

PRODUCT

Retail Assortment: More ≠ Better

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Product assortment strategy is a central yet complex issue for retailers. Retail product assortments have undergone drastic changes in the past decade from unparalleled large assortments in the early 1990s to the current emphasis on streamlined, efficient assortments. The purpose of this chapter is to provide guidance to retailers making these important assortment strategy decisions.

Consumer assortment perceptions have been shown to be one of the top three criteria, along with location and price, in determining retail patronage. In the 1980s and early 1990s, retailers assumed that larger product assortments better met consumer needs. Broad assortments should increase the probability that consumers will find their ideal product and offer flexibility for variety seekers. Thus, in an effort to serve the customer, the number of products offered in supermarkets escalated from 6000 stockkeeping units (SKUs) in the 1980s to over 30,000 SKUs in the early 1990s. However, the Food Marketing Institute issued two imperative reports that called this increasing assortment into question. First, these broad assortments resulted in higher inventory costs and more out-of-stocks for retailers (see Verhoef & Sloat chapter in this book for further information on out-of-stocks). Second, these higher costs made it difficult for conventional supermarkets to compete against the growing retail formats of discount stores, warehouse clubs, and supercenters.

As part of its 1993 report, the Food Marketing Institute conducted a field study in which it reduced SKUs in six product categories (cereal, pet food, salad dressing, spaghetti sauce, toilet tissue, and toothpaste) at 24 test stores. Redundant SKUs were eliminated and shelf space was held constant, with more space now allocated to high-market-share items. Importantly, the results showed no significant negative impact of SKU reduction on sales. In other words, this initial evidence suggested that efficient assortment might result in cost savings without loss of sales. However, it was difficult to draw definite conclusions as the magnitude of SKU reduction in these categories was vague.

In another series of in-store studies, Dreze, Hoch, and Purk (1994) examined a 10% reduction of low-volume SKUs in eight test categories over a 4-month period.

Their shelf-reset procedure was similar to that in the Food Marketing Institute study, with shelf space held constant and freed-up shelf space reallocated to high-volume SKUs. Across eight categories, they found that sales increased by 4% for 30 test stores compared with 30 control stores. These results began to indicate the possibility that smaller assortments might even have a positive effect on sales.

In the remainder of this chapter, we review recent research that further questions the conventional wisdom on assortment and shows that more product assortment does not necessarily lead to a better shopping experience. The chapter is organized around four research questions: (1) How do consumers perceive assortment? (2) How should assortments be organized? (3) How does assortment affect consumer product choice? and (4) How do marketing mix variables interact with assortment?

How Do Consumers Perceive Assortment?

Assortment is traditionally defined as the number of SKUs offered within a single product category. However, consumer perceptions often differ from objective reality. Although the aforementioned studies examined the impact of SKU reduction on sales, they did not provide any insight into how consumers actually perceived assortment. In a seminal paper, Broniarczyk, Hoyer, and McAlister (1998) reported that assortment perceptions were influenced by three factors: (1) the number of unique SKUs offered, (2) the heuristic of the total space devoted to the category, and (3) the availability of a consumer's favorite SKU.

Assortment Dimensions. In keeping with the traditional definition of assortment, the number of unique items offered was directly correlated to consumer assortment perceptions. However, consumer assortment perceptions were found not be a one-to-one function of the number of items offered, as consumers do not process assortment information in a great amount of detail. Instead, their laboratory studies conducted by Broniarczyk et al. (1998) showed that consumers were not sensitive to a SKU reduction by 25–50% in the popcorn category if the size of the shelf space was held constant and their favorite item was still available. In fact, consumer perceptions actually *increased* following a 25% SKU reduction if shelf space was held constant. This increase in assortment perception was due to popular SKUs being duplicated, which made it easier for consumers to find their favorite products. This finding leads Broniarczyk et al. (1998) to suggest that consumer assortment perceptions have both a cognitive dimension (total number of SKUs offered, size of category space) and an affective dimension (availability of favorite, ease of shopping).

