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Literature Review on Selection Criteria of Store Location Based on Performance Measures

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Abstract

This paper presents the results of a literature review for understanding the selection criteria of store location in the retail context. The review provides overall insight into prior studies that specifically emphasize on factors influencing store performance. Store performance has been evaluated by using various measures such as store sales, market share, retail patronage, store traffic, store profits and so forth in different studies. The intention of the review is to (1) classify the store location-selection criteria, and (2) provide researchers with a theoretical model on which future research on store performance may be oriented.

Selection and peer-review under responsibility of the International Strategic Management Conference.

Keywords: store location, population, economic factors, competition, saturation level, magnet, store characteristics.

1. Introduction

A decision on store-locations is one of the most important strategic decisions the retailer has to make for its long term success (i.e. profitability, Cottrell 1973; Ingene & Lusch 1980; Kuo et al. 2002). An estimation of the market area in which the store is located is a crucial strategic tool in order to enable retailers to attract customers' attention and them to the store (Cheng et al. 2007; Grewal et al. 2009) since convenience stores have the most direct contact with customers (Kuo et al. 2002). 'Good locations allow ready access, attract large numbers of customers, and increase the potential sales of retail outlets. In the extremely competitive retail environment, even slight differences in location can have a significant impact on the market share and profitability.' (Ghosh & Mclafferty 1982; Craig et al. 1984). As different

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from other marketing-mix elements that may be easily changed under changing environmental conditions, store location is changed only at considerable cost, thus it represents a retailer's long-term fixed investment (Ghosh & Craig 1983; Craig et al. 1984).

Since the 1920s, there has been a growing interest in the application of variety models (i.e. Harold Hotelling's (1929) "principal of minimum differentiation", Huff's (1964) attraction models, Applebaum's (1966) analog methods and the like) to solve location decision problems. However, it has been noticed that there is lack of well-rounded research into the selection criteria necessary for the evaluation of potential store locations. Previous research on store-location selection criteria are reviewed briefly and listed in Appendix to be examined. The model we have developed that presents sorts of factors affecting store performance can guide retailers to evaluate their location decisions. The criteria that have been related to store location based on store performance are depicted in Figure I.

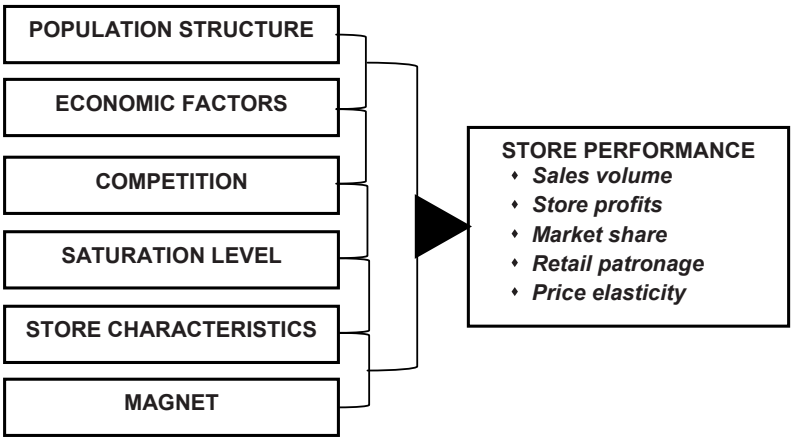

Fig. 1. Theoretical model: Store-location selection criteria based on store performance

2. Store Selection Criteria

There are several parameters used in location analysis. Based on literature review, criteria for choosing a store location are classified into seven categories (1) performance measures (2) population structure (3) economic factors (4) competition (5) saturation level (6) magnet and (7) store characteristics.

2.1. Performance measures

Since the store with the best expected performance is chosen among alternatives, performance forms a basis of store location selection. Indeed, criteria necessary to be considered for selecting store location are the elements influencing store performance. Accordingly, the quality of store-location selection models is dependent upon the ability to predict performance goals that are often set in the form of dollar sales volume or demand (i.e. Cottrell 1973; Ingene & Lusch 1980; Reinartz & Kumar 1999; Berman & Evans 2010: 266; Li & Liu 2012), store profits (Walters & MacKenzie 1988; Kuo et al. 2002), the number of

subjects patronizing the store (Stanley & Sewall 1976; Gautschi 1981), market share (Ingene & Lusch, 1980; Lord & Lynds 1981; Durvasula et al. 1992) and price elasticity (Hoch et al. 1995). Using multiple measures of store performance is deemed to be important to determine better the probability of getting the largest utility by a new store or stores entering the area. Therefore, the most commonly used measures appear in the location selection model of this study as sales volume, store profits, market share, retail patronage and price elasticity, as just now mentioned-above.

