THE IMPACT OF A GIANT: A SPATIAL ANALYSIS OF THE FATE OF OUR NEIGHBOURHOOD SUNDRY SHOPS

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ABSTRACT

Kedai runcit or sundry shops have been a standard feature of our housing estate landscape ever since there were housing estates. These mom-and-pop operations have been selling to their surrounding residents everyday essentials such as groceries, fresh produce, poultry, toiletries, etc. Their reasonable price and close distance have made them popular among residents of the housing estates in which they are located. Lately, though, their popularity has been on the decline due to competition from wholesale markets or hypermarkets which can offer the same items cheaper and conveniently under one roof. Local and foreign-bred hypermarkets such as Giants, Tesco and Carrefour have been invading our towns, big and small, leaving the traditional sundry shops fighting for their business. Many of these small-scale individually-owned shops have since closed their operations permanently or moved them a little further outskirt of town, away from the hypermarket catchment. Just how serious is the impact of these hypermarkets on the operation of the sundry shops has so far not been fully investigated in Malaysia although many studies have been carried out elsewhere. Thus, this paper presents a study that has been carried out by the authors to investigate how serious the impact is in Johor Bahru. A sample of three hypermarkets was chosen for this study. Using GIS, we spatially showed the annual changes in the density of sundry shop licenses issued by the local authority within the catchment of each hypermarket, three years before as well as three years after the inaugural date of the hypermarket. Also using GIS, we corroborated the decline in the number of sundry shops within the surrounding housing estates with the residing addresses of the surveyed customers of the hypermarkets. The results obtained confirmed that the operation of hypermarkets does contribute to the decline in the number of sundry shops and the degree of the decline decreases radially outward from the location of the hypermarkets. The findings from this study suggest that some rethinking needs to be done about the manner in which hypermarket licenses, or sundry shop licenses for that matter, are issued. Even our current policy of allowing a certain percentage of new housing development to be set aside for shoplots may also need to be reviewed.

Keywords: Hypermarkets, sundry shops, GIS spatial analysis

1. INTRODUCTION

Kedai runcit or a sundry shop is any shop that sells groceries and other daily items directly to its customers in small quantity (Osman, 1988). Normally, sundry shops are owned by individuals or shared by several individuals and offer limited number of items and quantity. In Malaysia one can find sundry shops in almost every housing estates and villages and they normally have a limited cathment area. A hypermarket, in contrast, is a big-scale retail store that offers a variety of goods and services all conveniently under one roof (Duncan, Hollander and Savitt, 1983). A hypermarket commands a wide catchment area and it is normally owned by big companies who have numerous branches of the hypermarkets in many places. Among the more-popular chains of hypermarket operating in Malaysia are the locally-owned Giant Hypermarkets, and foreign-owned Tesco Hypermarkets and Carrefour Hypermarkets.

Like in any modern country, hypermarkets in Malaysia have been expanding their operation to meet the demand of current generation for quality, convenience, product variety and long operation hours (Malaysian Ninth Plan, 2006). However, there are ever growing concern on the negative impacts of hypermarkets on the business of nearby neighborhood sundry shops (Johor Structure Plan 2002-2020, 2005). This is supported by Bennison & Davies (1980) and Seiders & Tigert (2000) whose study concluded that a hypermarket did have a negative impact on the growth of small sundry shops in the area. In spite of the same concern in Malaysia, there have been no study to investigate the spatial extent of the impact. Thus, a study was set up by the authors to investigate the spatial extent of the impact and also to find out the factors that attract customers to hypermakets, leaving their neighborhood sundry shops struggling for business.

2. OBJECTIVES

The objective of the study was to spatially investigate the impact of a hypermarket on the operation of the surrounding sundry shops. In order to achieve the objectives the following tasks needed to be carried out: 1) identifying the suitable samples of hypermarkets; 2) identifying the market catchment of the hypermarkets; 3) collection of data pertaining to the number of business licenses issued to sundry shop operators within the catchment areas three years before as well as three years after the operation of the hypermarkets; 4) identifying factors that influence the decisions by the customers to shop at these hypermarkets. The method used to conduct the study is discussed in details in the following section.