Broniarczyk et al. (1998) confirmed this multi-dimensional view of assortment perceptions in a convenience store field study. The leading five product categories (accounting for 80% of sales) were subjected to a 54% SKU reduction at two test stores, and assortment perceptions in the test stores were compared against those

in two control stores. In-store intercepts with customers revealed no change in assortment perceptions, but customers did report that it was now easier to shop. In addition, overall sales increased by 8% in one of the test stores and by 2% in the other. Thus, substantial SKU reduction was shown to have positive affective consequences without negatively affecting consumers' cognitive perceptions of assortment.

Product Dissimilarity and Attribute Dispersion. Two follow-up papers further developed our insight into how consumers perceive assortment by specifying mathematical models of consumers' cognitive assortment perceptions. Hoch, Bradlow and Wansink (1999) modeled the assortment of a product category as the dissimilarity of product pairs (i.e., product-based approach). In an experimental test of hypothetical products, attribute differences between SKUs were found to have a substantial impact on assortment perceptions. Uniqueness of product pairs was found to be critical, with assortments containing duplicates severely penalized. However, it is important to point out that there are diminishing returns to increased uniqueness. Adding a unique feature to one of two products will have more of an effect on pair similarity if the products are currently identical than if they already differ in multiple attributes. That is to say that beyond a certain point, adding further attribute differences between product pairs has no additional assortment benefit.

Van Herpen and Pieters (2002) use an attribute-based approach to model the assortment of a product category as a function of the dispersion of attribute levels across all products in the category and the correlation between product attributes. An assortment is varied to the extent that attribute levels are dispersed and a low level of association exists between attribute pairs. For instance, the four products black cotton sock, black nylon sock, white cotton sock, and white nylon sock offer greater assortment than the four products two black nylon socks and two white cotton socks. In the latter set, the attributes of color and fabric material are perfectly correlated, thereby reducing assortment. The model of Hoch et al. (1999) would make a similar prediction, as the latter set also increases the number of product duplicates. Although different conceptually, the product pair dissimilarity model of Hoch et al. (1999) and the attribute-based model of Van Herpen and Pieters (2002) have been shown to be mathematically similar when accounting for assortment size. Both models have received empirical support in laboratory experiments, but would benefit from further validation in the field.

Brand-Size Effects. Boatwright and Nunes (2001) did examine SKU reductions in the field, in an on-line grocer's assortment. Specifically, they found that an average of 56% SKU reduction in 42 product categories did not affect sales (Boatwright, Nunes 2001). They found that retailers could trim brand-size combinations while maintaining the total number of brands and sizes offered in the assortment. Consider an assortment of six products: brand A in size X, size Y, and size Z and brand B in the same three sizes. This assortment could be reduced to four products with all attribute levels maintained by brand A offering sizes X and Y and brand B

offering sizes Y and Z. This reduced number of items would be predicted to have null or positive effects on consumer assortment perceptions as the dispersion of attribute levels across products remains constant (Van Herpen, Pieters 2002) and the dissimilarity between product pairs is increased (Hoch et al. 1999). However, a note of caution: 60% of customers whose favorite SKU was eliminated reduced or stopped their category purchases.

Summary and Implications. Retailers and manufacturers need to understand that consumer assortment perceptions are not simply a function of the number of items offered in the product category. A key principle is that consumer perceptions of assortment are also a function of the similarity of the items in the assortment, the size of the shelf display, and the availability of their favorite products.

The multi-dimensional nature of assortment perceptions implies that retailers may be able to reduce the number of items offered without decreasing consumers' perceptions of assortment. The threshold for reducing SKUs without adversely affecting consumer assortment perceptions is likely to be dependent on several factors. Key implications are: (1) There is an inverse relation between the initial size of the assortment and the magnitude of SKU reduction on assortment perceptions (Van Herpen, Pieters 2002). This means that large SKU reductions are more likely to decrease assortment perceptions when the initial assortment size is small rather than large. (2) There is a link between distribution of SKU sales and magnitude of SKU reduction on assortment perceptions. If sales are uniformly distributed across products in the category a significant reduction in SKUs is likely to make the favorite product unavailable for a large proportion of customers. However, if the majority of sales are driven by a few products (e.g., 80% sales are driven by 20% of products), a reduction of low-selling SKUs will have minimal adverse impact on the availability of customer favorites. For instance, in the convenience store field study, few customers reported that their favorite was unavailable following the $\geq 50\%$ SKU reduction because the majority of products accounted for a negligible portion of sales (Broniarczyk et al. 1998). (3) Mathematical models offer guidance on strategic SKU reduction by identifying products offering the lowest unique value to the assortment, such as redundant brand-size combinations.

