Retail Location Decision Process

Retail location decisions typically follow a systematic process that starts with a *general* assessment of geographic areas and leads to a *detailed* assessment of specific site characteristics. This process can broadly be described as a three-step selection process (Brown 1992, p. 16):

1. *Market selection*: The first step is the consideration of a region that has potential for a new retail outlet.

2. *Area analysis*: Within the chosen region, a potentially optimal area for the store is selected.

3. *Site evaluation*: In the chosen geographical area, the best available site(s) are examined in terms of all features that are relevant to potential store performance. This step concludes with a final decision as to the specific site.

Catchment Area

The analysis of the catchment area (*trading area, market area*) of a specific region or a specific site is of high importance in each phase of this retail location-decision process. The *catchment area* is the geographic area that contains the customers of a particular site or region for a company or a group of companies for specific goods or services. Thus, it determines the potential demand at a particular site and, among other factors, influences potential sales and profitability.

Usually, the catchment area is divided into three parts. The *primary trading area* is the zone in which the majority of customers are based. It encompasses 50 % to 80 % of the customers. The *secondary trading area* contains about 15 % to 25 % and the *fringe* or *tertiary trading area* includes the remaining customers that shop occasionally at a location as an alternative to local shopping (Berman/Evans 2007, pp. 270-272; Gilbert 2003, p. 280).

These catchment area segments are often described in terms of the *distance* between customers' homes or work places and the area or site. Usually, either the linear distance (e.g. concentric circles drawn around a site), the travel distance (by car or public transport) or time distance measures (by car or public transport) are used to delineate trading area segments. *Mapping techniques* are used to forecast or survey and map such store trading areas (McGoldrick 2002, p. 247). *Geographical information systems* (GIS) are important support systems for location research and trading area analysis. These are software systems that combine digitalised mapping with key locational data in order to depict trading area characteristics such as population demographics, customer purchase data, competitor locations.

Location Assessment Techniques

Location Factors

The *appropriateness* of a specific site is based upon the retailer's strategy (retail formats, merchandise, pricing strategy, etc.) and is influenced by a substantial number of factors that need to be investigated. A selection of location factors is presented in Table 7.3.

Table 7.3

Selected Location Factors

Customers (potential/actual)	Accessibility	Competition	Costs
• numbers by demographics (e.g. population size, age profile, household size) • income level • disposable income per capita • employment by occupation, industry, trends • housing density • housing age/type • neighbourhood classification • home-ownership levels • building/demolition plans • main employers • spending patterns • shopping patterns • population growth, density and trends • lifestyle measures • cultural/ethnic grouping	• site visibility • pedestrian flows • pedestrian entry routes • barriers such as railway tracks, rivers • type of location zone • car ownership level • road network (conditions, driving speeds, congestion, restrictions, plans) • parking (capacity, convenience, cost, potential) • public transport (types, cost, ease of use, potential) • visibility • access for staff • access for transport and delivery	• existing retail activity (direct competitors, indirect competitors, anchor stores, cumulative attraction, compatibility) • existing retail specification (selling area, turnover estimates, department/ product analysis, trade areas, age of outlets, standard of design, car parking) • saturation index • competitive potential (outlet expansion, refurbishment, vacant sites, interception, repositioning, competitor policy) • proximity of key competitors, traders, brand leaders	• purchase price • building costs • rent costs • leasing terms • site preparation • building restrictions • development concessions • rates payable • refurbishment needs • maintenance costs • security needs • staff availability • labour rates • delivery costs • insurance costs • promotional media/costs • turnover loss/other branches

Source: Adapted from McGoldrick 2002, p. 240; Gilbert 2003, p. 293.

In order to guide retail location decisions and to assess or forecast the potential sales or profitability of retail stores in a specific region, area or at a specific site, a number of techniques have been developed to assess the sites.

Table 7.4

Location Planning Techniques

Technique/s	Subjectivity	Cost	Technical Expertise Required	Computing and Data Needs	GIS
Experience	very high	low	low	low	limited role
Checklists/Analogues/Ratios	medium	low	low	low	limited role
Multiple Regression/ Discriminant/Analysis	low	medium	high	medium	information
Gravity Modelling	low	high	very high	high	information, modelling, analysis and modelling
Expert Systems/Neural Networks	low	very high	very high	very high	information

Source: Adapted from Hernández/Bennison 2000, p. 360.

