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Strategic Assortment Decisions in Information-Intensive and Turbulent Environments☆

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Abstract

Recent trends in the environment have caused changes in consumers' store patronage, price sensitivity, and need for variety. These changes have led retailers to reconsider some of their assortment options. Specifically, we discuss how they may have led some retailers to move from a single-format to a multiple-format channel portfolio, how they may have contributed to the growth of the discount format, and how they tend to influence the private-label portfolio of many retailers. We end by showing how these assortment changes may, in turn, have various welfare, logistical, and tactical implications.

Keywords: Assortment decisions; Private labels; Retail formats; Hard discounters

Introduction

Assortment composition is one of the key drivers of a retailer's image, and thus of critical importance for store choice and retailer performance. Assortment decisions are numerous. Retailers have to decide how many product lines to offer (assortment width), the number of items in each line (line length), how related the items in a given line should be (line consistency), or the share of private-items in their offering. Not surprisingly, assortment planning remains one of the most difficult decisions faced by many retail managers (Mantrala et al. 2009). Moreover, retail managers not only have to decide on the assortment composition within a given banner, they also have to decide in which channel formats to operate. In addition, product categories tend to have different associations with different channels or retail formats (Inman, Shankar, and Ferraro 2004), which adds a level of complexity to the assortment-planning process.

Over the last years, the extant literature on assortments first and foremost focused on assortment reductions (see Broniarczyck and Hoyer 2006 for a review). A key conclusion from this body of research is that through selective reductions and re-organization retailers can reduce the number of products (or SKUs) without impacting consumer perceptions negatively (see e.g. Broniarczyck, Hoyer, and McAlister 1998; Chernev 2003).[4] Smaller assortments may not only increase shopper satisfaction and the likelihood of product and store selection, they can also reduce negative affect and regret. Taken together, SKU reductions are widely believed to improve category and store profitability. At the same time, the rise of online retail channels has led to an ongoing debate on whether it is (becomes) profitable

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[4] The impact of assortment reductions has also been studied in online settings, with mixed results; see e.g. Boatwright and Nunes (2001) versus Borle et al. (2005). In a recent analytical contribution, Kuksov and Villas-Boas (2010) show how two opposing forces (coming from too little or too much choice) result in the existence of a finite number of alternatives that maximizes the probability of choice.

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to cater to the needs of 'long tail' consumers, and whether this changes the number and variety of products that (online) retailers should carry (see Brynjolfsson et al. 2011; Elberse 2008). The availability of niche products through players such as Amazon may have changed consumers' expectation with respect to assortments in other formats as well.

The conceptual model in Fig. 1 illustrates the structure of the paper. Our central premise is that retailers (should) adjust their offering to changing preferences of their customer base. These preferences are reflected in customers' store choice (e.g. preference for large versus smaller stores, for stores with more or less private labels, and for stores with an EDLP or HiLo pricing policy), price sensitivity (which affects their preference for more expensive national brands or cheaper private labels, and which determines the customer's willingness to pay a price premium for certain high-end products), and desire for variety (which affects the optimal line depth that consumers are looking for).

We argue that a number of trends in the environment have had a significant impact on consumers' preferences, and elaborate on three of these trends[5]: (i) the increased and/or altered information flows faced by consumers, which has been driven in part by the growing availability of new media, (ii) the recent economic and marketplace turbulence, caused by the global recession, accelerating market dynamics and the increasing growth rates in emerging markets, and (iii) consumers' growing interest in sustainable consumption, reflecting a growing environmental and health orientation. In what follows, we first discuss these three developments (depicted in the first column of Fig. 1) in more detail, and discuss how they have altered shoppers' store-trip behaviour, price sensitivity, as well as desire for variety (second column in Fig. 1).

These changes in their customer base may have led retailers and manufacturers to rethink their assortment and/or format-portfolio decisions (third column in Fig. 1). We discuss the assortment implications at three levels. First, we show how these changes may have led some retailers to move from a single-format to a multiple-format channel portfolio, and how they may have contributed to the growth of the discount format. Third, we discuss how these developments influence the private-label portfolio of many retailers.

Finally, we discuss how these assortment changes have important welfare, logistical and tactical implications (fourth column of Fig. 1). These are discussed in the final sections of the paper.

We focus primarily on the grocery channel; still, many of our observations apply to other retail settings as well. Moreover, we focus primarily on assortment decisions from the retailer's point of view (even though some implications for the national-brand manufacturers will be discussed along the way). As such, we abstain from also reviewing the extensive literature[6] on how manufacturers should design their product lines.

Critical changes in the environment

Altered information flows

Global media consumption is changing rapidly and constantly. Not only have traditional media (TV and radio) become much more fragmented, which may have altered their effectiveness to reach one's target market (Stipp 2008), TV and radio use is decreasing in favor of the Internet, especially social media and consumer platforms. These social networks offer potential benefits to manufacturers and retailers. They play an increasingly important role in creating (on- or off-line) "buzz" surrounding new-product introductions, and may as such determine their ultimate success or failure. They also enable firms to develop closer contacts with their customers. As such, companies are experimenting with viral marketing campaigns (Van der Lans and van Bruggen 2010), and rapid changes in communication technology are creating communities of customers and prospects rather than a multitude of isolated customers (Wuyts et al. 2010).