How Should Assortments Be Organized?

In addition to assortment perceptions, it has also been recognized that the manner in which assortments are *organized* can have a significant impact on how consumers process information. Prior research has clearly highlighted the fact that the manner in which information is presented greatly influences the way consumers process information about the brands. In particular, consumers tend to be constructive processors who adapt their decision-making style to the information display format. Thus, if information is organized by brand, consumers tend to process by brand. If information is organized by attribute, consumers are more likely to make comparisons across attributes. Researchers in marketing and

make comparisons across attributes. Researchers in marketing and consumer behavior have identified various key aspects of assortment organization that can influence how consumers process assortment information.

Nature of the Display. A series of studies by Itamar Simonson and Stephen Nowlis has examined how the nature of the display influences consumer processing. Side-by-side displays favor brands with a lower price or with superior features because the display makes it easy to compare the brands. Brands with high prices are better served by separate displays that inhibit comparison (such as an end-of-aisle or perimeter display). In fact, Dreze et. al. (1994) found that location in the display is far more critical than the number of facings. Brands in the middle of a display are more likely to be compared and to influence perceptions of variety.

Organize by Brand or Model? Another way to organize assortments is by brand or by model. For example, a retailer could either group all the models of a particular brand together (e.g., Sony, Magnavox, etc.) or group all different types of models together (e.g., all low-priced models together, mid-range models together, and high-end models together). When options are organized by model or tier, consumers are more likely to select the mid-line and top-of-the line brands (owing to a tendency to avoid the cheapest brand). A study of yogurt found that organizing the display by brand encouraged consumers to buy the same brand in different flavors. However, organizing by flavor caused consumers to think about flavor first and then buy different brands. Thus, a brand display encourages more brand loyalty, while an attribute-based display encourages brand switching and variety seeking.

Ordering of Brands. Retailers can also determine the order in which brands and information are processed. This is very easily accomplished in on-line environments, by controlling which brands are presented first. In store this can be accomplished by the position of the brands in the display (right-to-left and left-to-right, as well as shelf level). Consumers can also develop internal ordering of products. Research has shown that such ordering of information can have a big impact on consumer evaluations.

For example, when consumers engage in limited information searches, a declining order (best to worst) leads to the most positive evaluations. This occurs because consumers tend to see only the brands that are rated most positively. When a search is extensive, however, evaluations are more positive for an increasing order (worst to best). Exhaustive searching ensures that all the brands are processed (especially the most positive ones at the end). Thus, it is clear the retailers should consider the likely search patterns of their consumers in determining how the brands are ordered.

How Well the Display is Organized. At the extremes, assortments can be either well organized or rather disorganized. When the assortment is large, actual variety is easier to recognize when assortments are organized. With small assortments, however, organized assortments can actually make the lack of choice more salient.

Further, if actual variety is increased in a disorganized manner, the disruptive impact on consumers will be less than if it was increased in an organized manner.

Symmetrical vs. Asymmetrical Assortments. When assortments are asymmetrical (i.e., some items appear more or less frequently than others) it is easier for consumers to appreciate the variety in them than it is in a symmetrical assortment (where all items are presented equally—Kahn, Wansink 2004). This occurs because low-frequency items carry more information and are rare compared with those that are high in frequency and are therefore more redundant. This notion is consistent with Hoch et al.'s statement (1999) that uniqueness of items in an assortment is critical.