2.2. Population characteristics

In modeling store performance, the inclusion of population characteristics significantly improve the model's ability to make the choice of good store locations. Population structure has been examined in many previous studies by a wide array of variables including demographic features (income, age, gender etc.) and some other information like travel time and shopping habits. According to the researcher Hasty and Reardon (1997:213), probably no variables are more important to retail manager than the demographic structure of the market in any potential location. Demography also provides the knowledge for understanding if the population residing in the location that a retailer decides to serve is congruent with its target market (Hasty & Reardon 1997:207; Berman & Evans 2010:263). Some people's consumption patterns are not easily changed or altered due to their financial circumstance or long-standing habits (Redinbaugh 1987:183-184). Therefore, in analyzing potential location areas, purchasing habits of the people, who live and/or work in there, are important for retailers to describe customers (when they shop, frequency of shopping, how far they will travel, customers' preferred shopping place, and customers' preferred hours of shopping). The addition of the 'purchasing habit' variable to the model will significantly improve the location selection models' predictive power. Consequently, several factors such as the number of households, population size, population density, population growth rate, customer size and density, age, gender, education, occupation, marital status, household size, travel time (or distance), politic attitudes, social classes and cultures, and purchasing habit can be used to define characteristics of population residing in the proposed store's location.

2.3. Economic factors

The economy of population in the market area in which to locate a retail store has been evaluated under a separate title although it represents a part of population structure. The decision to locate a store is also dependent upon some economic considerations (i.e. Ingene 1984a, b; Karande & Lombard, 2005), including household income, income distribution, mobility (autos-per-household), residents' willingness to spend their money at the store, the source of income, rentals and so forth. Also, the kind of type, and the price of homes in the area that retailer consider to locate, the proportion of home ownership (as opposed to families that are renting) and the per capita sales for that area reveal income pattern of the residents of a community. Another valuable source is the 'Survey of Buying Power' which is probably one of the best sources for obtaining estimates of income distribution by countries. The number of persons employed in a family, the total average income for each family, and the regularity and frequency of their income are indicative of the ability of residents to purchase products (Redinbaugh 1987:186-87). The people residing in the area at which retailers consider to locate have spending power (i.e. the amount of money that will be available for buy products), but whether the residents are willing to spend their money at the store is more important for retailers (Redinbaugh 1987:183). Economic features of a population are closely related to the total retail sales potential of an area in which they reside (i.e., Ingene

& Lusch 1980; Redinbaugh 1987:186; Reinartz & Kumar 1999), profitability (Kumar & Karande, 2000), retail patronage behavior (Karande & Ganesh 2000) and price sensitivity (Hoch et al. 1995). Accordingly, a series of economic factors are involved in the model used for location selection decision.

2.4. Competition

In searching for good locations, the retailers need to study on competitive environment as a factor determining store performance (Reinartz & Kumar 1999). To illustrate, Hoch et al. (1995) found that competitive factors account for the majority of the variation in price elasticity across stores. In direct competition, a new store will be forced to enter into rivalry with available stores offering the same products in order to capture more shares from the market (Durvasula et al. 1992). As for indirect competition, retailers who offer unrelated products are also viewed as the prospective competitors of new entrants into market because they are competing for the same consumer dollars. Each retailer competes against other retailers to take away a portion of residents' expenditures in a given area (Redinbaugh 1987: 187). Thus, they are competitors sharing the same market share, whether it is direct or indirect.

We still know little about the effects of competitive retail environment on store performance (Grewal et al. 2009). To compete effectively, retailers should wise up concerning what happens when competitive factors are involved into the store-performance model. In the context of retail-location selection, when evaluating competition, a series of facts or figures should be surveyed and analyzed for the eventual success of any one location: the spatial distance between retail stores, the size and number of competitor stores, shopping alternatives, settlement with comparison to competitors, relative competitive strength, competitors' sales volume, stiffness in competition, and the quantity, quality and extent of aggressiveness.

