by coethnics.”

Logan et al. (2002) define an immigrant enclave or ethnic enclave as “one in which ethnic neighbourhoods in central cities serve relatively impoverished new arrivals as a potential base for eventual spatial assimilation with the majority”. Ethnic enclaves are neighbourhoods or areas that have a cultural distinction from the larger surrounding area. These enclaves typically revolve around the businesses run by the residents of the enclave. Ethnic enclaves are also sources of imported goods that are often not available in the mainstream market. These economies are typically self-sufficient and do not depend on the primary economic market

The terms *ethnic economy* and *ethnic enclave economy* have been interchanged and used synonymously. However, they have some inherent differences and they create different frameworks to conceptualize immigrants and ethnic entrepreneurship. According to Light et al (2000), ethnic enclave economy is a special case of ethnic economy, which is “territorially clustered and confers quasi-monopolistic economic advantage”. Light and Gold (2000) indicate that an ethnic enclave economy is smaller than the ethnic economy as it excludes the following : (a) coethnic firms that lie outside the cluster (b) coethnic firms that do not hire coethnic workers and (c) coethnic firms that do not cater to the needs of a coethnic clientale. Another important concept of the ethnic enclave economy that the ethnic economy does not take into consideration is the spatial clustering of local businesses. Logan et al. (2002) studied ethnic settlement patterns in New York City and Los Angeles, and concluded that most immigrant settlements can be interpreted as ethnic enclaves. Logan et al. (1994) studied the markets of the major ethnic groups in the metropolitan areas around Miami in order to obtain a suitable definition for *ethnic enclave economy*. They concluded that the most important characteristics of enclave economy are coethnicity, spatial concentration and sectoral specialisation. According to Preston et al. (2005) the spatial component is the most important characteristic for a successful ethnic enclave. They say it is because a protected market is created which solidifies the ties between coethnic businesses and an effective enclave economy is created.

According to Dangwal (1996), there are many theories that explain the propensity of immigrant businesses in their destination countries. One of the important theories is the *disadvantage theory or blocked mobility thesis* according to which the success of immigrants is hindered due to racial discrimination and cultural barriers. Thus they are driven to entrepreneurship to attain economic prosperity. Another theory is the *cultural thesis*, according to which specific ethnic groups possess certain characteristics that help them become successful in their businesses. However, Light et al. (2000) proposed a theory called *resources theory of entrepreneurship* according to which the most important factors that affect ethnic entrepreneurship are ethnic resources and class resources.

2.3.1 Spatial Ethnic Enclave Economy

Dangwal (1996) proposed the theory of spatial ethnic enclave economy by adding a another spatial component to the existing ethnic enclave economy. He defined spatial ethnic economy as *geographic spaces where significant spatial contiguity exists simultaneously for both the ethnic population and the ethnic commercial establishments.* For the development of these spatial ethnic economies, it was required that ethnic retail stores are clustered around highly populous ethnic areas.

Figure 2.2 is a diagram showing the different concepts of ethnic commercial activity.

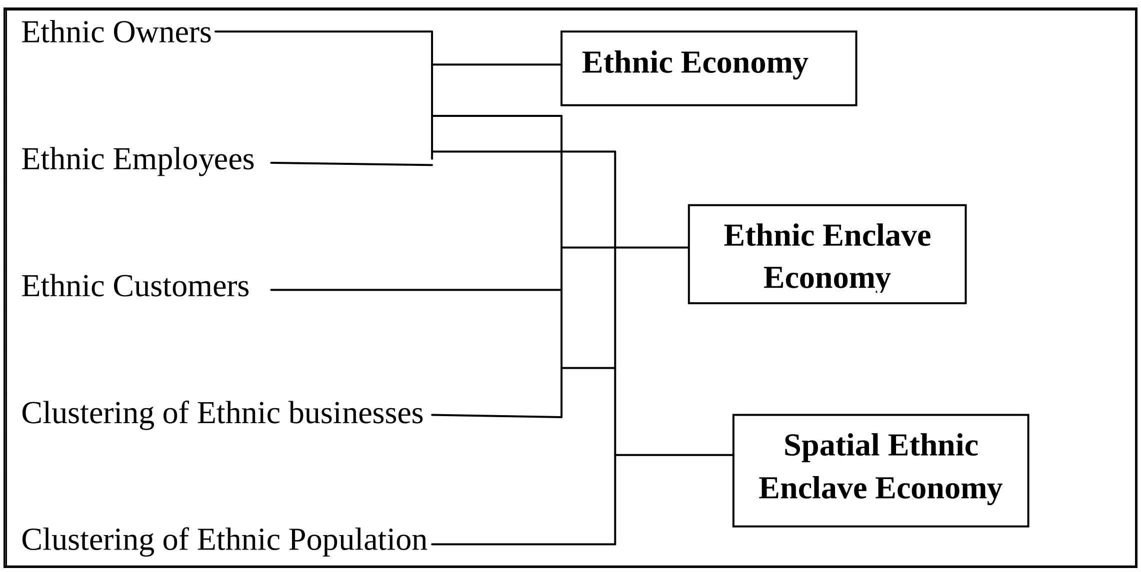

Figure 2.2 : Different levels of Ethnic Economies

2.4. Spatial and structural distribution of South Asian businesses

A study conducted by Dangwal (1996) to determine the changes in spatial distribution and structural changes of the Indian commercial activity from 1994 – 2004 in the Toronto CMA indicated that the number of Indian retail stores increased steadily from 1994 to 2004. However, some types of businesses flourished more than others. The businesses that served a mixed clientele like restaurants and business services such as insurance agencies, finance companies and lawyers displayed an increasing trend while the businesses catering only to the Indian population such as Indian grocery stores and Indian clothing stores displayed a decreasing trend. He concluded that ethnic businesses that serve their own population and non-ethnic population are likely to be more successful.

CHAPTER 3: DATA AND METHODOLOGY

3.1. Data

The following data were used in this study to achieve the research objectives.

3.1.1. Canadian Census Data

A census is the process of systematically acquiring information about the members of a population. Canadian census data are collected by Statistics Canada once every five years. The last census was in 2006. To achieve the objectives of this research, 2001 and 2006 census data were used. Statistics Canada divided the 2001 census data into 12 data profiles and the 2006 census data into 14 data profiles. The ethnicity profile from the 2001 and 2006 census data were used to obtain the percentage of South Asians in the Toronto CMA.

$$Percentage\ of\ South\ Asians =$$

$$\frac{Total\ Population\ of\ Indians + Pakistanis + SriLankans + Bangladeshis}{Total\ Population\ of\ People\ with\ Ethnic\ Orgin} \text{ x } 100 \qquad (1)$$

*Ethnic Origin – People who are not originally from Canada

The income and population variables have been used to perform the trade area analysis on the Sitara Mall.

3.1.2. South Asian Commercial Data

The Centre for the Study of Commercial Activity (CSCA) is a well-known research-based unit at the Ryerson University in Toronto, Ontario. The CSCA records information and maintains large databases of information about retail activities in Toronto. The data obtained from the CSCA includes the list of South Asian retail stores in the Toronto CMA. The CSCA collects data during field visits, and records information such as address, square footage, year opened, year closed, X & Y coordinates and ethnicity. A major limitation of the CSCA data is that, a store is recorded as a particular ethnicity only if the data collector recognizes it an ethnic store based on the name of the store. If it has a South Asian name, or if the data collector thinks it's a South Asian store based on the signage, it is recorded as a South Asian store. If the store has a generic name and cannot be recognized as an ethnic store because there is no signage indicating that it is an ethnic store, it is not recorded. Therefore, there could be some errors during data collection. This leads to some discrepancies in the data (Joe Aversa, Personal Communication). The retail stores that were recorded by the CSCA are those that are mainly located in strip malls. Therefore, independent businesses that are run from home or on mobile vehicles are not recorded. These types of businesses are not considered in this study, and therefore this study pertains to South Asian retail stores in strip malls.

3.1.3. Boundary Files

The shapefile of the Toronto CMA with the municipality boundaries was obtained from the Ryerson library resource centre.

3.2. Methodology

3.2.1. Spatial distribution of South Asian Population and South Asian Businesses

To determine the spatial distribution of the South Asian population and South Asian businesses, exploratory spatial data analysis (ESDA) techniques were performed. The ESDA techniques that were performed to achieve this objective were spatial autocorrelation and Local Indices of spatial autocorrelation (LISA).To determine if spatial correlation exists, the Global Moran Coefficients were determined. The Global MCs indicate whether there is spatial auto correlation or not, and do not indicate where there is spatial autocorrelation. For this purpose, the LISA indices were measured to determine where local clusters were present. This is explained in detail in section 3.2.1.1.

3.2.1.1 Spatial Autocorrelation

Spatial autocorrelation is defined as the degree of similarity or dissimilarity of a variable in geographic space. It is the interdependence between the values of a single variable distributed in space. Spatial autocorrelation measures help in validating or nullifying Tobler's First Law of Geography which can be summarized as "*everything is related to everything else, but near things are more related than distant things*" (Goodchild 1986).

These measures indicate whether an observed value of a variable at a particular location is related to the values of the same variable at neighbouring localities. Spatial autocorrelation can be either positive or negative. Positive autocorrelation indicates that similar values are clustered together in geographic space, and negative spatial autocorrelation indicates that dissimilar values are clustered together in space. When there is no spatial autocorrelation, the distribution of the values is said to be random. Figure 3.1 shows the different types of spatial patterns that variables can exhibit.

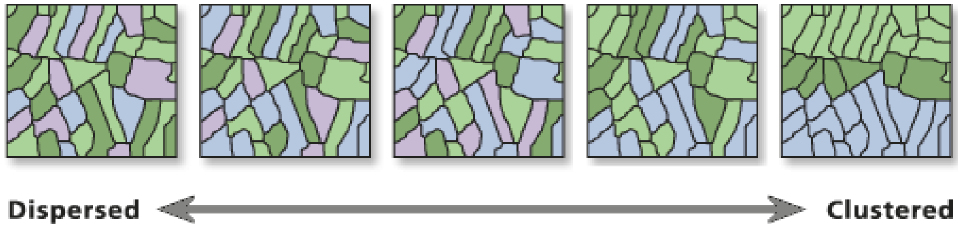

Figure 3.1: Spatial Patterns *(Source: Spatial Autocorrelation, Arc GIS Desktop 9.3, ESRI 2009)*

The different types of spatial autocorrelation indicators are as follows:

1. Global Indicators of Spatial Autocorreltion – Moran's I
2. Local Indicators of Spatial Autocorrelation - Local Moran and Zi- Get-is ord statistic

Moran's I is a global indicator of spatial autocorrelation. It provides an indication of the type and degree of spatial autocorrelation. The spatial contiguity of a variable is examined, and classified as clustered, dispersed or random. The Moran's Index ranges from +1 to -1; +1 indicating strong positive spatial autocorrelation, and -1 indicating strong negative autocorrelation. A random pattern would have a Moran's Index of 0. A positive Moran's I indicates clustering, while a negative Moran's I indicates dispersion (Goodchild 1986)

In this study, South Asian population data were analyzed at the census tract level to understand settlement patterns of South Asians. Census data from 2001 and 2006 were used for this purpose. The variable total number of South Asians in the Toronto CMA was used in this study. The percentage of South Asians with respect to the total ethnic population in each census tract was calculated and mapped to visualize the settlement pattern of South Asians. The Moran's Index was calculated for the percentage of South Asians in the Toronto CMA to determine the degree of spatial contiguity. This Moran's index indicates if there is autocorrelation or clustering of the South Asian population.

The Moran's Index was also calculated for the number of South Asian retail setups in each census tract to determine whether there was clustering of South Asian businesses or not. The addresses of the South Asian retail stores were geocoded, and a point shapefile of the South Asian retail setups in the Toronto CMA was created. A spatial join of the point shapefile to the census tract boundary file was performed, and this creates a field called "count" with the number of South Asian business retail setups in each census tract. Moran's Index was calculated for the count of the South Asian retail setups to measure the spatial contiguity of the businesses. Using the value of Moran's I, it was determined whether there was clustering of South Asian businesses or not.

The global indicator of spatial autocorrelation yields only one statistic to summarize the whole area, and it indicates the degree and type of spatial autocorrelation. However, it does not indicate where spatial autocorrelation occurs. To identify where these spatial patterns exist, local indicators of spatial autocorrelation (LISA) was used. The LISA measures used in this study is the Zi- Getis-Ord statistic. This value helps in identifying the hot spots, i.e clusters of high values of a variable over geographic space. A positive Zi indicates spatial clustering of High values, while a negative Zi value indicates clustering of low values.