Comparability with Consumer Knowledge Structures. Assortment displays (either in physical stores or on line) have the potential to be very complex as they contain vast amounts of information. Consumers deal with this complexity by developing an "internal structure," which involves categorizing brands and information into knowledge structures called "schemas." For instance, when categorizing the product category of popcorn, consumer A may organize the options around different brands (Orville Redenbacher, Pop Secret, Jolly Time) whereas consumer B organizes the options around different flavors (butter, low fat, cheddar). In a series of studies, Morales et al. (2005) show that when a consumer's internal structure for the category matches the external structure of the shelf display the consumer is more likely to perceive greater variety and be more satisfied with his/her choice.

Product schemas become more established in memory and play a stronger role in information processing as consumers gain experience with a product category. Thus, if consumers are very familiar with the product category, the internal schema structure is likely to be strong and it is critical that the assortment organization be congruent with their prior knowledge. However, when familiarity with the product category is low, consumers will not have well-developed schemas and it is more important for the assortment structure to be congruent with their situational shopping goals (e.g., foods for a snack, foods to take to the beach).

Summary and Implications. Not only do retailers and manufacturers need to determine the size of their assortments; it is also critical to evaluate carefully how these assortments are organized. Our summary of research on this topic identifies a number of key principles: (1) Side-by-side displays facilitate brand comparisons, while separate displays are better for high priced brands. (2) Organizing by brand encourages consumers to buy by brand, while organizing by model stimulates the use of other attributes such as price. (3) Evaluations tend to be more positive when brands are in worst-to-best order. (4) Organized displays are better for large assortments, but for small assortments they make the lack of choice more apparent. (5) Asymmetrical assortments make it easier for consumers to see the variety in an assortment. (6) It is important to align assortments with consumers' internal knowledge structures if consumers are familiar with the product category.

How Does Assortment Affect Product Choice?

The previous section discussed how assortment organization affects consumers' assortment perceptions and product choice. This section reviews recent research in consumer behavior and psychology to further extend our understanding of how assortment affects product choice. Across a wide range of products and service, consumers report a desire for large assortments. Yet, the consumer decision-making literature suggests that larger assortments may have negative consequences.

Decision Difficulty. The information overload literature has shown that increasing the number of product alternatives increases the cognitive load, thereby increasing consumers' decision difficulty. A large number of product alternatives also leads to consumer confusion and lower consumer satisfaction with the decision process. Increased cognitive effort further results in task-induced negative affect, with consumers preferring to choose alternatives that are easy to evaluate. The decision difficulty, confusion, and negative affect associated with large assortments may lead consumers to walk away from the shelf display without purchasing.

Likelihood of Purchase. Iyengar and Lepper (2000) recently examined this dual attraction/difficulty characteristic of large assortments. They found that large assortments initially attracted consumers to the shelf display, but the decision difficulty they encountered on trying to make a choice was demotivating, increasing regret and leading consumers to walk away without making a purchase.

Specifically, in a series of studies, Iyengar and Lepper (2000) compared consumer reaction to six options (small assortment) versus 24 options (large assortment). In a field study in an upscale grocery store, they showed that consumers were more attracted to a sampling station when it offered 24 varieties of jam (60% of shoppers sampling) than when 6 varieties of jam were offered (40% of shoppers sampling) even though extent of sampling was comparable in both situations (average of 1 or 2 jams). Consumers who sampled were then given a coupon that was redeemable if they purchased a jam from the regular shelf display. Purchase likelihood exhibited a strikingly different pattern, with consumers more likely to purchase after sampling from the small (30% purchase) than from the large (3% purchase) assortment. That is, although consumers were initially more attracted to the larger than to the smaller assortment, they were actually less inclined to buy. As the number of options increased, consumers were less certain that they could select the best option. Thus, most consumers did not make a purchase from the large assortment.

Even when consumers do choose to make a purchase from a large assortment, there are still negative consequences from a broad product selection. In follow-up laboratory studies, Iyengar and Lepper (2000) found that when consumers chose a product from a large assortment they were less satisfied with their product choice. These consumers experienced higher levels of regret over the idea that other, foregone, options might have been more preferable.