3. METHOD

The first step of the study was to choose a number of hypermarkets as units of analysis. Among the criteria taken into consideration in choosing the hypermarkets were: 1) the year they were opened for business to ensure that the chosen hypermarkets have been operating for at least three years; 2) the distances between each other to avoid overlapping of the market catchments; and 3) the types of goods sold at the hypermarkets so that they match those sold at the neighborhood sundry shops. Of the total of about ten hypermarkets in the City of Johor Bahru, three hypermarkets met these criteria and were chosen for the study. The three hypermarkets were from a locally-grown hypermarket chain known as Giant Hypermarket that are located in Southern City (in Johor Bahru City Centre), in Plentong and in Skudai (10km outskirt of Johor Bahru) (Refer Figure 1.0). These three hypermarkets served a number of residential areas, known in Malaysia as taman perumahan or housing estates, located between 0 – 20km surrounding them. The next step was the distribution of questionaire sets to 200 customers per hypermarket (100 during weekday and 100 during weekend) containing questions concerning their home addresses and the reasons for choosing to shop at the hypermarkets. Their home addresses were then inputted into the city plan in GIS format to dertermine the extent of each hypermarket's cathment area.

One way to measure the impact of a hypermarket on the neighborhood sundry shops is to actually count the number of sundry shops that are in business several years before and after the hypermarket is in operation. This is difficult to conduct since the monitoring would take as long as the number of years that we are interested in investigating. One way to expedite the process is to actually study the records of the number of annual business licenses issued to sundry shops and assume that each sundry shop that holds such license is actually operating a sundry shop. On this basis, the number of business licenses issued to sundry shops within three years before and after a hypermarket was in operation were obtained from the local authority (Johor Bahru Tengah Municipal Council). The locations of the business premises of these licenses were then plotted on the city map and then rasterised into a 50m grid format to give a density of sundry shop licenses per fifty square meters for each of the three years before and after the operation of the hypermarkets. The changes in the sundry shop density were then used to explain the impact of the hypermatkets on the business of the sundry shops.

