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Space Management in Category Management A Comparative Analysis of Retailers in the Subcategory of Pickled and Preserved Vegetables

Davor Dujak
J.J.Strossmayer University of Osijek, Faculty of Economics in Osijek, Osijek, Croatia
Marina Kresoja
AgroFructus d.o.o., Donji Miholjac, Croatia
Jelena Franjković
J.J.Strossmayer University of Osijek, Faculty of Economics in Osijek, Osijek, Croatia

Abstract
With raising number of products offered by manufacturers, and the same or smaller sales space, retailers are in constant quest for optimal model of allocating limited shelf space to list of products in assortment that will insure highest possible profit of a certain category but also of the whole retailer s product assortment. Category management s space management is offering some old approaches and new models for additional optimization of shelf space management on category level. This study aspires to investigate the state of shelf space management in retailing in Croatia and to clearly elaborate retailers category management and other principles in space management activity on category, segment and brand level. The paper aims to help food manufacturers, as well as small and family owned retailers in Croatia and in other developing countries to ease and facilitate navigation through the category management imposed by retailers. By using the method of observation and analysis of the share of shelf space and market share (sales) data, authors attempt to deductively draw conclusions on the implementation of space management principles at the level of category Pickled and canned vegetables. Observations and analysis are done through the case study of four retail companies. Research has shown that retailers in Croatia in sub-category of Pickled and canned vegetables use contemporary category management principles in extensive way, especially in shelf space management part. Although they have their own specificities, contemporary retailers give most credit to giving equal share of shelf space to product s segment as its share of sale (or market share). Additional criteria were identified on brand level, namely private label s management, relationships aspects, and assortment dynamics limitations. Findings should enable manufacturers to capture better position in the category, and possibly influence the category itself through better satisfaction of both retailers , their own and consumers interests.

Keywords
Category management, shelf space management, planogram, subcategory of pickled and preserved vegetables.

Introduction

Contemporary retail faces continuous challenges of managing space and assortment in various retail formats. Assisted by information and communication technologies, retail sectors are increasingly turning to e-retailing (and its derivatives such as retail through social networks and mobile retail), which enables significantly overcoming the limitations of space and assortment. Nevertheless, the large majority of retail sales are still taking place in stationary retail formats in which they strive to resolve the ongoing problems of a trade-off between the limited space for the presentation/sale of products and a wide array of products by suppliers (manufacturers and distributors/wholesalers). The next problem that retailers are facing is related to the sales space allocation (place on the shelf, on the display, in the refrigerator or on the floor/pallet of the store) for each segment in a category, as well for each stock keeping unit – SKU.

Throughout the history of retailing these problems were approached in various ways (Segetlija & Dujak, 2013), and the problem is becoming more complex with the increasing number of different retail formats and changing the depth and breadth of the assortment. Nowadays different retail formats can be found in the retail market– hard discount stores that offer only 500 - 600 stock keeping units – SKUs (e.g. Aldi), hypermarkets with over 100,000 SKUs, or department stores which, under one roof, have more than one million items (e.g. Macy's in New York). These figures do not represent a static category, since in most retail formats assortment changes on a weekly or monthly basis: large number of new entries and exits of existing SKUs or changes of category structure expressed in changes of dedicated space for each SKU in category. All this leads to constant challenges in the area of assigning space to individual SKU's, i.e. in the area of space management. In order to respond to these challenges successful retailers are turning to the category management business concept. Category management divides the assortment in product categories, which are formed on the basis of consumer behavior when buying in order to meet their needs. Through categories' structure and dynamics, category management seeks for optimal category in the system of optimal assortment for the whole store at a given time. Optimally in this case refers to the best ratio of retailer's profit from operations of certain category and whole store, as well as satisfaction of the end customer purchase in the same category (by meeting their own needs). Initiated by retail, category management has expanded upstream in the supply chain – today category management is more and more implemented by wholesalers (distributors) and especially manufacturers. Moreover, a common application and implementation is one of the prerequisites of full capacity utilization of category management.