Moderating Factor of Consumer Expertise. Additional research suggests that large assortments may cause more difficulties for some consumers than for others. In particular, choosing from large assortments is likely to be more difficult for those who do not possess well-defined product preferences (Chernev 2003). For these consumers, choice is a two-stage process of first deciding their ideal attribute combination and then locating the product in the assortment that best matches this ideal. Deciding the ideal attribute combination is more overwhelming when faced with a large than with a small assortment. Thus, consumers without well-defined preferences fare better with smaller assortments.

Conversely, for consumers who have well-defined preferences, product choice is a single-stage process of locating the product that matches their established ideal. For these consumers, a large assortment increases the probability of finding a match with their ideal. Thus, in a series of laboratory studies, Chernev (2003) has shown that consumers with well-defined preferences in a product category prefer large to small assortments.

Moderating Factor of Assortment Alignability. In addition to consumer individual differences, the type of assortment may also affect consumer choice. The models of both Hoch et al. (1999) and Van Herpen and Pieters (2002) showed that attribute dissimilarity increased assortment perceptions. This attribute dissimilarity can be further specified as either an alignable or a nonalignable attribute difference. Alignable attributes are defined as different levels of the same attribute, so that consumers are making tradeoffs within an attribute. Nonalignable attributes, on the other hand, involve comparisons among different attributes, so that consumers are making tradeoffs between attributes. For instance, in computers, an alignable attribute would be processor speed, which might vary from 1.60 GHz through 2.40 GHz and 2.80 GHz to 3.00 GHz. A nonalignable attribute would be computer peripherals, which might range from monitor through printer and fax to speakers.

Nonalignable attributes are more likely to increase perceived assortment than alignable attributes. However, Gourville and Soman (2005) show that increasing brand assortments of nonalignable attributes can have a negative impact on brand choice. They compared choice between two brands, one brand (brand A) offering a single product option and the second brand (brand B) offering either a single product option or five product options. When brand B increased its product assortment from one to five options and the attribute differences were nonalignable, its market share relative to brand A *decreased* from 53% to 40%. However, when the attribute differences were alignable, the opposite pattern emerged. When brand B increased its product assortment from one to five options and the attribute differences were alignable, its market share relative to brand A *increased* from 53% to 73%.

There are several causal mechanisms underlying this differential effect of assortment type on product choice. First, nonalignable assortments place a heavier cognitive load on consumers than alignable assortments, as comparisons between attributes are more difficult than comparisons across levels within an attribute. Thus, consumers may choose to simplify their decision by selecting the brand offering fewer options.

Second, nonalignable assortments have been shown to lead to higher levels of regret than alignable assortments. When choosing between nonalignable attributes, consumers with budget constraints must make a tradeoff between attributes. These consumers are likely to experience a sense of regret about the options foregone: a computer peripheral choice of a monitor, for example, means completely foregoing a printer, fax, or speakers. When choosing among alignable attributes, however, regret is minimized as the choice between levels of a common attribute (e.g., 1.6GHz versus 2.0GHz) still results in the consumer obtaining an item with that attribute (e.g., a computer processor). Third, nonalignable assortments increase consumer expectations more than alignable assortments. Even if only one peripheral is within a consumer's budget, his/her ideal computer package may now include multiple peripherals (e.g., both a monitor and a printer). If this increased ideal point is unrealistic (given the consumer's budget constraints), it may deter consumer purchase or, if consumers do purchase a single peripheral option, increase purchase dissatisfaction.

Summary and Implications. Large assortments have several negative effects on product choice. (1) Large assortments increase choice difficulty, increase negative affect, increase regret, and decrease product purchase. (2) These negative consequences have been shown to be more likely in consumers without well-defined preferences. (3) These negative consequences are more likely for nonalignable than for alignable assortments. Thus, if consumers do not have well-defined preferences they are more likely to make a purchase from a smaller display offering alignable differences between options. If consumers possess well-defined product preferences they prefer a large assortment, as it increases their ability to find their ideal. However, even for these consumers, a large assortment of nonalignable attributes may increase expectations regarding the ideal product to a level that is simply unattainable—leading to purchase deferral.