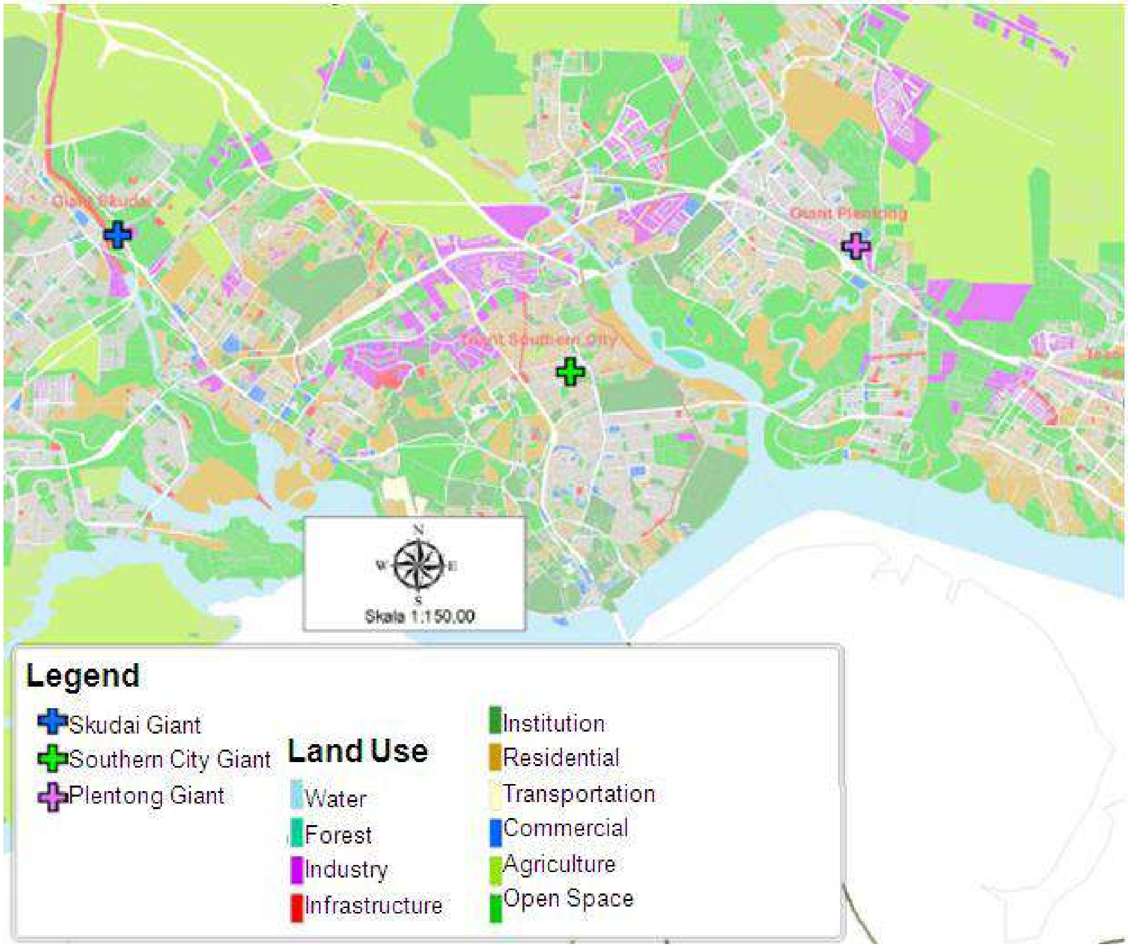

Figure 1.0: Location of Study Area and the Three Hypermarkets

In order to investigate the reasons behind the impact of the hypermarket, the customers, through questionare sets, were asked to rank several pre-determined factors for choosing to shop at the hypermarkets over their neighborhood sundry shops. Among the pre-determined factors were: 1) one-stop shopping centre where everything is available under one roof; 2) lower prices than at sundry shops; 3) better product quality; 4) location of hypermarket is close to his/her residential area; 5) location of hypermarket is close to or is on the way to place of work; and 6) excellent supporting facilities at the hypermarket such as ample parking, banking facilities, food courts and clean restrooms. The results were then tabulated and explained in the following section.

4. RESULTS AND DISCUSSION

1. Where Do The Customers Come From?

Figures 2.0 – 4.0 show the distribution of customers patronizing the three hypermarkets based on the surveyed carried out in the study. These customers are from the surrounding housing estates or residential areas or even from Singapore for two of the hypermarkets. Even though these customers come from as far as twenty five kilometers from the hypermarkets, more than fifty percents of them are from within five-kilometer radius of the hypermarkets. This is especially true in the case of Southern City Giant Hypermarket since it is located in the busy city centre surrounded by numerous housing estates (Figure 2.0). The congested traffic condition outside of these housing enclaves may have forced the customers to opt for the hypermarket for the shopping. Interestingly, the hypermarket also receive quite a substantial percentage of Singaporeans as their customers especially during weekends. From the responses given, these Singaporeans take advantage of their favourable exchange rate to shop there during their weekly weekend breaks. The Plentong Giant Hypermarket meanwhile receives customers from relatively much wide area (Figure 3.0). This can be attributed to its strategic location next to the Pasir Gudang Highway, a highway traversing the hosuing areas connecting them to the hypermarket. About twenty percents of its customers come from as far as twenty kilometers away. The farthest customers for the Skudai Giant Hypermarket meanwhile are from about seventeen kilometers away but they only constitute less than five percents of the total customers surveyed (Figure 4.0). These customers go shopping there simply because there is no such shopping center where they reside.

