

THE STRUCTURE OF MARKETS, COMPETITION AND RETAILING: EFFECTS OF INTRATYPE COMPETITION

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The purpose of this research is to investigate the effects of market structure on intratype competition--specialists versus generalists. Also, the effects of intratype competition on the overall retail structure are examined. The manuscript first develops a conceptual model based on theories of spacial retailing. Following this the model is adapted and examined in the context of intratype competition. The results indicate that market structure strongly affects the structure of retailing indirectly through its effects on intratype competition. Also, competition affects the structure of generalist stores, while specialty stores are less susceptible to competitive pressures from either generalists or other specialists. Lastly, implications for managers are developed.

INTRODUCTION

Competition is the primary driver for a market economy. In the United States there is perhaps no more competitive environment than the retail sector. Indeed, because of overdevelopment in the 1980s, competition in the retail sector is predicted to remain strong (Rogers, 1991). Other causes for the relatively high level of competition in retailing are a decline in consumers' disposable income, greater numbers of non-store retailers, and a rise in retail space at a rate exceeding growth in demand (Gruen 1989).

Intratype competition, the competition between two retailers of the same type, is becoming more prominent as retailing continues to evolve. This is particularly important in the current environment with the rise of "category killers"--huge, single line discount retailers that have renewed the interest in intratype competition. Because of overdevelopment in the 1980s, competition will remain strong (Rogers, 1991) and fewer, larger stores will emerge (Sweeney, 1991). These increased threats demand that managers have better information to make decisions about market entry and expansion, relative

investment in marketing mix variables and choosing the correct store format.

Retail competitive structure has received little attention in the literature recently. No empirical studies have been found that deal with the competition between specialists and generalists. Hirschman (1978) developed a descriptive model of department store competition but did not incorporate many of the macromarketing variables of later works. The intratype competition described was divided largely along lines of quality and price.

It is of particular importance to retail managers to understand the effects of the environment and competition on retail structure. The structural arrangement of retail stores is important to managers because it partially determines the viability of market entry. It also affects managers' strategic choice of the format (e.g., specialty, generalist, or variety store) for entry into a market. Finally, the current retail structure partially determines the marketing mix that a manager will need to employ to become successful (Ingene, 1983). For instance, if a market is saturated with smaller specialty shops, a retail manager may wish to expand the product mix to differentiate their store. Also, Porter (1980, 1981) has asserted that business structure is relevant to managers in the development of business strategies.

The purpose of this study is to examine the effects of intratype competition and its relation to market and retail structure. The questions of how specialists and generalists interact and what the comparative effects of structural variables on their competitive position are yet unanswered. Given the trend toward larger stores (e.g., superstores and category killers), studying the effect on specialists--generally perceived as smaller retailers--is especially timely (Schiller and Zellner, 1992). The outcome should provide managers with a new model within which to make decisions concerning market entry and store format.

This paper will proceed in the following manner. The literature on retail structure will be discussed. We then turn to an explanation of the conceptual framework of the research and hypothesis development. Following that are the procedures used to analyze the data and a discussion of the findings.

LITERATURE REVIEW

Retailing structure and the variables affecting it have been studied in some depth. Ingene (e.g., 1982, 1983, 1985), Hirschman (1978) and others have written extensively about retail structure. In particular, specific lines of retail trade have come under scrutiny. Department stores (Hirschman, 1978; Ingene and Lusch, 1980) and grocery stores (Ingene, 1982, 1983, 1985; Ingene and Lusch, 1981) have received the most attention in the literature.

Retail structure has been described by Bucklin (1972) as the manner in which firms engage in the trade of a commodity. This construct differs from market structure in that retail structure is concerned with the composition of retail stores, whereas market structure is determined by the characteristics of the customers in a trade area (Ingene, 1984). Retail structure is the mix, size, and distribution of retailers within a given geographical area and has been operationalized using several different variables. The most common operationalizations are stores per capita and average sales per store (Ingene and Lusch, 1981).