Because of their exposure to these new media, customer preferences may have changed. For example, price comparisons may become easier, which may affect their price sensitivity (Pan, Ratchford, and Shankar 2002). Similarly, their exposure to on-line stores may alter their perception of what variety to expect in all (on-line and off-line) stores (Elberse 2008). Or customers belonging to a brand community may be willing to pay a price premium to shop in themed brand stores (Borghini et al. 2009).

Social media websites also provide a new way of communicating with consumers. This may offer retailers (and manufacturers) an opportunity to proactively gain customer feedback and build a deep relationship with them. Still, managers tend to forget that these tools may also backfire. For example, P&G recently found itself locked in a public-relations war with blogging parents demanding that the company recalls Pampers diapers they say are unsafe (Byron 2010).

A key challenge for retailers and manufacturers alike is how to translate these developments into positive business opportunities and practices. A crucial element in successful social media interaction is the creation of engagement. However, many retailers only use the medium as a cheap promotional tool, whereas the main benefit is to get real-time information on consumer perceptions and emotions, and deal with dissatisfied customers (Planet Retail 2009a). While retailers are used (Kumar 1997) to collecting large quantities of data (through their scanner records and/or loyalty cards), they are less accustomed to reacting quickly to incoming information that is more qualitative in nature. Whereas recent research has offered interesting insights into how online word of mouth can be categorized and understood (Kozinets et al. 2010; Wang et al. 2007), more research is needed as to how this information can be used in the co-creation of retailer assortments, services, and formats.

[5] One could, of course, identify other external trends that may also complicate retailers' assortment decisions, such as the increasing globalisation (see e.g. Kotabe and Helsen 2009 for a general discussion on the issue, or Gielens and Dekimpe 2009 for an in-depth review of the retail implications), or the demographic shifts that may alter the composition of a retailer's customer base.

[6] See e.g. Draganska and Jain (2005) or Villas-Boas (1998).

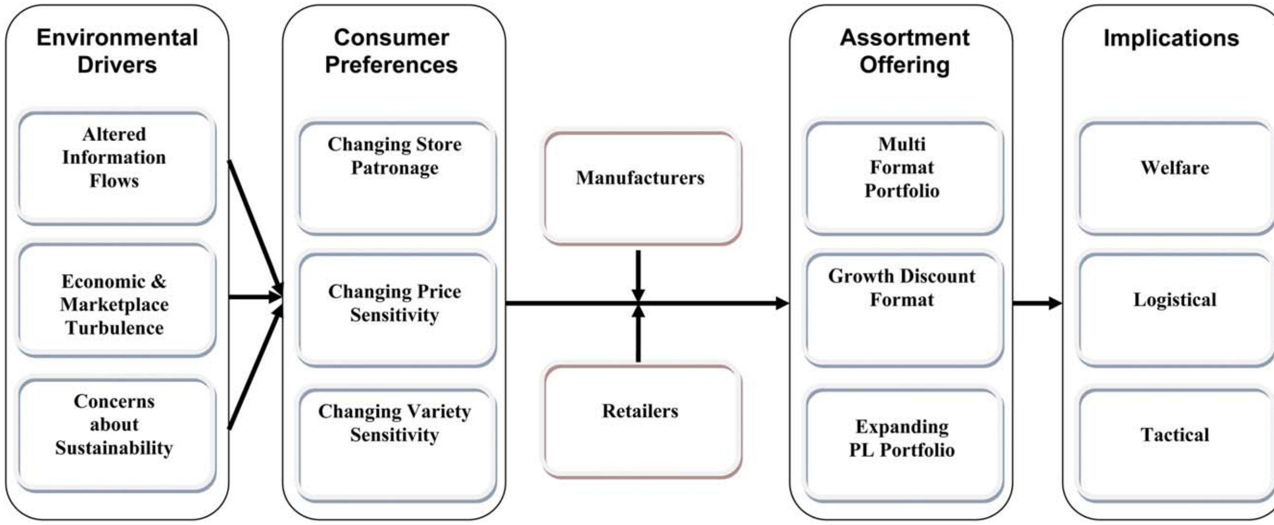

Fig. 1. Conceptual framework.

Economic and marketplace turbulence

Economic climate (as witnessed by economic downturns), market turbulence (as provoked by price wars and entries and exits) and sudden economic growth (as encountered in emerging markets) pose specific challenges to retailers. Whereas the consequences of economic downturns have been extensively studied over the last years, the consequences of market turbulence and growth acceleration have been studied to a much lesser extent.

The recent economic crisis has re-emphasized the importance of macro-economic factors on marketing decision making and productivity in general, and on the retailing environment more specifically (Grewal, Levy, and Kumar 2009). Managers and consumers adjust their behaviour in the wake of economic and marketplace turbulence. During economic crises, brand managers tend to reduce their advertising spending (Deleersnyder et al. 2009), and to postpone new-product introductions (Axarloglou 2003), while retailers use the opportunity to push their private-label (PL) program (Hoch 1996).

Consumers, in turn, have a reduced ability and willingness to purchase products during economic downturns (Katona 1975). For consumer durables, one may try to postpone the purchase until prospects become better (Deleersnyder et al. 2004). For CPG purchases, in contrast, consumers become more likely to economize on price (Shama 1981), and to switch to cheaper store brands (Lamey et al. 2007).

Changes in consumers' discretionary income affect what brands they prefer, what stores they visit, the size of their shopping basket, as well as their sensitivity to marketing changes (Ma et al. 2010). Moreover, these changes tend to be asymmetric, that is to be different across economic up- and down-turns (Deleersnyder et al. 2004), and to sometimes be permanent (Lamey et al. 2007). Consumers may upgrade their quality perceptions of private labels after having tried them during recessionary times. Because of that, they may not return to the more expensive national brands when the economic outlook improves. Similarly, when customers have started to visit no-frills hard-discount stores during difficult economic times, they may continue to include those stores in their consideration set afterwards.