3.2.2. Ethnic Enclave Economy

An ethnic enclave economy can be defined as a neighborhood that is culturally distinct from a larger surrounding area. The key factors that make a neighbourhood an ethnic enclave economy are the ethnic businesses and the ethnic population. In this study, an overlay of the clusters of South Asian population and clusters of South Asian retail stores was performed to identify any South Asian ethnic enclaves in the Toronto CMA. The spatial unit of analysis used for the study was the census tract. There could be some errors due to the MAUP effect, because the size of the census tract varies. However, this was ignored because both the percentage of South Asian population and the count of South Asian business set-ups were determined at the census tract level.

3.2.3. Location Quotients

To determine the structural changes and distribution pattern of the South Asian business set-ups in the Toronto CMA, location quotients are calculated to determine the share of different types of businesses in the different municipalities of the study area.

The Location Quotient technique is a commonly used economic base analysis method. This technique helps in comparing a local economy with a reference economy to identify market share in the local economy. It is a calculated ratio between the local economy and the reference economy. These ratios are calculated to determine whether or not the local economy has a greater share of each industry than expected when compared to a reference economy. According to Burt and Burber (1996), Location Quotient (LQ) is an index for comparing an area's share of a particular activity with the area's share of some basic or aggregate phenomena. In this study, the Location Quotients for the different types of South Asian businesses in the different municipalities of the study area for the years 2004 and 2009 were calculated and compared to understand the change in distribution patterns.

The Location Quotient was calculated as follows:

$$LQi = \frac{\mathrm{Ai} / \sum A}{\mathrm{Bi} \,/ \sum \mathrm{B}} \qquad (2)$$

Where:

Ai is the total number of a particular type of South Asian business in area i,

A is the total number of the particular type of South Asian business in the study area

Bi is the total number of all types of South Asian businesses in area i,

B is the total number of all types of South Asian businesses in the study area.

The numerator is the percentage of a particular type of South Asian business in municipality i, while the denominator is the percentage of all types of businesses in municipality i. The three general outcomes of the calculated ratio are <1, =1, and >1. They are interpreted as follows:

- LQ < 1 - The share of a particular type of South Asian business for a municipality is less than its share of all types of South Asian businesses.
- LQ = 1 – The share of a particular type of South Asian business for a municipality is equal to its share of all types of South Asian businesses.
- LQ >1 – The share of a particular type of South Asian business for a municipality is higher than its share of all types of South Asian businesses.

3.2.4. Trade Area Analysis

The Sitara Mall which is proposed to be the largest South Asian indoor mall in Toronto is expected to be complete in the year 2012. An assessment of this mall would help in reasoning out why this particular location was chosen. For the construction of a mall focusing on South Asians in Toronto to occur, the demand must be high enough so that it is economically viable to sustain the mall. Therefore, a study on the mall that includes location analysis and trade area analysis, would give a clear picture of the economic viability of the mall and its other attributes.

A demographic analysis is the process of analyzing a specific population in order to describe the population and its characteristics such as average income, age group, level of education and ethnic distribution. A demographic analysis of the trade area of the Sitara Mall would be helpful in determining the economic viability of the mall.

The Sitara Mall is located at the intersection of Markham Road and McNicoll Avenue in Toronto. A point shapefile was created and the Sitara mall was located and edited on to the point shapefile. Buffers of 5 km, 10 km and 20 km were created around the Sitara mall. A demographic Analysis of the buffer zones around the mall was performed. The following variables were analyzed to determine the population mix around the Sitara Mall

- Percentage of South Asians
- Family Income
- Percentage of dwellings – Owned
- Population density

CHAPTER 4: DATA ANALYSIS AND DISCUSSION

4.1. Spatial Distribution of South Asian Population

South Asians are the largest visible minority group in Toronto based on the 2006 census (Statistics Canada, 2007). In this analysis, the cut-off for the percentage of the South Asian population is based on the percentage of South Asian population in the entire Toronto area which was calculated to be 14%. Therefore, percentage of South Asian population lower than 14% is considered low, while 14 – 28% is considered medium and greater than 28% is considered high. Figures 4.1 and 4.2 show the settlement pattern of South Asians in the Toronto and its fringe areas.

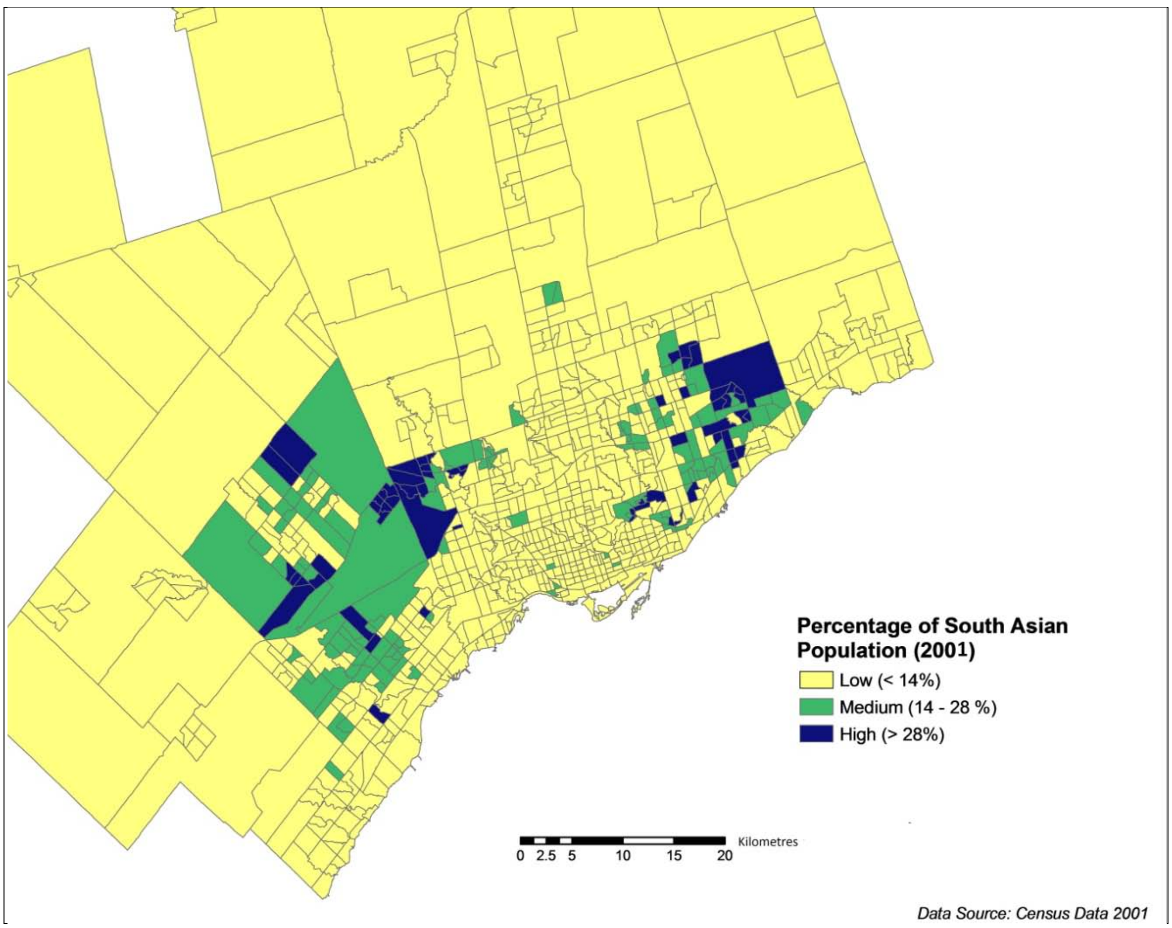

Figure 4.1 South Asian Population in the City of Toronto and its Fringe, Census 2001
(2001 population data used for 2004 Analysis)

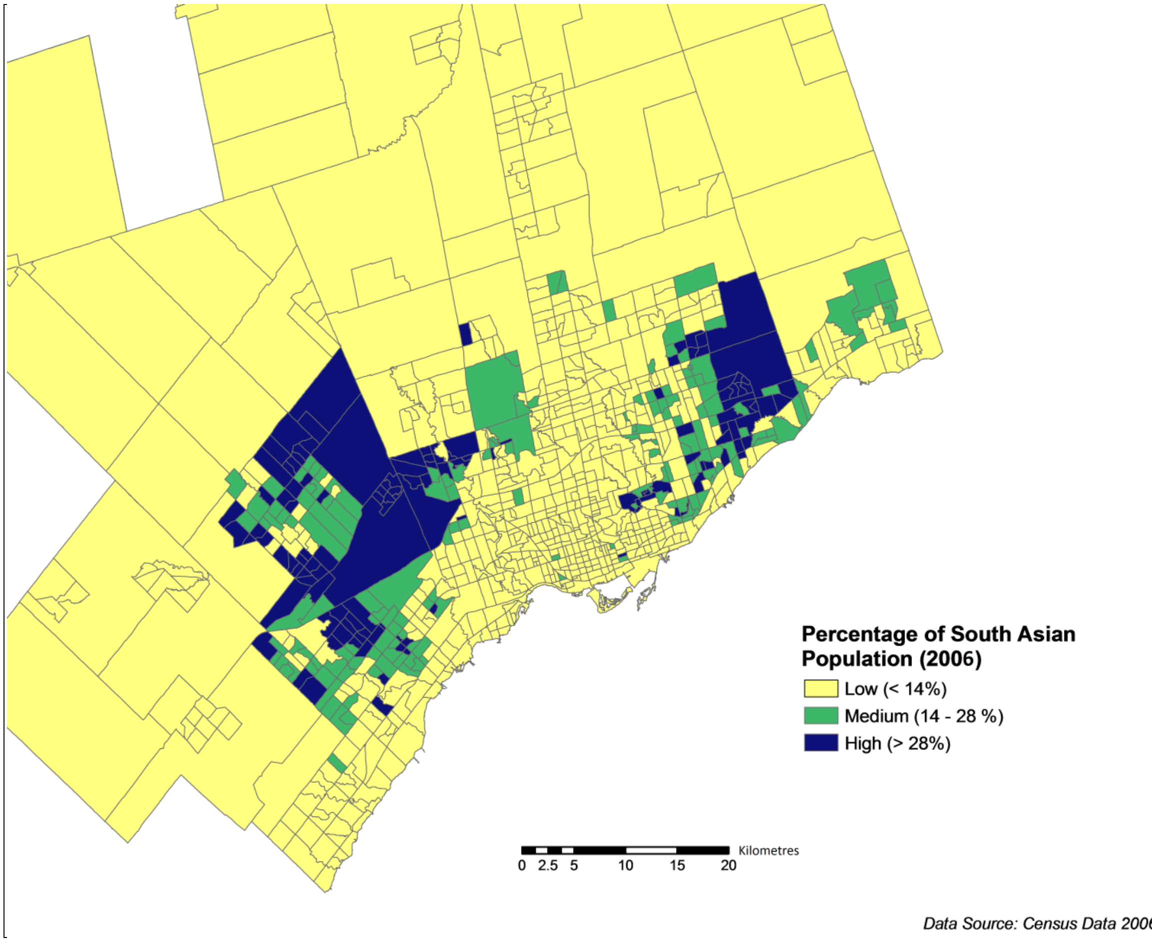

Figure 4.2 South Asian Population in the City of Toronto and its Fringe, Census 2006
(2006 Population data used for 2009 Analysis)

From the maps, it can be seen that the percentage of South Asians is high in the western and eastern parts of the study area which are Mississauga, Brampton and Scarborough. The downtown Toronto area and outer suburbs like Ajax and Pickering have a relatively low percentage of South Asian population. The maps also show that over the past five years the percentage of South Asian population has seen an increase in the already existing areas with medium South Asian population. Brampton and Mississauga have become areas of high South Asian population in the year 2009, while they had medium South Asian population in 2004.

To determine the degree of segregation of the South Asian population, the Global Moran coefficient is calculated for the percentage of South Asian population at the census tract level. The Global Moran coefficients are calculated for the years 2004 (Census 2001 data), and 2009 (Census 2006 data), to understand the trend of the segregation pattern of the South Asian population over the past five years. The results are presented in Table 4.1.

Table 4.1: Spatial Autocorrelation Measures for Percentage of South Asian Population

Variable: Percentage of South Asian Population	**Global MC**	**Significance Value**	**Conclusion**
2004 (Census 2001)	0.19	0.001	Positive spatial autocorrelation
2009 (Census 2006)	0.25	0.001	Positive spatial autocorrelation

From table 4.1, it can be seen that the value of the global MC is 0.19 for the percentage of South Asian population in the year 2004, and 0.25 in the year 2009 with a significance of 0.001. This indicates that South Asian population tends to cluster in geographic space in the study area. In the year 2004, with the value of 0.19, it can be concluded that there was some clustering of the South Asian population, which is more pronounced in the year 2009, with a value of 0.25. The Global MC indicates whether there is significant spatial autocorrelation or not in the entire area. However, it does not indicate where the clustering occurs. To determine the pockets of clusters within the study area, the LISA measures are calculated.

