Contemporary Trends in Japanese Large Scale Retail Stores

論　説

Contemporary Trends in Japanese Large Scale Retail Stores

Takayuki Yamashita* and Farhana Zaman**

Abstract: Japanese large scale retail stores are changing along with the change of time. So this paper tries to find out the current trends of Japanese large scale retail stores. This paper also focuses on scale economies and impact of age groups on the sales of the large scale stores. Descriptive statistics and different empirical techniques are used to analyze the data. The findings of the paper demonstrate that the convenience stores are competing strongly with department stores and supermarket stores. The large scale retail stores can enjoy competitive advantage if they emphasize on product differentiation, think about mature consumers and cut their prices compare to their rival firms.

JEL Classification: D22, M21

Key Words: Large Scale Retail Stores, Scale Economies, Trends, Age Groups.

Ⅰ. Introduction

The large scale retail stores in Japan are entering into a period of major transformation. Basic large scale retailers such as department stores, supermarket stores and specialty stores have transformed along with the change of time. Department stores purveying mainly luxury items and clothing have seen their markets continue to shrink, due to the entrance and growth of convenience stores. Supermarket chains, which traditionally feature large scale stores, are defensive in the competition with convenience stores. But now they are starting to increase the number of small scale shops in city centers to remain competitive in the industry. This paper tries to depict the changing phenomena of the large scale retail stores in Japan. This paper also focuses to know about the scale economies and market segment of the Japanese large scale retail stores.

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The main contribution of this paper lies in three areas. First from the time series data of different important factors of retail stores we can get an idea about the changing phenomena of the stores. Second, from the analysis of scale economies we can know, which type of retail stores has scale economies. Third, from the analysis of the impact of age groups on sales, we can know whether different age groups have different choice for retail store types or not and reasons of convenience stores' success.

The rest of the paper is organized as first section includes a review on the history of Japanese large scale retail stores, second section includes changing trends of Japanese retail stores, third section includes scale economies in retailing, fourth section includes demography and retailing, and final section includes discussions on findings, conclusion and policy recommendations.

Ⅱ. History of Large Scale Retail Stores and Retailing

According to Akahori (2007), the first "modern-style" department store in Japan was Mitsukoshi, founded in 1904. However when the roots are considered; Matsuzakaya has an even longer history, dated from 1611. According to Akahori (2007), Mitsukoshi was founded by one of the oldest banks of Japan, named Mitsui. Adopting the American system, Osuke Hibi, the executive manager of Mitsukoshi store, issued the "Department Store Declaration" in 1904 and this marked the dawn of modern department stores in Japan. Following Mitsukoshi's example, four other retail firms, namely Takashimaya began operation as a department store in 1922, Matsuzakaya (incorporated in 1907), Daimaru (founded in 1920) and Shirokiya, embraced western styles to become modern retailers.

During the nation's economic prosperity of the 1980s, which is referred to as "Bubble Period", Japanese department stores had no difficulty attracting consumers even though they were in severe competition with each other in the big cities.

The end of the department store's prosperous period gave rise to a new type of retailer: the supermarket stores. Supermarket stores made their debut in Japan in the 1950s (Iwama, 2009). Kinokuniya was the first supermarket to adopt the self- service format and it started in 1953 in Aoyama, Tokyo. In 1957 Daiei opened, followed by Ito-Yokado and other supermarket stores. Japanese supermarket stores sell groceries, clothing and household commodities including home appliances and call them ryohan-ten (mass retailer) due to the unique characteristic of being supermarket and discounters at the same time. The success of supermarket stores is because of the mass sales and low price.

Both large scale department stores and supermarket stores were constrained in their development

of new stores due to regulation by the Large Scale Retail Store Law. The large scale supermarket stores put their focus on the development of small scale retail stores (Takahashi and Fluch, 2009) and Japanese consumers were again deeply influenced by a boom in convenience stores (Iwama, 2009).