In sum, economic downturns have been studied extensively with respect to private labels. Still, more research is needed as to how economic downturns impact category assortment composition. In some categories not only private label sales increase but total category expenditures surge as well. As consumers often postpone the purchase of bigger-ticket items during economic downturns, the increased discretionary income can be spent on other (less expensive) items. For example, the decrease in out-of-home eating during recessions tends to favor the spending on supermarket food products. Knowing what categories to emphasize during economic downturns is thus key to retailers. Can the same categories be used as traffic drivers, or does the role of the category change with the economy? Also, in such categories both private label and branded products stand to gain. Finding the right mix of store and national brands to cater to the recession-sensitive consumer is a major challenge.

Turbulence is not only caused by macro-economic fluctuations. Retailer competition may also create market turbulence. The outbreak of a price war among retailers and/or manufacturers can destabilize retailers profoundly.[7] Whereas the causes (Heil and Helsen 2001) and consequences (see e.g. van Heerde, Gijsbrechts and Pauwels 2008; Sotgiu 2010) of price wars have been studied, little is known about the role of assortment composition in preventing a retailer from entering a price war, nor about how to leverage the assortment to minimize any negative consequences once a price war starts. If a retailer carries more private labels, and upfront price comparisons are more difficult to make, will the retailer be less likely to be involved in a price war? Similarly, will the lower price image that often accompanies a strong private-label program help to dampen the negative consequences of a price war?

[7] Of course, both sources of turbulence may be related. For example, price wars are more likely to erupt in tough economic times (Sotgiu 2010; Staiger and Wolak 1992).

Market turbulence is also amplified when some retailers enter and exit markets. Whereas first steps have been made to study increased (assortment) competition in entry cases (Ailawadi et al. 2010), little is known about how exits impact the assortments allocation decisions of the parent firm and/or of remaining rivals (Haans and Gijsbrechts 2010).

Finally, in search of new opportunities retailers increasingly diversify into new markets. Especially emerging markets with rapidly expanding populations, accelerated urbanization and growing middle classes offer excellent growth opportunities. Still, these markets pose considerable marketing and logistical challenges. As the income distribution within those countries tends to be very different, one retail and logistical concept may not suffice to cater to the entire market. Little to no research is currently available that can help retailers faced with these challenges,[8] even though several authors have emphasized the large, as yet untapped, opportunities of these markets (see e.g. Mahajan 2008; Prahalad 2005).

Concerns about sustainability

Consumers and retailers become increasingly aware of the consequences of their choices, not only for their own well-being, but also for other people in society. Environmental concerns become more prominent (see e.g. Cornelissen et al. 2008), there is a growing interest in fair-trade issues (e.g. De Pelsmacker, Driesen, and Rayp 2005), and there is an increasing consciousness for the health-related consequences of one's food consumption (see e.g. van Doorn and Verhoef 2009 for a review).

An increasing number of consumers are occasionally now buying organic and eco-friendly products (The Hartman Group 2008). Organic products are currently available in over 70% of conventional grocery stores (Bezawada and Pauwels 2010), and many retailers see the addition of more organic and green products as a way to differentiate themselves, and/or to increase overall store profitability. They hope to capitalize on the continued growth of the environment-prone segment, and to benefit from the price premium that some consumers are willing to pay for such products (van Doorn and Verhoef 2009). A similar development can be observed for many health-related and fair-trade products. These types of products are also seen by many retailers as a way to differentiate themselves in a highly competitive environment.

Even though this development offers many opportunities, it also brings along a number of challenges. Specifically, how should one balance the assortment composition between these new "product types" and more conventional products, given that they tend to be natural substitutes (Bezawada and Pauwels 2010)? Some recently-raised concerns whether organic products are actually suited for (compatible with) conventional supermarket practices (Ngobe 2007). Where do 'green' sales originate from? Does the addition of green lines lead to category expansion or do consumers switch from traditional (private label and national brand) lines to eco-friendly products? Or, are sales gained from rival green products? In total, what is the net effect on retailers' bottom line when expanding these lines in a category?

Moreover, what price premium are customers willing to pay for such products, and should they be obtained from national-brand manufacturers, or become part of the retailers' private label offering? Tesco, for example, offers a special range of health-related (with even a special range for diabetes patients) and fair-trade private-label products (De Jong 2007). Finally, how will the addition of green products impact overall store image and choice? Can these products be incorporated in such a way that they increase overall retailer profitability?

Consumer preferences

Each of the aforementioned developments may impact consumers' preferences. We focus on three specific dimensions: alterations in (i) store patronage, (ii) price sensitivity, and (iii) desire for variety.

The attractiveness of a given assortment depends on the particular preferences of a retailer's shoppers (Briesch, Chintagunta, and Fox 2009). The heterogeneous nature of these preferences determines the variety required in the assortment. The extent of this heterogeneity may change because of the aforementioned factors, even though the direction of this change is not a priori clear. For example, will the added connectivity of consumers lead them to get more uniform preferences (e.g. will all members of a brand community prefer some brands over others), or will the exposure to more information sources lead to more diverse preferences? Will the economic crisis lead to a uniform preference for cheaper products, or will this vary across purchase occasions, where one wants to economize on some occasions, but indulgence oneself on other? Ma et al. (2010), for example, find that rising gasoline prices do not necessarily hurt the more expensive national brands. Will market turbulence lead to more (through entries) or less (through shake-outs) competition, and how will this affect assortments? Will bigger, more powerful retailers offer less variety because of increased monopoly (with respect to consumers) and monopsony (with respect to suppliers) power? Finally, do shoppers for organic, green or free-trade products require the same amount of variety/diversity as shoppers for conventional products?