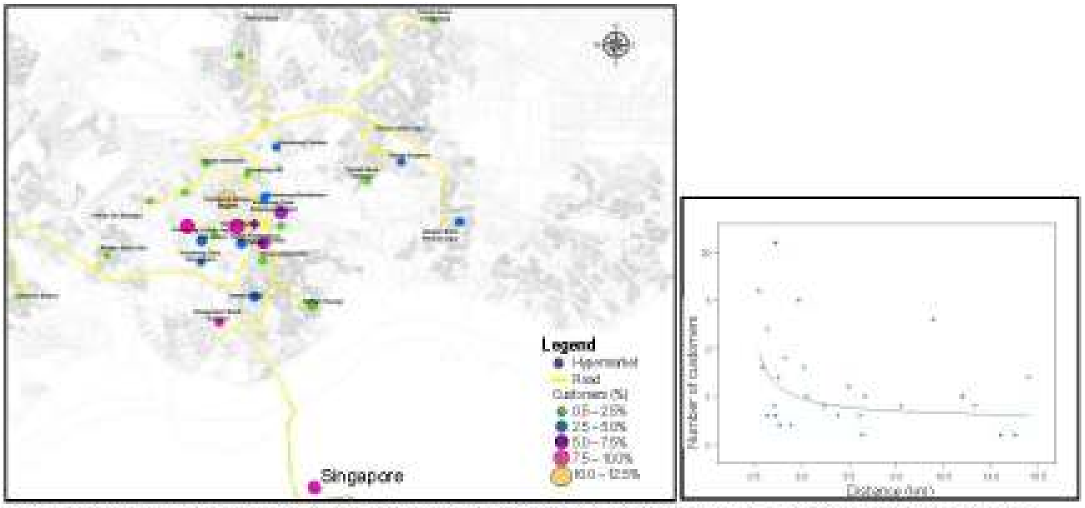

Figure 2.0: Distribution of Customers of Southern City Giant Hypermarket (left) and Plot of Number of Customers Against Distance (right)

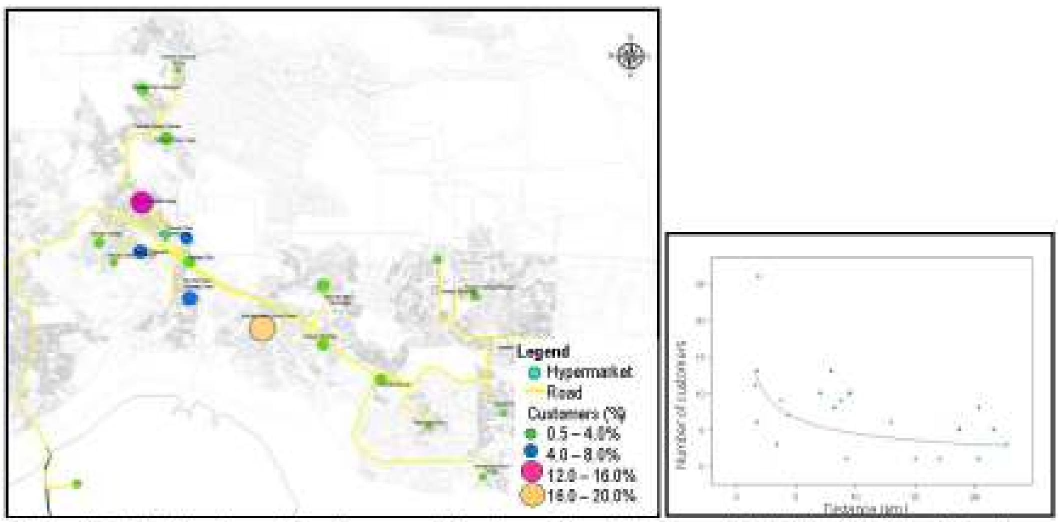

Figure 3.0: Distribution of Customers of Plentong Giant Hypermarket (left) and Plot of Number of Customers Against Distance (right)