The two major antecedents to retail structure are demand variables and competition (Ingene and

Lusch, 1981). Bucklin (1972) also includes supply variables. However, a review of the literature indicates no attempts at measuring traditional supply measures and does not give indications of specific measures that should be used at the cross sectional, macro level. We follow previous convention (e.g., Ingene and Lusch, 1981) and concentrate on demands variables.

Market Structure

Market structure is defined as the characteristics, arrangement, and pattern of consumers in a given trade area. Consumer characteristic variables have a large effect on retail structure due to the direct interaction between customers and retailers. Economic characteristics such as population, income, wage rates, and unemployment levels have been used to examine the market potential and structure of retailing (see Ingene, 1984 for a review). Among economic variables, income probably has received the greatest attention in the literature. One of the more prominent findings is the Ford effect (Ford, 1935; Hall, Knapp and Winsten, 1961) wherein the number of stores per household declines as income rises. This is attributed to the fact that, as income rises, people tend to range farther and spend less time shopping because time is more valuable. Retailers' reaction to this is to have fewer, larger stores that offer greater assortment. Ferber (1958) noted a high correlation between income and total retail sales. Others, such as Ingene and Yu (1981), indicate that income is a major determinant of demand for several individual lines of trade, not merely for aggregate retail sales.

Arrangement or pattern variables represent the physical distribution between customers and retail stores. These variables have been examined theoretically using the idea of spatial retailing (Ingene, 1984a). This has been modeled primarily through constructs such as mobility and congestion. These constructs are defined as the ability of people to physically access retail outlets and impediments to access retailers, respectively.

Mobility is traditionally operationalized as car ownership per capita in the MSA (Ingene, 1982). As

one's mobility rises, shopping becomes easier. The consumers are better able to range farther to locate their ideal bundle of goods, resulting in greater retail spending. It is also expected that, as mobility rises, retailers can attract shoppers from a larger area, thus expanding their trade areas. Thus stores would tend to be fewer in number and larger, placing themselves in centralized locations to benefit from economies of scale and from the attraction of greater numbers of stores.

As congestion rises, we see the opposite effect of greater mobility. Greater congestion increases the difficulty attached to shopping. This effect occurs for two reasons. First, since customer time has value and congestion increases the travel time of the customer, shopping costs are increased. Second, customers spend psychic effort, the leisure value of an activity, when traveling through congested areas (Ingene, 1984). In other words, it is assumed that consumers find traffic congestion annoying. Since the consumers' cost of shopping increases with higher congestion, they will tend to range less far to locate an ideal bundle of goods and limit overall time shopping. Retailers respond by either clustering in shopping centers or opening neighborhood outlets close to the customer.

Competitive Structure

Competitive forces affect the retail structure due to the interplay between stores. Competition decides the survival of business in an environment. Few current studies exist that examine the effect of competition on retail structure. Ingene (1983) and Hirschman (1978) have been the most recent contributors to this discussion. Hirschman (1978) proposed a model of intratype competition that included four types of retail institutions: traditional department stores, national chain department stores, full-line discount department stores, and specialty stores. She notes that specialists tend to thrive because of classification dominance of their trade lines and see their success tied, in part, to the department stores that sell items in the same price/quality range. Other stores arrange themselves in a three tier price-quality continuum containing discount stores, national chain stores and traditional (high priced) stores. Hirschman also notes

that competition tends to remain within levels, not across them.

Ingene (1983) examined the effect of demographic and marketing mix variables on the structure of competition between grocery stores and restaurants. This examination of intertype competition found market structure and marketing mix variables affect the sales and number of stores. However, the effect of marketing mix variables on competitor types was not directly tested for an effect on the competition. For instance, the assortment, quality, and service of grocery stores was not tested for an independent effect on restaurants. Instead Ingene used a ratio variable to test the effects of these variables on the structure of competition (i.e., relative sales of restaurants to total sales). This is the first known study to empirically verify the effect of market structure on competitive retail structure.