Changes in store patronage

The over-time variation in a given consumer's preferences is a key driver of his/her shopping behaviour. Different sources of consumer preference instability are reviewed in Mantrala et al. (2009). Of growing relevance is the variation across the *type of trip* the consumer is engaged in (Fox and Sethuraman 2006). Walters and Jamil (2003) discuss how the type of shopping trip influences consumer shopping behaviour, store patronage, and marketing-mix effectiveness. Given the differential response to assortment and promotional decisions, Mantrala et al. (2009) argue that retailers should segment markets on shopping-trip purpose. Two often-used dimensions in this respect are: (i) the

[8] We refer to Burgess and Steenkamp (2006) for an in-depth discussion on research difficulties in emerging and developing markets.

size of the trip (major vs. fill in), and (ii) the extent of prior planning. If the objective is to stock up groceries, shoppers tend to prefer larger assortments, “as they can mitigate the cost of searching through the assortment by purchasing a larger basket of goods” (Mantrala et al. 2009, p. 76). For smaller trips, in contrast, more limited assortments, which require less search costs, are preferred. Shopping trips may also differ in the extent to which they are planned. Bucklin and Lattin (1991) define planned purchases as decisions to buy that are determined prior to entering the store. Depending on the number of purchases made that way on a particular trip, the trip itself becomes classified as more or less planned (see also Abratt and Goodey 1990).

Using the shopping trip as focal unit of analysis recognizes that this is the point where the consumer, store and product interact, and allows shoppers to appear in a given target segment for some trips, but not for others. Practitioners like AC Nielsen advocate moving beyond category management into *trip management* (Hale 2005). Similarly, IRI calls for an increased focus on the *shopping trip* to better understand the interaction of consumers with stores and products (IRI 2006). More research is needed to identify how assortment composition affects the store’s attractiveness for certain trip types, and how this is linked with the extent of multi-store patronage (see e.g. Gijsbrechts, Campo, and Nisol 2008; van Heerde et al., 2008).

Moreover, given that the same customer may be involved in different types of trips, the question emerges how one can balance the relative attractiveness for some types with the more negative implications for other trip types. Also, most retail stores are designed for large, stock-up trips, whereas a lot of trips are ‘quick’ trips where consumers buy only one or two items (Sorensen 2009). Further research is needed to address this mismatch.

Also, the nature and popularity of trips will be influenced by external developments. For example, economic and marketplace turbulence may affect the average basket size, and hence, the number of trips of a given type customers make. This may, in turn, affect the relative attractiveness of different retailers. Once again, retailers need to look into how they can address this variability over time.

Changes in price sensitivity

Increasing market turbulence may affect consumers’ price sensitivity. For example, during economic downturns, consumers become more inclined to acquire price information (Wakefield and Inman 1993), making them more price conscious (Estelami, Lehmann, and Holden 2001), which affects their preference for private labels in the retailers’ assortment (Lamey et al. 2007). Increasing gasoline prices affect consumer’s discretionary income, which alters their price and promotional sensitivity (Ma et al. 2010), causing shifts in the customers’ shopping basket. This is also the case when a price war erupts (Gijsbrechts et al., 2008; van Heerde et al., 2008): the price attribute becomes more important, and customers adjust their shopping frequency and basket size, which affects their assortment preferences and store choice.

Also the growing popularity of organic products may affect the price sensitivity of a store’s customer base. Bezawada and Pauwels (2010), for example, show that enduring actions as assortment and regular-price changes have a higher elasticity for organic than for conventional products. Moreover, asymmetric effects are present, in that price-oriented actions for organic products hurt the sales of conventional products more than vice versa. van Doorn and Verhoef (2009), in turn, study consumers’ willingness to pay a price premium for products with an environmental, ethical or health connotation. While a fraction of the market is willing to pay such a premium, this is less so for the bulk of the market. This additional heterogeneity raises important questions on how to price these products to balance short-run profitability and long-run growth.

Finally, changes in shopping-trip behaviour can also impact price and promotion sensitivity. Quick trips consisting of one to five items grow in importance and typically generate a third of dollar sales. An important finding with respect to quick-trip shoppers is that they are not price sensitive, and price cuts do not much impact their behaviour (Sorensen 2009). Basically, retailers are throwing promotional money away on this segment. More research is needed to find out what actions and assortments can be designed to successfully influence this shopper segment. Hence, by tracking the nature and frequency of trips over time (within a week or even day), promotions could be scheduled dynamically to take place more (less) often when customers make their bulk purchases (quick refills), or could be limited to certain package sizes during parts of the week or day. Similarly, depending on the popularity of a given store with a given shopping-trip segment, products may be offered in family-pack sizes in one store, but in smaller sets in another.

Changes in variety sensitivity

Due to the Internet, consumers become more accustomed to find almost any product they want. They increasingly expect almost perfect product access—availability of the right product, at the right place, at the right price (PricewaterhouseCoopers/TNS Retail Forward 2007).