"Hot Spot" analysis is performed to determine the areas with clusters of high South Asian population. The LISA Zi scores of the percentage of South Asian population for the years 2004 and 2009 are mapped and are shown in figures 4.3 and 4.4.

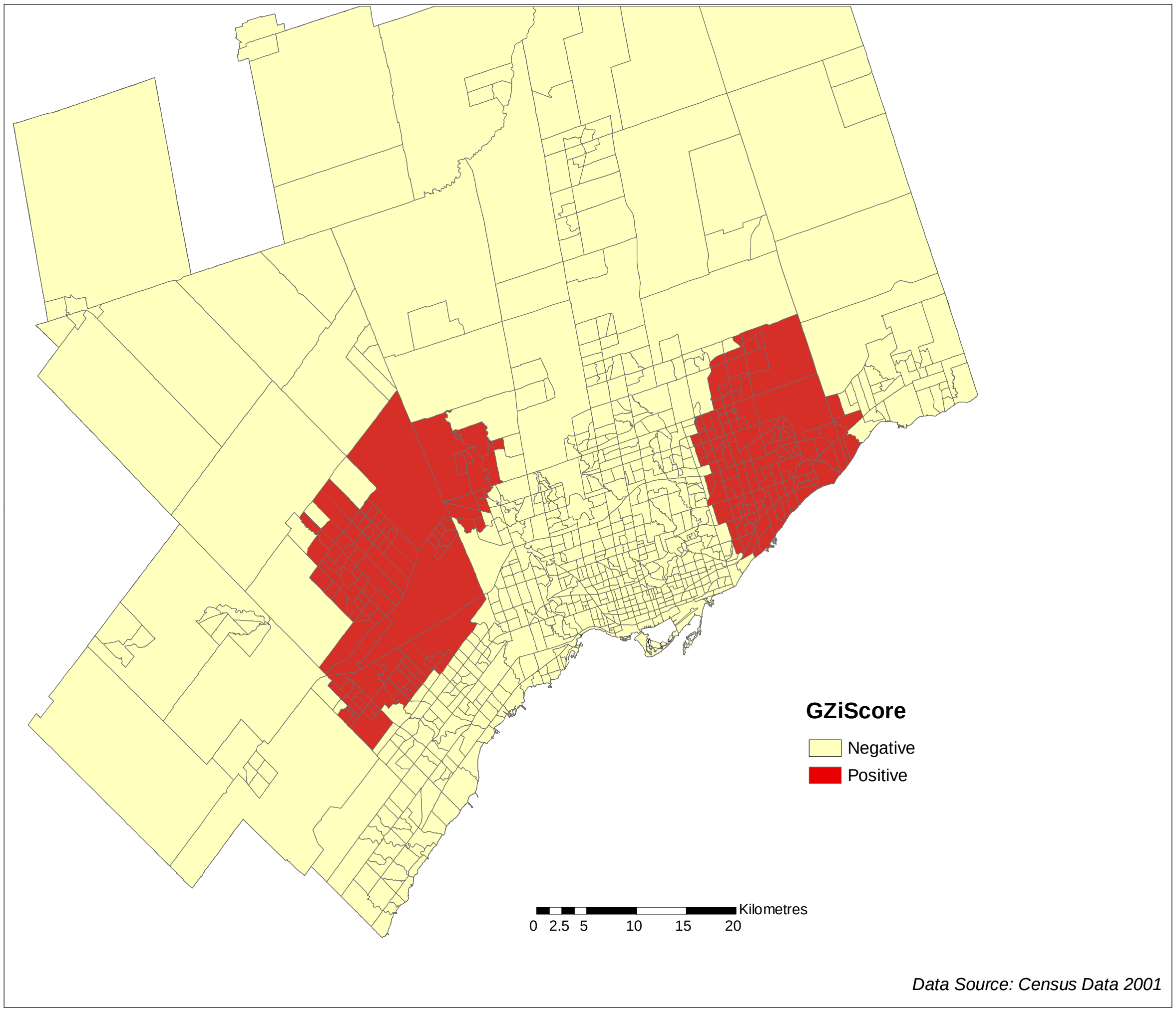

Figure 4.3 Clusters of South Asian Population in the City of Toronto and its Fringe, 2001

(2001 Population data used for 2004 Analysis)

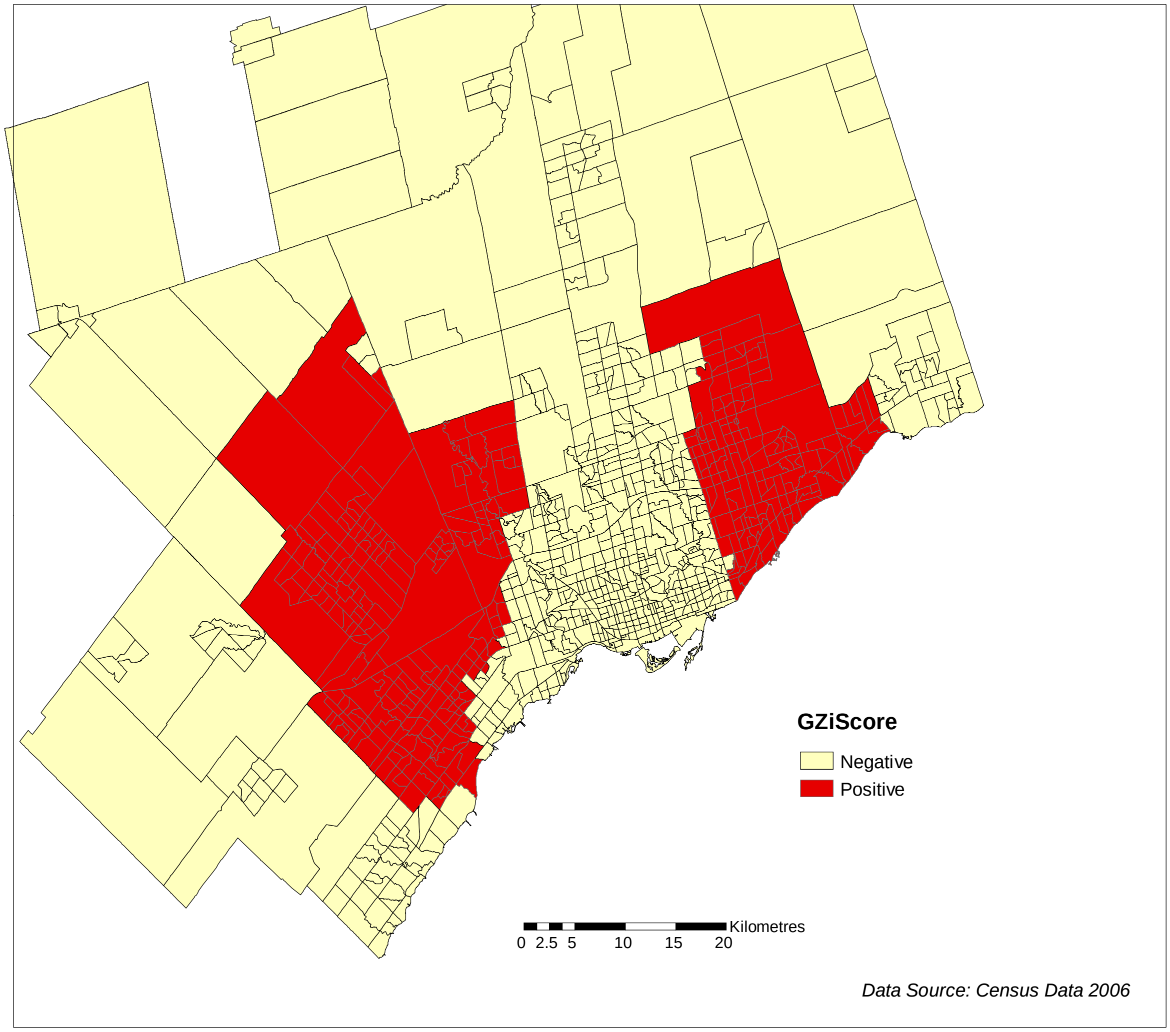

Figure 4.4 Clusters of South Asian Population in the City of Toronto and its Fringe, 2006 **(***2006 Population used for 2009 Analysis***)**

The positive Zi scores indicate clustering of high values, and are shown in red. From the maps, it can be seen that there is clustering of South Asian population in the western municipalities of Mississauga and Brampton, and Scarborough. The clusters of South Asian population appear to be small in the year 2004butgrow larger by the year 2009 with the inclusion of eastern part of Mississauga, and Markham. Therefore, it can be seen that in the past five years, the settlement of South Asians was concentrated in the above mentioned areas. The clusters have been growing over the years indicating that new settlement tends to occur in areas where there is already an established South Asian base. With the high population, these areas would have a sizeable market for South Asian businesses, and whether the majority of South Asian retail-setups are located in these areas form the next part of this study.

4.2. Spatial Distribution of South Asian Businesses

The lists of South Asian stores in Toronto and its fringe area for the years 2004 and 2009 were obtained from CSCA, and the addresses are geocoded and mapped. Figure 4.5 shows the spatial distribution of South Asian business set-ups in the year 2004, and figure 4.6 shows the spatial distribution of South Asian retail stores in the year 2009.

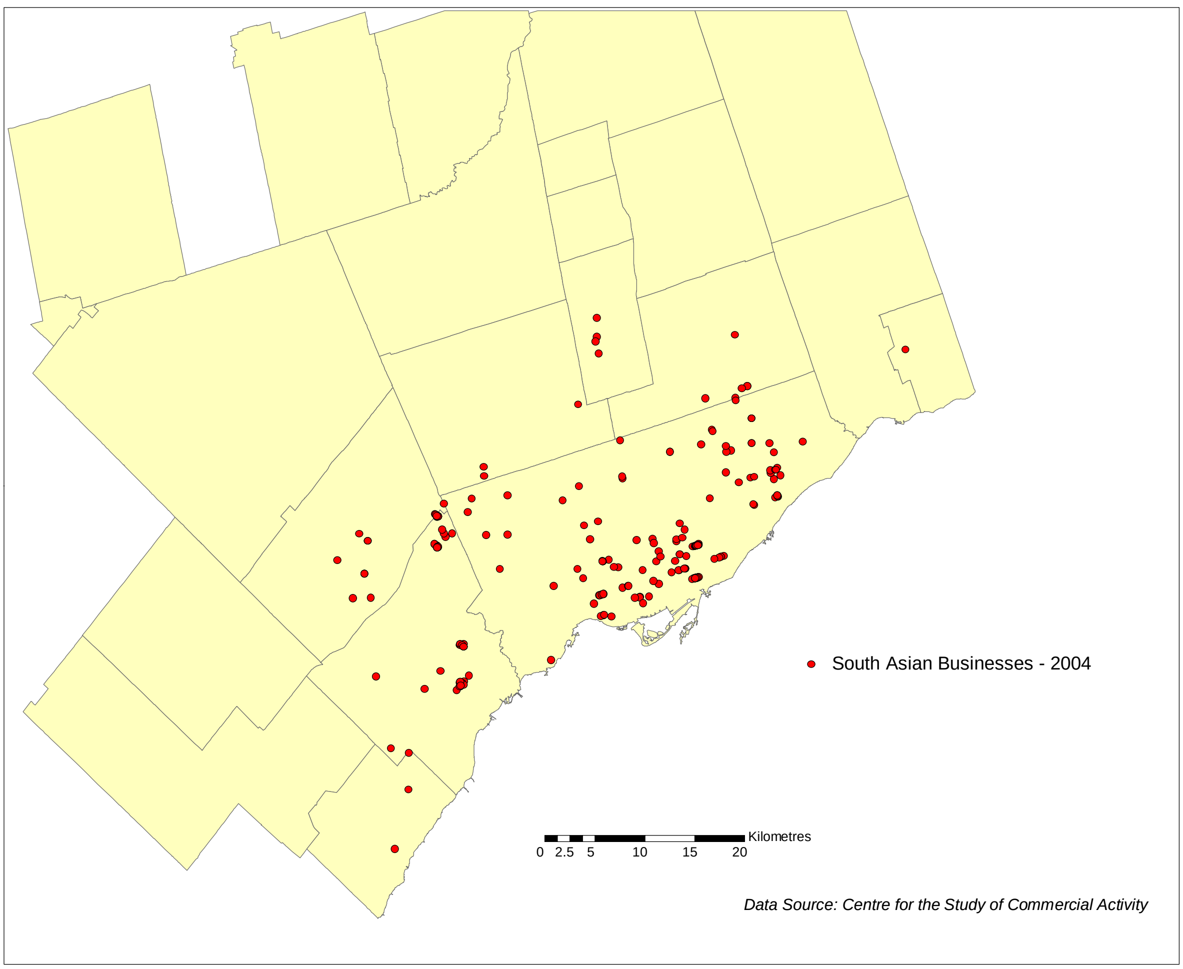

Figure 4.5 Distribution of South Asian Businesses in the City of Toronto and its Fringe, 2004

