Society & Change
Vol. 1, No. 4, October-December 2007
ISSN 1997-1052

Super-Centers As A Retail Market In Dhaka City: A Spatio-Temporal Analysis

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The super-center is the most recent addition to the retail trade sector in Dhaka City which began appearing in 1999. To date, there are about 39 super-centers operating in Dhaka City and all of these are located in residential area of New Dhaka where maximum (i.e., 56%) lies in high income residential area. The nearest neighbor index (0.51) shows their distribution pattern of approaching random. Four different levels of super-centers are identified on the basis of centrality score. The trade areas of different levels determined by applying empirical formula of Reilly's principle of Retail Gravitation closely match with the trade areas determined by customer-to-customer investigation. The time schedule and intensity of marketing in super-centers shows the variations among different professional categories.

Introduction

There is a wide variety of retail shops in Dhaka City, ranging from open-air temporary shops to well equipped modern super-center from where 10 million inhabitants of the city fulfill their daily necessities. The word super-center literally means a large shop selling food, drink, household goods etc. People choose what they want from the shelves and pay for them as they leave. Basically a super-center is large shops consisting at the daily goods that are bought by households. The daily goods include all the first moving consumers' goods like households, groceries, stationeries, cosmetics etc. These include fresh meat, fruits, vegetables, frozen foods staff etc. Toffler and Imber indicated "super-center" as place which has a self-service store having a large selling area and carrying a large diversified assortment of food and non food items (Toffler and Imber, 2000). With the success of the pioneer super-center, this type of

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store has already attracted the interest of investors, and new outlets are coming into operation quickly.

Objectives

By studying functions, location, distribution pattern and trade areas of super-center, and marketing intensity of customers to these centers, present scenario of super-center as a retail market in Dhaka City is observed.

Data Collection and Techniques of Analysis

Both primary and secondary data are used in the study. Primary data are collected through questionnaire survey by formulating questionnaire having three main parts; like customers, sales forces and administrators. Purposive random sampling technique is applied to collect data and thus one from every five customers was interviewed. It was skipped if someone suddenly visits the super-center. Customers who used to visit the super-center at least twice in a month are considered to take as a sample.

Analysis is done on the basis of intensive filed work. A measure of expansion of supermarkets is done by applying nearest neighbor methods evolved by Clark and Evans (1954):

$$R = \frac{\overline{D}obs}{\overline{D}ran}$$

Where,

R = nearest neighbor index

$\overline{D}obs =$ measured mean distance between nearest neighbor point;

$\overline{D}ran =$ expected mean distance if all points are randomly distributed

$$\overline{D}obs = \frac{\sum x}{N}$$

Where,

$\sum x =$ distance from each centre to its nearest neighbour

N = point number

$$\overline{D}ran = \frac{1}{2\sqrt{\frac{N}{A}}}$$

Where,

N = point number;

A = total area of Dhaka City

Centrality score on the basis of various functions provided by the super-centers are calculated to determine the hierarchy level of super-centers, and trade area is demarcated by applying Reilly's gravity model which is mentioned below:

$$Tab = \frac{d}{1 + \sqrt{\frac{Nb}{Na}}}$$

Where,

Tab = the break point of the trade area between super-center A and super-center B, measured from super-center A;

d = distance between super-center A and B;