2.5. Saturation level

Retailer analysts have traditionally used the index of retail saturation (IRS) to ascertain the attractiveness of a particular market. The index is quite useful in making decisions as to whether they will be able to achieve a higher profit in a market in which to locate. IRS is the ratio of demand for a product or service divided by available supply (Dunne & Lusch 2008: 226). It can be measured as follows:

$$IRS=((P)(A.E.))/S \quad (1)$$

where IRS is the index of retail saturation for a specific area; P is the number of people in the area who are likely customers for the particular line(s) of merchandise; A.E. is the average retail expenditures in the area for a particular line of trade; and S is the total amount of space devoted to selling a particular line of trade in all stores in the area (in square feet) (Irwing 1986:259). Accordingly, IRS equals to the total retail sales per square foot of its space in the marketplace for a particular line of retail trade (Dune & Lusch 2008). Some researchers like Dune and Lusch (2008) have offered to use a measure the number and retail expenditures of 'households' instead of 'people' in a given geographical area.

IRS is the extent to how demand for goods and services in an area is being served by current retail facilities or establishments (Dunne & Lusch 2008: 225-6). 'The supply of retail facilities is viewed as either the number of stores in the geographic market or the total square footage of those stores,' and their use (demand) is viewed as total store sales in the market (Ingene & Lusch 1980). The demand for goods

and services in a particular market varies by the supply of retail facilities. A trading area when identified in terms of the number of stores per thousand households, it may be understored, overstored or saturated market. Understored market has too few stores selling a specific good or service to satisfy the needs of its population. For retailers to locate in such an area, profitability is quite large with a high degree of probability. When a trading area is the overstored market that has so many stores to serve the customers satisfactorily for a specific good and service, some retailers therefore cannot earn an adequate profit. Retail saturation exists when a market has just enough store facilities to satisfactorily meet the needs of the population of the market and to enable retailers to yield a fair profit (Dune & Lusch 2008:225; Berman & Evans 2010: 271). As in previous studies on location analysis for retail stores, the study recommends to analyze the saturation level of a market that is a decretive criterion in attracting customers to the stores.

2.6. Store characteristics

Retailers should take pains to check into a wide array of store characteristics to gain competitive advantages or better performance against their rivals in the market. Indeed, the competitiveness of retail stores is highly associated to store-specific characteristics. The important aspects of the store itself are, in this study, separated into three basic categories (1) ease in accessibility (2) store-image attributes and (3) costs (To reach the detailed info for each, please check the Appendix). Probably, ease of access that refers to the people's ability to find the store easily and quickly (Dune & Lusch 2008:205), is one of the most discussed factors in literature for store location-selection decisions. Considering that many consumers move about by car, particular attention should be paid on the roads, streets, and parking facilities to make easier their access to the shopping area. When the status of transportation facilities available are evaluated in terms of ease of access to the store, they are believed to favorably or unfavorably affect the sales potential of a community and, ultimately the store in a given trade area (Redinbaugh 1987:188). Next, store-image attributes such as atmospherics, and assortments, quantity and quality of product are considered to explain a sizeable variance in the store performance. Increasing merchandising assortments or improving store atmospherics through better layout and store-allocation techniques has an impact not only on revenue flows but also on expenses (Ingene & Lusch 1980). Thus, before any change to improve store-image is decided, retailers should take into account its impact on store profits. Lastly, the store-location selection model should consider the effect of various costs on store performance. These costs include building, renting, buying, renovating of the physical store and so forth (i.e. Irwing 1986:257).

2.7. Magnet

A series of magnets recommended by Kuo et al. (2002), taking crowd point, culture and education organization, government and business organization, vehicle maintenance and relaxation factors into consideration, could help to improve a more complete model when evaluating optional locations for a store. To date, most research in marketing has dealt with other factors' effects on store performance, but few researchers have spoken to the magnets in making a true location-decision for a retail store. Out of them, Timmermans (1986) found that the presence of magnet stores in the marketplace which to locate seems to be an important factor in a retailer's location decision, at least for some retailers. As recommended by the researcher Timmermans (1986), all retailers should consider the presence of magnet stores as an advantage since the magnet stores attract more trade from greater distances. Pedestrian flows at a location containing the largest magnet stores potentially will become more widely. Thus, the location

in which magnet stores are available has a potential to attract most of the trade (Borgers & Timmermans 1986). Kuo et al. (2002), who thinks the same way, offers the relationship between magnet (i.e. crowd point) and the store performance in terms of the number of visiting customers per day. As a result, retailers in attempting to attract customers to their store should use the presence of magnet store across optional locations as an evaluation criteria to aid the location selection for a store.