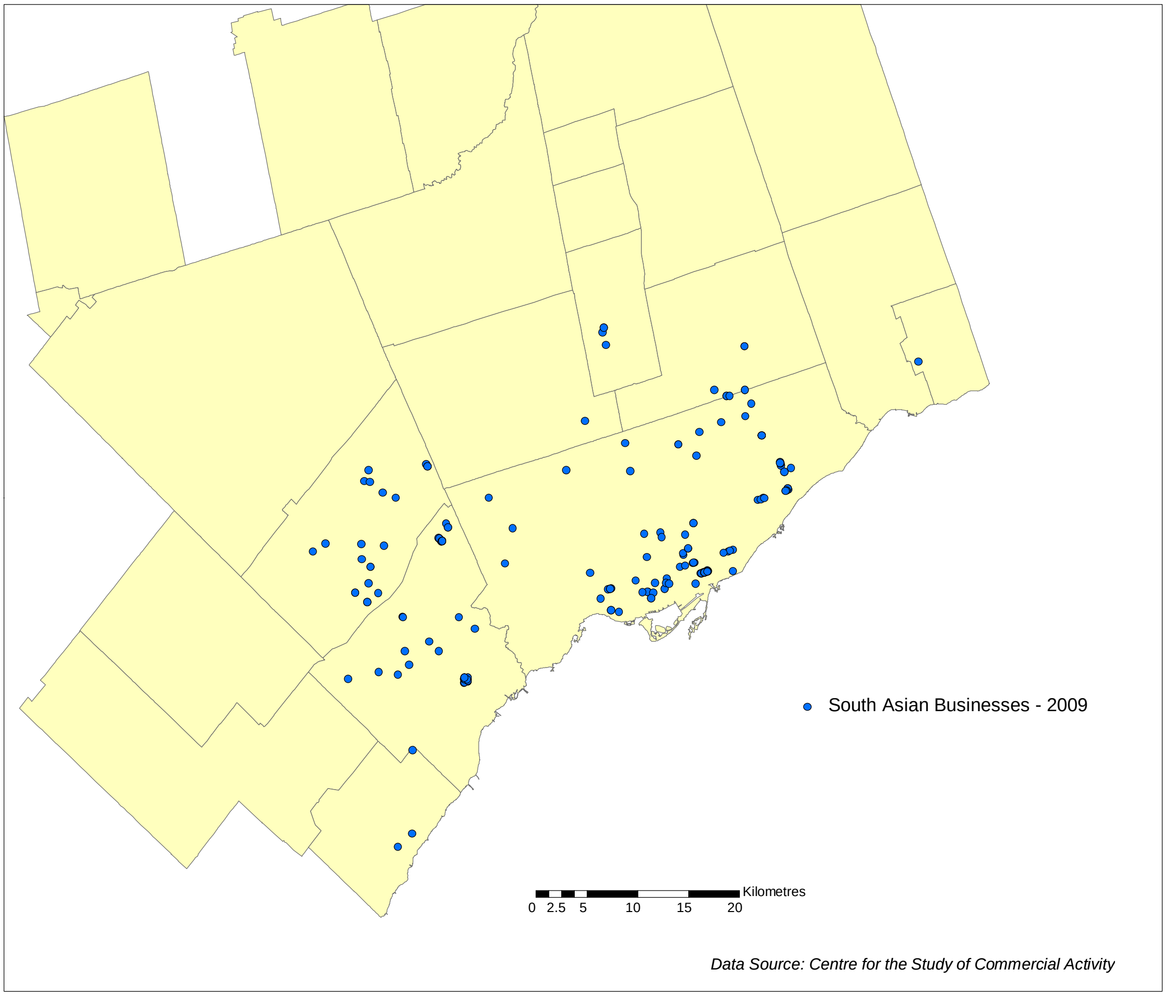

Figure 4.6 Distribution of South Asian Businesses in the City of Toronto and its Fringe, 2009

From the figures, it can be seen that most of the retail stores are in the City of Toronto, and in the western municipalities of Mississauga and Brampton. The patterns for the years 2004 and 2009 are similar; however a definitive indicator of spatial autocorrelation would be the Global MC. The Global MCs are calculated for the count of South Asian retail stores in each census tract. The results are presented in Table 4.2.

The Global MC for the year 2004 is 0, which indicates that in the year 2004 the South Asian business establishments were spatially distributed in a random pattern.

However, a positive Global MC for the year 2009 indicates that clustering of South Asian businesses in the Toronto area took place in the next five years.

Table 4.2: Spatial Autocorrelation Measures for South Asian Retail stores

Variable : Number of South Asian retail stores	**Global MC**	**Significance**	**Conclusion**
2004	0	0	Random
2009	0.14	0.05	Clustering

To determine the local clusters of South Asian businesses in the year 2009, the LISA measures are calculated. Figure 4.7 is a map showing the local clusters of South Asian business establishments in the Toronto area in 2009. The figure shows that clustering is mainly in the western municipalities of Mississauga and Brampton, southwest Scarborough and downtown Toronto. The Gerrard bazaar which is the largest South Asian market place in Toronto is located close to downtown Toronto. This stretch has many retail stores catering to the needs of the South Asians.

Even though the global spatial autocorrelation measure is zero for the year 2004 indicating no spatial autocorrelation, small local clusters might have been present. Such a cluster could have been the Gerrard Indian Bazaar which is home to more than 50 stores since the 1980's. However, these clusters were not prominent enough to indicate global autocorrelation. The cluster in the Brampton and Mississauga area has developed in the last five years, hence influencing the global spatial autocorrelation measure in 2009.

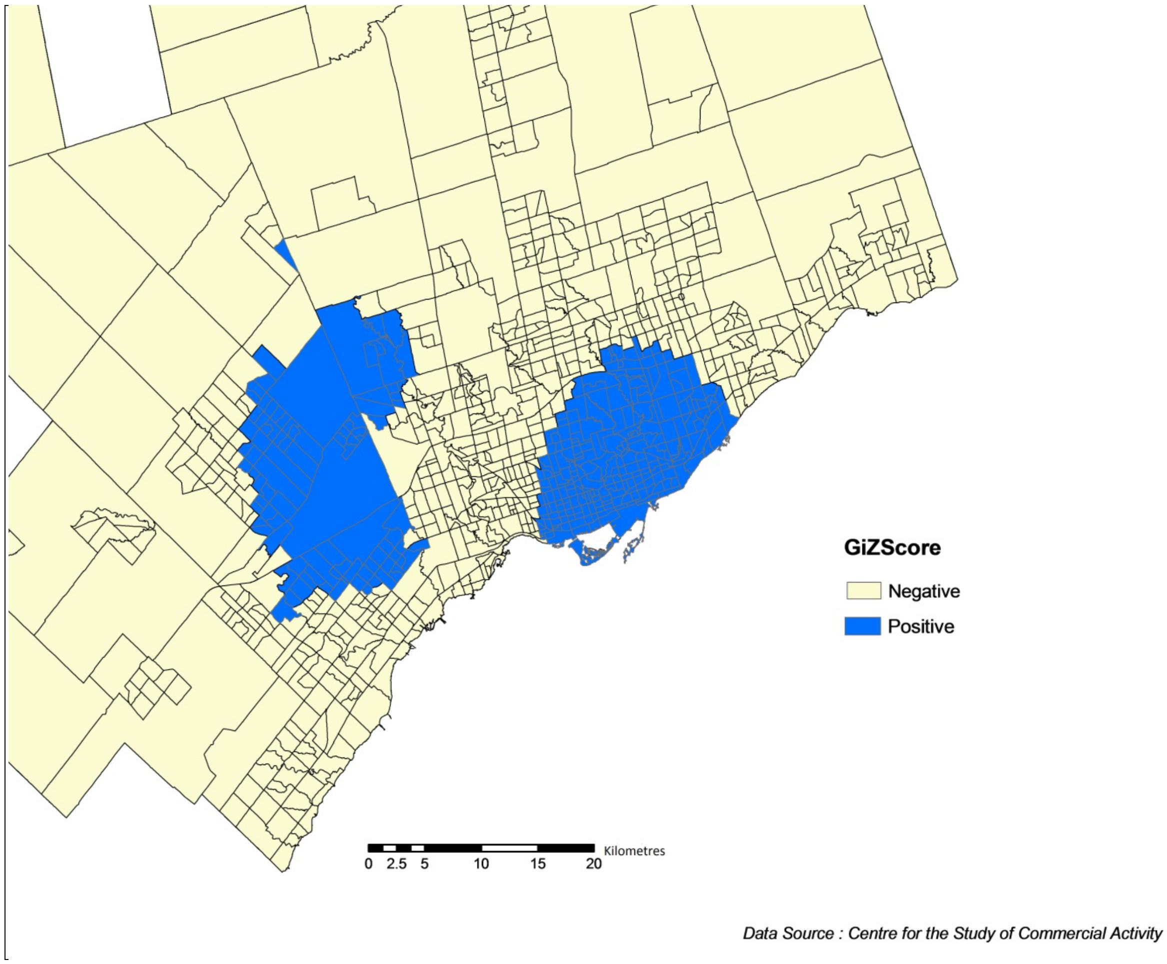

Figure 4.7 Clusters of South Asian Commercial Activity in the City of Toronto and its Fringe, 2009

4.3. South Asian Enclave Economy

An ethnic enclave economy can be explained as an area that is culturally and economically distinct from the larger surrounding area. The key factors that make an area an ethnic enclave economy are the ethnic businesses and coethnic workers. Dangwal (2004) added a spatial dimension to the ethnic enclave economy and defined it as: "*geographical spaces where significant spatial contiguity exists simultaneously for both the ethnic population and the ethnic commercial establishments*". Dangwal (2004) suggests that for a spatial ethnic enclave economy the business establishments need to be clustered in or around highly populated areas. To map these enclaves, the clusters of South Asian population and clusters of South Asian retail stores are superimposed at the census tract level. Figure 4.8 shows the clusters of South Asian population and figure 4.9 shows the clusters of South Asian commercial activity in the study area. Figure 4.10 shows the superimposed clusters of South Asian population and South Asian commercial activity.