Retail Structure

As retail markets evolve, a distinct structure or arrangement and characteristics of stores begins to stabilize. Retail structure is most often operationalized as the average sales per store or stores per capita (Ingene and Lusch 1981). Among the more prominent authors examining retail structure are Hall, Knapp and Winsten (1961), Schwartzman (1971), Bucklin (1972), Takeuchi and Bucklin (1977), Ingene and Lusch (1981), and Ingene (1984a; 1984c).

Bucklin (1972) describe the determinants of retail structure in terms of supply and demand factors. Later, Takeuchi and Bucklin (1977) indicate that structure is determined by three sets of forces: income, technology and competition. Ingene (1984) tested the effects of demographic variables on retail structure and found a variety of effects, of which income was of central importance. In a later conceptual publication, Ingene (1984) discusses the theoretical underpinnings of the effect of spacial variations on retail structure.

CONCEPTUAL FRAMEWORK

The structural framework for this study describes three major elements--market structure, competitive structure and retail structure (see Figure 1 below).

Before any activity can occur, customers to patronize business must be, at least, thought to exist. Once this concentration of buyers and their demand for products is present, marketers are attracted to serve the needs of the consumer. As the number of these customers rises, competition among marketers sharpens as they attempt to control more trade. Obviously, the presence of more customers increases the appeal of a market center, drawing the attention of ever-growing numbers of businesses. Conversely, if the market becomes less attractive, then retailers will exit.

As retailers move into a trading area, market evolution occurs. Competition for available customers leads to changes in size and product offering among the retailers as they determine, through market forces, what role they will play. This, in turn, leads to the structure of the market as depicted in the model.

HYPOTHESES

The hypotheses for this study are contained in two groups. As indicated by the conceptual framework, the first set will address the effects of market structure on intratype competition. The second set will examine the effect of intratype competition on the retail structure.

Market Structure Effects

As other authors have noted, rising incomes have a number of positive effects on retail structure. Most prominent is the Ford effect (Ford, 1935), which states that as income rises, two conflicting outcomes result. First, store numbers tend to decline and shops become larger. Second, as consumption increases, shop numbers tend to increase. Ingene and Lusch (1981) specify this further by pointing out that the class of goods in question plays a role in whether shop numbers decline or increase. For shopping

goods, the number of shops would tend to increase to take advantage of increased consumer demand. For products with low elasticity of demand (e.g., staple goods), stores numbers will decline and the remaining stores will become larger.

In general, sporting goods as a group are not basic staple goods, and thus have a relatively high price elasticity. This would lead to the conclusion that, as consumer demand increases due to income effects, more stores would surface to meet that demand. Thus:

H1a: The number of generalist sporting goods stores will be higher in areas with higher household incomes.

H1b: The number of specialist sporting goods stores will be higher in areas with higher household incomes.

Generalists have, by definition, a wider assortment of product lines than specialists. We assume from direct observation that generalists tend to have larger stores than specialists. While generalists tend to concentrate on variety and low price, specialists tend to have greater depth and higher-priced merchandise. Also, the products sold by specialists will tend to be less price elastic than products sold in general sporting goods stores. Therefore, specialists should respond faster to changes in income levels due to the relatively higher modified Ford effect (Ingene and Lusch 1981). Moreover, as consumers obtain more discretionary funds, they tend to switch to higher-priced specialty goods that more closely fit their individual needs. This, in turn, leads to relatively higher demand for specialty stores in higher income areas.

H2: The number of specialist sporting goods stores will be relatively higher than the number of generalist sporting goods stores in high income areas.