Na = retail turnover and customers of super-center A

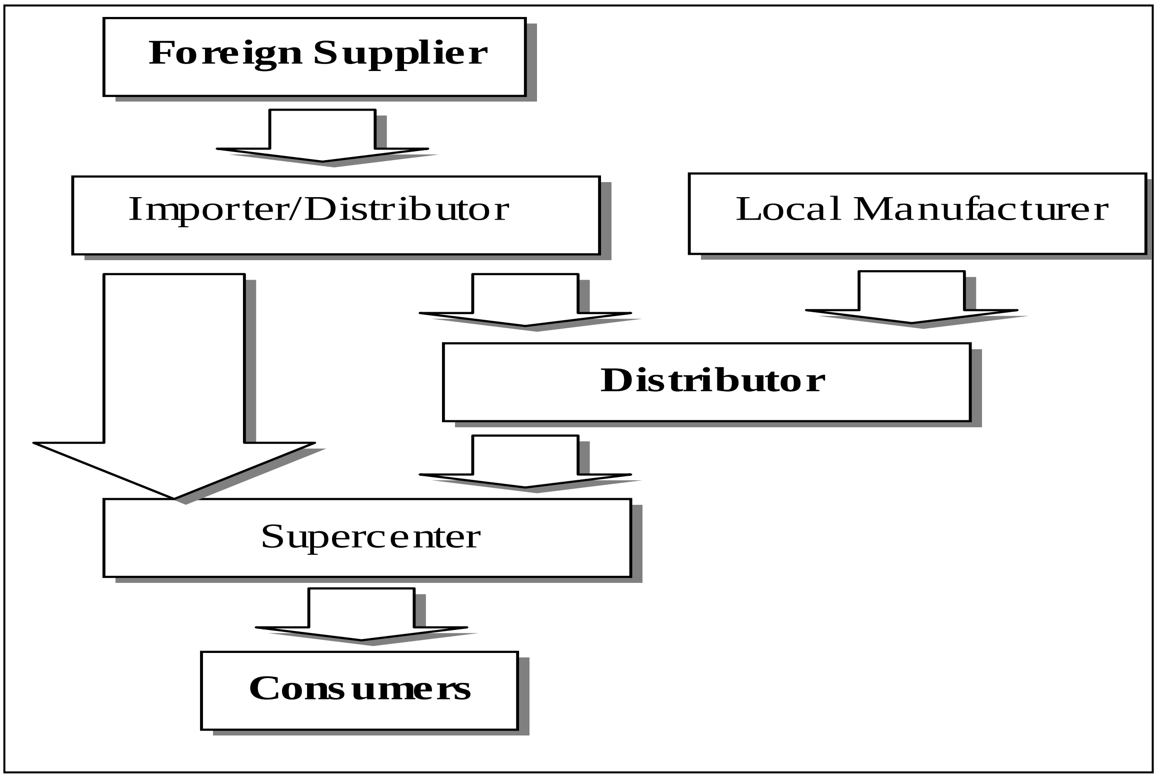
Nb = retail turnover and customers of super-center B

Intensity of marketing is found out on the basis of customers visited in a given time.

Organization of Retail Market

Retail market organized structurally and non-structurally. Organized retail outlets are relatively few and remain concentrated in the major cities, like Dhaka but they do sell imported products as well as local products. Most importers source their goods in mixed containers from the country of origins or from abroad.

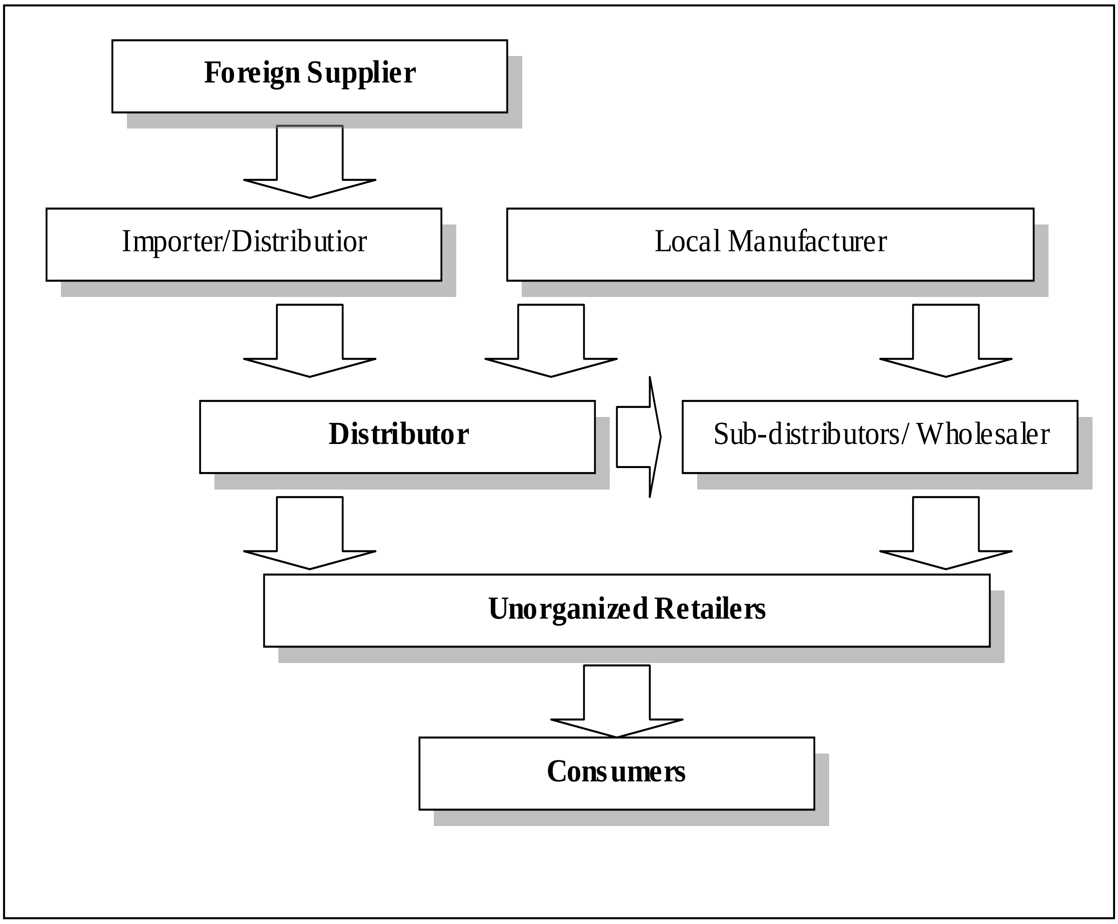
Figure -1 : Retail Market Structure (Organized Sector)