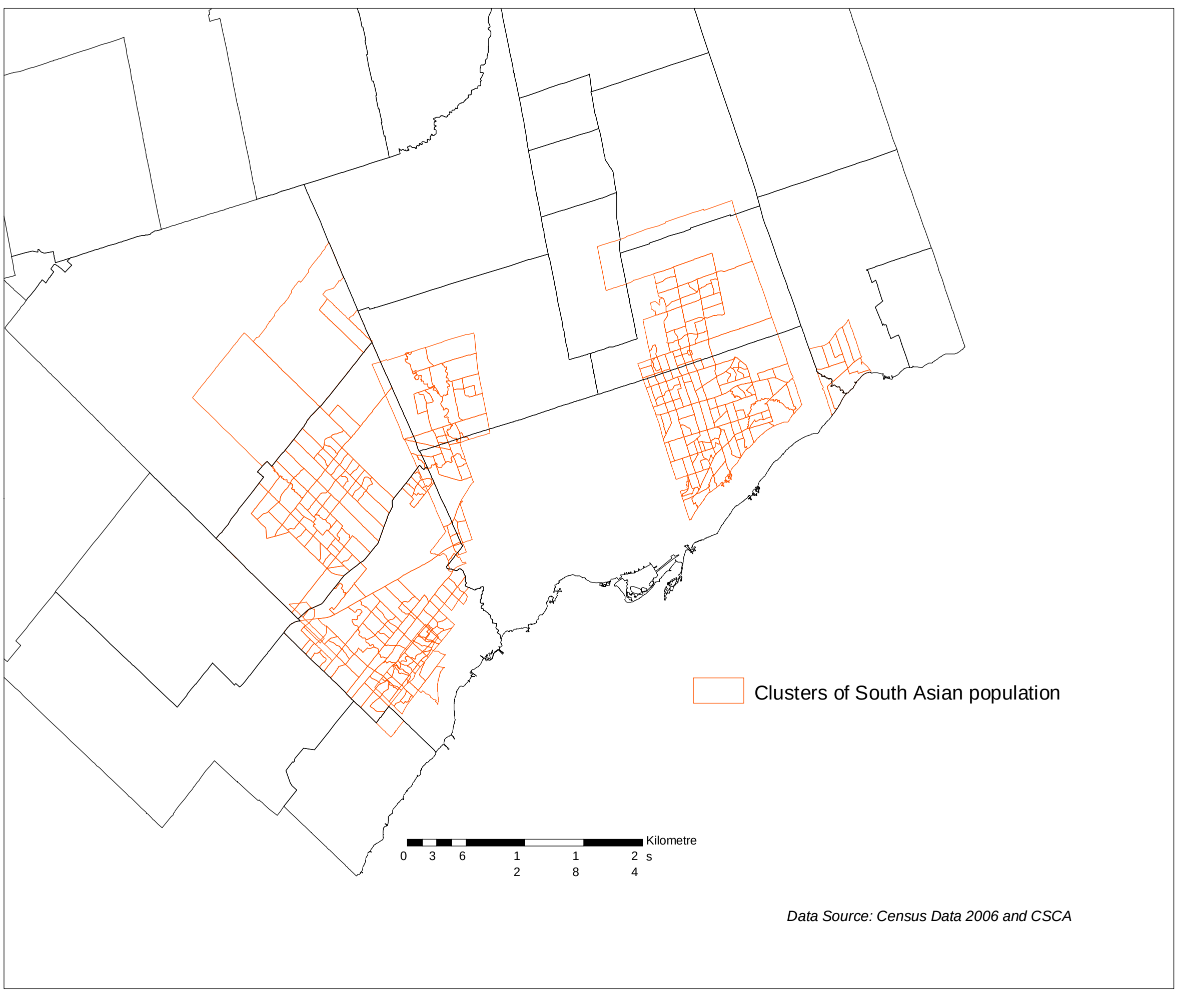

Figure 4.8 Clusters of South Asian Population in 2009

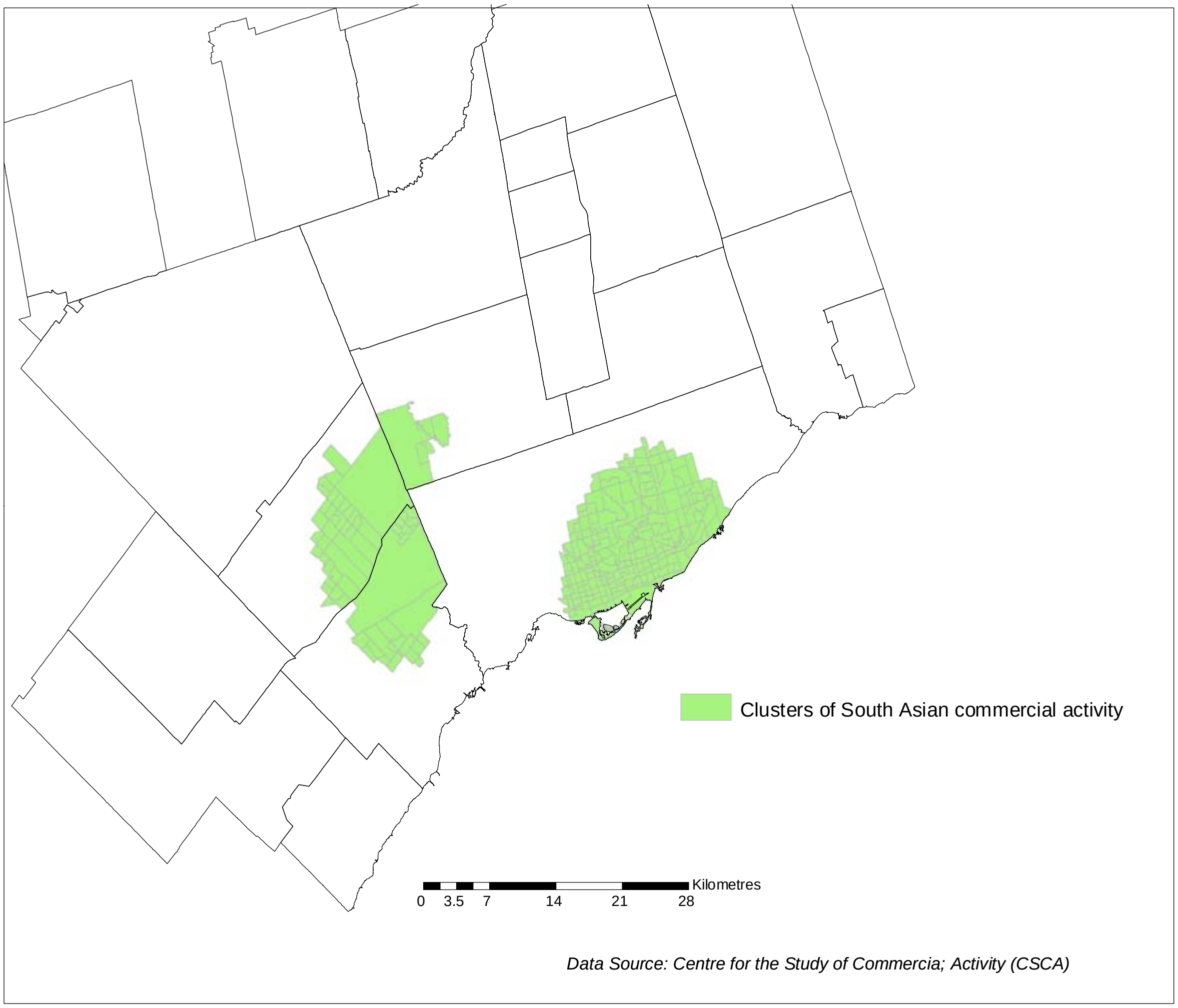

Figure 4.9 Clusters of South Asian Commercial Activity in 2009

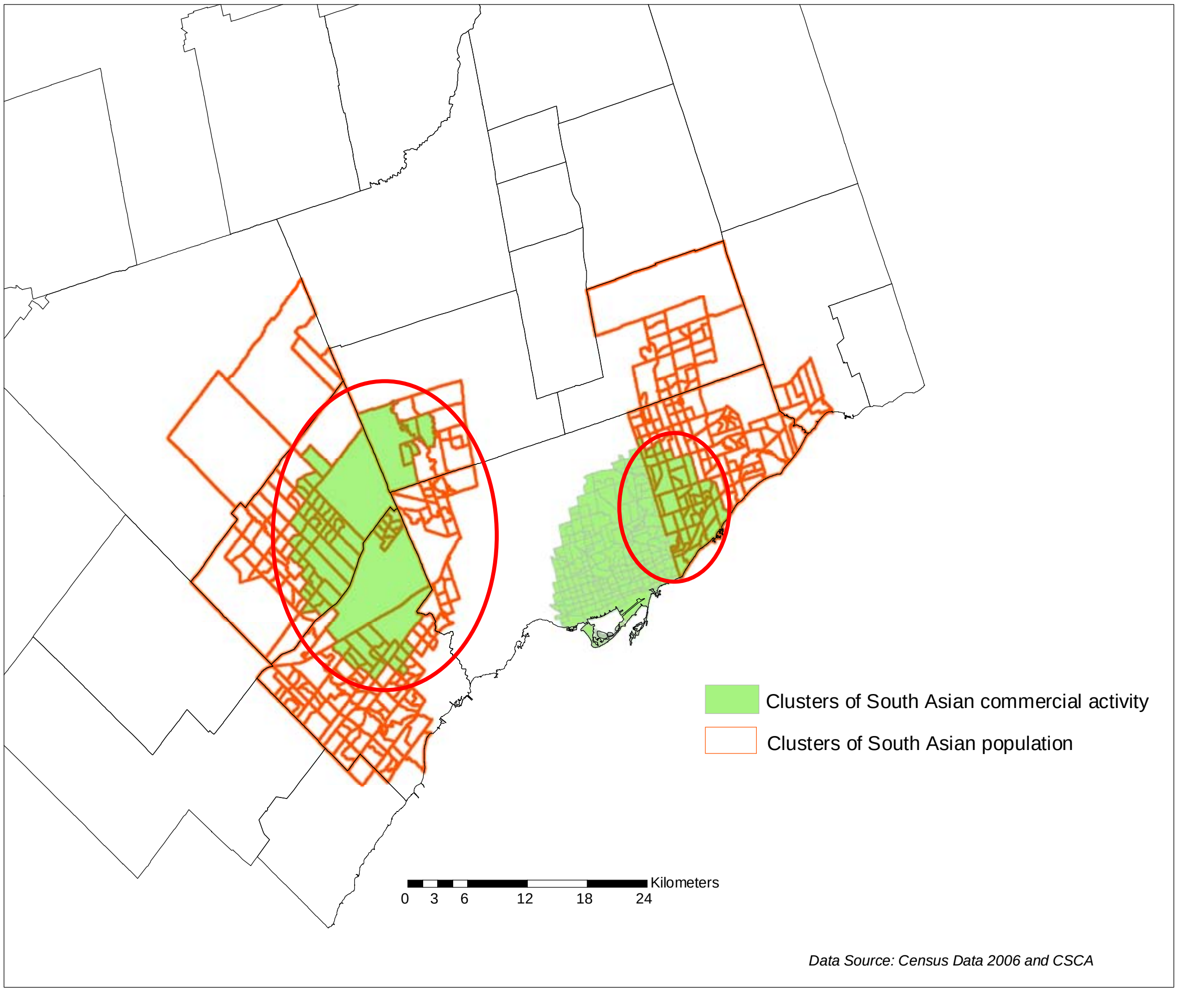

Figure 4.10 South Asian Ethnic Enclaves in the City of Toronto and its Fringe, 2009

From figure 4.10, it can be seen that there are two areas with high South Asian population and high South Asian commercial activity. Based on Dangwal's definition these areas can be called South Asian enclave economies.

(1) Western South Asian enclave – Brampton & Mississauga

- North Eastern Mississauga
- South Eastern part of Brampton
- Major Intersection : Hurontario and Steeles Avenue

(2) Eastern South Asian enclave - Western Scarborough

- East of Victoria Park Avenue
- South of Steeles Avenue
- West of Markham Road
- Close to Scarborough Town Centre

The superimposed map (figure 4.10) also shows that near downtown Toronto there is a cluster of South Asian commercial activity (west of Scarborough). However, there is no clustering of South Asian population. This indicates that retail stores operate away from ethnic population and try to serve both ethnic and non-ethnic population. A main component of this cluster is the “Gerrard Indian Bazaar” which is located at Gerrard and Coxwell, and has different kinds of South Asian retail stores catering to various needs of the South Asian people. The Gerrard India Bazaar is the largest marketing place for South Asian goods and can be compared to Jackson Heights in New York or Devon Avenue in Chicago which are well known South Asian commercial areas commonly referred to as “Little India”. Since its inception in 1972, this area has never been home to large South Asian population; however it has served as one of the biggest commercial areas to cater to their needs.

4.4. Trend of South Asian Commercial Activity

From the CSCA data, it was observed that the number of South Asian retail stores had decreased from 307 in the year 2004 to 258 in the year 2009. This was surprising because an increase in the retail activity was expected as there has been a steady growth of South Asian population in the last five years. To understand the trend of the South Asian commercial activity, list of stores for the year 2000 to 2009 was analyzed.

Table 4.3 shows the number of South Asian retail stores from the years 2000 to 2009 along with with the number of stores opened and closed each year. It can be seen that there was a gradual increase in the number of retail stores from 2000 to 2003, and then it remained constant for a couple of years, and started dipping from 2005 to 2009. The reasons attributed to this fall may partly be economic recession and partly the availability of South Asian goods in non-ethnic stores.

Table 4.3: Number of South Asian Retail Establishments in the study area: 2000 to 2010

Year	Number of Stores present	Number of Stores opened that year	Number of Stores closed that year	Number of stores closed later (which were currently present that year)
2000	262	32		163
2001	280	39	21	164
2002	292	72	60	146
2003	308	33	18	150
2004	310	33	31	131
2005	303	27	34	104
2006	292	24	35	104
2007	285	27	34	76
2008	272	17	30	76
2009	255	20	37	45

The economic crisis brought with it loss of jobs and unemployment thereby reducing the demand for various goods. Therefore those South Asian retail stores faced with low demand and low sales had no other option but to close down.

As the global market is picking up, the availability of South Asian goods is not limited to South Asian stores. For instance, regular supermarket chains like Loblaw's and

Sobeys are beginning to cater to the specific needs of ethnic people and some even have a separate aisle for ethnic goods that include South Asian, Oriental and Mediterranean goods. South Asian goods carried by these stores range from *atta,* rice and various lentils that form an important part of South Asian staple diet to popular South Asian fruit drinks like *Frooty & Maaza.* This impacts the role of South Asian food stores catering only to the needs of South Asian population.