Also, consumers may act more and more as co-creator. Customer connectivity stimulates consumers to actively engage in the development and customization of their own products and assortments (Prahalad and Ramaswamy 2004). Over time, consumers will grow to expect more customization and personalization. The long tail should be available to everyone at each time. At the same time, the average household purchases only 300 products a year, and more and more shopping trips are quick trips where only a couple of items are purchased. This dominance of quick trips means that shoppers use retail stores as communal pantries, offering just what is needed with an emphasis on good quality at modest prices (Sorensen 2009). The challenge for retailers is to combine these opposing trends. Further research is needed to find out how consumer needs for variety are evolving, and whether less can be offered through more local formats.

Because of these changes in consumer preferences, retailers may want to reconsider some of their assortment-planning decisions. Indeed, if consumers have become more price sensitive, one can consider devoting a larger proportion of the assortment to less expensive products. If consumers are increasingly concerned with the environment, more organic products may have to be included in the assortment. And if some consumers want more variety, while others prefer less variety, retailers may wonder whether this can be done most efficiently through a single format, or whether it would be advisable to have multiple formats in one's portfolio. However, also national-brand manufacturers may start to rethink some of their product-line decisions, which may, in turn, affect what retailers can offer in their stores.

We will therefore discuss potential changes at three levels: (i) at a more aggregate level, we will discuss potential changes in the portfolio of retail formats along with the implications for their suppliers, as well as changes in (ii) the offering by national-brand manufacturers, and in (iii) the assortment of a specific retailer.

Resulting changes in assortment offering

The growth of the multi-channel retailer

To cater to a broader (and perhaps more heterogeneous) mix of consumer groups, shopping trips, and cultures, retailers are increasingly diversifying their store portfolio and venturing into new formats. For many retailers, the next growth phase will be about segmentation and localization through operating multiple formats and multiple concepts, targeted to specific customer segments, in specific local markets, for specific needs and occasions. As a general trend, more and more retailers complement their traditional supermarkets with newer concepts such as proximity, convenience-store concepts, price-oriented discount stores, virtual stores, and eco-friendly stores (Planet Retail 2009b).[9]

One of the questions that arises following this trend is whether multi-channel retailers should move to a single, umbrella brand strategy, or whether they should use 'fancy' brand names to clearly distinguish the different positioning of the multiple formats. Using one strong name should help to strengthen the brand, and create buying synergies across the supply chain and marketing campaigns. Still, the question remains to what extent the same name can be stretched from a price-driven discount concept to an eco-friendly concept that caters to the less price conscious. Also, it is important to look into how a strong retail brand – the key to an umbrella, multi-channel, branding strategy – can be built through private-label portfolios, consumer trust, and corporate social responsibility programs.

Another important issue for these retailers is whether and how to adopt a micro-marketing strategy in each of these formats (Campo and Gijsbrechts 2004; Montgomery 1997). In a micro-marketing strategy, retailers tailor their assortments and marketing mix to meet shifting demands from consumers in terms of demographics, ethnicity, price sensitivity and shopping behaviour of the local market in which each store outlet operates. More insight is needed when, i.e. under what circumstances, micro-marketing can be a profitable venture for the retailer.

Also the international diversity faced by many retailers brings about many issues and opportunities when working through multiple channels (Gielens and Dekimpe 2001). Should retailers enter international markets with formats in which they excel, even when these are new to the market, or should they tailor the formats to the specific needs of the local markets?

The growth of the discount format

One of the fastest growing retail formats in many Western economies is the hard-discount concept (Steenkamp and Kumar 2009). Hard discounters (as e.g. Aldi, and Lidl) are characterized by a limited assortment[10] that is dominated by private labels, a no-frills store environment with limited service, and very competitive prices. In Germany and Norway, their market share already exceeds 30%, while in many other European countries (e.g. Austria, Belgium, Denmark) shares are in the 10–15% range. Comparable stores in the US include price-aggressive grocery discounters as Save-A-Lot. Several key European players have announced plans to considerably expand their US presence. Discounters are expected to grow, if only because they are broadening their appeal to all social strata, and not just the lower income strata as in earlier days (Planet Retail 2010).

This rapid growth, and the increasing competition resulting from it, raises a number of issues for national-brand manufacturers, conventional retailers, and incumbent discounters. Thus far, little research has considered the discounter format (notable exceptions are Cleeren et al. 2010; Deleersnyder et al. 2007; Steenkamp and Kumar 2009). Still, brand manufacturers are looking for guidelines on how to deal with this relatively recent phenomenon, as it is not sure that the same marketing principles apply in those environments (Deleersnyder et al. 2007).

For *discounters*, a key question involves whether, and to what extent, they should stick to their (almost exclusive) private-label focus. A number of them (especially Lidl) have started to add a few leading national brands (national brands) to their assortment, in an effort to differentiate themselves from competing discount stores, and to also lure customers looking for national brands into their stores.

However, this raises many questions, such as: how far should one go in this evolution, and what will be the implications for the costs of their business model? Which categories are best suited for such additions, i.e. where will national brand additions create most additional store traffic without cannibalizing the discounters' private label sales? And which national brands should be selected among the many candidates that all jockey for a few

[9] The joint existence of a brick-and-mortar channel and an Internet channel has received considerable attention in recent literature. Given the excellent review of Zhang et al. (2010), we do not elaborate on this issue in the current paper.

[10] They offer much less categories of goods, and stock only a limited selection of items: typically fewer than 1,400 SKUs, compared to the 15,000+ items carried in most supermarkets, or the 80,000+ items in a Wal-Mart supercenter.

available slots? Also, can discounters contribute to a perception of more variety by alternating on a regular basis which national brands to offer? If so, what would be the optimal length before delisting it?