How Do Marketing Mix Variables Interact with Assortment?

Assortment perceptions and decisions do not operate in isolation; rather, the influence of assortments on consumer information processing and decision making may interact with other key marketing mix variables, such as price, store environment, region, and competitive considerations. Thus, it is important to examine the interactive nature of these different variables. Unfortunately, however, the academic research attention devoted to this important topic has been rather sparse.

Assortment and Price. Some studies have examined the joint effects of assortment and pricing. Since a key goal of product category management is to maximize profit for the category, assortment and pricing decisions are inseparable. In fact, according to McIntyre and Miller (1999, p. 296): “this joint decision is believed to

be one of the most central problems in retailing.” Furthermore, pricing variables often dominate assortment considerations. In one field experiment, assortment manipulations had approximately a 5–6% impact on category profits, while in another study (Dreze et al. 1994), price manipulations had a 32% impact on category profit. Thus, it is clear that the pricing must be considered when making assortment decisions (see also chapters by Simon, Gathen, Daus, and Bolton, Shankar, Montoya in this book).

McIntyre and Miller (1999) propose an empirical approach for improving optimal assortment/pricing decision combinations. With this approach, retail shoppers are asked to provide information about their reservation prices for brands in their consideration set. Then, a simple choice rule is developed to model and forecast the sales of each item in the set given the stated prices. In an empirical test of this model, this approach resulted in significantly more profitable assortments than a constant markup rule or a regression approach. Note, however, that this model is more applicable to high-involvement product categories. Research is still needed to develop a model for common, frequently purchased product categories.

Assortment and Other Marketing Variables. A study by Koelmeijer and Oppewal (1999) increased our understanding of assortment composition by modeling item and store choice as a function of assortment, store ambience, price, and competing store characteristics. Some key findings were that an increase in assortment size generated additional purchases relative to the attractiveness of the items added and reduced the likelihood that customers would go to another store. Further, having a competing store nearby and poor store ambience will hurt a store’s drawing power above and beyond assortment effects. While, the study examined only one product category, its real contribution is that it provides a powerful tool for optimizing retail assortments. Using this approach, retail managers can manipulate various marketing mix variables and assortment options to determine the overall effect on consumer choice as well as sales.

It is also important to note that both of the previously mentioned studies were conducted in an experimental context. In the context of actual grocery store data, studies have focused on how assortment overlap, price differentiation, and interstore distance impact on the sharing of customers between stores. A key finding is that assortment overlap and interstore distance are the key determinants of customer overlap. The more similar the assortments of two stores, the more likely they are to have the same customers. Not surprisingly, proximity of the stores increases customer overlap. In addition, stores are more likely to be differentiated on the basis of assortments and match their competitors’ prices on identical items. Thus, based on this study, assortment decisions rather than price are critical in differentiating a particular store and giving customers a reason to shop there.

Assortment and Regional Differences. Retailers have long recognized that assortments must be adjusted by region to better meet customer needs. Clearly, having distinctive assortments that appeal to specific customer groups is a key way to achieve competitive advantage. However, because retailers have traditionally relied on aggregate performance measures (i.e., gross margin, sales per square foot,

etc.) to evaluate performance of individual stores, regional differences may complicate the assortment planning process. Retailers need to be able to measure merchandise performance accurately at the individual store level.

To address this problem, Grewal et al. (1999) employ data envelopment analysis (DEA) which enables retailers to plan and evaluate the performance of similar stores. Essentially, the performance of individual stores is compared to “best practice” stores, which are similar in terms of certain characteristics (e.g., region, categories). Thus, similar best practice stores can be examined to determine which assortments and practices make their stores successful. Mediocre stores can also be examined in order to identify key ways to improve.

Assortment and Sales Promotion. Finally, a series of experimental studies have highlighted the important interaction between assortment and sales promotion. For example, the likelihood of switching from a low-quality, low-price brand to a promoted high-quality high-price brand tends to be significantly greater than the likelihood of switching from a high-quality brand to a promoted low-quality brand. However, by manipulating assortment and adding another price tier (i.e., a generic brand), retailers can eliminate this effect. Also, the number of items purchased on a particular shopping trip can be increased by offering bundles of preferred items or encouraging the purchase of multiple items in a category through the use of various promotions (see Gedenk, Neslin, Ailawadi in this book for more information on retailer sales promotions).