The techniques range from very simple to very sophisticated (see Table 7.4). Either way, most are used to identify and evaluate potential *new sites*, but they can also guide decisions on *existing locations* with respect to extensions, rationalisation, repositioning, etc.

Managers' Experience

Location is a retail function which requires knowledge and expertise. In practice, managerial experience ("*retail nose*") plays an important role in assessing retail locations. For example, *rules of thumb* are often used as subjective and intuitive guidelines for site assessment. Such rules are developed from knowledge of the company (Hernández/Bennison 2000).

Location Evaluation Checklists

Checklists consist of a number of chosen variables (e.g. location factors) to be considered when evaluating retail locations. One of the first detailed checklist evaluation formats was developed by Nelson (1958).

Companies select factors that they believe to influence store performance. While some elements of such checklists are common to all types of retailers, each company is likely to have its own list with factors that reflect its particular strategy and situation (McGoldrick 2002, p. 239).

Checklist Elements

Locational Positioning

Figure 7.1
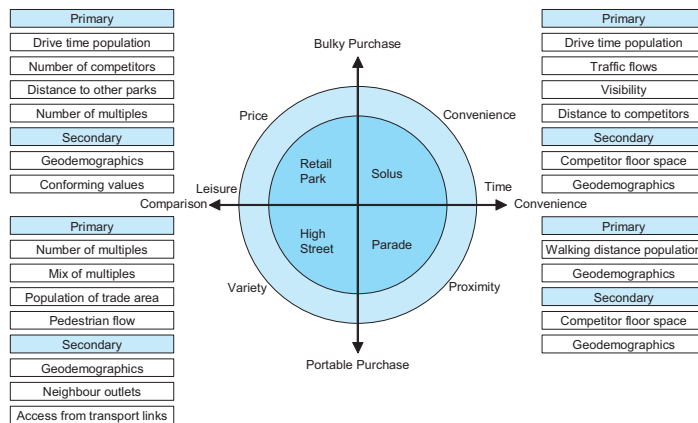
Source: Davies/Clarke 1994, p. 7; CCN Marketing 1993.

Figure 7.1 illustrates linkages between retailers' strategic positioning, typical locations and major factors that are considered to be important influences and which should be analysed in the context of site assessment.

Analogue Method

The principle behind the *analogue method* (Applebaum 1966) is that new store sites are compared to existing ones that have many features in common with the new store (e.g. store size, merchandise or location characteristics). The likely turnover and profitability of the new store site are estimated on the basis of sales achieved and profits earned by similar stores in existing areas. Such comparisons can be done by *extrapolating* own store data or by comparing the new site with existing competing stores (e.g. stores at the prospective location).

Multivariate Statistical Techniques

Given the increasingly complex array of data available for location analysis, multivariate statistical techniques can be used to construct models that harness the predictive power of the available predictor variables for (new) store performance (McGoldrick 2002, p. 257).

Regression Analysis

Most of the important techniques are forms of *multiple regression analysis* which predict store sales and estimate market potential or potential profit. *Discriminant analysis* can be used to predict category membership. Such more sophisticated procedures can identify relationships between store sales and predictor variables such as population in the surrounding area, the spending power of the population, store accessibility, quality of transport links to sites, average distance to population or nearby competition (Moutinho/Curry/Davies 1993).

These techniques provide more objective and systematic insight into the impact and importance of location attributes and are useful in screening large numbers of locations. On the other hand, they require more data than the simpler methods and a higher degree of technical expertise.

Cluster and Factor Analysis

Cluster and *factor analysis* are techniques aimed at *grouping data cases or variables* together for segmenting a portfolio of stores into similar groups (*cluster analysis*) or grouping together a range of variables that can be used to predict site profitability (*factor analysis*). The application of these procedures is particularly suited to new store-format development or the segmentation of retail networks. These techniques also require a large amount of good quality data as well as a high degree of statistical expertise and business acumen (Hernandéz/Bennison 2000).

Spatial Interaction Models

Spatial interaction models are also referred to as "*gravity models*", because they are based on an analogy with the physical law of gravitation. They have evolved as a major stream of development in retail location theory. The basic principle of *spatial interaction* is that the aggregate movements of shoppers are positively related to the attractiveness of a store and negatively related to the distance from the store or other deterrence factors (Craig/Ghosh/McLafferty 1984).