The first convenience store in Japan appeared in 1969. In 1974, Ito-Yokado joined forces with the Southland Corporation of the United States and launched Seven-Eleven in Japan. Following this Daiei set up Lawson in 1975, Seiyu set up Family Mart in 1978 and the convenience stores are still growing up in Japan. The stores are able to respond to shoppers' demands for convenience, and continue to change consumer habits in Japan. In the following table a short history of Japanese Retailing is presented:

Table 1. History of Japanese Large Scale Retail Stores and Retailing

Year	Development
1904	Mitsukoshi opens Japan's first western-style department store.
1929	Hankyu, the first "Railway Department Store" opens in Osaka's Umeda Station.
1937	Department Store Law; abolished in 1947.
1953	Kinokuniya, Japan's first self-service supermarket opens, followed by Daiei (1957) and others.
1956	The second version of the Department Store Law.
1969	The First planned shopping center is opened as the Tamagawa-Takashimaya shopping center.
1972	Daiei's sales exceed those of Mitsuokshi.
1973	Introduction of Large Scale Retail Store Law.
1974	Ito –Yokado and the American company Southland co-finance the opening of the franchise convenience store retail chain Seven Eleven.
1982	The number of retail establishments reaches its peak. All stores of Seven Eleven Japan introduce POS system.
1985	Plaza-Accord raises value of Yen, beginning of the "Bubble- Economy".
1989	Consumption- tax is introduced.
1990	The bubble bursts, Large Scale Retail Stores Law was deregulated.
1992	The Economic recession leads to decreasing sales in the retail sector. The beginning of the "lost decade" starts.
1997	Consumption tax raised to 5%.
2000	Introduction of Large Scale Retail Store Location Law; Amazon Japan opens online store.

2001-2006	New format stores increase in number (e.g. drugstores, 100 Yen Shops). Price competition becomes more severe. Sales of department stores and general merchandise stores (large scale supermarket stores) decrease continuously. Mergers and cooperation become more common among small and large scale retailers. After the economy regains momentum in 2004, consumer confidence rises, and premium stores and premium products experience a boom. Mass luxury reaches its peak in 2005. Consumer confidence remains low despite of a recovering in the economy. End of mass luxury in 2007.
2007-present	Decrease in population started, aging society came up, sales of convenience stores started increasing, big earthquake hits Japan in 2011, consumption tax increase from 5% to 8% in April, 2014.

Source: Takahashi and Fluch, 2009 upto 2007 and authors' own compilation after 2007

The Japanese large scale retail stores have three important periods. First period is the start of department stores in 1904, second period is the start of supermarket stores in 1953 and third period is the start of convenience stores in 1974. Accordingly, it is important to know what happened in the retail structure after the start of supermarket in 1953 and convenience stores in 1974. Therefore, in the following section the changing structure of the retail stores are presented.

Ⅲ. Changing Structure of Japanese Retail Stores

The retail structure of Japan has some distinctive features and it is said that these features are changing gradually. In the following table the changing features of the retail stores are presented:

Table 2. Changes in the Structure of Retail Stores

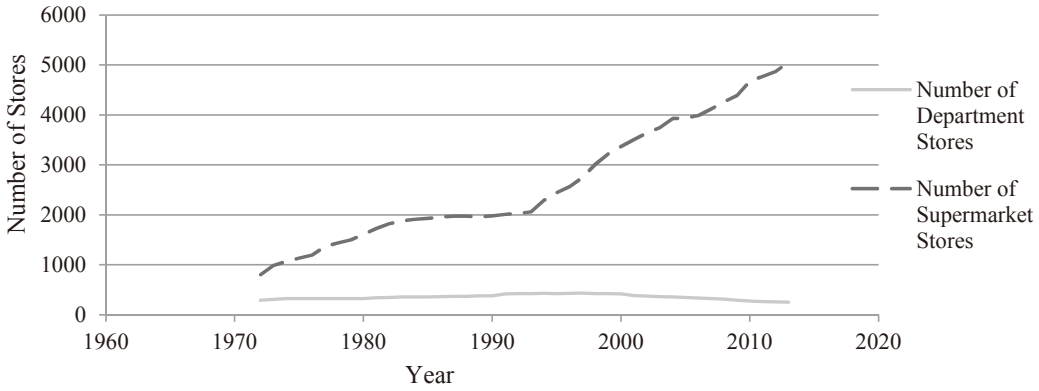
Features / Year	Total Number of Retail Stores	Employees	Employees per Store	Floor Space	Floor Space per Store
1952	1,079,728	2,309,699	2.13	.....	
1960	1,288,292	3,489,293	2.70	31,081,224	24.13
1968	1,471,297	4,646,212	3.24	47,583,151	33.23
1972	1,548,184	5,141,377	3.43	61,108,675	40.86
1979	1,673,667	5,960,432	3.56	85,736,815	51.23
1982	1,721,465	6,369,426	3.70	95,430,071	55.44
1985	1,628,644	6,328,614	3.89	94,506,983	58.03
1988	1,619,752	6,851,335	4.22	102,050,766	63.00
1991	1,591,223	6,936,526	4.35	109,901,497	69.07