It is argued that as congestion increases, it becomes more difficult for consumers to comparison shop and the value of their time offsets the desire to shop for the best deal. Because sporting goods are non-

FIGURE 1
CONCEPTUAL FRAMEWORK



essential products, it is predicted that people will be less inclined to spend time shopping for them. Overall demand will decline and stores, in response, will become fewer. As noted by Ingene (1984), stores can deal with increased congestion in two ways. On one hand, retailers can create fewer stores in highly concentrated areas. The other option is to have many stores in diverse locations so that customers have to travel shorter distances to the store. Given the capital constraints of retailers, particularly specialist stores, the likelihood of duplicating both capital and inventory expenditures seems slight. This is especially plausible given that the stores have another option -- locating in a mall or area with high retail concentration. Therefore:

H3a: If relatively high congestion is present, the number of generalist stores will be relatively less.

H3b: If relatively high congestion is present, the number of specialist stores will be relatively less.

As discussed above, specialty stores face a lower price elasticity than generalists. This allows specialists to increase costs to the customers without relative losses in sales. As indicated by Ingene (1984) the costs to the consumer of shopping include the cost of the product, the psychic effort, and time costs. Psychic effort and time costs increase with congestion. However, the effect of these higher costs will affect the generalist more than the specialists because of the relative price inelasticity of specialists. Thus the following hypothesis:

H4: If congestion is relatively high, the relative number of generalists will be lower than the number of specialists.

Competitive Effects on Retail Structure

There are essentially two general competitive options that stores can employ in the face of increasing competition. On one hand, they may use their inherent competitive advantages. For instance, generalists would grow in size and attempt to use economies of scale and comparative advantage in pricing and product offerings (Lees and Worthington 1989). On the other hand, specialists may concentrate on fulfilling the particular needs of a narrower target market. Thus, they would carry a smaller variety and greater depth, becoming more specialized than their competitors.

The second available strategy involves differentiating the store from competitors. In this case, the strategy involves examining the behavior of the competition and doing the exact opposite. For instance, when faced with generalist competition, a store could become more specialized, as suggested by Wortzel (1987). Conversely, when faced with competition from specialist retailers, a store may expand its product offering to differentiate itself.

The above discussion indicates two distinct responses to competition. Since the differentiation strategy is more commonly employed in the marketing literature, all hypotheses will be stated with this focus.

Competition from Generalists

As competition among generalists increases, two patterns can be expected to emerge. First, the tendency toward specialization would mean a reduction in sales volume as the generalist reduces its broad attractiveness to a narrower customer base in an attempt to differentiate itself. These stores will face competition from both the entering generalists and the specialists that they are trying to emulate. Thus, they will suffer reduced sales due to smaller customer segments being served by more stores. Thus the following hypothesis:

H5a: Relatively higher levels of generalist competition will cause average sales of generalist stores to decline.

The second pattern deals with specialist reactions to competition from generalists. Specialists will employ both differentiation and competitive advantage strategies. In both strategies, the specialist will further narrow the target market and offer fewer lines with more depth. While this may increase the effectiveness and penetration of the specialists, the average sales per store are expected to decline due to the smaller respective markets which they are serving. Further, competition from generalists moving to more specialized product lines (H5a) will create even smaller divisions of the market for each store. It can therefore be expected that:

H5b: Relatively higher levels of generalist competition will cause average sales of specialist stores to decline.

Competition from Specialists

When competition from specialty sporting goods stores rises, both specialists and generalists are expected to react by expanding product lines--thus following a differentiation strategy. As product lines expand, customers are more likely to find their ideal bundle of sporting goods and thus increase overall market size. It is also expected that specialists will carry different product lines from each other, increasing the likelihood of customers finding their ideal bundle of goods and expanding specialist markets.

Both specialist and generalist sales per store are expected to increase due to two factors. First, the increased market due to expanding product lines will increase aggregate sales per store. This leads to increased economies of scale that reduce costs and prices, thus creating larger demand and further expanding the size of the market. Hence:

H6a: Greater specialist competition causes a relative increase in the average sales volume of generalists.

H6b: Greater specialist competition increases the relative sales volume of specialty stores.

METHODOLOGY

The data used in this study represent two levels of store specialization within a single trade line: general sporting goods stores and specialist sporting goods stores. A general sporting goods store, as defined by the U.S. Bureau of the Census, is one which sells primarily a general line of sporting goods and equipment for hunting, camping, fishing or other recreational activities. A specialist store, in contrast, carries a maximum of four lines of sporting goods and equipment.