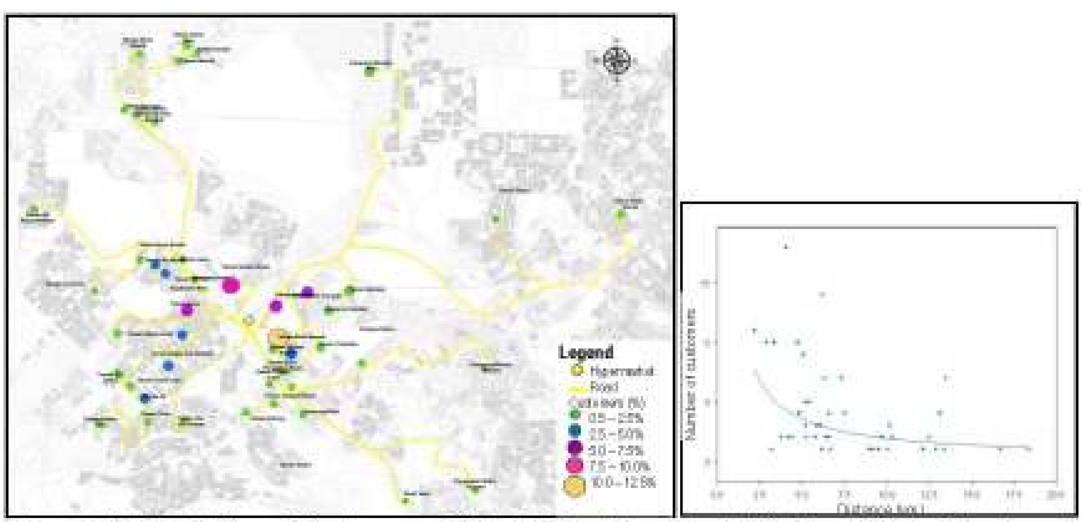

Figure 4.0: Distribution of Customers of Skudai Giant Hypermarket (left) and Plot of Number of Customers Against Distance (right)

2. Impact on Neighbourhood Sundry Shops

If most of the customers that patronize these hypermarkets come from the surrounding housing estates as described previously, what is the impact on the sundry shops within those housing estates? The least impact would be slowing down of business for these neighborhood sundry shops while the worst impact would be closing down of business. While business slowdown can be investigated, this study only looked at the closing down of business by tracking the number of sundry shop licenses issued annualy by the local authority. Since the impact normally materializes a few years after the opening of a hypermarket, records of licenses three years before and after the opening of the hypermarket were inventoried. Changes in the number of sundry shops were investigated by studying the changes in the density of sundry shop licenses for every 50m2 area surrounding each hypermarket. This is done spatially in GIS by rasterising the 50m2 area into grids and varying the color of the grids according to the number of licenses within the grids for each particular year. Figures 5.0 – 7.0 show the annual changes in the density of licenses within the grids for all the three hypermarkets studied.

In general, the figures show the decreasing trend in the densities of sundry shops even before the opening of these hypermarkets except for the Plentong Giant Hypermarket. The decreasing number of sundry shops surrounding the Southern City Hypermarket (Figure 5.0) could be attributed to competition among themselves and the operation of another hypermarket chain at the very building occupied by the Giant Hypermarket before it took over the operation. Meanwhile the decreasing number of sundry shops surrounding the Skudai Hypermarket (Figure 7.0) could be attributed to the opening of another Giant Hypermarket just 4km away the year before the Skudai Hypermarket opened, apart from competition among themselves. The number of sundry shops surrounding the Plentong Hypermarket (Figure 6.0) on the other hand was on the increase prior to the opening of the hypermarket. Investigation revealed that this was due to the opening of several new housing
estates in the area which normally, as the case is in Malaysia, come with a number of shoplots.