3. Conclusions

The study presents a wide range of factors that aid the retail in making the decision whether or not to locate a store in a certain market area. The criteria to consider while evaluating locations include the following (1) performance (2) population structure (3) economic factors (4) competition (5) saturation level (6) store characteristics and (7) magnet. All of them should be considered to provide a useful insight into the choosing of good location among various alternatives, but they cannot be equally important in all location decisions. By studying these factors, retailers see how desirable an area is for its success. The ability to imply successfully initiative of locating their store allows retail managers to better store performance. Thus, individuals who are responsible for performance evaluation should be aware of the factors that relate to store location selection. This will provide the information they need to perform store-location selection effectively. In this way, they can obtain larger market share, profits, sales volume and/ or number of patroniser by locating their stores strategically. The study's model taking into consideration selection criteria of store location will guide retailers in their searching of higher level of performance by a new market entry or expansion within existing market. In addition, further research can benefit from the conceptual framework proposed by the model in order to find out the factors affecting different store performance measures (i.e. market share) and their differential effects.

4. Further Considerations

The desirability of retail locations is subject to change day-by-day. A location which is deemed desirable and profitable initially may become undesirable and unprofitable due to future competitive encroachment. For instance, Ghosh and Craig (1983) explained that distribution and composition of population as a fundamental factors influencing store volume are changing over time. Therefore, store owners or retailers should take into account the dynamic nature of retail environment such as the changing competitive landscape. This requires the knowledge of how factors affecting store performance like profitability (i.e., Ghosh & Craig 1983) in a particular market area will change over time. In addition, changing demographics will induce greater uncertainty on how optimally to meet consumer needs and wants (Ingene & Lusch 1980). As a result, timely research on the factors affecting store performance is conducted in order for retailers to effectively position their store in a changing consumption environment.

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References

Achabal, D., Gorr, W. & Mahajan, V. (1982). MULTILOC: A multiple store location decision model. *Journal of Retailing,* 58, 5-25.

Applebaum, W. (1966). Methods for determining store trade areas, market penetration, and potential sales. *Journal of Marketing Research,* 3 , 127-41.
Arnold, S. J., Oum, T. H. & Tigert, D. (1983). Determinant attributes in retail patronage: Seasonal, temporal, regional, and international comparisons. *Journal of Marketing Research,* 20, 000002, 149-157.
Berman, B. & Evans, J. R. (2010). *Retail management: A strategic approach.* (11th ed.). Prentice Hall, NJ.
Borgers, A, Timmermans, H.J.P. (1986). City center entry points, store location patterns and pedestrian route choice behavior - a microlevel simulation-model. *Socio-Economic Planning Sciences,* 20(1), 25-31.
Cheng, E. W. L., Li, H., Yu, L. (2007). A GIS approach to shopping mall location selection. *Building and Environment*, 42, 884–892.
Cottrell, J. (1973). An environmental model of performance measurement in a chain of supermarkets. *Journal of Retailing,* 49, 51–63.
Craig, C.S., Ghosh, A. & McLafferty, S. (1984). Models of the retail location process: A review. *Journal of Retailing*, 60, 1, 5-36.
Drezner, T. (1994). Optimal continuous location of a retail facility, facility attractiveness, and market share: An interactive model. *Journal of Retailing*, 70 (1), 49-64.
Dune, P. M. & Lusch, R. F. (2008). *Retailing*. (6th ed.). Thomson Coorporation: China.
Durvasula, S., Sharma, S. & Andrews, J. C. (1992). Storeloc: a retail store location model based on managerial judgements. 68(4), 420-444.
Erbıyık, H., Özcan, S. & Karaboğa, K. (2012). Retail store location selection problem with multiple analytical hierarchy process of decision making an application in Turkey, *8th International Strategic Management Conference, Procedia - Social and Behavioral Sciences*, 58, 1405-1414.
Gautschi, D. A. (1981). Specification of patronage models for retail center choice*, Journal of Marketing Research,* 18 (000002), 162-174.
Ghosh, A. & McLafferty, S. L. (1987). *Location strategies for retail and service firms*. Lexington, MA: Lexington Books.
Ghosh, A. & McLafferty, S. (1982). Locating stores in uncertain environments: a scenario planning approach. *Journal of Retailing,* 58, 5–22.
Ghosh, A. & Craig, S. (1983). Formulating retail location strategy in a changing environment. *Journal of Marketing,* 47, 56–68.
Ghosh, A. (1984). Parameter non-stationary in retail choice models. *Journal of Business Research,* 12, 375–382.
Ghosh, A. (1984). Parameter non-stationarity in retail choice models. *Journal of Business Research,* 19, 425–436.
Gilbert, D. (1999), *Retail marketing management.* (1st ed.), Pearson Education Limited, England.
Grewal, D., Levy, M. & Kumar, V. (2009) Customer experience management in retailing: An organizing framework. *Journal of Retailing*, 85(1), 1–14.
Hasty, R. & Reardon, J. (1997). *Retail management.* Mcgraw-Hill Compnay, Inc., USA: McGraw-Hill.
Hoch, S. J., Kim, B., Montgomery, A.L. & Rossi, P.E. (1995). Determinants of store-level price elasticity. *Journal of Marketing Research,* 32, 17–29.
Ho, W. (2008). Integrated analytic hierarchy process and its applications – A literature review. *European Journal of Operational Research,* 186, 211–228.
Hotelling, H. (1929). Stability in competition, *The Economic Journa,l* 39, 41-57.
Huff, D.L. (1964). Defining and estimating a trading area. *Journal of Marketing,* 28, 34–8.
Ingene, C. & Brown, J. (1987). The structure of gasoline retailing. *Journal of Retailing,* 63, 365–92.