Sporting goods stores are conceptually interesting for several reasons. Except for a brief mention by Ingene (1984) as part of a larger study, this major trade line has been largely overlooked in previous studies. Nonetheless, this trade line is representative of overall retail trends dealing with specialists and generalists. Finally, sporting goods stores have separate data recorded in the *Census of Retail Trade* for specialists and generalists. Therefore, it is possible to study intratype competition on a macro level.

The most common geographical area used to study retail structure and competition has been the SMSA (Ingene and Lusch 1981). Due to changes in the geographical definitions we will use SMA and PMSA, which for clarity will always be referred to as an SMA. Use of the SMA is well documented in the literature and has the following strengths. First, it is a self-contained marketing area that has little out-shopping and bounded advertising. The effects of structural variables can be assumed to be localized. Second, households comparison shop mainly within a single SMA. Third, there is little commercial interaction between SMAs and surrounding areas. Finally, abundant secondary data are available for SMAs from several sources, allowing for ease in access to data for research purposes (Ingene 1983).

Data were obtained from the *Census of Retail Trade* and *Population Census of the United States*, *Commercial Atlas and Marketing Guide*, and the *City and County Data Book*. There were 298 SMAs in the 1987 census. Of these, 149 had both specialty sporting goods stores and general sporting goods

stores. Those SMAs without specialty stores were dropped from consideration. Also omitted were those SMAs that lacked any data for sporting goods stores.

Market structure is operationalized as household income and congestion. The household income data were obtained from the *Population Census of the United States*. Congestion was calculated by dividing the number of automobile registrations for each SMA by the number of square miles in the SMA. Registration figures were obtained from the *Commercial Atlas and Marketing Guide*, while the square mile figures were taken from the *City and County Data Book*.

A path analysis using LISREL 8 (Joreskog and Sorbom 1993) was employed to examine the model in Figure 2 (below)

This model follows the general framework as described in Figure 1. After a review of the literature, CONGESTION and INCOME were deemed to be the most important market demand variables, both in theoretical and empirical terms. Although both mobility and congestion measure the time and psychic cost of traveling to the store for the customer, congestion was used because of its higher empirical magnitude in studies done by Ingene and Lusch (1981). Despite extensive study of the relationship between income and retail structure, there have been conflicting results with regard to income's effect.

The level of retail competition has been operationalized as the number of stores in an SMA. While this suffers the shortcoming of not considering market power, it is nevertheless an adequate substitute. By definition, competitors are those selling the same product class. Therefore, the number of competitors should adequately measure the degree of competition within a market. Finally, the market structure is operationalized through the variable of sales per store, as suggested by Ingene and Lusch (1981). It satisfactorily represents both the size and relative positioning of the retailers.

RESULTS

The Goodness-Of-Fit (GOF) of the model indicates the degree to which the data conform with the proposed model structure. In this case the GOF statistics indicate an acceptable correspondence between the data and the proposed model. The Chi-squared for the model was 11.63 ($p = .04$). The p -value for test of close fit ($RMSEA < 0.05$) is 0.13, indicating that the hypothesis of a close fit cannot be rejected. The Goodness of Fit Index (GFI) and Adjusted GFI are 0.97 and 0.89, respectively. The GFI is well beyond the recommended limit of 0.90 (Lichtenstein et al., 1992), while the AGFI is only slightly below it.

The coefficients and t -values of the path analysis are shown in Table 1 (below).

The column variables represent antecedents (where the path originates) and the rows represent dependent variables. Standardized path coefficients have been reported so that their magnitudes can be directly compared. Also, the indirect effects are reported in the lower left cells of the table. While no *a priori* hypotheses were developed with regard to indirect effects, they will be reported and discussed.