1994	1,499,948	7,384,177	4.92	121,623,712	81.09
1997	1,419,696	7,350,712	5.17	128,083,639	90.21
1999	1,406,884	8,028,558	5.70	133,869,296	95.15
2002	1,300,057	7,972,805	6.13	140,619,288	108.16
2004	1,238,049	7,762,301	6.26	144,128,517	116.42
2007	1,137,859	8,062,196	7.08	149,664,906	131.53
2012	1,033,358	7,831,212	7.57	.....	.....

Source: Statistics Bureau, Ministry of Internal Affairs and Communications

From the above table it is seen that the total number of retailers started decreasing from 1985. But employees per store and floor space per store are increasing. It seems that the Japanese retail stores are getting larger over time.

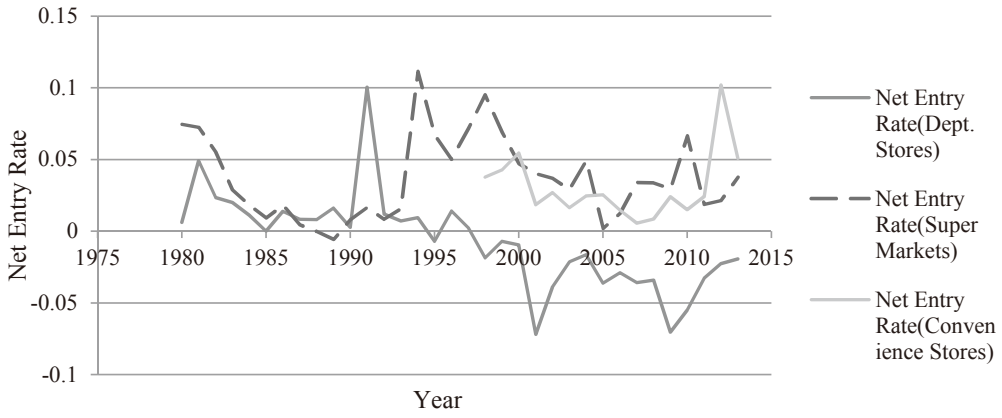
As the Japanese retail stores are increasing its operation in size so it is important to know about the total number of the large scale retailers that is supermarket stores and department stores. Figure 1 shows the total number of supermarket stores and department stores from 1972-2013. Figure 1 shows that the number of supermarkets stores is increasing in a very fast way while the number of department stores shows a gradual declining trend.



Source: Statistics Bureau, Ministry of Internal Affairs and Communications

Figure 1: Number of Large-Scale Retailers

Although the number of supermarket stores is increasing, it is said that large scale retailers are facing tremendous competition from convenience stores[1]. Figure 2 shows the net entry rate of three types' retailers. The net entry rate of department stores shows a downward trend where as the net entry rate of super market stores and convenience stores shows an upward trend.



Source: Statistics Bureau, Ministry of Internal Affairs and Communications

Figure 2: Net Entry Rate of Stores[2]

Increase in the number of supermarket stores and an upward trend in the net entry rate of the supermarket stores and convenience stores arise with a question. What can be the reasons of an upward trend in net entry rate? To know the answer of that question, in the next section of this paper scale economies of the three types' retailers are presented.