Summary and Implications. Taking all these studies together makes it clear that assortment decisions must be viewed in the context of other marketing mix variables, such as price, interstore distance, store ambience, and region. Considering this, marketing mix variables need to be decided jointly to maximize profit for the product category and the store. The key conclusions are: (1) assortment decisions must be made in the context of pricing decisions; (2) having a nearby competitor and poor ambience will have a negative impact above and beyond assortment effects; (3) similar assortments and close proximity increase customer overlap between two stores; and (4) retailers need to evaluate assortments by region and individual stores.

Summary and Conclusion

The purpose of this chapter was to review the main research findings and knowledge on retail assortments. Table 1 summarizes these key findings. For years there has been a strong belief among retailers that having more assortment is always better. However, a key conclusion that can be drawn from this review is that this is often not the case. Rather, having an *optimal* amount of assortment (which may not be the largest) is more critical. Furthermore, our review demonstrates that through selective reduction and proper organization, retailers can shrink the number of products offered without lowering consumer perceptions of assortment. This is

particularly the case when assortments for a category tend to be large and when the majority of sales are driven by a few brands. Moreover, the positive benefits of reduced assortments include a higher level of shopper satisfaction with their shopping experience and a higher likelihood that customers will make a purchase from small than from large product assortments.

In addition, we learned that the organization of product assortments is also very critical. Retailers must carefully make a variety of important decisions, including whether to place brands side-by-side or in separate displays, whether to organize by brand or model/flavor, how to order brands in the display (well-organized vs. random displays, symmetrical vs. asymmetrical displays) and how to align displays with consumer knowledge structures.

We also found that large assortments increased choice difficulty, increase negative affect and regret, and decrease the likelihood of product purchase. This is particularly the case when consumers do not have well-formed prior preferences and when assortments are more nonalignable than alignable. Finally, we showed that assortment decisions cannot be made independent of other marketing mix variables, such as price, interstore distance, store ambience, and region.

Taking all this together, it is clear that there are a number of key decisions which must be made in relation to product assortments. However, by carefully analyzing each category and optimizing decisions in terms of the factors mentioned, retailers can significantly improve both category and overall store profit. Technology such as RFID tags (see Verhoef and Sloot chapter in this book) will facilitate such assortment management.

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Table 1. Summary of Findings

How do consumers perceive assortment?
1. In addition to number of total items, assortment perception is a function of similarity of items, shelf display size, and availability of favorites.
2. Large SKU reductions will decrease assortment perceptions more when initial assortment is small than large.
3. If majority of sales are driven by a few SKUs, reduction of low selling SKUs will have minimal impact on assortment perceptions.
4. Mathematical models offer guidance on the unique value of each item in assortment and strategic SKU reduction such as redundant brand-size combinations.
How should assortments be organized?
1. Side-by-side displays facilitate brand comparisons whereas separate displays are better for higher price brands.
2. Organizing by brand encourages consumers to buy by brand while organizing by model stimulates other attributes such as price.
3. Evaluations tend to be more positive when brands are ordered from worst to best.
4. Organized displays are better for large assortments but for small assortments, make the lack of choice apparent.
5. Asymmetrical assortments make it easier for consumers to see variety.
6. Aligning assortment organization with consumer mental representation is important.
How does assortment affect product choice?
1. Large assortments have negative consequences of increasing choice difficulty, negative affect, and product regret.
2. Large assortments decrease purchase likelihood, especially for consumers without well-defined preferences.
3. Negative consequences are more likely for nonalignable than alignable assortments.
How do marketing mix variables interact with assortment?
1. Assortment decisions must be made in context of pricing decisions.
2. Having a nearby competitor and poor ambience will have negative effect beyond assortment.
3. Similar assortments and close proximity increase customer overlap between stores.
4. Retailers need to evaluate assortments by region and individual stores.

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