Source: FAS/USDA, 2004

This market segment constitutes 95 percent of the retail sector in Bangladesh (FAS/USDA, 2004). Retailing of imported products in this market is very limited but local products are unlimited. Most of the imported products come by illegal channel from abroad.

Figure - 2: Retail Market Structure (Unorganized Sector)



Source: FAS/USDA, 2004

Location and Distribution Pattern of Super-center

After establishment of first *super-center* in high income residential area of New Dhaka in 1999, the expansions of super-centers are keeping pace with population growth and change in consumption patterns of the residents of New Dhaka. All of super-centers in the study area are located in residential area of New Dhaka (Fig.3) due to various favorable conditions like open space, affordable price of the land, huge number of customers etc. In new Dhaka, Super-centers are grown up to provide service for the High Class and Middle class customers. The maximum numbers of super-centers are in high income residential area (56.4%). Providing excellent security system, good car parking facilities, short time shopping, foreign brand, and best product quality proprietor builds up super-center in that location for their profit.

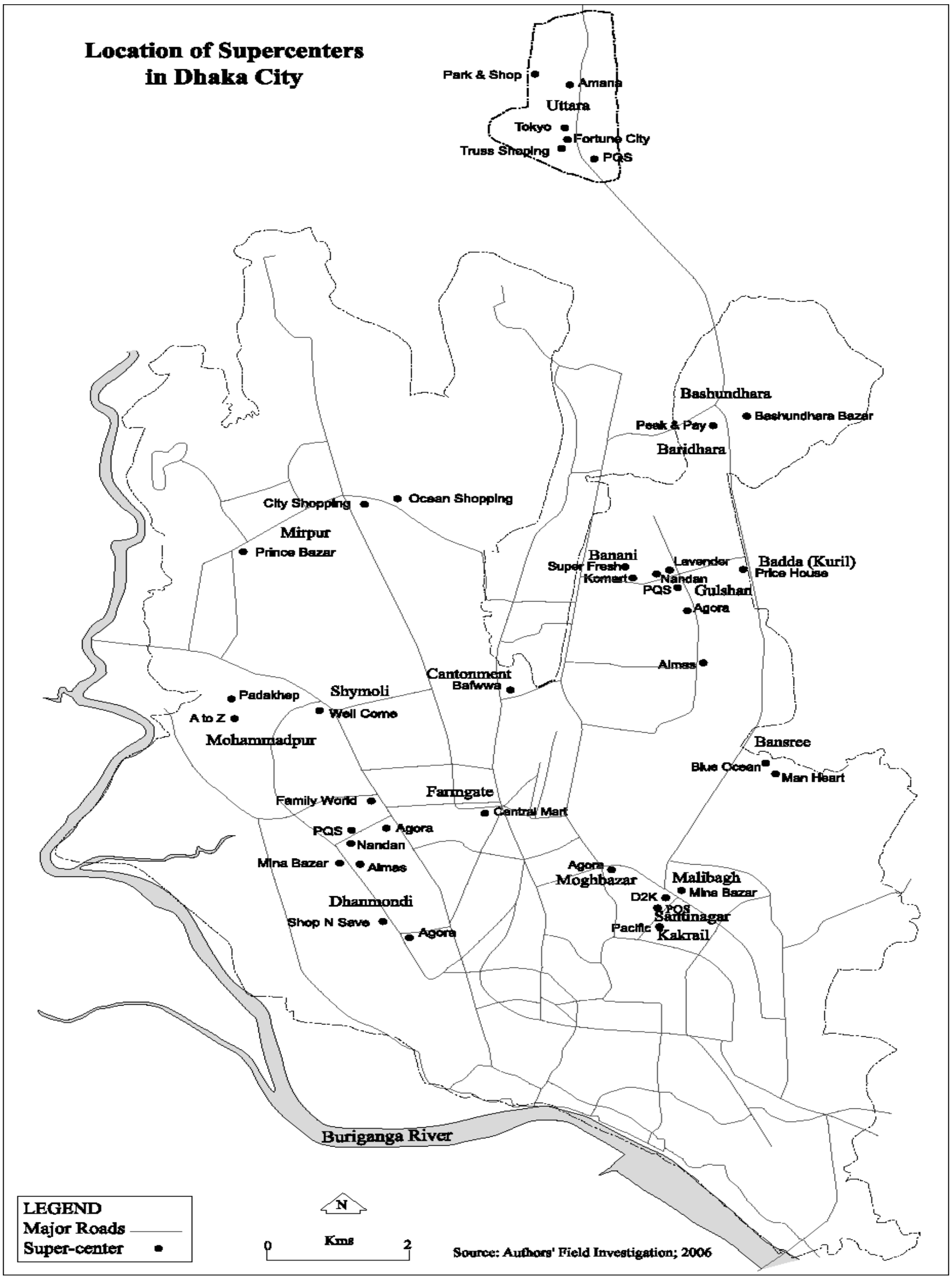


Fig. 1

With urbanization, decreasing family sizes, and the spread of education and employment among women, a major change in food habits among the educated middle to upper class population has become evident. The result of computation according to the nearest-neighbor statistic on the spatial dispersion pattern of super-center in the study area shows their geographical distribution. The value of nearest-neighbor "R" is found 0.51 which explain that the patterns of *super-center* are "approaching random". The value of "R" = 0 means all the centers are *clustered* together at one place, where "R" = 1.0, indicates *random* which implies that there is clustering as well as widely distributed centers.