As can be seen in Table 1, the sign (+ / -) of each coefficient corresponds to the hypothesized direction of the effect. However, some of the coefficients are not significant. Overall, H1a, H1b, H2, H5a, and H6a were supported. The rest of the hypotheses were not.

DISCUSSION

Two major effects were predicted in the conceptual model: the effect of market structure on the creation of competition through a supply factor and the effect of competition on retail structure. Consumer related variables of congestion and household income were hypothesized to have a direct effect on the number of generalist and specialist stores. The number of generalist and specialist stores was expected to have a direct effect on the structure of generalists and specialists in the marketplace.

Overall, the data fit the model well. This finding and the underlying logic of the model offer support that the model has been correctly identified. Many authors (e.g., Ingene and Lusch 1981; Ingene 1984c; Bucklin 1972) have indicated that competition and demand variables affect the retail structure. However, this model identifies that supply follows demand into a market and thus creates competition. The market structure then evolves from the competitive dynamics of the market.

Market Structure Variables

Hypothesis 1 predicted rising household incomes would result in greater numbers of generalist and specialist sporting goods stores. The results strongly support the hypothesis (t -values of 4.19 and 5.14, respectively). Increased household income represents greater demand for goods and services, thereby increasing competition through greater store numbers. This result is both intuitively agreeable and reinforces previous work on retail structure (e.g., Ingene and Yu, 1970; Ingene, 1984).

As indicated in Table 1, the effect of household income on store numbers is more pronounced for specialists than for generalists, thus supporting H2. That is, specialists numbers tend to be relatively higher than generalists' in higher income areas. Specialist stores tend to be smaller in size and, by definition, carry fewer trade lines than generalists. This reduction in capital requirements enables them to begin operations more swiftly in response to changes in consumer demand for products. Thus, as household incomes rise, specialists are able to step in quickly to meet increased consumer demand. They also have the ability to open more stores than generalists with the same amount of capital due to their limited product offerings.

The other reason for increased numbers of specialists is grounded in economic theory. As consumer incomes rise, their consumption patterns change. They tend to either consume more of a given product or purchase a higher quality of good. Sporting goods consumers are more likely to purchase higher quality or more specialized goods than to consume them in