The aim of this study was to examine shelf space management as category management tactic. Target category in this paper is category or subcategory (depending on retailer's category structure) Pickled and canned vegetables. The paper aims to help food manufacturers in Croatia and in other developing countries to ease and facilitate navigation through the category management imposed by retailers. Due to the inferior position of manufacturers in the food supply chain in relation to large food retailers (this is especially true in case of food manufacturers from smaller and less developed countries), the paper clarifies the principles and objectives of space management in retailing.

There are two main research questions in this study:

1. What are the main criteria for shelf space allocation in contemporary retailing?
2. Are there different criteria for shelf space allocation on different levels of category?

Given the limited information on the criteria that retailers use to determine the amount of space and the position of each item, the paper will analyze the final result of category management, which is a retailers' shelf of subcategory Pickled and canned vegetables. By using the method of observation and internal data from Croatian manufacturer in this category, combined with data about market share of selected segment in Croatia, the authors analyzed the share of shelf space for different segments of subcategory, and attempt to deductively draw conclusions on the implementation of space management at the level of that category. Observations and analysis are done through the case study of four retail companies operating in Croatia with overall retail market share higher than 50%. Although the research is indicative, survey results clearly reflect the principles of space management practice in Croatian retailing, as well as generally in contemporary retailing of predominantly food products (aka. the FMCG or Fast Moving Consumer Goods sector).

1. Space management in category management

By strengthening the position of retailers through their concentration, category management is just one of many ways of doing business that are implemented by retailers, in order to achieve higher revenues and better serve customers. Since the retailers are just one link in the supply chain, each of their innovation affects other members of the supply chain. In addition to customers, category management primarily affects manufacturers who have to change their marketing strategy mostly based on their brand management, to marketing approach based on category management. In category management main focus is on category – a distinct, manageable group of products/services that consumers perceive to be interrelated and/or substitutable in meeting a consumer need (ECR community, n.d.). Therefore, customers are those who decide which SKU will constitute certain category through behavior during the purchase of products that meet the specific need or desire. All products that are similar in that they similarly or equally satisfy the consumer's need, or those that meet the secondary need to be linked to the primary (toothbrush and toothpaste, ketchup and spaghetti, coffee and sweetener) constitute a specific category (Segetlija, Mesarić, & Dujak, 2013). Product category is further broken down into subcategories, subsubcategories, segments and microsegments, and can go up to individual products, i.e., SKU (Segetlija & Dujak, 2013). Example of a category structure is given in Figure 2.

According to Steiner (2001), category management is a new form of the vertical agreement, which is not integration, franchise or limit, but vertical partnership that awards the until then confidential information between manufacturers and retailers in order to reduce distribution costs and increase margins for both sides. Partners jointly think and work towards meeting the needs of customers based on analysis of whole category of products in which is the manufacturer's product (Segetlija & Dujak, 2013). Verra (1997) states that category management is actually an umbrella concept that covers a number of development concepts that occur in the retail business.

Category management is carried out as a cyclic process. Although there are many different versions of category management process (Segetlija & Dujak, 2013), almost all of them stem from original process established by TPG consultant house that has 8 phases at the beginning of implementation (ACNielsen, 2006): definition of category, role of category, category assessment, category scorecard, category strategies, category tactics, implementation, category review. Tactics are especially important phase category for this paper where all operational activities are designed and planned for implementation (Figure 1). It consists of four main groups of tactics for operational/marketing areas: assortment management, space management, pricing and promotion. The novelty that came with category management is giving considerable more attention to assortment management and space management on the category level. Exhaustive analyses result in category management output – namely planogram. Planogram can be defined as a diagram that illustrates how and where specific merchandise should be placed on shelves or displays to increase customers purchases (Levy & Weitz, 2012). Planogram is retailers' (or retailers' and manufacturers') main tool in category management, and at the same time retailer is impacting consumer demand through planogram (Figure 1).