Service Provided by Super-centers

The product line of *super-centers* varies from place to place according to the customer's demand of that particular area. Table-1 reveals that maximum *super-centers* (nearly 54%) product line is below 5000 followed by 10001-15000 (25.6%), 5001–10000 (12.8%), 15001– 20000 (5%), and above 20000 (2.6%). Due to some limitations; like small space, lack of capital and availability of the customers most of the *supercenter* have product line below 5000.

Table-1: Product Line of *Super-centers* in Dhaka City

Product line	Frequency (*f*)	Percent (%)
Below 5000	21	53.9
5001-10000	05	12.8
10001-15000	10	25.6
15001-20000	02	5.1
Above 20000	01	2.6
Total	**39**	**100.0**

Source: Field Survey, 2006

The variety of products in different *super-centers* vary from 6 to 8; like grocery, garments, cosmetics, electronics, baby items, cookeries, food items, vegetables, fish, meet, medicine etc. The highest varieties of product available in *super-centers* observed is 8, where 14 *super-centers* possesses this credit which shares 35.9% of the total followed by 7 and 6 varieties of product which shares 41.0% and 23.1% of the total respectively.

Table-2: Variety of Products in *Super-centers*

Variety of Products	Frequency (*f*)	Percent (%)
6	09	23.1
7	16	41.0
8	14	35.9
Total	**39**	**100.0**

Source: Field Survey, 2006

Various combinations of product is observed in different *super-centers* (Table-3). Combination-3 is found in maximum *super-centers* (41%) followed by Combination-1 (23%), Combination-2 (21%) and Combination-4 (15%). Maximum *super-centers* keep almost the same categories of product and only few *super-centers* keep few different items. The most common items of these super-centers are food items, baby items, cookeries, and cosmetics.