Ingene, C.A. (1983). Intertype competition: restaurants versus grocery stores. *Journal of Retailing,* 59, 49–75.
Ingene, C. A. (1984b) Productivity and functional shifting in spatial retailing: private and social perspectives. *Journal of Retailing,* 60, 15–36.
Ingene, C. A. (1984a). Structural determinants of market potential. *Journal of Retailing,* 60, 37–64.
Ingene, C. & Lusch, R. F. (1980). Market selection for department stores. *Journal of Retailing,* 56, 21–40.
Irwing, B. (1986). *Basic retailing*. Irwin, Inc. Illinois, USA.
Ishizaki, K. (1995). Spatial competition and marketing strategy of fast food chains in Tokyo. *Geogr Rev Jpn*, 68, 89–93.
Jain, A.K. & Mahajan, V. (1979). Evaluating the competitive environment in retailing using multiplicative competitive interactive models. In: J. Sheth (ed.), *Research in Marketing,* Greenwich, CT, 217–235.
Karande, K. & Ganesh, J. (2000). Who shops at factory outlets and why? An exploratory study. *Journal of Marketing Theory and Practice*, 8(4), 29–42.
Karande, K. & Lombard, J. R (2005). Location strategies of broad-line retailers: an empirical investigation. *Journal of Business Research*, 58, 687– 695.
Kotler, P. (1971). *Marketing Decision Making: A Model Building Approach.* Holt, Rinehart and Winston, Inc, New York.
Kumar, V. & Karande, K. (2000). Effect of retail store environment on retailer performance, *Journal of Business Research*, 49, 167–181.
Kuo, R.J., Chi, S.C. & Kao, S.S., (2002). A decision support system for selecting convenience store location through integration of fuzzy AHP and artificial neural network. *Computers in Industry,* 47, 199-214.
Levy, M. & Weitz, B. A. (1998). *Retailing management*. (3rd ed.). Irwin, McGraw-Hill Companies Inc.: US
Li, Y. & Liu, L. (2012). Assessing the impact of retail location on store performance: A comparison of Wal-Mart and Kmart stores in Cincinnati. *Applied Geography*, 32, 591-600.
Lord, J. & Lynds, C. (1981). The use of regression models in store location research: a review and case study. *Akron Business and Economic Review,* 2, 13–19.
Mendes, A. B. & Themido, I. H. (2004). Multi-outlet retail site location assessment. *International Transactions in Operational Research*, 11, 1–18.
Miller C.E., Reardon. J. & McCorkle D.E. (1999). The effects of competition on retail structure: an examination of intra-type, inter-type, and inter-category competition. *Journal of Marketing*, 63, 107–20.
Önüt, S., Efendigil, T., Kara, S. S. (2010). A combined fuzzy MCDM approach for selecting shopping center site: An example from Istanbul, Turkey. *Expert Systems with Applications*, 37, 1973-1980.
Özdağoğlu, A. (2008). Tesis yeri seçiminde farklı bir yaklaşım: bulanık analitik serim süreci, *İktisadi ve İdari Bilimler Dergisi*, 22(1), 421-454.
Pope, J.A., Lane, W.R. & Stein, J. (2002). A multiple-attribute decision model for retail store location. *Southern Business Review, 15-25.*
Redinbaugh, L. D. (1987). *Retailing management: A planning approach*. McGraw-Hill, Inc.
Reinartz, W.J. & Kumar, V. (1999). Store-, market-, and consumer-charactersitics: the drivers of store performance. *Marketing Letter*, 10(1), 5-22.
Serdar, T. M. (2008). *Analitik hiyerarşi süreci yöntemi ile süper market kuruluş yeri seçimi.* Anadolu Üniversitesi Sosyal Bilimler Enstitüsü, Yüksek Lisans Tezi.