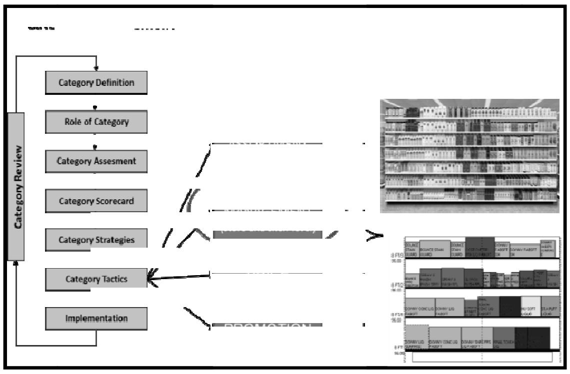


Figure 1 Space management in category management process
Source: Authors

Although space management is inseparable activity from assortment management (one of the key restrictions of category assortment is space defined by certain type of store, and category itself), this research is primarily based on an analysis of space management in category management. It can be said that space management is a continuation of location management policy in the so called "brick and mortar" retailing[1] that can be observed on four levels:

1) *Macro location* – represents selection of a region or city/village where the store will be open;
2) *Micro location* – represents selection of an exact address where to build/rent a store;
3) *Store layout* – location of shelves or other displays with product categories in the store (**space management on the store level**);
4) *Planogram* – location of each SKU on the shelf of certain category (**space management on the category/shelf level**).

[1] Brick and mortar - refers to retail shops that are located in a building as opposed to an online shopping destination, door-to-door sales, kiosk or other similar site not housed within a structure. (Retail About, 2015)

Category management's space management covers location problems of layout and planogram, i.e. space management on store level and space management on category/shelf level. According to American Marketing Association (2013) store layout or arrangement of departments or groupings of merchandise, has to be organized to provide for ease of customer movement through the store and to provide for maximum exposure and attractive display of merchandise. The peculiarity of layout in category management is reflected in the allocation of retail space according to product categories (usually 50 or more categories), as opposed to the earlier classification by departments (4-7 departments).

The main focus of this paper is on space management issues on category level – both segment and SK level.

1.1. Space management on category level

Space management on category level (space on shelf, display, floor or in the fridge) is also called shelf space management (Chung, Schmit, Dong, & Kaiser, 2007). Retail space is often the retailers' scarcest resource (Fernandez Nogalez & Gomez Suarez, 2005), important for attracting more customers to retail store (Hariga, Al-Ahmari, & Mohamed, 2007), and accounts for a significant element of retailers' costs (Ramaseshan, Achuthan, & Collinson, 2009).

Space management on category level is usually analyzed on segment level, on brand level and on individual SKU level. Segment is part of product category structure on a level between whole category and individual SKU (or brand level) usually determined by consumer decision tree method, which points out structure and hierarchy of consumer buying behavior.

Therefore space management on category level requires more demanding complex operations that consist of two main activities:

a) Positioning of segment/brand/SKU on the shelf (or display, floor, fridge);
b) Allocating of space to a certain segment/brand/SKU.

Each of these activities has its own principles and/or rules.

Product positioning is an activity of deciding where to put SKU on the shelf according to its market share, target customer's segment, retailers' promotion plans, logistical requirements (volume, temperature, shape, secondary or RRP packaging), influence on other products in category and/or in the rest of the assortment (other categories in store). Segetlija & Dujak (2013) summarized most important principles for successful positioning on category level, as well as basic rules regarding direction of customer moving in the store and price increase (prices always increase in customer moving direction, respectively from left to right). The most commonly stores have exposure on four levels, and in rare cases can have exposure on three levels. Exposure at the level of four shelves, from the lowest to the highest, can be categorized on the "floor" level, the "height of the hand" level, the "eye" level and "above the eyes" level. Different levels of shelves are appropriate for different products (products with different market share and inventory turnover, different logistical characteristics, different volume) and for different target segments of consumers (Segetlija & Dujak, 2013). Product positioning (or placement) can be changed either horizontally or vertically. According to Chung et al. (2007), vertical change of shelf position is much more effective than horizontal relocation. According to many studies (Chung et al, 2007; Segetlija & Dujak, 2013) eye-level location was the most desirable location, i.e. highest sale location. Horizontal movements are not so important, but some rules have been noticed – centrally located products were preferred in the smaller retail formats like convenience stores, while an edge location was preferred in the larger formats – e.g. supermarkets, hypermarkets (Chung et al. 2007). Furthermore, the products on the level of categories and subcategories can be divided based on their price into A, B and C brands, with the most expensive A brands, while the lowest-level is C price (Segetlija & Dujak, 2013).