For *national brand manufacturers*, how far should they go to get their product listed with the discounter? For example, Ter Braak et al. (2010) showed that national brand manufacturers, who are willing to produce the discounter's private labels increase their likelihood of becoming listed. However, to some manufacturers, this may be too high a price. A key issue in the discussion is whether private label production will help restore the power balance between retailers and manufacturers, or whether this will create instead an even greater dependence of one party one another, and thereby hurt the quality of the relationship (Kumar, Scheer, and Steenkamp 1995).

Also, should national brand manufacturers allow that their product will be priced considerably lower in the discounter than with their conventional retail partners? This may well cause channel conflict with these parties, and the question becomes how such conflicts can be avoided. For example, one may consider producing different sizes and/or tastes for the discount channel.

Finally, *conventional retailers* struggle how they should best compete against the discount channel. Should they try to compete on price, or differentiate themselves mostly on the service and/or assortment (variety) dimension? Based on an empirical entry model, Cleeren et al. (2010) argue that conventional supermarkets can maintain their profitability by focusing on the price-insensitive segment, and increase their price in those categories where the discounter is not present. Alternatively, conventional supermarkets are trying to appeal to discount-prone customers by adding a discount format to their portfolio,[11] or by adding an additional (discounter) tier to their private-label offering. Examples of the first strategy include the French supermarket chains Carrefour and Intermarché, that launched their own discount banner (ED and Netto, respectively). UK's Tesco, in turn, has added a fourth private-label tier to its portfolio (apart from the budget or value, regular and premium tier already in place).

Finally, retailers have recently started to combine the two previous approaches by setting up a store-in-store discount store where only the retailer's discount private labels or discounted brands can be found. Auchan, for example, has created areas dedicated to discount products in its hypermarkets. This "self-discount" section is an important part of Auchan's pricing strategy in France. Within these sections of the stores, customers can purchase EDLP products either in bulk, pick and mix, or in very large package sizes. As such, they try to avoid upfront competition between their own private-label lines and national brands without having to venture into a new store format. Whether taking these discount lines out of the traditional shelves is a successful and profitable approach remains to be tested.

An expanding private-label portfolio

Tesco is not the only retailer expanding its private-label portfolio. Many are now following a multi-tier strategy. Kumar and Steenkamp (2007) distinguish four types: generic private labels, standard private labels, premium store brands, and value or economy lines. So far, most work has concentrated on the positioning of national brands relative to standard private labels (Sayman and Raju 2007; Sayman, Hoch, and Raju 2002). Having multiple tiers raises a number of interesting questions, however.[12] First, what is the optimal price gap between the different tiers, or between these tiers and the various national brands in the assortment? Second, do the different tiers appeal to distinct marketing segments, or is there cannibalization between them (see e.g. Geyskens, Gielens, and Gijsbrechts 2010, who used brand choice models that accommodate context, i.e. compromise, similarity and attraction, effects to study these issues in two product categories)? In the presence of cannibalization, the distribution of the margins earned on different price-quality tiers becomes very important. More research along the lines of Ailawadi and Harlam (2004) on the margin implications of different private label strategies is needed.

A third consideration is whether the store name should be attached to each of the tiers, or only to a subset. In the latter case, should this be done to the top tier (focusing on the quality dimension), or to the lower tiers (focusing on the price dimension)? Put differently, what private-label branding strategy (Ailawadi and Keller 2004) should be adopted in case of multiple tiers? Moreover, in their study on the relationship between store brand use and store loyalty, Ailawadi, Pauwels, and Steenkamp (2008) found that there are limits to how far a retailer can push his private-label program. However, they mostly considered retailers' regular private-label offering. It would be interesting to see whether this can be stretched further through differentiated private label tiers. Indeed, is cherry-picking (and hence, store switching) as prominent among buyers of premium private labels as among buyers of regular or budget private labels?

Fourth, are all categories equally conducive to have multiple tiers (Sayman and Raju 2004)? Dhar and Hoch (1997) argue that premium private labels will be more appealing in those categories where store brands already offer high quality with their regular private labels. Is this the same across retailers or channels? Do the same categories have "signature associations" (Inman, Shankar, and Ferraro 2004) with specific channels? Finally, a related consideration is the sourcing of the private labels. The more tiers a retailer carries, the more intricate the sourcing decisions become. For what categories/tiers are retailers better off working with dedicated private-label suppliers, and

[11] Indeed, Cleeren et al. (2010) find that discounters only start to affect the profitability of conventional supermarkets from the third entrant onwards. Hence, as long as they are among the first to enter a specific market, conventional retailers can operate a discount banner without cannibalizing the profits of their more traditional formats.

[12] While numerous analytical studies have considered the nature of competition between national brands and private labels (see e.g. Sethuraman 2009 for a recent review), little is known how these findings generalize to multiple-tier settings.

for what categories/tiers should one rather look at national-brand manufacturers to produce the private labels?

On a different note, retailers need to reflect on the role that private-label programs play when entering new and emerging markets. A strong reliance on private labels may pose a double hurdle to retailers in new markets. Not only is the retailer unknown, consumers also don't recognize the products inside the store (Gielens and Dekimpe 2001). Moreover, consumers in emerging markets usually crave for branded goods (Alden, Steenkamp, and Batra 2006). Nevertheless, in these markets consumers may not have strong pre-conceptions about the (inferior) quality of private labels. Retailers may therefore have the opportunity to enter such markets with a clean slate and jointly develop the equity of their store and their private label.[13] More research is needed that explores how private labels can be used strategically in new and emerging markets, and how this may affect the relationship with national brand manufacturers.