Ⅳ. Economies of Scale in Retailing

The term 'scale economies' describes the relationship between efficiency or productivity and size (Zhuang, Zhou & Herndon, 2002). When a particular establishment, organization, or competitive structure converts resources into output less expensively than do other establishments, or competitive structures, it is more efficient. When this efficiency is based upon the size of operation, then scale economies are said to exist. There are two methods of measuring scale economies in the economics

[1] Convenience stores are self-service retailers who deal mainly in food and beverages, and have a sales floor area between 30㎡ and 250㎡ and whose business is open for 14 hours or more per day.
[2] Data of convenience stores are available from 1997. So the net entry rate of convenience stores is shown from 1997.

and marketing literature – the "technical" approach and the "pecuniary" approach. The technical approach is based on production function where as the pecuniary approach is based on the concept of statistical cost curves (Ingene, 1984).

Scale Economies in retailing may occur at company level (in terms of savings from bulk purchasing, efficient use of management, logistics, etc.); and at store level (savings on construction costs, store operation, staffing, etc (Guy, Bannison & Clarke 2005). This paper is going to examine scale economies at store level.

To find out the scale economies of the major types of retailer in Japan, the technical approach which is based on production function is used. The critical inputs into the production function are capital and labor. The production function technique is used to measure the scale economies of stores by Ingene (1984). He considered output as sales, input is measured in physical terms such as square meter of floor space and number of employees. Scale economies are measured as sum of coefficient with constant returns being denoted as one, decreasing returns by a value less than one, and increasing returns by a value greater than one. Ingene's approach is followed in this paper to find out the scale economies of Japanese retail stores.

The Cobb- Douglas production function[3] is:

$$Q=AL^bK^c \quad (1)$$

where, Q= Output, L =Labor and K= Capital.

The Cobb-Douglas production function is transformed into the following log –linear function.

$$\text{Log } Q = \text{Log } A + b \log L + c \text{ Log } K \quad (2)$$

where,

Q= Sales per store.

A=Constant term.

L = Employees per store (labor)

K= Square meter per store (capital)

Table 3 shows the regression analysis by using the log liner format of Cobb-Douglas production function. The marginal contribution to output of a one percent increase in an input is considerably greater for employees than for floor space for all types of stores. Coefficients of square meter per store are not significant for supermarket stores and convenience stores.

[3] According to A/Professor Takase's suggestion an alternative formula ($Q= A\ L^{\,1-b+c}\ K^b$) was tried to calculate the economies of scale. But the formula that is used in this paper gives better result.

Table 3. Economies of Scale[4]

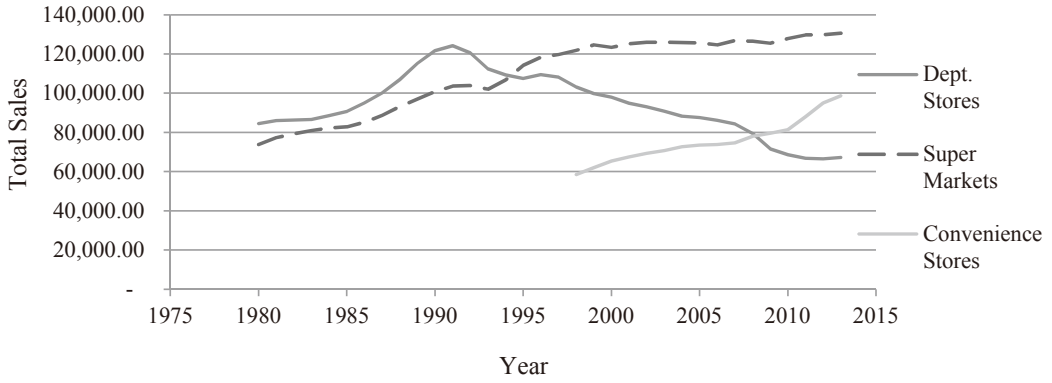
Stores	Constant	Employees per store (b)	Square meter per store (c)	Adjusted R^2	Sum of coefficient
Dept stores	-2.899** (-1.934)	.842* (4.767)	.789* (3.472)	.868	.842+.789 =1.631
Supermarket[5] stores	5.135* (4.765)	.703* (7.426)	-.063 (-.456)	.613	.703-.063 =.640
Convenience[6] stores	1.505 (1.209)	.617* (9.698)	.401 (1.526)	.678	.617+.401 =1.018

Note: * Probability>.01
** Probability>.06
Source: Census of Commerce, 2007

Table 3 also shows an evidence of decreasing return in supermarket stores, an increasing return in department stores and a moderately increasing return in convenience stores. Consequently, we can see an upward trend of net entry rate in supermarket stores and convenience stores and a downward trend in department stores.