Gravity models can be used to forecast store performance based on the simultaneous consideration of such factors as store size, store image, distance, population and distribution. One of the earliest models of this type is *Reilly's law of retail gravitation* (Reilly 1929). This law establishes a point of indifference between two towns in order to determine the catchment area of each town. This point of indifference is the *breaking point*, defined as the point up to which *one* town dominates and beyond which the *other* town dominates (see Figure 7.2). Thus, it is the point at which consumers are indifferent as to which location they use (Rogers 1992).

Reilly's Law of Retail Gravitation

Figure 7.2

$$d_{01} = \frac{d_{12}}{1 + \sqrt{A_2 / A_1}}$$

d_{01} = distance or journey time of the breaking point 0 from town 1
d_{12} = distance or journey time between town 1 and town 2
A_1, A_2 = population of town 1 and town 2

15 km   5 km

Town 1   Point of   Town 2
(population: 90,000)   indifference   (population: 10,000)

Source: Adapted from McGoldrick 2002, p. 261; Berman/Evans 2007, p. 275.

This model aids in the delineation of the trading area from which retailers draw customers. However, the model has many limitations (see, for example, Rogers 1992; Craig/Ghosh/McLafferty 1984). For example, the breaking point formula does not provide estimates above or below the break-even point between the two towns. Also, the model cannot predict trade areas of more than two towns and the form of the function is not constant for all

types of shopping trips. Retailers can offer additional competitive advantages and thus – contrary to the model assumptions – can differ in terms of location attractiveness (McGoldrick 2002, p. 261; Gilbert 2003, p. 295).

Huff's Law

In order to overcome these limitations, *several refinements and extensions* of the model have been developed, including *Huff's law of shopper attraction* (Huff 1964), which is based on the utility that a shopper derives from shopping at a particular store. It describes catchment areas on the basis of the product assortment carried at various shopping locations, travel times and the sensitivity of the kind of shopping to travel time (trip's purpose and type of product sought).

Knowledge-Based Techniques

Simulation Tools

Knowledge-based techniques are the most recent models that have been developed to assess retail store locations. The most important techniques are *expert systems* or models developed based on *artificial intelligence*, such as neural networks or computer systems modelling the retail environment and shopper behaviour as "software agents" that simulate store performance at prospective locations. Such systems depend heavily on powerful computer capacities and immense data requirements and are still in the development phase.

Conclusion and Outlook

Location decisions have a major impact on a retail outlet's success, as location is an important factor in consumers' store choice. The location decision also has a *long-term impact* as it is not very flexible. Thus, location decisions are of critical importance for retailers' competitive advantages. To guide and support retail site assessment, the various location assessment techniques have become more and more sophisticated. Such improvements have been triggered largely by advances in computer and software technologies (e.g. artificial intelligence).

It should be noted that retail location decisions consist not only of opening new stores, but that *monitoring existing stores* is of equal importance. This entails, for example, decisions concerning repositioning, relocation or closing outlets. This is important, as retail environments change rapidly (e.g. customer behaviour or competitive structure) and companies must also respond in terms of location decisions.

City Management

However, retail location decisions cannot be made without taking into account the *retail environment* in terms of the interests of *towns/cities or residents*. Establishing a retail store can, for example, influence shopping patterns,

traffic and pedestrian flows or the retail structure of a town. A major concern of local communities is out-of-town vs. inner-city retail centres. Also important in this context are *business improvement districts* (BID). BIDs are public private partnerships (PPP) that comprise property and business owners of a defined area, who try to improve it by collective contributions to the maintenance, development and marketing of their commercial district.

To ensure that the specific objectives are met, retail locations are influenced or constrained by local or *central government planning policies*. Thus, the opening of new stores or even changing or extending existing stores may require planning permission. For example, most European countries have restrictions on setting up *large retail formats* and *out-of-town shopping centres*. The reason for these interventions is the potentially adverse impact of large stores on small businesses and of new shopping centres on old ones (see Davies 1995 for a broad overview).

Restrictions and Interventions

However, local authorities not only restrict retail store settlement. In many *city marketing* initiatives, an attractive retail mix is known to be one of the key elements of attracting customers to a particular town or city. Local authorities, therefore, try to attract retailers with a good image so that retailers open stores in their towns or cities.

City Marketing

Further Reading

GHOSH, A.; INGENE, C.A. (Eds.) (1991): Spatial Analysis in Marketing: Theory, Methods, and Applications, Greenwich et al.

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