Dilemmas faced by national-brand manufacturers

Faced with the increasing popularity of private labels and new formats, many national-brand manufacturers have to look for new strategies to maintain their sales levels. As indicated before, the few spots that discounters and other niche concepts have available for national brands are in high demand. One option, as discussed above, is to increase the likelihood of becoming (or staying) listed is to produce the discounter's private labels. Still, little is known how this will affect the channel relationship with other retailers for which one does not produce.

Another way to create goodwill is to engage in category management and category captain projects. Subramanian, Raju, Dhar and Wang (2010) examine how engaging category captains impacts the focal and rival brands, as well as the retailer, in the category, and examine characteristics that make a manufacturer a more or less likely candidate for category captaincy. Further research is needed to find out how category captain arrangements affect the category captain's entire brand portfolio and its overall position in the focal store, in other channels and/or with rival retailers.

Another strategy adopted by some manufacturers to create goodwill is to offer exclusive distribution of some of their brands to a given (often leading) retailer. For the retailer, this offers an opportunity to differentiate itself from retailers who don't carry that brand in their assortment. For the manufacturer, the exclusivity may offer an additional argument in the margin negotiations with that retailer (see e.g. Gielens et al. 2010). This practice deviates from conventional wisdom that convenience goods should be distributed as intensively as possible (Coughlan et al. 2001). More research is needed under what circumstances such an exclusive distribution agreement can create a win-win situation for both the manufacturer and the retailer, and how this practice should be managed across different retailers. Are monetary compensations called for, or should different retailers all get a different brand or product range? Clearly, the answer to these questions depends on the relative power, and hence negotiating leverage, of both parties (Wierenga and Soethoudt 2010).

Just as retailers have multiple tiers of their private labels, national brands may consider introducing multiple tiers of the same brand. For example, Procter and Gamble recently introduced Tide Basic, which is a cheaper version of the well-known brand. The basic version was introduced because of the increasing competitive pressure felt by Tide during the recession. However, a key question remains to what extent this will affect the original brand's long-run equity. Moreover, in launching a cheaper version of a premium brand, one runs the risk of permanently cannibalizing the own sales if shoppers would not return to the original product once the recession is over (The Wall Street Journal 2009).

Apart from introducing down-scale versions, many manufacturers are also adding more up-scale health-conscious and eco-friendly variants to their portfolio. However, also in these cases, cannibalization concerns and the right variant-retail mix should not be ignored.

Implications

These strategic assortment changes may, in turn, have implications on the (retailing and/or manufacturing) organization as a whole, and even on society at large.

Welfare implications

Assortment changes may well have welfare implications for consumers. One of the main issues that needs to be addressed is whether these changes will lead to lower or higher levels of variety and quality and to what extent they may lead to the loss of consumer surplus through higher consumer prices.

First, what are the implications of an increased focus on private labels on assortment variety, quality and price? Pauwels and Srinivasan (2004) studied the impact of private label entries. They showed that consumers get more variety as national brands react to private label entries by introducing more product varieties. Moreover, consumers benefitted from lower average prices for most product categories under study. Bonfrer and Chintagunta (2004), in contrast, found this lower average price effect to be true for only half of the categories they studied. They found that retailers raised the incumbent national brand prices for one half of the categories, but allowed them to fall, on average, for the other half.

The aforementioned assortment changes pertain to traditional supermarket competition. Still, to what extent does this story hold for hard-discount players or other formats? To what extent do these new formats have to carry national brands in their assortment, how much SKU proliferation will they need, and how will they price brands and SKUs? Will conventional supermarkets feel the need to follow these assortment and price evolutions? Specifically for hard discounters, what will happen with the prices of the discounter's private labels when national brands are added? Will these national brands act as a point of differentiation which will allow the discounters to move away from their traditional price focus, and allow them to increase their

[13] We are indebted to an anonymous reviewer for this insight.

private-label prices? Also, how will conventional supermarkets react when a new format enters in their trading area? Will they adjust their prices, increase/decrease their service level, and/or react through assortment changes? And should this reaction be uniform across all categories? More research along the lines of Ailawadi et al. (2010) is needed as to how chains of a different format will react to assortment changes in competing stores.

In terms of variety, how will private labels, discounters and other formats impact variety? Variety questions also arise when traditional retailers expand their private-label portfolio by adding multiple tiers and eco-friendly products. Assuming that the total store surface stays constant, this may come at the expense of some national brands. It is as yet unclear how these substitutions (e.g. more private label variety but less national brands) will affect the perceived variety for the store.

Welfare implications will also arise when part of the conventional assortment is replaced with eco-friendly products. Proponents will argue that this will definitely benefit consumers and society at large. However, if these products are sold at a price premium, and/or come in fewer tastes, colors, etc. will economic welfare calculations show an increase or a decrease? Will these changes be uniformly distributed across all income groups, or will some groups be impacted more? Such heterogeneity was found by Hausman and Leibtag (2005) in their study on the consumer welfare implications of a Wal-Mart entry. If this is also the case with assortment changes (in discounters and/or conventional supermarkets), there may well be various public-policy implications to be considered. In this respect, the question also arises to what extent assortments should be uniform across all stores of a particular chain, or whether these should be adjusted to, for example, the income level of the neighbourhood. For example, should stores in some neighbourhoods have a more extensive offering of value private labels, while other neighbourhoods see more of a premium offering?