Stanley, T. & Sewall, M. (1976). Image inputs to a probabilistic model: predicting retail potential. *Journal of Marketing,* 40, 48–53.
Timmermans, H. (1986). Locational choice behaviour of entrepreneurs: an experimental analysis. *Urban Studies*, 7(3), 231-240.
Tzeng, G. H., Teng, M.H., Chen, J.J. & Opricovic, S. (2002). Multicriteria selection for a restaurant location in Taipei. *Hospitality Management*, 21, 171–187.
Walters, R. & MacKenzie, S. (1988). A structural equations analysis of the impact of price promotions on store performance. *Journal of Marketing Research,* 25, 51–63.
Yang, C.L., Chuang, S.P., Huang, R.H. & Tai, C.C. (2008). Location selection based on AHP/ANP approach. *International Conference on Industrial Engineering and Engineering Management*, 1148-1153.

Appendix. Selection criteria of store location

PERFORMANCE MEASURES	
· Store sales or demand	Cotrell (1973); Ingene and Lusch (1980); Lord and Lynds (1981); Ingene (1983); Ghosh (1984); Irwing (1986):256; Ingene and Brown (1987); Ghosh and McLafferty (1982); Walter and McKenzie (1988); Hasty and Reardon (1997):213; Reinartz and Kumar (1999); Kumar and Karande (2000); Pope et al. (2002); Karande and Lombard, (2005); Cheng et al. (2007); Özdağoğlu (2008); Berman and Evans (2010):266; Erbıyık et al. (2012).
· Store profit	Walter and McKenzie (1988).
· Store patronage or brand loyalty	Stanley and Sewall (1976); Jain and Mahajan (1979); Achabal et al. (1982); Ghosh and Craig (1983); Ghosh (1984); Yang et al. (2008); Erbıyık et al. (2012).
· Market share	Kotler (1971); Jain and Mahajan(1979); Ingene and Lusch (1980); Lord and Lynds (1981); Ghosh and McLafferty (1982); Ghosh and Craig (1983); Ghosh (1984); Durvasula et al. (1992); Kumar and Karande (2000).
· Price elasticity of store	Hoch et al. (1995).
POPULATION STRUCTURE	
· Gender	Irwing (1986):256; Hasty and Reardon (1997):213.
· Age (i.e. % Elderly)	Irwing (1986):256; Ingene and Brown (1987); Redinbaugh (1987):183; Hoch et al. (1995); Hasty and Reardon (1997):213; Miller et al. (1999); Karande and Lombard (2005); Berman and Evans (2010):265-6.
· Education level	Irwing (1986):256; Redinbaugh (1987):187; Hoch et al. (1995); Hasty and Reardon (1997):213; Berman and Evans (2010):265-6.
· Marital status	Redinbaugh (1987):184.
· Occupation	Hasty and Reardon (1997):213; Gilbert (1999): 228; Berman and Evans (2010):265.
· Household size	Ingene and Lusch (1980); Cottrell (1973); Ingene (1983); Irwing (1986):254; Redinbaugh (1987):184; Hoch et al. (1995); Hasty and Reardon (1997):213; Miller et al. (1999); Reinartz and Kumar (1999); Kuo et al. (2002); Karande and Lombard (2005); Berman and Evans (2010):266.
· The number of households in the trade area	Reinartz and Kumar (1999).
· Population size (The number of persons residing in a trade area)	Ingene and Lusch (1980); Ingene and Brown (1987); Ghosh and McLafferty (1982); Redinbaugh (1987):183; Hasty and Reardon (1997):213; Kumar and Karande (2000); Kuo et al. (2002); Pope et al. (2002); Karande and Lombard