Table-3: Product Combinations of *Super-centers*

Combinations	Frequency (*f*)	Percent (%)
Combination-1: Baby items, cookeries, cosmetics, food items, garments, grocery.	9	23.1
Combination-2: Baby items, cookeries, cosmetics, food items, garments, grocery, medicine items, vegetables.	8	20.5
Combination-3: Baby items, cookeries, cosmetics, food items, garments, grocery, electronics.	16	41.0
Combination-4: Baby items, cookeries, cosmetics, food items, garments, grocery, electronics, medicine items.	6	15.4
Total	**39**	**100.0**

Source: Field Survey, 2006

Grocery as most selling items has been observed in 80% of the *super-center* (Table-3) followed by food items (10%), cosmetics (8%) and baby items (3%). Grocery is the most selling items in the *super-center* probably due to the daily needs of the consumers and their desire to get fresh and good quality in a fixed price

Table-3: Most Selling Items of *Super-centers*

Most Selling items	Frequency (*f*)	Percent (%)
Grocery	31	79.5
Cosmetics	03	7.7
Baby items	01	2.6
Food items	04	10.3
Total	**39**	**100.0**

Source: Field Survey, 2006

Table-4 reveals that 46% of the *super-center* have 61 – 80 percent domestic products of the total products due to its local demand. Since grocery item is the most selling items of the *super-center* and most of the grocery items are supplied from the different parts of the country the shares of domestic products are high among different products. The lowest (0-20) and highest percentage (81-100) of domestic products are observed less in the *super-center* and that is only 5.1% which indicates though different items are there in *super-centers* but still now they are getting importance for their grocery items.

Table-4: Domestic Product in *Super-center*

Percentage of domestic product of the total products	Frequency (*f*)	Percent (%)
0-20	02	5.1
21-40	05	12.8
41-60	12	30.8
61-80	18	46.2
81-100	02	5.1
Total	**39**	**100.00**

Source: Field Survey, 2006

Percentage of foreign product of *super-centers* in Table-5, shows that maximum *super-centers* (44%) have 21– 40 percent of foreign products followed by 41–60 percent (31%), 0–20 percent (21%), and 61–80 percent and 81–100 percent (2.6%). Foreign food items are more demandable in high income residential area whereas cosmetics and cookeries are found more demandable in middle income residential area.

Table-5: Foreign Product in *Super-centers*

Percentage of foreign products	Frequency (*f*)	Percent (%)
0-20	08	20.5
21-40	17	43.6
41-60	12	30.8
61-80	01	2.6
81-100	01	2.6
Total	**39**	**100.0**

Source: Field Survey, 2006

The most demandable products based on company is Unilever which is observed nearly in 77% of the *super-center* (Table-6). About 8% of the *super-center*' demandable product is ACI followed by other foreign companies (7.7%), Square (5.1%) and Nestle (2.6%). The products of Unilever are most demandable due to their quality and reasonable price. Lever Brothers Bangladesh Ltd, one of the leading multinational consumer products manufacturing companies, has been renamed Unilever Bangladesh Limited by changing its four-decade long corporate identity in the country. Unilever Bangladesh Ltd offers 14 different brands of consumer products. These are washing powder, shampoo and toothpaste, laundry and bath soaps, skincare products, and tea. The Bangladesh government holds 39%, while the Rotterdam-based Anglo-Dutch consumer goods company, Unilever holds the rest 69% of the shares of Unilever Bangladesh Ltd. Unilever holds the largest market share of consumer products in Bangladesh. Unilever controls 65% of market share of toothpaste and 55% market share of detergent in Bangladesh, and stood 2nd position in the market share of tea.

Table-6: Most Demandable Products Based on Company

Name of the Company	Frequency (*f*)	Percent (%)
Unilever	30	76.9
Square	2	5.1
Other foreign companies	3	7.7
ACI	3	7.7
Nestle	1	2.6
Total	**39**	**100**

Source: Field Survey, 2006

Table-7 shows that, maximum *super-centers* have fixed but higher or equal to the market price as a price sensitivity which shares 79.5% of the total *super-centers* because of their quality of shopping environment, proper security and quick delivery. Remaining share of percentage of *super-centers* which is 20.5% are observed as a fixed but cheaper than the market price.

Table-7: Price Sensitivity of *Super-centers*

Price Sensitivity	Frequency (*f*)	Percent (%)
Fixed but higher or equal to the market price	31	79.5
Fixed but cheaper than the market price	08	20.5
Total	**39**	**100.0**

Source: Field Survey, 2006

The table-8 reveals that, Maximum 71.8% of *super-centers* don't have their own farm or factory due to the lack of capital. Only 28.2% of *super-centers* have their own farm or factory due to their capital investment and profit making activities. Usually large and well established super-centers have their own farm and factories.