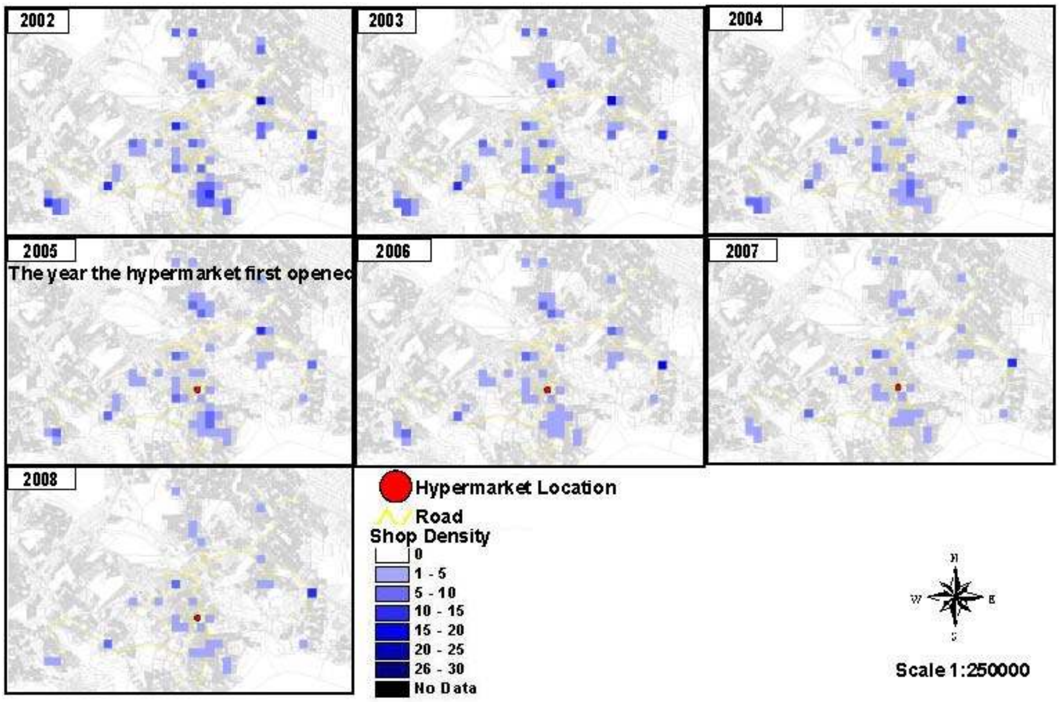

Figure 5.0: Trend of Sundry Shop Densities Surrounding the Southern City Giant Hypermarket Before and After the Opening of the Hypermarket