Allocating amount of space to each SKU in product assortment is actually activity of deciding how many facings[2] each SKU will have on a shelf. *Facing* is probably the most important activity in shelf space management (Table 1), but it must be considered integrally with other important tasks of category management like assortment management (which products will enter in category - *listing*), inventory planning (*replenishing* policy) and price planning for each product (Hübner, 2011). Facings directly influence consumer demand – more facing leads to higher consumer demand, but because of limited shelf space the

[2] Facing is the physical (linear) space that a single product occupies (IGD, 2013).

number of facings for one product limits the space available to other products, and may require delisting other products (Hübner, 2011).

Table 1 Shelf space demand effects and supply considerations

Decision problem	Decision area	Effects
Assortment planning	Assortment size and listing of products	Substitution demand
Shelf space planning	Shelf space allocation (positioning) and number of facings	Space-elastic demand
Inventory planning	Restocking frequency	Supply constraint and costs
Price planning	Pricing of products	Price-elastic demand

Source: adapted from Hübner, 2011

Basic principle and current practice of many retailers regarding shelf space management is to allocate shelf space for a SKU approximately equal to its market share. In their study Ramaseshan et al. (2009) have found that the main rule for retailers is share-of-sales-equals-share-of-space, or that they just implement planograms designed by high market share manufacturers or franchisers. This approach is suboptimal as it does not use other important factors, but this kind of passive category management is still used by many successful retailers (mainly by retailers that operate in discount and convenience store formats).

Basic factors for allocating (shelf) space to certain products should be (Levy & Weitz, 2012): the productivity of the allocated space, the merchandise's inventory turnover, the impact on overall store sales, and the display needs for the merchandise. Productivity is mostly calculated as gross margin units per 1 cm length of shelf, or per one m^2 of sales floor, or per 1 m^3 of sales fridge. Very often retailers use a metric that is combination of productivity and retail turnover – gross margin return on investment (GMROI) is calculated by dividing gross margin with average inventory value. GMROI indicates how many units of currency of gross margin, retailer will earn on one currency unit invested in inventories. Retailers also compare inventory turnovers, GMROI or other metric of different SKU's in category as well as with average metric of the whole category. Sometimes SKU does not have satisfactory values, but its existence on the shelf influence positively sales of other connected SKU's with highly desirable GMROI. Finally, physical and other logistical limitations of SKU's will also affect number of facings on the shelf. In addition to these factors, many other principles and methods have to be taken into consideration in space planning and management (Segetlija & Dujak, 2013). Retailers also consider factors like image building, shelf space for private labels and possibility of increasing bargaining power towards manufacturers (Zameer, Waheed, & Mahasin, 2012). Taking into account all (or majority) of these factors requires comprehensive and integral shelf space management models. While looking for optimal shelf space management most of authors in their models take into consideration assortment management, cost of inventory management[3] (Hariga, et al., 2007; Ramaseshan et al., 2009; Chung et al., 2007; Kurtulus & Toktay, 2010), and some even pricing decision (Hübner, 2011). Due to huge data sets, these activities are usually conducted through specialized software. In this phase, experience from all previous phases of category management process comes to the fore.

Here is good place to elaborate private labels'[4] share increase on retailers' shelves that is happening in contemporary retailing. Although private labels have considerably smaller market share than manufacturers' brands (or so called national brands), they often get even more shelf space than manufacturers' brands. Gomez & Rubio (2008) as well as Zameer et al. (2012) are just two studies that confirmed how private labels occupy more shelf space disproportioned to their market share, and that retailers are favouring unequal competition terms between manufacturer brands and private labels through better positioning and facing for their own brands. As private labels usually have lower prices than manufacturers' brands (price is the main motive for their buying), they are usually positioned to the right of the leading manufacturer brand – to ease the comparison between them (Gomez & Rubio, 2008). Retailers' behaviour in case of private labels is clear and obvious deviation from category management and space management main rule, as well as obvious evidence of retailers' power in supply chain. Although retailers usually have higher margins on private labels GMROI is not always higher than GMROI of manufacturers' brands (due to relatively low inventory turnover). Retailers are actu-

[3] Mostly inventory replenishment problems regarding replenishment frequency and lot sizing

[4] private labels or retail brands or store brands

ally giving more shelf space to private labels to increase their turnover, but also to increase consumer loyalty (as "our" private label can be bought only in "our" stores) and retailers' image (Gomez & Rubio, 2008; Zameer et al., 2012). Manufacturers are very well aware of their inferior position, and if they still want to increase their share of shelf space they have two options: decrease their wholesale prices (Martinez-de-Albinez & Roels, 2007) or insist on and promote category management principles (Gomez & Rubio, 2008).