Table-8: Having Farm/Factory of Super-centers

Own Farm/Factory	Frequency (*f*)	Percent (%)
Have	11	28.2
Don't have	28	71.8
Total	**39**	**100.0**

Source: Field Survey, 2006

The table mentioned below (Table – 9) shows that out of 11 super-centers (which have own farm/factory) nearly 46% have bakery followed by dairy farm and packing factory (18.2%), and poultry and shoes factory (9.1%.)

Table-9: Types of Farm or Factory

Types of factory	Frequency (*f*)	Percent (%)
Packing factory	2	18.28
Bakery	5	45.5
Poultry	1	9.1
Dairy farm	2	18.2
Shoe factory	1	9.1
Total	**11**	**100.0**

Source: Field Survey, 2006

Though the *super-center* concept in marketing has been developed to provide all kinds of services under the same floor but there are about 79% of super-centers which have parking facilities and that also observed more in high income residential area and few have yet to provide this facility. Maximum super-centers i.e., nearly 70% provide parking facilities of less than 10 cars followed by 11–20 cars (18%) and 21–30 cars (5%) and 31– 40cars (5%).

Customer behavior in selection of marketing time in super-centers show that the most selling time is 5pm to 9pm, within this time 57.5% customers visit super-centers and the lowest selling time is 12pm-5pm, which is 8.8%.

Table-10: Customer Behavior in Selection of Marketing Time in Super-centers

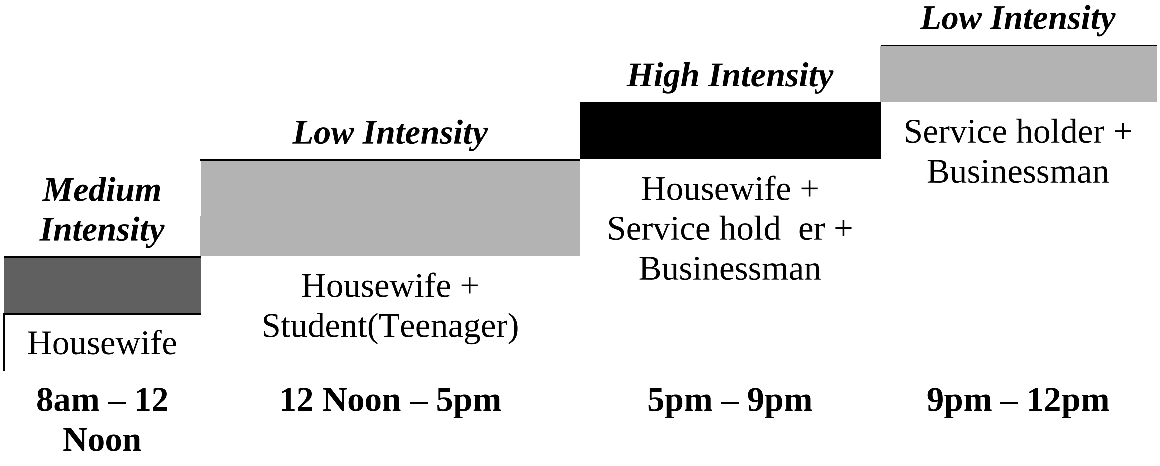
Time	Customer Visited (*f*)	Percent (%)
8am-12pm	90	22.5
12pm-5pm	35	8.8
5pm-9pm	230	57.5
9pm-12pm	45	11.3
Total	**400**	**100.0**

Source: Field Survey, 2006

Time Schedule and Intensity of Marketing in Super-centers Among Different Occupational Category

The intensity of marketing conceptualized on the basis of number of customers visited in a given time. The time schedule and intensity of marketing in super-centers varies among different professional categories (Figure-4). The intensity of marketing is observed from 8am-12pm, though there is a variation of opening time from super-center to super-center. The high intensity of marketing is observed in the time between 5pm-4pm and professional categories are found like housewife, service holder and businessman. The medium intensity of marketing is observed in the time between 8am-12pm. Professional category of housewife visits in this particular time after drop their kids in the school. Low intensity observed from 5pm-9pm and 9pm-12pm, when most of the peoples keep busy with their job duty except teenagers specially students who visit super-centers at the end of the morning shift.