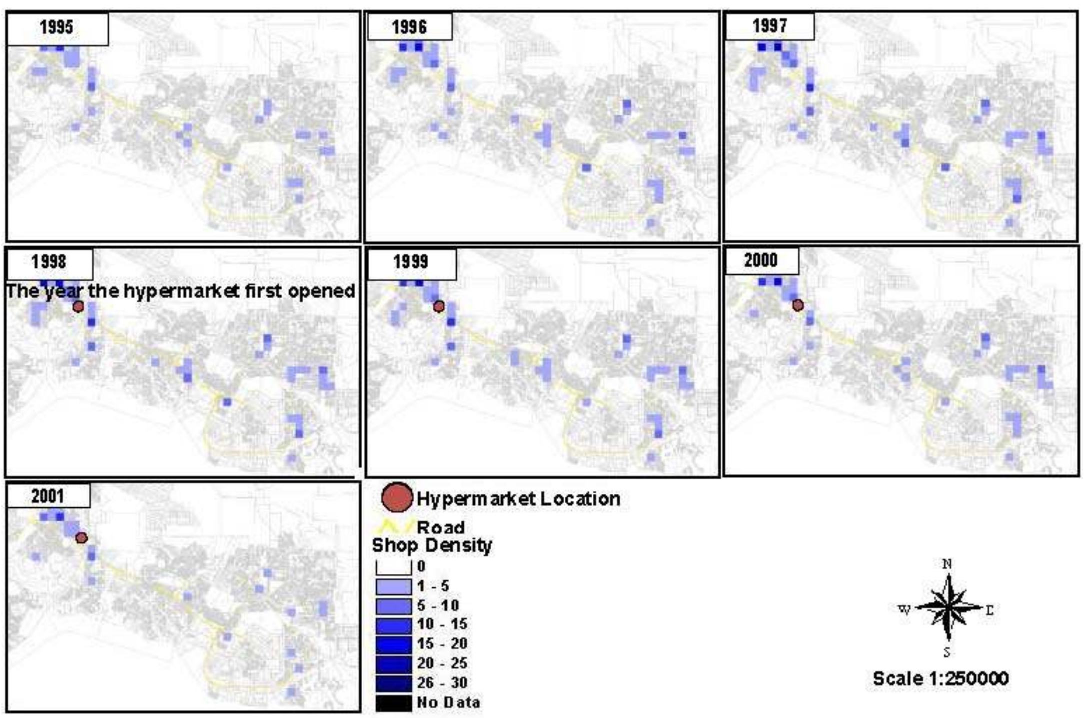

Figure 6.0: Trend of Sundry Shop Densities Surrounding the Plentong Giant Hypermarket Before and After the Opening of the Hypermarket

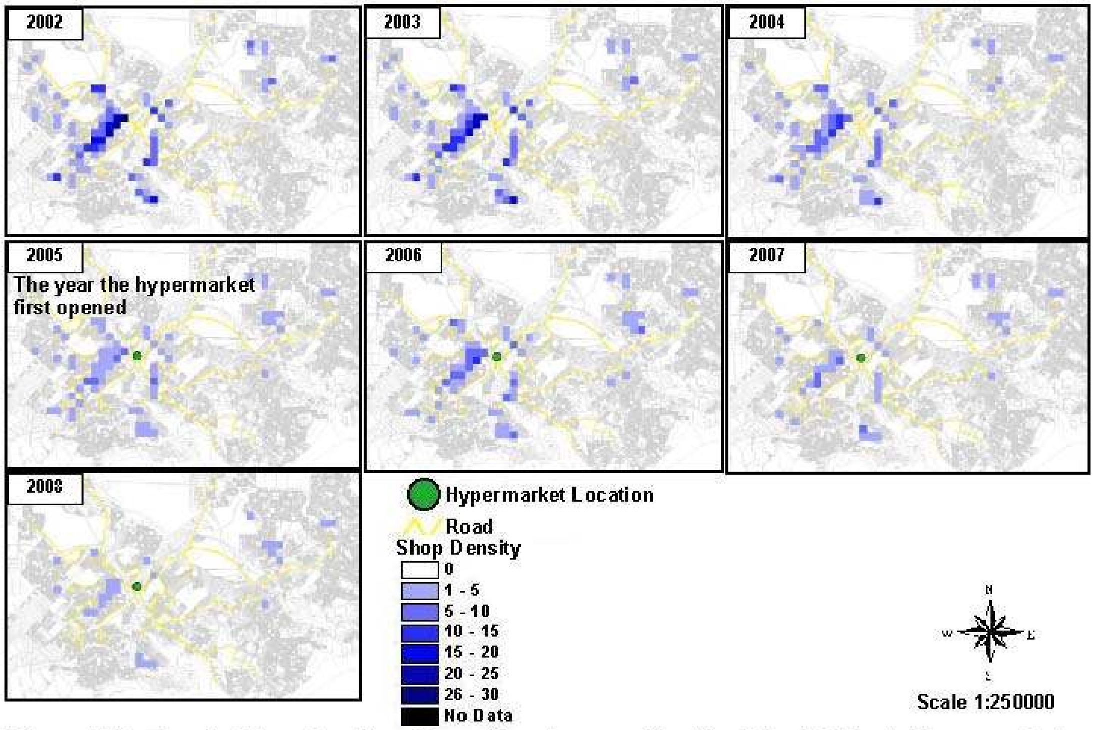

Figure 7.0: Trend of Sundry Shop Densities Surrounding the Skudai Giant Hypermarket Before and Aafter the Opening of the Hypermarket