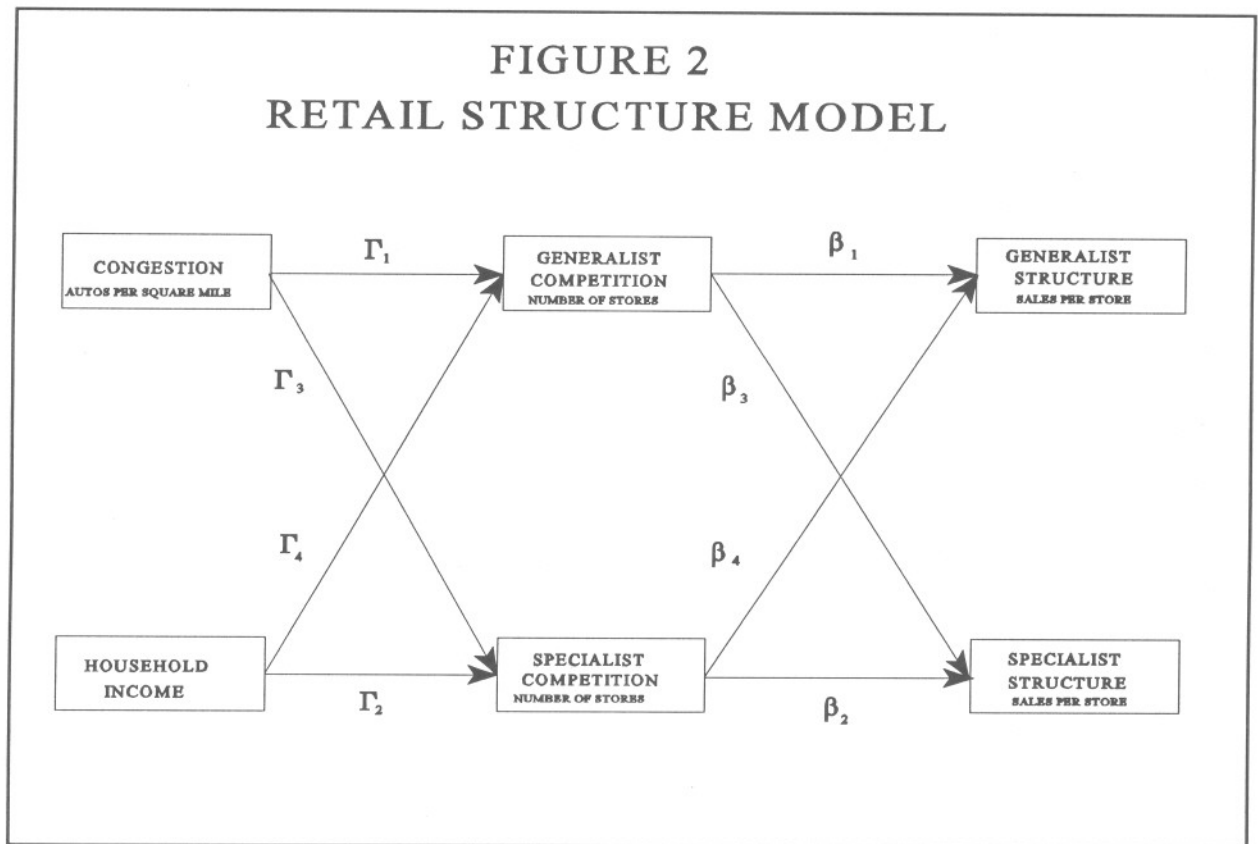


TABLE 1

Path Model Results

FROM => TO	CONGESTION	INCOME	GENERALIST COMPETITION	SPECIALIST COMPETITION
GENERALIST COMPETITION	.11 (1.33)	.35 (4.19)	N/A	N/A
SPECIALIST COMPETITION	.11 (1.38)	.41 (5.14)	N/A	N/A
GENERALIST STRUCTURE	.03 <i>(1.04)</i>	.16 <i>(3.57)</i>	-.54 (2.51)	.85 (3.92)
SPECIALIST STRUCTURE	.02 <i>(1.11)</i>	.09 <i>(2.28)</i>	-.15 (0.66)	.34 (1.47)

t-values in parentheses
indirect effects in *bold italics*

greater numbers. For example, there is little economic utility for a consumer to own seven pairs of skis. They will, rather, purchase a single pair of more expensive, better quality skis. Specialty stores carry deeper lines, which in turn often leads to a greater variety of higher priced goods to satisfy the more demanding tastes of affluent consumers. Specialist entry into high income markets follows, creating a higher level of competition for the consumer's sporting goods dollar.

Congestion is the other consumer variable under consideration. It is believed that as congestion increases, consumers find shopping less desirable and tend to do less of it (Ingene, 1984). It becomes more difficult for the consumer to comparison shop, so consumers tend to satisfice, going to stores that have greater variety and an increased likelihood of meeting their needs. Because sporting goods are non-essential products, it is predicted that people will be less inclined to spend time shopping for them. Overall demand will decline and store numbers will also fall. Stores could increase their numbers in diverse locations so that customers would have less distance to travel, ameliorating the congestion effect. However, capital constraints and the fact that shopping goods stores tend to proliferate less than convenience stores would argue against this approach. The other option described in the literature would be to have fewer stores in central locations so that customers may more easily reach them despite congestion.

The data indicate that congestion did not have a significant effect on store numbers of either specialists or generalists, thus rejecting the third set of hypotheses. This is not surprising, given the findings of Ingene (1983). His research showed that, for restaurants and grocery stores, congestion was not significant for either sales per store or store numbers. These results also do not support hypothesis 4, that specialist stores would be more adversely affected by congestion than would generalists. It is possible that congestion and income have an interaction effect. It would seem at least plausible that higher income people value their time more than others and therefore will not take additional time to maximize the utility of their

purchases. It would appear that congestion by itself has limited effects on the retail structure.