The highlighted portion of the table indicates that in 2002 the most number of stores were opened and closed (from the year 2000 to 2009). This indicates that the market was good enough for many businesses to flourish, at the same time due to defective business plans there were many unsuccessful businesses as well. However, this did not affect the overall South Asian commercial activity. It can be seen that, from the years 2002 – 2004 South Asian commercial activity flourished.

4.5. Structure and Distribution of South Asian Commercial Activity

From the Figures 4.6 and 4.7, it can be seen that most of the South Asian retail setups are in Brampton, Mississauga, Scarborough and close to downtown Toronto. Table 4.4 shows the distribution of South Asian retail stores in the study area. The analysis of the structure and distribution of South Asian stores was performed at the municipality level.

From the table, it is evident that there has been an 18 % reduction in the number of South Asian retail stores in Toronto and its fringe area. However, Brampton has seen an increase in South Asian commercial activity over the last five years. Brampton has a high South Asian population, and is popularly called “New Delhi of Toronto” with the main South Asian inhabitants being *Punjabis*. Another municipality that has seen an increase in South Asian commercial activity is Markham. Markham, located close to the Sri Lankan hub "Scarborough", has a large South Asian population as well. Over the last five years Markham has seen a 40% increase in the South Asian commercial activity.

Table 4.4 Distribution of South Asian Commercial Activity across the Study

Municipality	Number of South Asian retail stores		Change with reference to 2004
	2004	**2009**	**%**
Richmond Hill	4	4	0
Markham	5	7	40
Vaughan	1	1	0
Toronto	203	163	-20
Brampton	10	21	110
Mississauga	80	53	-34
Oakville	3	3	0
Total	306	252	18

The City of Toronto has seen a 20% reduction in South Asian commercial activity, while Mississauga has seen a 34% reduction in South Asian commercial activity. To get a clear picture of the types of businesses that have flourished and the businesses that have lost their charm over the past five years, a detailed analysis of the different types businesses in each municipality is required.

For the purpose of this study, the South Asian businesses have been broadly classified into eight classes as in Dangwal (2004).

1. Clothing Stores
2. Jewellery Stores
3. Super markets & Grocery Stores
4. Restaurants

5. Beauty Salons

6. General Merchandise

7. Services

8. Motion Pictures & Video Rentals

The distribution of the different types of South Asian businesses in the study area is summarized in Table 4.5.

Table 4.5: Distribution of the Different types South Asian Businesses

Type	**2004**	**%**	**2009**	%	**Change (%) with respect to 2004**
Clothing Stores	43	14	37	15	-14
Jewellery Stores	23	8	19	8	-17
Super Market	84	28	58	23	-31
Restaurants	85	28	93	37	9
Beauty Salon	11	4	8	3	-27
General Merchandise	25	8	17	7	-32
Services	21	7	13	5	-38
Motion Picture and Video Rentals	11	4	8	3	-27
Total	**303**	**100**	**253**	**100**	

From the above table, it can be seen that all types of businesses except restaurants have seen a reduction over the past five years.

In the year 2004, super markets and grocery stores accounted for about 28% of the total South Asian commercial set-ups. However, in the next five years there has been a 31% decrease in the number of grocery stores, and they account only for 23% of the total South Asian commercial set-ups. This could be mainly due to the availability of ethnic goods in big chains like Loblaw's Sobeys and Wal-Mart. The past few years have seen the inception of an exclusive ethnic aisle in many of these big chains. This has probably had an effect on the sales of South Asian grocery stores and super markets. Usually South Asians buy their ethnic goods at South Asian stores, and other common goods like milk, sugar cereal etc. at regular supermarkets. People generally tend to like a one-stop shop and therefore the availability of their ethnic goods in the regular supermarkets would be an added convenience and would facilitate one-stop shopping. Therefore, the need to shop at exclusive ethnic stores is reduced. The regular supermarkets have made use of the fact that Toronto is extremely multi-cultural, and trying to include ethnic goods in the wide variety of goods supplied could possible hinder the sales of exclusive ethnic stores.

Clothing stores and jewellery stores have also seen a decrease over the past five years. The South Asian clothing stores mainly carry the traditional South Asian (Indian) attires of "Saris", "Salwar Kamez" and "kurtas". But the pricing of these types of clothing tend to be exorbitant. For instance, in India a fancy "salwar kameez" costing Rs.2000 (around ($45) would cost around $250 in these specialty stores in Canada. Even though there is such a high profit margin, the clothing stores have seen a reduction. This could be because they cater only to the needs of South Asians, and in most cases never the non-South Asian population. Since most South Asians, after moving to Canada, tend to wear regular western clothes on a daily basis as opposed to tradition South Asian attire, in order to assimilate into the Canadian society, the need to buy South Asian clothes at such exorbitant prices reduces. However, it is not the same case with food. Whatever one is used to eating while growing up tends to be comfort food, and most ethnic people would most likely stick to their cuisine even after decades of living in Canada.

Beauty Salons and Video rental places have also seen reduction over the past five years. Beauty Salons are not a South Asian specialty that cannot be found anywhere else. There are regular Canadian beauty salons that could cater to the needs of South Asian people at nominal costs as well. This could be one of the reasons why these South Asians salons have reduced.

Movies are a big part of the South Asian culture. Most South Asians are vivid movie-watchers and the presence of stores just for South Asian movie rentals in Canada is not surprising. However, with the advent of internet piracy, most South Asian movies are available online after a few weeks of release. Therefore, this may have affected the sales of the video rental stores, and hence a reduction in number over the past five years.

4.5.1. Relative Distribution of Businesses

Tables 4.6 and 4.7 show the distribution of the different types of South Asian businesses in the 12 Toronto CMA municipalities for the years 2004 and 2009.

The tables indicate that Toronto, followed by Mississauga and Brampton has the highest number of South Asian retail stores. The location quotients of the different types of South Asian businesses for the 12 municipalities would give a clear picture of the relative concentration of the different types of businesses in the different municipalities. The Location Quotients for the years 2004 and 2009 are presented in Tables 4.8 and 4.9.

Table 4.6: Distribution of the Different Types of South Asian Businesses in the Study Area in 2004

	2004							
	Clothing Stores	**Jewellery Stores**	**Super Market**	**Restaurants**	**Beauty Salon**	**General Merchandise**	**Services**	**Video Rentals**
Richmond Hill	0	0	1	2	0	0	1	0
Markham	0	0	3	2	0	0	0	0
Vaughan	0	0	1	0	0	0	0	0
Toronto	34	15	51	63	0	21	9	7
Brampton	2	0	4	2	1	0	11	1
Mississauga	7	8	22	15	10	4	0	3
Oakville	0	0	2	1	0	0	0	0
Total	**43**	**23**	**84**	**85**	**11**	**25**	**21**	**11**

Table 4.7: Distribution of the Different Types of South Asian Businesses in the Study Area in 2009

	2009							
	Clothing Stores	**Jewellery Stores**	**Super Market**	**Restaurants**	**Beauty Salon**	**General Merchandise**	**Services**	**Video Rentals**
Richmond Hill	0	0	1	2	0	0	1	0
Markham	1	0	4	2	0	0	0	0
Vaughan	0	0	1	0	0	0	0	0
Toronto	30	15	35	57	1	14	6	6
Brampton	2	0	6	12	1	0	0	0
Mississauga	4	4	9	19	6	3	6	2
Oakville	0	0	2	1	0	0	0	0
Total	**37**	**19**	**58**	**93**	**8**	**17**	**13**	**8**

Table 4.8: Relative Distribution of South Asian businesses in the Study Area, 2004

	Location Quotients - 2004							
	Clothing Stores	Jewellery Stores	Super Market	Restaurants	Beauty Salon	General Merchandise	Services	Video Rentals
Richmond Hill	0.00	0.00	0.90	1.78	0.00	0.00	3.61	0.00
Markham	0.00	0.00	2.16	1.43	0.00	0.00	0.00	0.00
Vaughan	0.00	0.00	3.61	0.00	0.00	0.00	0.00	0.00
Toronto	1.20	0.99	0.92	1.12	0.00	1.27	0.65	0.96
Brampton	0.67	0.00	0.69	0.34	1.31	0.00	7.56	1.31
Mississauga	0.71	1.53	1.15	0.77	3.99	0.70	0.00	1.20
Oakville	0.00	0.00	2.40	1.19	0.00	0.00	0.00	0.00

Table 4.9: Relative Distribution of South Asian businesses in the Study Area, 2009

	Location Quotients - 2009							
	Clothing Stores	Jewellery Stores	Super Market	Restaurants	Beauty Salon	General Merchandise	Services	Video Rentals
Richmond Hill	0.00	0.00	1.09	1.36	0.00	0.00	4.87	0.00
Markham	0.98	0.00	2.49	0.78	0.00	0.00	0.00	0.00
Vaughan	0.00	0.00	4.36	0.00	0.00	0.00	0.00	0.00
Toronto	1.25	1.22	0.93	0.95	0.19	1.27	0.71	1.16
Brampton	0.65	0.00	1.25	1.55	1.51	0.00	0.00	0.00
Mississauga	0.52	1.00	0.74	0.98	3.58	0.84	2.20	1.19
Oakville	0.00	0.00	2.91	0.91	0.00	0.00	0.00	0.00

The value "0" in the above tables indicate that the particular municipality has no share of that particular type of business, and a value less than 1 indicates that share of the particular type of business in a municipality is less than the share of all types of businesses in that municipality . A value close to 1 indicates that the relative share of the particular type of business is equal to the share of all types of South Asian businesses in that municipality. Tables 4.8 and 4.9 indicate that the share of clothing stores, jewellery stores, super markets, restaurants, general merchandise and video rentals in the City of

Toronto is equal to the share of all the types of businesses in Toronto for the years 2004 and 2009. The City of Toronto includes Scarborough and North York which are home to large South Asian population. To cater to the needs of this huge population all types of retail stores are established in Toronto. It can also be seen that Oakville, Mississauga, Brampton and Richmond Hill have an equal share of restaurants. This indicates that restaurants are being established in most municipalities, as they cater not only to South Asians, but also the general population.

Values much greater than 1 indicate that there is a higher share of that particular type of business compared to the other types of businesses in the same municipality. It can be seen that Markham, Oakville and Vaughn have a larger share of supermarkets compared to the other types of businesses. Mississauga has a large share of beauty salons while Richmond Hill and Mississauga have high concentration of services due to the large South Asian population in these suburbs. Toronto has a fairly large concentration of clothing and jewellery stores, which is mainly due to the presence of these stores in the Gerrard Indian Bazaar.

It is interesting to observe that the relative share of the different types of businesses in the different municipalities have not changed much over the last five years. This indicates that even though there has been a reduction in the number of South Asian retail stores over the past five years, the relative presence of a particular type of business has not been affected.

4.6. Trade Area Analysis: Sitara Mall

Trade area analysis is a fundamental prerequisite for sound marketing management, and also to understand consumer behavior .However, there is no definitive method to delineate trade areas. Peterson (1975) claims that "it still remains that the difficulty in developing yardsticks to measure trading areas has not yet been overcome".

The Sitara Mall is an exclusive South Asian mall that is under construction. Upon completion, it will be the biggest indoor South Asian mall in Toronto. To determine the trade area characteristics three buffer zones of radii 5 km, 10 km and 20 km were created around the mall. Typically, the trade area for a regular mall would be 5 – 10 km or a 20 minute driving time by car. This is because people would generally not want to travel more than 15-20 minutes to shop at a mall. However, since Sitara Mall is a unique mall carrying all kinds of South Asian goods and services, it can be assumed that people would be willing to travel more than usual to avail themselves of these goods and facilities. The Gerrard Indian Bazaar located at Gerrard Street and Coxwell Street attracts South Asians from all over the Greater Toronto Area, and in many cases across the border from the State of New York. Therefore, ring buffer zones of 5km, 10km and 20km are analyzed to determine the trade area characteristics such as South Asian population, income and population density.

In this analysis, competition of other malls is not considered as the Sitara Mall is the first of its kind. Only the demographics of the trade area zones are analysed to obtain a comprehensive overview of the future probable customers. The characteristics are presented in the following sections.