	(2005); Berman and Evans (2010): 226-66.
· Population density	Ingene and Lusch (1980); Ingene and Brown (1987); Ishizaki (1995); Hasty and Reardon (1997); Gilbert (1999): 228; Kuo et al. (2002); Karande and Lombard (2005); Berman and Evans (2010):260.
· Population growth rate	Ingene and Lusch (1980); Irwing (1986):256; Gilbert (1999): 228; Kuo et al. (2002); Berman and Evans (2010):266.
· Customer size	Yang et al. (2008); Erbıyık et al. (2012).
· Customers density	Yang et al. (2008); Berman and Evans (2010):266; Erbıyık et al. (2012).
· Travel time (or distance)	Gautschi (1981); Ghosh and Craig (1983); Craig et al. (1984); Ghosh (1984); Irwing (1986):256, Redinbaugh (1987):183; Hasty and Reardon (1997):213; Reinartz and Kumar (1999); Kumar and Karande (2000); Cheng et al. (2007), Grewal et al. (2009); Li and Liu (2012).
· Social classes & subcultures (ethnicity, nationalities represented, racial composition)	Irwing (1986):256; Hoch et al. (1995); Hasty and Reardon (1997):213-15.
· Purchasing habits	Redinbaugh (1987):183-185.
ECONOMIC FACTORS	
· Household monthly income	Cottrell (1973); Ingene and Lusch (1980); Ingene (1983); Ghosh (1984); Irwing (1986):254; Ingene and Brown (1987); Redinbaugh (1987):185-6; Hoch et al. (1995); Hasty and Reardon (1997):213-214; Reinartz and Kumar (1999); Kumar and Karande (2000); Kuo et al. (2002); Pope et al. (2002); Karande and Lombard (2005); Cheng et al. (2007); Yang et al. (2008); Berman and Evans (2010):266.
· The amount of money that will be available for buy my goods and services	Redinbaugh (1987):186.
· Total disposable income	Irwing (1986); Berman and Evans (2010):265.
· The willingness to spend their money	Redinbaugh (1987):183.
· The purchasing power of the residents of a community	Irwing (1986):256; Redinbaugh (1987):186; Yang et al. (2008); Erbıyık et al. (2012).
· The regularity and frequency of their income	Redinbaugh (1987):186
· The source of income	Redinbaugh (1987):186.
· House ownership	Hasty and Reardon (1997):213, Berman and Evans (2010):266.
· House value	Hasty and Reardon (1997):213; Berman and Evans (2010):226.
· The percentage of homeowners as against renters	Irwing (1986):256; Redinbaugh (1987):187; Hasty and Reardon (1997):213.
· Rentals	Yang et al. (2008); Erbıyık et al. (2012).
· Elasticity of rental contract period	Yang et al. (2008); Erbıyık et al. (2012).
· Autos owned	Ingene and Lusch (1980); Gautschi (1981); Ghosh (1984); Gilbert (1999): 228; Reinartz and Kumar (1999); Kumar and Karande (2000).
· The numbers of persons employed in a family	Redinbaugh (1987):186.
· The type of house	Redinbaugh (1987):187; Hasty and Reardon (1997):213.