Competition

The final set of hypotheses deals with the effects of competition on retail structure. These hypotheses have not been previously tested and represent the most substantial contribution of this paper.

Hypotheses 5a and 5b indicate that as the number of generalist stores rises, overall sales for both generalists and for specialists are expected to decline. The coefficient for H5b was negative but insignificant ($t = -0.66$; $p > .05$). The coefficient for the effect of generalist competition on generalist structure was both negative and significant ($t = -2.51$; $p < .01$). The combination of these results tends to support the idea that stores attempt to differentiate themselves from competitors by changing their product offerings. The results also indicate that specialists tend to be less sensitive than generalists to competition from generalists. We speculate that the pressure on the specialist to further reduce the number of product classes is small because the different formats tend to serve different customer segments.

The support for H5a indicates that a reduction in sales per store for generalists is a result of the generalists trying to differentiate themselves from other generalists. In essence, these generalists will reduce their broad attractiveness, in effect becoming more specialized. This will lead to a reduction in average sales for the stores because of increased competition and smaller markets. As generalists differentiate themselves from other generalists they tend to enter into more direct competition with specialists. Thus, they will suffer reduced sales due to smaller customer segments being served by more stores. This is consistent with the findings of Ingene (1984b) that larger sporting goods stores tend to suffer from decreasing returns to scale. In other words, they can become more efficient by downsizing.

The last set of hypotheses pertains to the effect of specialist store competition on the structure of both

store types. The coefficient for H6b was positive, but insignificant ($t = -1.47$; $p > .05$). The coefficient for the effect of specialist competition on generalist structure was both positive and significant ($t = 3.92$; $p < .01$). This further supports the idea that stores attempt to differentiate themselves from direct competitors.

These results of H6a indicate that generalists will expand product lines as the number of specialists increases. As product lines expand, customers are more likely to find their preferred goods, thus increasing the overall market. The sales of generalists then rise due to the greater overall market size brought about by 1) greater product variety and 2) increased economies of scale leading to lower prices. This expansion, such as is happening with category killers and superstores, has the effect of increasing sales per store.

Indirect Effects

One effect that was not hypothesized emerged upon further examination of the model. Household income was found to have a positive, indirect effect on retail structure. Household income had a significant positive effect on sales per store for both types of retailers. This is consistent with what was found by Ingene and Yu (1981), among others. It is interesting to note that the total indirect effect of income was larger for generalists than specialists. This is contrary to what one might intuitively expect in this situation. Perhaps this result is caused by the relative increase in household income based on one's socioeconomic status. Lower income purchasers would tend to patronize generalist sporting goods stores and would be more numerous than higher income purchasers. When the income level of the lower class rises, their tendency would be to shop at those stores that are most familiar to them rather than changing their shopping behavior.

CONCLUSION

This research study examined the effects of intratype competition and consumer demand on retail structure. Congestion and household income operationalized consumer demand, while competition was represented

by the mix of specialists and generalists in each SMA. As other authors have found, congestion was not a significant factor in determining the competitive structure for retailers. This work has extended that information to include sporting goods stores, as well as the generalist/specialist dichotomy.

Household income has a substantial effect on the competitive structure of the sporting goods industry. Stores of both types are attracted to markets where consumers have higher incomes. The effect is greater for specialists than for generalists and is attributed to a combination of two factors. One, the income effect, is important because people tend to buy higher priced goods when incomes rise. The other reason is the tendency for specialists to have narrow lines and to further differentiate as competition increases.

Our findings also showed results heretofore not mentioned by others: the impact that competitive structure has on retail structure. Average sales per store among generalists rises whether competition increases among generalists or among specialists. Hence, competition may actually benefit generalist stores. Specialty stores are relatively undisturbed by direct competition from either other specialists or larger generalists. The most probable reason for this outcome is that specialists have relatively isolated target markets.

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