Fig. 4: Time Schedule and Intensity of Marketing in Supercenter in Different Occupational Category



Central Mart, Meena Bazar (Malibagh), Pacific Super Store, Padkhep Biponon, A to Z Shopping Mall, Pick and Pay , PQS (Santinagar)

Ocean Shopping Mall, Amana, Tokyo, PQS (Uttara)

Family World, Blue Ocean Shopping Mall, Welcome Super Shop,
Super Fresh, City Shopping Mall, Park and Shop, Man Heart Super Market, Truss Shopping Mall

D2K

Bafwwa Best Buy, Fortune City

Almas (Dhanmondi), Agora (Dhanmondi),
Meena Bazar (Dhanmondi), PQS (Dhanmondi), Nandan (Dhanmondi), Shop and Save, Agora (Gulshan), Nandan (Gulshan), PQS (Gulshan), Almas (Gulshan), Agora (Mogbazar), Ko Mart, Bsundhara Bazar, Agora (Dhanmondi)

Prince Bazar

Price House, Lavender (Gulshan)

Retail Trade Areas of Super-centers

Four different levels of super-centers are found on the basis of centrality score following a selective approach in respect of services that are provided. Only one super-center i.e. *Agora , Dhanmondi* (centrality score 71726) belongs to I level and share only 2.6% of the total super-centers. In II level there are seven super-centers which shares nearly 18% of the total having score between 35000 to 60000. Super-centers in this category are seven times more than I order level of super-centers.