· The per cent of household heads with college degree	Reinartz and Kumar (1999); Berman and Evans (2010):268.
COMPETITION	
· The spatial proximity to competitors	Craig et al. (1984); Ishizaki (1995); Karande and Lombard (2005); Grewal et al. (2009); Gilbert (1999): 228; Li and Liu (2012).
· The size and/or numbers of competitor stores in trade area	Cottrell (1973); Arnold et al. (1983); Ghosh and Craig (1983); Ingene (1983); Ingene (1984a,b); Irwing (1986): 256-7; Redinbaugh (1987):187-8; Miller et al. (1999); Kuo et.al. (2002); Pope et al. (2002); Tzeng et al. (2002); Mendes and Themido (2004); Karande and Lombard (2005); Özdağoğlu (2008); Yang et al. (2008); Gilbert (1999): 228; Berman and Evans (2010):265; Li and Liu (2012).
· Competitors' shopping alternatives	Hoch et al. (1995)
· Settlement with comparison to competitors	Serdar (2008).
· Relative competitive strength	Redinbaugh (1987):188.
· Competitors' sales volume	Ingene (1983); Redinbaugh (1987): 188; Karande and Lombard (2005).
· Stiffness in competition	Tzeng et al. (2002); Erbıyık et al. (2012).
· The quantity, quality and extent of aggressiveness in competition	Irwing (1986):257; Redinbaugh (1987):187; Mendes and Themido (2004)
SATURATION LEVEL	
· Consumption level	Kuo et al. (2002).
· The number of people in the area who are likely customers for the particular line(s) of merchandise	Irwing (1986):259; Gilbert (1999): 232; Dune and Lusch (2008).
· The average per capita expenditure for these goods	Irwing (1986):259; Gilbert (1999): 232; Dune and Lusch (2008).
· The total space devoted to selling those goods in all stores in the section	Cottrell (1973); Irwing (1986):259; Gilbert (1999): 232; Dune and Lusch (2008).
STORE CHARACTERISTICS	
Ease in Accessibility	Irwing (1986):245; Redinbaugh (1987):188; Levy & Weitz (1998); Kuo et al. (2002); Tzeng et al. (2002); Mendes and Themido (2004); Serdar (2008); Yang et al. (2008); Berman and Evans (2010):265; Erbıyık et al. (2012).
· Parking convenience	Gautschi (1981); Irwing (1986):245-8; Redinbaugh (1987):188; Gilbert (1999): 228; Kuo et al. (2002); Tzeng et al. (2002); Erbıyık et al. (2012).
· Pedestrian crossing	Irwing (1986):245-8; Kuo et al. (2002).
· Sidewalk width	Irwing (1986):245-8; Kuo et al. (2002).
· Road width	Irwing (1986):245-8; Kuo et al. (2002).
· Existence of alternative roads	Irwing (1986):257; Redinbaugh (1987):188; Özdağoğlu (2008).
· Topographic barriers (rivers, highways, lakes, street, hill, etc.)	Irwing (1986):250; Gilbert (1999): 228; Reinartz and Kumar (1999).
· Distance to main road	Özdağoğlu (2008); Erbıyık et al. (2012).
· Vehicle traffic density	Irwing (1986):245,257; Özdağoğlu (2008); Kuo et al. (2002); Erbıyık et al. (2012).
· Passenger traffic	Irwing (1986):245-257; Gilbert (1999): 228; Kuo et al. (2002); Tzeng et al. (2002);

	Serdar (2008); Erbıyık et al. (2012).
· Personal recruitment or operation hours	Cottrell (1973); Ingene and Lusch (1980); Gautschi (1981); Irwing (1986):256; Kumar and Karande (2000); Yang et al. (2008); Erbıyık et al. (2012).
· Store visibility	Yang et al. (2008); Gilbert (1999): 228; Erbıyık et al. (2012).
· Corner location or located near road intersection	Irwing (1986):256; Kuo et.al. (2002)
Store-image attributes	
· Atmospherics	Ingene and Lusch (1980); Ghosh and Craig (1983).
· Number of checkout counters	Cottrell (1973); Achabal et al. (1982); Arnold et al. (1983); Ghosh and Craig (1983).
· Square area (front area, square area, selling area etc.)	Irwing (1986):256; Ghosh and McLafferty (1982); Drezner (1994); Kumar and Karande (2000); Özdağoğlu (2008); Berman and Evans (2010):266; Erbıyık et al. (2012).
· Formation	Özdağoğlu (2008); Erbıyık et al. (2012).
· Assortments of product	Ingene and Lusch (1980); Gautschi (1981); Arnold et al.(1983); Ingene (1984a, b); Irwing (1986):256; Karande and Lombard (2005).
· Pricing of product	Cottrell (1973); Gautschi (1981); Irwing (1986):256; Grewal et al. (2009).
· Quantity and/or quality of product	Ghosh and Craig (1983); Arnold et al. (1983); Ingene (1984a, b); Karande and Lombard (2005).
Costs	
· Cost (of building, renting, buying, renovating, transport etc.)	Irwing (1986):257; Gilbert (1999): 228; Reinartz and Kumar (1999); Tzeng et al. (2002); Özdağoğlu (2008); Serdar (2008); Berman and Evans (2010):265; Erbıyık et al. (2012); Önüt et al. 2012).
MAGNET	
· Crowd point (hospital, market, hotel, foot courts, temple etc.)	Irwing (1986):246; Timmermans (1986); Kuo et al. (2002); Ho (2008); Erbıyık et al. (2012).
· Culture and education organization (school, studying centre, library etc.)	Irwing (1986):246; Kuo et al. (2002).
· Relaxation (recreation centre, department store, KTV and club, cinema, or theatre, park, financial organization, beauty parlours, museum, athletic, zoo etc.)	Irwing (1986):246-257; Redinbaugh (1987):185; Kuo et al. (2002).
· Government and business organization (office building, government office, etc.)	Kuo et al. (2002)
· Vehicle maintenance (gas station, parking area, garage etc.)	Kuo et.al. (2002); Erbıyık et al. (2012)