4.6.1. South Asian population

Figure 4.11 shows the percentage of South Asians in the 5km, 10 km and 20 km buffer zones around the Sitara Mall

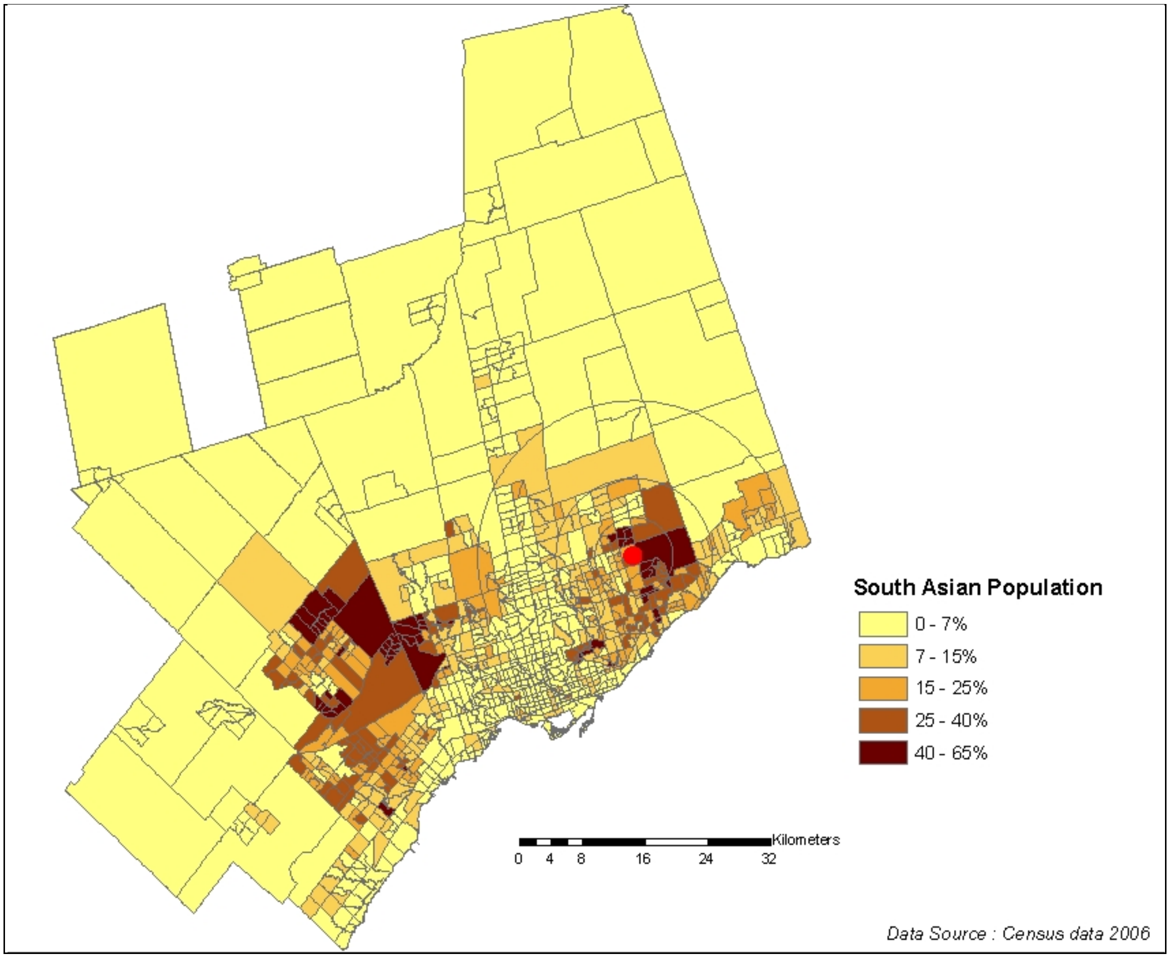

Figure 4.11 Percentage of South Asian Population in the 5 km, 10 km and 20 km Buffer Zones of the Sitara Mall

From Figure 4.11 it can be seen that the there is a significant percentage of South Asians to the east of the mall. The Sitara Mall is located at the intersection of Markham Road and McNicoll Avenue, which is part of a commercial area. Therefore a high percentage of South Asian population adjacent to the mall might not necessarily indicate a large South Asian population.

However, in general, the entire region of Scarborough has a large South Asian population. There are many South Asian retail stores in Scarborough, but an indoor mall of this magnitude would definitely attract a large portion of the South Asians living in that area. The proposed site is located in a growing multicultural neighborhood and is home to temples, gurudwaras and mosques that are places of worship for many South Asians. Since this area is already a hub of South Asian activity, the opening of this mall would provide access to a sizeable South Asian population.

According to the constructors of the Sitara Mall, the mall is situated at the business headquarters of Scarborough and this is where “multicultural Canada meets a fast growing South Asian population” (http://www.thesitara.com/).

4.6.2. Income

Figure 4.12 shows the average family income in the buffer zones around the Sitara Mall.

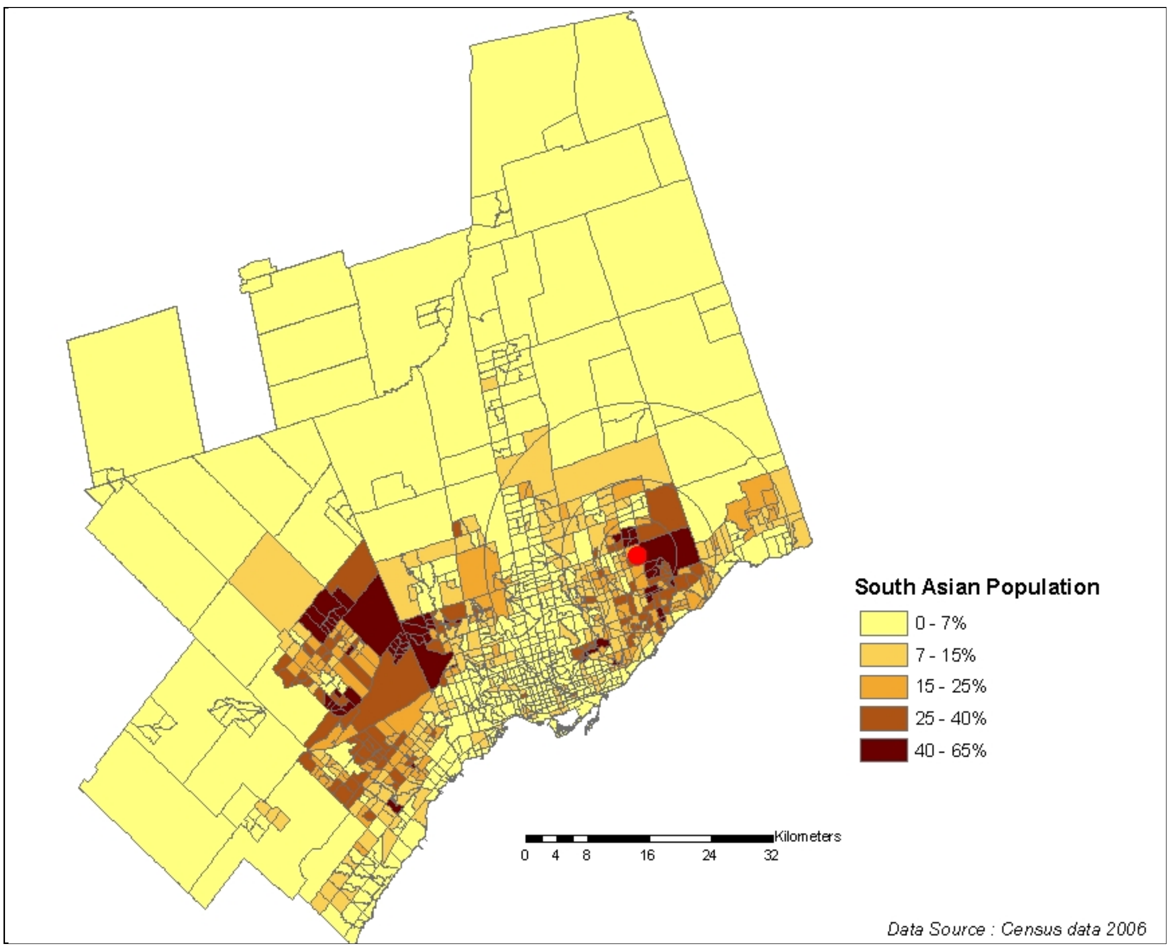

Figure 4.12 Average Family Income in the 5 km, 10 km and 20 km Buffer Zones sround the Sitara Mall

From the above figure, it can be seen that the average income within the 5km buffer around the Sitara Mall is between $50,000 and $90,000. Within the 10 km buffer, but outside the 5 km buffer there are some areas with income between $90,000 and $120,000, but predominantly it is between $50,000 and $90,000. Outside the 10 km buffer there are many areas with income over $90,000.

According to the 2006 census the average family income in Toronto is $77,000 (Statistics Canada, 2007). Since the population within the 10 km buffer zone has an average family income close to the Toronto average, it can be said that the purchasing power of the people in these buffer zones would be reasonably high.

4.6.3. Percentage of Dwellings Owned

Figure 4.13 shows the percentage of dwellings in the buffer zones around the Sitara Mall. The figure shows the percentage of owned dwellings around the Sitara Mall. It can be seen that more than 60% of the dwellings in the buffer zones are owned. This indicates that the population is not a floating population, and the people are possibly financially secure. A large percentage of rented houses would indicate that there are many new immigrants, and that the population is typically a floating population. The purchasing power of new immigrants and apartment dwellers would typically be less than average, and this could have an effect on the sales potential of the mall. Therefore, a high percentage of owned dwellings indicates a more stable population with reasonably good purchasing power.

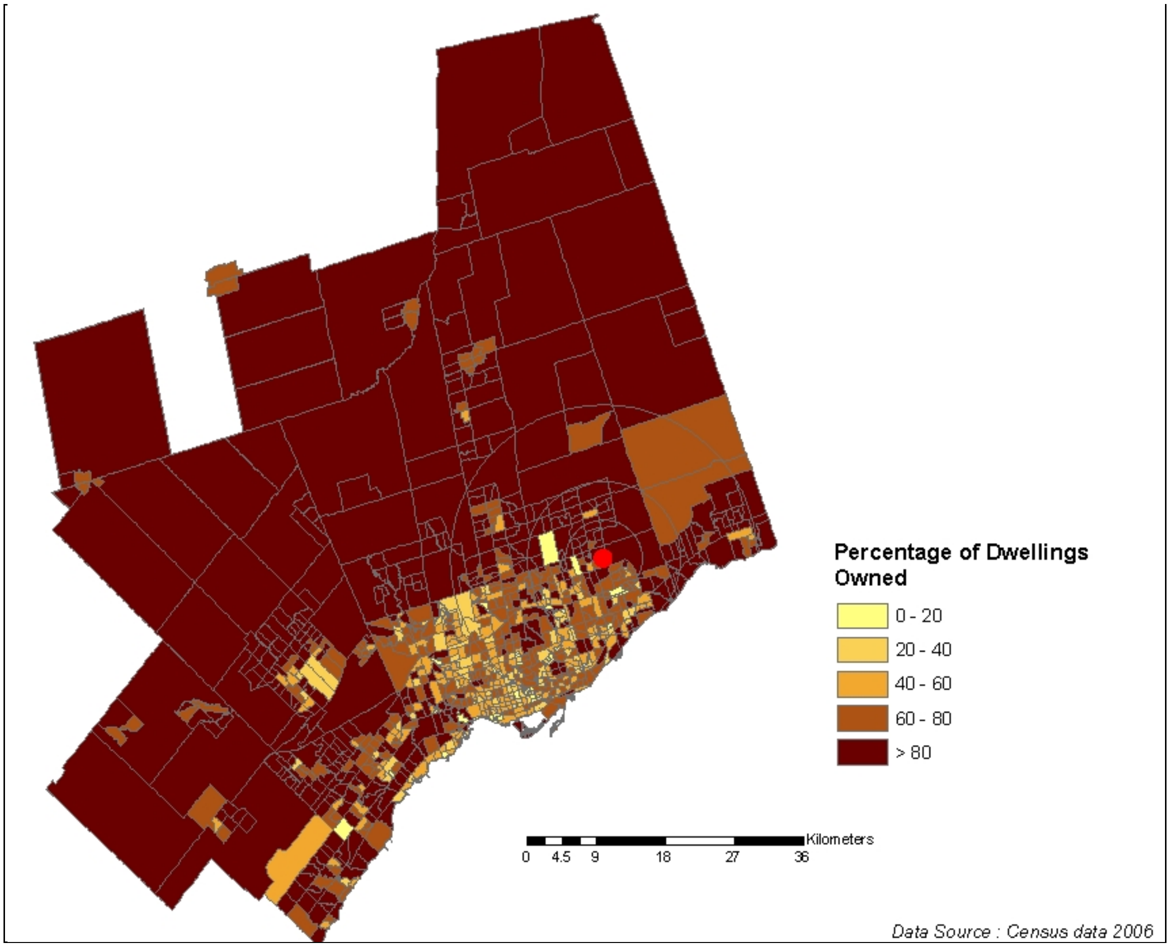

Figure 4.13 Percentage of Dwelling Owned in the 5 km, 10 km and 20 km Buffer Zones around the Sitara Mall

4.6.3. Population Density

Figure 4.14 shows the population density in the buffer zones around the Sitara Mall. Within the 5 km buffer zone, the areas to the east of the Sitara Mall are commercial areas, hence the low population density. The south western areas within the buffer zones are highly populated. This indicates that the inflow of people into the mall would be high as the population density is high.