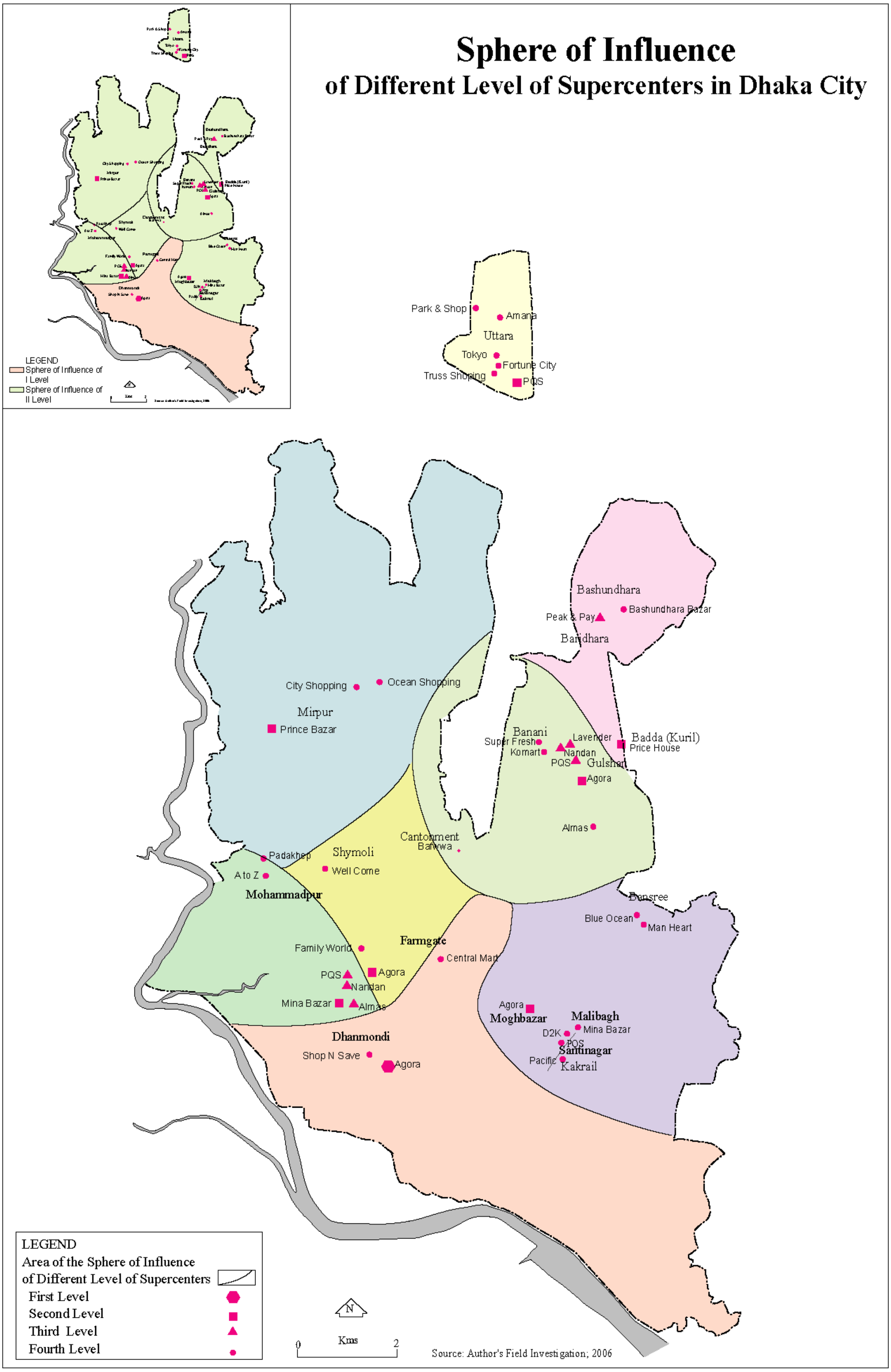

Sphere of Influence
of Different Level of Supercenters in Dhaka City
Park & Shop
Amana
Uttara
Tokyo
Fortune City
Truss Shoping
PQS
Bashundhara
Bashundhara Bazar
Peak & Pay
Baridhara
City Shopping
Ocean Shopping
Mirpur
Prince Bazar
Banani
Super Fresh
Komart
Lavender
Nandan
PQS
Gulshan
Badda (Kuril)
Price House
Agora
Almas
Cantonment
Banwa
Padakhep
Shymoli
Well Come
A to Z
Mohammadpur
Banasree
Blue Ocean
Man Heart
Family World
Farmgate
Central Mart
PQS
Agora
Nandan
Mina Bazar
Almas
Agora
Moghbazar
Malibagh
Mina Bazar
D2K
PQS
Santinagar
Pacific
Kakrail
Dhanmondi
Shop N Save
Agora
LEGEND
Sphere of Influence of I Level
Sphere of Influence of II Level
LEGEND
Area of the Sphere of Influence of Different Level of Supercenters
First Level
Second Level
Third Level
Fourth Level
N
0
Kms
2
Source: Author's Field Investigation; 2006

Fig. - 12

Fig. 5

Centrality score of 10000 to 35000 is considered as III level which also shares 18% of the total. Maximum super-centers are found in IV level which shares about 62% of the total. This sharing is 24 times more than that of the I level and about 3 times more than II and III level of super-centers which indicates that service provided by the IV level of super-centers are less than others. Thus the sphere of influence of these different levels of super-centers also varies (Fig.-5). The sphere of influence of I level super-centers is maximum due to better and varieties of services provided by those super-centers

Table – 4. Hierarchy Level of Super-centers

Level	Score	(*f*)	(%)	Name of the Super-center
I	> 60000	1	2.56	*Agora (Dhanmondi)*
II	35000 – 60000	7	17.94	*Agora (Gulshan), Price House, Agora (Dhanmondi), Meena Bazar (Dhanmondi), Agora (Moghbazar), Prince Bazar, PQS (Uttara)*
III	10000 – 35000	7	17.94	*Almas (Dhanmondi), Pick and Pay, Nandan (Dhanmondi), PQS (Dhanmondi), Nandan (Gulshan), Lavender, PQS (Gulshan)*
IV	<10000	24	61.53	*PQS (Santinagar), Meena Bazar (Malibagh), D2K, Pacific, Shop N Save, Family World, Welcome, A to Z, Padakhep, Bafwwa, Blue Ocean, Man Heart, City, Ocean, Ko-Mart, Almas (Gulshan), Super Fresh, Almas (Dhanmondi), Central Mart, Basundhara Bazar, Trust, Fortune City, Tokyo, Amana, Park and Shop*

Conclusion

Although Dhaka is over dense city, more than one super-center is located in a specific place. It is clearly observed that super-centers compete with one another. The rapid growths of super-centers are acceptable with the growth of population. The main disparity is that a large number of population remain deprive from the facility of super-centers. It is well known that in super-centers, the quality of product is very good, no bargaining system, good service facility, there is no scope for cheated, so entrepreneur can established super-centers in the place where super-centers are not build up to consider the rising population.

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