Does the increase in net entry rate of convenience stores and supermarket stores also show increase in their total sales? To know about the answer of that question, total sales of stores are shown in figure 3. It seems that as the total number of supermarket stores and convenience stores are increasing, their total sales are also increasing.

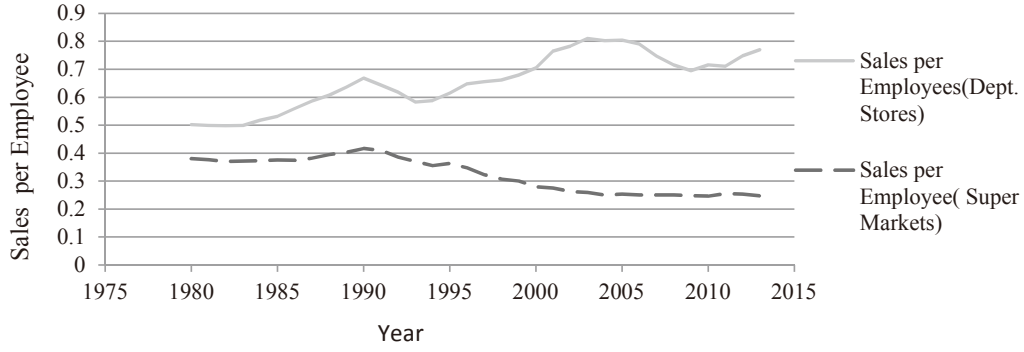
[4] t- values are in parenthesis. In Ingene's paper t-values are calculated for individual coefficients and sum of coefficients. In this paper t-values are calculated for individual coefficients only.
[5] Number of supermarket stores excludes specialty supermarket stores, specialty stores and semi-specialty store.
[6] Recent year's data for convenience stores are not available so scale economies are calculated based on 2007 data for all types of retailers.



Source: Statistics Bureau, Ministry of Internal Affairs and Communications

Figure 3: Total Sales of Stores[7], [8]

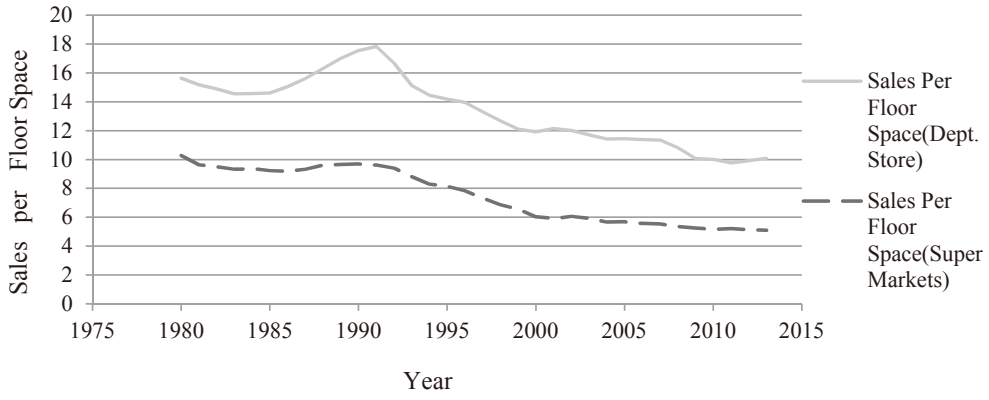
From the analysis of scale economies it is found that super market stores are not benefited from the large floor space. So it is important to know about the floor space productivity and employee productivity of the large scale retail stores and figure 4 & 5 show sales per employee and sales per floor space respectively. Floor space productivity for both types of large scale retailers are decreasing in a fast way. Sales per employee for department stores show an upward trend where as sales per employee for supermarket stores are decreasing gradually. It seems that department stores are utilizing their employees more efficiently than supermarket stores.



Source: Statistics Bureau, Ministry of Internal Affairs and Communications

Figure 4: Sales per Employee

[7] Sales of department stores and super markets include cloths, accessories, food and beverages, furniture, household appliances, household equipment, gift certificate, restaurant and café, etc. and sales of convenience stores includes fast foods and daily foods, processed foods, non foods and services.
[8] Total sales are in million yen and adjusted with inflation.