While the decreasing trend in the density of sundry shops happened even before the opening of the hypermarkets and have been attributed to several reasons as explained above, what is more important is the trend after the opening of these hypermarkets. As can be seen visually, all of the figures show the decreasing trend continues beyond the opening of the hypermarkets as expected. This can be attributed to the stiff competition in attracting customers experienced by the neighborhood sundry shops as a result of the operation of the nearby hypermarkets. This is especially true for the area surrounding the Plentong Hypermarket which experienced the increase in the number of sundry shops from 124 to 221 units three years before and then a drop to just 94 units of sundry shops four years after the opening of the hypermarket. The areas surrounding the other two hypermarkets too were experiencing a steady decrease in the number of sundry shops in spite of increasing customers from opening of new housing estates.

Another important but expected revealation made by spatially mapping the sundry shop density was the relationship between the distance from the hypermarkets and the decrease in the number of sundry shops. In general the spatial maps (Figures 5.0 – 7.0) show that the changes in sundry shop density are highest in areas closest to the hypermarkets, i.e. within 5km radius. For areas farther away from the hypermarkets, it can be seen that the changes were not that significant. Obviously the sundry shops in these areas can survive due to their relatively longer distance from the hypermarkets. This finding fully supports the finding on the distribution of the hypermarket customers discussed in prior section.

3. Why The Customers Choose Hypermarkets?

In order to learn about the reasons behind the preference for hypermarkets, the study also asked the respondents to rank several pre-determined factors that attracted them to shop at the hypermarkets. The top three rankings were availability of various sundry intems under one roof, lower prices than at sundry shops and items offered at promotional or discount prices at certain times. Other reasons which were at lower rankings are better product quality at hypermarkets, location of hypermarket is close to his/her residential area, location of hypermarket is close to or is on the way to place of work and excellent supporting facilities at the hypermarket such as ample parking, banking facilities, food courts and clean restrooms.

While it was anticipated that convenience of shopping (since everything is under one roof) and lower prices are to be the main factors, it was not anticipated that that distance would be at lower ranking. Distance was only an important factor to the customers of the Southern City Hypermarket where almost forty two percents of them ranked it as the number one factor. This is understandable given the traffic congestion in the area since it is within the city centre. For these mostly affluent customers (including some from Singapore who enjoys a higher currency exchange rate), prices are not a big concern and they indicate this by ranking it at the fourth place.

In contrast, customers of the other two hypermarkets ranked distance at a lower ranking. Having little traffic congestion in the areas, the customers of these two hypermarkets come from as far as 20km away to enjoy the lower prices and the conveniece of shopping for everything under one roof. The fact that there are limited choices in the areas in term of big convenience stores and possibly higher concentration of lower-income groups in the areas may explain the fact that convenience of shopping and lower prices got higher rankings for these two hypermarkets.

5. CONCLUSIONS

Talks and concerns about the impact of hypermarkets on neighborhood sundry shops or convenience stores have been around for quite some time in Malaysia and certain policies concerning the operation and granting of hypermarket licenses have been promulgated based on these concerns. Yet no studies had been carried out to investigate the extent of the impact in Malaysia before this study. With the support of GIS's spatial analysis, this study has succesfully shown the extent of the impact of hypermarkets on the operation of neighborhood sundry shops. As indicated by the decreasing number of sundry shop licenses within areas surrounding the hypermarkets and corroborated by the origins of the customers, this study found that there was competition between hypermarkets and the neighborhood sundry shops that resulted in some of the shops to cease operation. The impact was greatest in the area immediately surrounding the hypermarkets and weakened further away from the hypermatkets. Nonetheless, what was a loss to the sundry shop operators was actually a gain to the customers since they got to enjoy lower prices and the convenience of shopping for almost evrything under one roof. Thus, the policy makers and decision makers should take into consideration the current trend of sundry shopping as highlighted by this study when it comes to making a decision on whether to allow for a hypermaket to operate or to protect the operation of the nearby neighborhood sundry shops.

6. REFERENCES

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