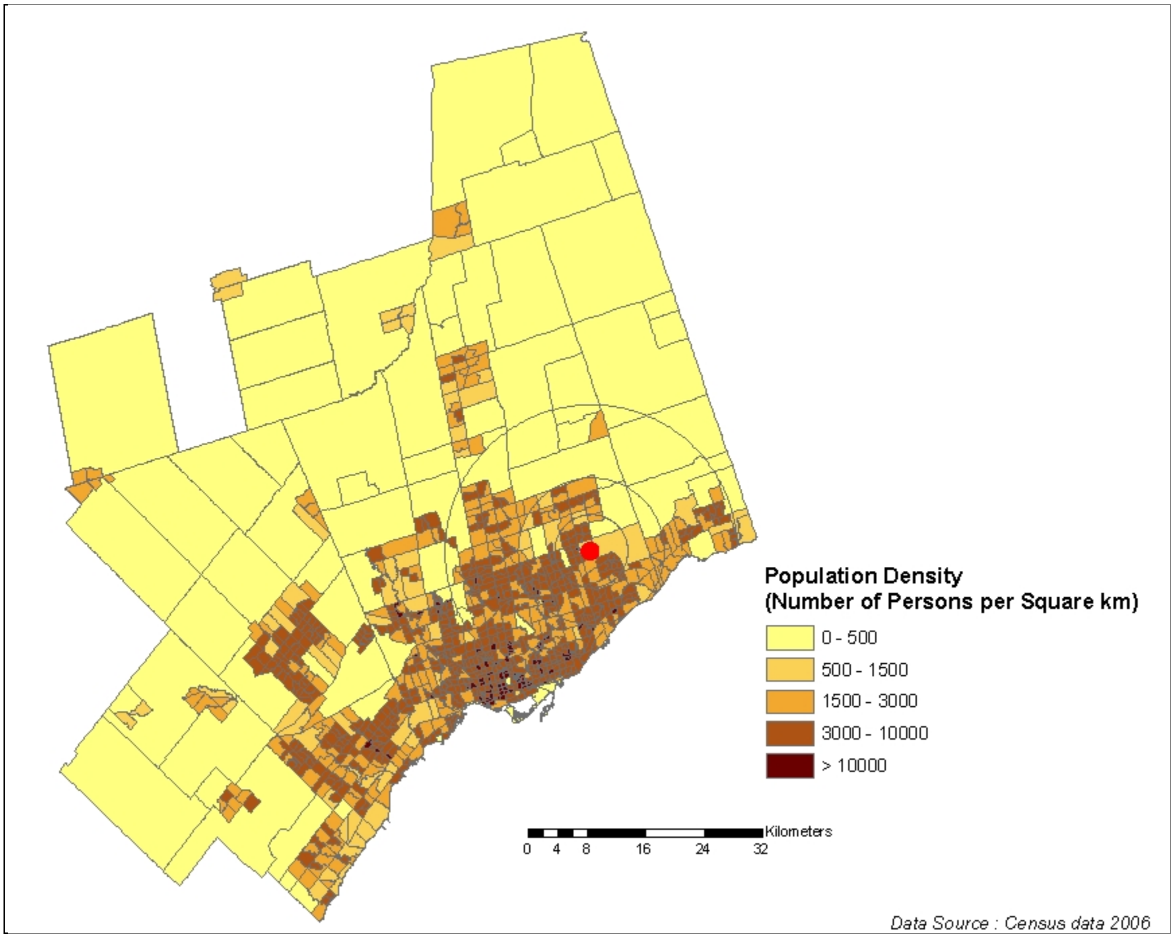

Figure 4.14 Population Densities in the 5 km, 10 km and 20 km Buffer Zones around the Sitara Mall

The location chosen for the construction of the Sitara Mall has a high South Asian population in the vicinity. The average family income is close to that of Toronto indicating a reasonably high purchasing power. The presence of a large percentage of owned dwellings indicates a stable population. This shows that the people within the buffer zones are typically financially secure and would have the ability to purchase various goods and services. Therefore, it can be concluded that the location of the Sitara Mall has many positive attributes that could contribute to the financial success of the mall. Also, the fact that Sitara is a mall that holds unique goods would attract shoppers from outside the buffer zones as well. There would be South Asians from all over Toronto visiting the Sitara Mall, just to enjoy the unique facilities of the mall like meditation rooms, South Asian banquet halls and vegetarian sensitive areas.

The characteristics of the trade area buffer zones around the Sitara Mall are summarized in Table 4.10:

Table 4.10: Summary of Characteristics in the 5 km, 10 km and 20 km Buffer Zones around the Sitara Mall

Buffer Zone	South Asian Population	Average Family Income	Owned Dwellings	Population Density
Within 5 km	High	$72,000	> 80%	Medium
Within 10 km	High	$80,000	> 80%	Medium - High
Within 20 km	Low	$ 110,000	60 – 80 %	Medium - High

*The averages were calculated using inclusive rings.

CHAPTER 5: SUMMARY AND CONCLUSION

5.1. Summary

Toronto is one of the most multi-cultural cities in the world. It is home to thousands of immigrants from almost all parts of the world. According to Statistics Canada, by the year 2012 more than half the population of Toronto will be visible minorities. South Asians that include Indians, Pakistanis, Sri Lankans and Bangladeshis; form the largest visible minority group in Canada. To cater to the needs of these South Asians, many South Asian retail stores have been established over the last few decades in Toronto and its fringe areas.

The settlement pattern of the South Asians in the Toronto CMA has been analyzed for the years 2004 and 2009. To determine the degree of spatial segregation, spatial autocorrelation measures are calculated at the census tract level. It was seen that in the year 2004 (using census 2001), the Global Moran coefficient for the percentage of South Asian population was found to be 0.19 indicating clustering of South Asian population. The Global Moran coefficient for the percentage of South Asian population in 2009 (using Census 2006) was 0.25, indicating that the clusters became more prominent in the next five years. The local clusters were determined by calculating the Zi scores for the years 2004 and 2009. The results indicated clusters of South Asian population in the western municipalities of Mississauga, Brampton and north east Scarborough in the year 2004, which grew larger in the next five years.

South Asian commercial activities contribute a great deal to the retail landscape of Toronto. The list of South Asian retail stores obtained from the CSCA was mapped to determine the spatial patterns of the distribution of South Asian commercial activity. The

Global Moran coefficient was calculated for the count of South Asian retail stores in each census tract, and it was found that for the year 2004 the value was close to zero indicating a random pattern. However, a positive value of 0.14 for the year 2009 indicates that clustering of South Asian retail stores took place in the next five years. The local clusters of South Asian commercial activity were found in the western municipalities of Mississauga and Brampton, and on Gerrard Street close to downtown Toronto. The Toronto clustering is mainly due to the presence of the Gerrard Indian Bazaar.

Spatial ethnic enclave economies can be defined as *geographical spaces where significant spatial contiguity exists simultaneously for both the ethnic population and the ethnic commercial establishments.* To determine the South Asian enclave economies in the Toronto CMA, the clusters of South Asian population and the clusters of South Asian commercial activity were superimposed. Two South Asian enclave economies were observed: 1. Western enclave economy – Brampton and Mississauga; 2. Eastern South Asian enclave – Western Scarborough.

When the trend of the South Asian commercial activity was studied, it was surprising to find that the number of South Asian retail stores had reduced from the year 2004 to 2009 even though there has been a constant increase in the South Asian immigrant population. To validate this, the data of South Asian retail stores present from 2000 to 2009 was obtained from the CSCA and analyzed. It was observed that from 2000 to 2003 there was an increase in the number of South Asian retail stores followed by a plateau from 2003 to 2005. Following this the South Asian commercial activity saw a decrease from 2005 to 2009. This could be due to the world economic crisis and the current trend of including ethnic goods in regular stores. Most businesses including supermarkets, business services, clothing stores and jewellery stores have seen a decrease over the past five years. The only type of business that has seen an increase over the past five years is the restaurant business. This is mainly because South Asian restaurants usually cater not only to the South Asian population, but also the general population, while other businesses cater mainly to South Asian population.

To cater to the needs of the growing South Asian population, a mall called the Sitara mall has been proposed, and will be completed by the year 2012. This is the biggest South Asian mall in Toronto and is located at the busy intersection of Markham Road and McNicoll Avenue. Buffer zones of radius 5km, 10 km and 20 km were created around the Sitara Mall to study the characteristics of its trade area. The trade area of the Sitara Mall is not restricted to the 5 km zone or the 20-minute travel time zone. This is because it is a specialty mall carrying unique goods catering to the needs of South Asians from all over Toronto and beyond. The South Asian population within the 5 km and 10 km buffer zone is high, while it is low within the 20 km buffer zone. The average family income in the 5 km and 10 km buffer zone are close to the average family income of Toronto indicating that the surrounding population would have a reasonably high purchasing power. The various positive attributes of the demographics around the Sitara Mall would definitely contribute to its economic success The Sitara Mall will not be restricted to shoppers in the buffer zones due to its unique features, and this would also help in making the mall more economically viable.

5.2. Limitations

As part of this study, there are several limitations that need to be addressed. The first limitation of this study is the data obtained from the CSCA. The CSCA collects data about retail stores on a yearly basis. However, a store is recorded as a particular ethnicity only if the data collector recognizes it as an ethnic store based on the name of the store. If it has a South Asian name, or if the data collector thinks it's a South Asian store based on the signage, it is recorded as a South Asian store. If the store has a generic name and cannot be recognized as an ethnic store because there is no signage indicating that it is an ethnic store, it is not recorded. Therefore, there could be some errors during data collection. This could lead to some discrepancies, which could mean that symbolic South Asian stores are decreasing, while in reality South Asian stores might not be since the signage of some South Asian stores is more generic.

The retail stores that have been recorded by the CSCA are those that are mainly located in strip malls. Therefore, independent businesses that are run from home or on mobile vehicles are not recorded. These types of businesses were been considered in this study. With that said, the CSCA data were the most up-to-date and systematic databases that captured the location of South Asian retail stores.

Another limitation is that the 2001 and 2006 census data were used respectively to determine the South Asian population in the years 2004 and 2009. Although it gives a fairly good picture, this is not accurate because the changes in South Asian population that occurred from 2001 to 2004 and 2006 to 2009 have not been captured and the business data used to determine the structural changes of South Asian commercial activity are for the years 2004 and 2009.

The use of Moran's coefficient and LISA to determine the clusters of South Asian population and South Asian commercial activity is also a limitation because these measures were calculated at the census tract level which could pose the modifiable areal unit problem (MAUP). A change in the spatial units can produce slightly different results. The concept of spatial ethnic economy that was used in this study has no well-defined boundaries. It is based on the visual interpretation of the superimposed clusters of the South Asian population and South Asian clusters.

The count of the number of South Asian stores in each census tract was used instead of the percentage of South Asian stores with respect to all the stores in the census tract. Therefore, the decrease or increase in the number of stores might not be a good indicator of the change in the overall share of the South Asian businesses compared to the larger economy. Also, the retail size i.e. the size of the ethnic stores was not taken into consideration.

5.3. Conclusion

Therefore, it can be concluded that growth of the South Asian commercial activity is not on par with the growth of the South Asian population. Due to Canadian immigration policies, the inflow of South Asians into Canada has been very high over the past few decades. However, in the last decade, the number of South Asian retail stores saw an increase in the first five years followed by a gradual decrease. The only type of business that has seen an increasing trend is the restaurant business because it caters to the ethnic and non-ethnic populations. The clustering of South Asian commercial activity has been more pronounced even though there has been a decrease in number of South Asian retail stores. It was observed that South Asian business set-ups were being established near areas of large South Asian populations. The outer parts of the city like the western municipalities of Mississauga and Brampton, and Western Scarborough have clusters of high South Asian population, as opposed to the inner city. These clusters have become more pronounced over the past five years, and this is where the South Asian enclave economies have been formed. This is because new immigrants tend to settle in areas that already have an established South Asian base, as it makes the transition into a new country easier.

Businesses catering primarily to the South Asian population have seen a decreasing trend while the businesses catering to both the South Asian and general population have seen an increasing trend. Therefore, to sustain a business, there is perhaps a greater possibility of success if the clientel is a mixed population, and not just an ethnic population.

The South Asian commercial activity is following the trend of the Chinese commercial activity by establishing a new indoor South Asian mall called the Sitara in Toronto in 2012. This mall being first of its kind for the South Asian clientel is along the lines of the Pacific Mall which has been catering to the needs of the Chinese people for the last few years. The location of the proposed mall is a strategic one with many South Asian points of interest and high South Asian populations in the vicinity.

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