Source: Statistics Bureau, Ministry of Internal Affairs and Communications

Figure 5: Sales per Floor Space

According to Ingene (1984) consumer embraced large size stores for some lines of trade and rejected them in other lines. According to Ingene (1984) consumer reveals their preferences through their shopping behavior, then these varied scale economies represent differing routes to enhanced consumer well being. So the next section of this paper is trying to know whether consumer buying behavior based on their age groups has any impact on the sales of large scale retail stores and whether convenience stores are competing with large scale retailers because of the consumer buying behavior.

Ⅴ. Demography and Retailing

A chronic problem in Japan is its rapidly aging population. The total population of Japan reached 127.8 million in 2011. By 2020, the number of Japanese citizens over the age of 65 years is expected to increase by 20.4% and to reach 35.7 million. Due to these growing numbers, the proportion of old age population within the total population will increase by an average rate of 12% over the 2011-2020 periods. In comparison, the proportions of other population-age segments will see double-digit decreases over the same period (Statistics Bureau of Japan).

Demographic changes are important factors to consider for the retailers to increase their market share. Changes in the age groups may have an impact on the sales of stores. Factors such as age, income, gender, and social class are regarded as reasonably good predictors of buyer behavior. Lumpkin and Burnett (1992) conducted a study on the determinant factors of store type choice of the

mature consumer in USA for wearing apparel. They conducted a questionnaire survey on 1521 mature consumer (65 or over) and found that 54.7% of the mature consumer spend most at department stores, 15.4% at specialty stores, 17.1% at discounts stores and 12.1% at in- home delivery to purchase their wearing apparel.

To know about the effect of age groups on sales per store Pearson correlation analysis is conducted between the population of different age groups and sales per store of department stores, supermarket stores and convenience stores. The population is divided into two groups: 15-64 is working age population and 65 and over is aged population. The sales data for convenience stores are available from 1997. For this, correlation is conducted from the data of 1997-2013. The result of the correlation analysis is presented below.

Table 4. Correlation between Sales per Store and Age Group of Population[9]

Age Groups	Sales per Department Stores	Sales per Super market Stores	Sales per Convenience Stores
Population between 15-64	-.703	.926	-.870
Population over 65	.700	-.976	.879

Correlation is significant at the .01 level (2- tailed)

From table 4, it seems that young consumers and working people prefers to shop super market stores whereas mature consumer prefers to shop convenience stores and department stores.

As part of its ongoing research onto the mature consumer, A.T. Kearney's Global Business Policy Council launched a global survey of 2,947 people in 23 countries. Participants are from cities, towns and rural areas, belonging to all income brackets and age groups (60s, 70s and 80s). Geographic breakdown of study participants are roughly one-third in the euro zone, 22 percent in the BRIC countries, 14 percent in other emergent markets and 12 percent in the United States. These countries account for around 60 percent of the global population. The study found that the older the consumers are, the more they prefer smaller stores and shopping closer to home (68 percent), and the more likely they are to walk to the shops rather than drive or be driven. Proximity is almost always a main reason for choosing a specific store. The mature consumers seek quality products, are loyal

[9] According to Professor Ito, convenience stores are liked by young consumers also. Simple correlation is conducted between sales per stores and the age groups of 15-24 to check his opinion. The correlation shows result similar to table 4.

to brands, and are not particularly price sensitive — even if their incomes are below average levels.

So the result of this paper is similar to the findings of previous studies as this paper found that mature consumer (65 and over) has a positive influence on the sales of department stores and convenience stores.

From the result of the correlation analysis it seems that department stores are getting competitive advantage from their well known brand and variety of goods where as supermarket stores are enjoying the advantage of low priced products and convenience stores are convenient for their location and variety in service.

Ⅵ. Conclusion and Policy Recommendations

Japan's domestic retail market is shrinking because of the declining and aging population. The total sales trends of the large scale retail stores show a mixed picture. Total sales of supermarket stores are increasing and total sales of department stores are decreasing after 1990. Total sales of convenience stores are increasing in a fast way and it exceeds the sales of department stores in 2008. It seems that the strategy of establishing a dominant presence in certain areas, having convenient characteristics, using an efficient distribution and inventory management system and ability to develop products closely tailored to consumer needs -are working well for the convenience stores.