Finally, what are the implications for suppliers? Although welfare implications tend to focus on the end-consumer, assortment changes and an increased price pressure will obviously have severe implications for suppliers as well. Not only is the manufacturer's bottom line under pressure as wholesale prices decrease, reduced profitability may force manufacturers to invest less in R&D, resulting in decreased new product activity. Even retailers' sustainability programs, which clearly benefit the world at large, may have negative effects on suppliers, as they may be asked to carry part (or even most) of the implementation costs. Ultimately, their long-term profitability and/or survival may be negatively affected by a number of these trends.

Logistical implications

Sustainability concerns require the retailer to rethink the entire supply chain. First, the demand for local and green products may require the retailer to work with a completely new set of suppliers who are not used to cater to the needs of large scale retailers. Transportation, inventory and merchandising support will have to be handled in a completely different way as when working with conventional national brand manufacturers. Also the demand for organic and green products may not be met by supply, potentially leading to out-of-stocks.

Sustainability concerns in retailing reach further than the supply of green products. They touch upon packaging (as around 30% of all household waste is supermarket packaging), general utility costs in stores and warehouses, cheaper distribution methods, and labour costs/inventory management (Planet Retail 2010).

Moreover, given that the days of single-format chains delivering a homogenous, deep assortment everywhere, regardless of location are over, these logistic challenges become even more pronounced. Supplying to multiple formats that tailor their assortments to local needs in an efficient and sustainable way may lead one to rethink some common practices, and may require stronger collaboration between retailers and suppliers. To this extent, Unilever already tries to consolidate trucks and distribution centers with both competitors (e.g. Kimberly-Clark and Reckitt Benckiser in the Netherlands) and retailers (e.g. Tesco in the UK) (Planet Retail 2008).

The growth of the discount format has also put pressure on traditional retailers to operate more efficiently. However, as discounters move away from their traditional business model (e.g. by incorporating some national brands into their assortment), will they continue to operate as efficiently as before, or will the efficiency gap between discounters and conventional retailers be reduced? Still, if conventional retailers react by adding discount banners of their own, their overall organizational complexity will increase. This will also be the case when adding an additional discount private label tier.

Another issue deserving more research attention is the sourcing of private label production (Sethuraman 2009). As private labels continue to grow, opportunities arise for companies able to produce such large volumes. Interestingly, more and more retailers join buying organizations to procure their private labels at the best possible conditions. AMS Sourcing B.V., for example, is a buying alliance involving 14 retailers across Europe (among which Ahold in The Netherlands, Dansk Supermarked in Denmark, Delhaize in Belgium). Obviously, such developments will have profound implications for the power division between manufacturers and retailers. Thus far, these buying groups are mostly involved in negotiating procurement conditions with dedicated private-label producers, and this for the more commoditized categories, especially for the regular and budget tiers. Will this imply that national-brand manufacturers will increasingly be asked only when premium private labels need to be produced? And will this hamper or stimulate their innovativeness?

Tactical implications

Finally, we reflect on how these trends and changes impact the marketing mix of manufacturers and retailers.

Traditionally, manufacturers used their higher innovativeness as a key defense against further private-label growth (Steenkamp and Dekimpe 1997). However, as retailers become more and more active in the premium segment, they may no longer restrict themselves to imitating earlier national brand innovations.

Increasingly, they become involved in new-product activities themselves (Gielens 2010; Mintel GDNP 2009). Will this discourage national-brand manufacturers, or rather entice them to improve their own new-product development processes? Or, will we see more and more co-creations, in which national-brand manufacturers develop new products in close collaboration with a given retailer, who can then (temporarily or more permanently) distribute that product exclusively?

Similarly, advertising was traditionally used by national-brand manufacturers as a way of differentiation, and to build their long-run equity. Retailers, in contrast, were much less involved in advertising activities. If they were, this mostly involved generic (across categories) messages. With the advent of premium private labels (which often involve a more fancy branding strategy) and umbrella branding practices for private label tiers and store formats, this practice may change as well.

As for promotional activities, prior research (see e.g. Bronnenberg and Wathieu 1996) has established the presence of an asymmetric cross-effect between private labels and national brands. It is unclear whether a similar asymmetry will hold when premium and niche private labels are involved. Similarly, more research is needed on the nature of the cross-effect among the various private label tiers within a retailer's assortment, or among free-trade/organic/health-related products.

Conclusion

Increasing consumer connectedness, economic realities, and social concerns require that retailers quickly adjust and modify existent retail formats and assortments to satisfy the diversifying needs of customers in order to remain successful.

Many retailers are considering to concentrate more on (trip) segmentation and localization, using multiple formats and multiple private label tiers that are targeted to specific customer segments, in specific local markets, for specific needs and occasions. Each of these issues brings along specific challenges, and their joint consideration makes their implementation even more difficult. Moreover, retailers will face an increasing need to combine global market knowledge and sourcing with local market delivery and know-how to better satisfy the heterogeneous and ever-changing tastes of their customer base.

Fortunately, retailers tend to have easy access to detailed data sources (think of their loyalty-card information), and have invested considerably in developing their analytical skills over the years. Moreover, they are ideally placed to implement field experiments in some of their stores before rolling out any changes to the rest of their outlets. Overall, many of the identified changes pose great challenges, but even greater opportunities, to an informed retailer.

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