Floor space of the retail stores is increasing. However, it is observed that the floor space productivity of the large scale retailers is decreasing. The employee productivity is increasing in case of department stores but it is decreasing in case of supermarket stores. Given the fierce competition among retail stores, the large scale retailers need to critically evaluate the phenomena. It seems that large floor space is not an attractive strategy to be competitive in the retail industry.

From the analysis of scale economies, it is found that there is a decreasing return of scale for supermarket stores and the coefficient of floor space per store is not significant. Employees are contributed to the sales per store only. Same result is observed for the convenience store also. Only the department stores are enjoying scale economies from floor space and employees. The large scale retailers need to consider the fact. Department Stores and supermarket stores need to generate innovative ideas and services to survive in the competitive retail industry. They must strive to meet the diversifying needs of consumers — ranging from elderly couples to single-member households. Supermarket stores should try to increase the transaction size and number of the customers through product differentiation.

From the analysis of age groups, it is found that sales per supermarket stores are influenced by the young and working age population. The young and working age people are conscious about price of products. The supermarket stores sell products cheaper than convenience stores and department stores. For this, may be the supermarket stores can attract the young and working age population. Whereas 65 and over age groups has a positive influence on the sales per convenience store and department stores. Mature consumers prefer convenience stores may be for convenient location and they prefer to visit department stores may be for the variety of goods and availability of luxury products. The Baby boomers those born during the late 1940s are retiring now and enjoying high disposable income and time. They may prefer to purchase the luxury products. The retailers of each type need to consider the fact. They can earn a good profit margin if they can segment the market based on the changing demography of Japanese society

All large scale retail businesses must strive to increase the level of customer convenience. They need to shorten the time needed for shopping as well as consider offering home delivery of customer purchases, especially in light of the growing ranks of households composed of elderly people.

Younger consumers increasingly rely on Internet portals like Rakuten and Amazon to satisfy their shopping needs. The large scale retail stores should try to focus on e-retailing so that customers can order products online if they wish and receive them at a variety of locations.

References

Akahori, N. (2007), "The Japanese Department Store as a Fantasy World", Retrieved from: http://www.apocs.jp/apocs_04_akahori.pdf, Access Date: 2014.10.13

Guy, C., Bennion, D., & Clarke, R. (2005), "Scale Economies and Superstore Retailing: New Evidence from the UK", *Journal of Retailing and Consumer Services*, pp.73-81, retrieved from: http://www.sciencedirect.com/science/article/pii/S0969698904000244, access Date: 2014.10.30

Ingene, C.A. (1984), "Scale Economies in American Retailing: A Cross Industry Comparison", *Journal of Macromarketing*, Vol.4(2), pp.49-63.

Iwama, N. (2009), "The Change of Japanese Department Stores' Cultural Facilities during One Hundred Years", *地理空間* Vol.2(1), pp.1-16.

Lumpkin, J.R. & Burnett, J.J. (1992), "Identifying Determinants of Store Type Choice of the Mature Consumer," *Journal of Applied Business Research*, Vol.8 No.1, pp.89-102.

Takahashi, I. & Fluch, H. (2009), "Retailing in Japan: Overview and Key Trends", *Journal of Euro-*

pean Retail Research, Vol.23, Issue II, pp.145-162.

Walker, M. & Mesnard, X. (n.d.), "What Do Mature Consumer Wants?" *A.T. Kearney's Global Maturing Consumer study*, Global Business Policy Council, retrieved from: http://www.atkearney.com/documents/10192/2fab37a7-0c6a-4d9f-aba8-8cbd433f3920, access date: 2014.10.28

Zhuang, G., Zhou, N., & Herndon Jr, N.C. (2002), "Scale Economies of Department Stores in the People's Republic of China," *International Review of Retail, Distribution and Consumer Research*, Vol.12:1, pp.3-12.

Statistics Bureau of Japan, Ministry of Internal Affairs and Communications, website: http://www.stat.go.jp/english/data/jinsui/tsuki/index.html

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