2. The analysis of pickled and canned vegetable subcategory

The concept of conservation includes various processes and procedures which aim to extend the sustainability of agricultural and food products. Preserved foods stay longer usable, even in areas distant from the site of obtaining (harvesting, processing, etc.) (Lovrić, 1994). Although fresh food is highly available nowadays, consumers maintain the habit of buying pickled and canned food, mostly because of the fast life-style, but also because of the tradition in Croatia and region. It is also the case in fast markets such as United Kingdom where in 2012 the market of canned food grew by 4,6% and in the same time the whole grocery retail market grew by 3,6% (Fortune, 2013). In favour of this is also the fact that canned food is present in 99,2% households of UK population (Fortune, 2013), which can be related with economic crisis and buying cheaper products, but also fast life-style. Furthermore, the awareness of food waste is increasing, among other things, due to weaker financial situation, and when it comes to canned food, the food is much less throwing away than in the case of fresh ingredients.

The convenience of this type of products is suitable for all ages and it is very important that consumers recognize the advantages of using them considering their own lifestyle (Fortune, 2013). From that point of view, consumers in this sub-category can be divided in two main *market segments* (Marinada d.o.o., 2015):

- "Young" consumers – employed, have a little free time, consume this type of product because they are simple and quick to use.
- "Elder" consumers – tradition of consuming these types of products (in the past, the limited availability of fresh vegetables).

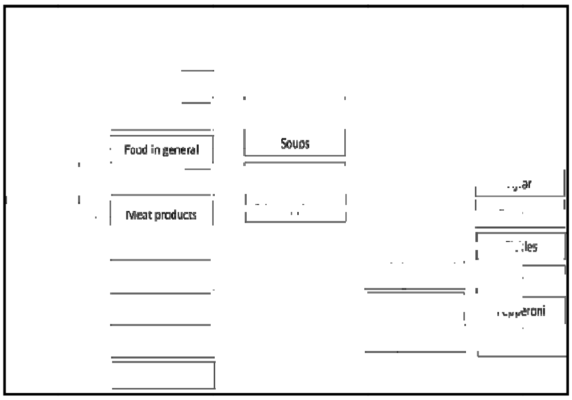
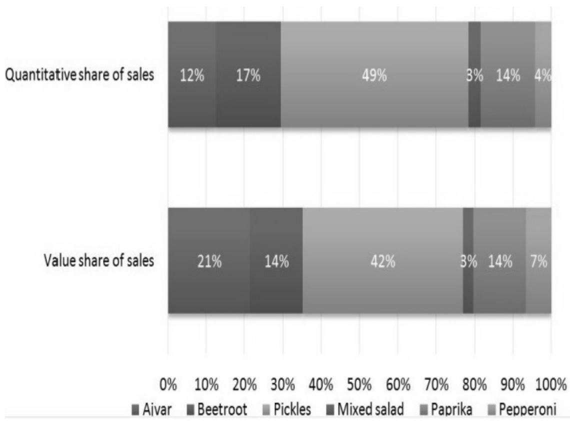


Figure 2 Classification of food product range in retail
Source: authors according to AC Nielsen (2006) classification

Figure 2 shows how food product range in retail is classified by AC Nielsen. In this paper will be analysed subcategory of Pickled and canned vegetable, which includes six segments: Ajvar, Beetroot, Pickles, Paprika, Pepperoni and Mixed salad.

Estimated *consumption* of pasteurized vegetables in Croatia is about 16.000 tons or 180 million kuna (Marinada d.o.o., 2015, based on Croatian Bureau of Statistics, 2012) per year. According to available data from the Croatian Bureau of Statistics (2012), annual average consumption of pasteurized vegetables per household is 6.8 kg.

To have starting point for analysis of Croatian retail market in category Pickled and canned vegetable share of main segments in category is given on Graph 1. Segment Pickles has the largest, both quantitative (49%) and value (42%) share, followed by Beetroot segment in quantitative share (17%) and by Ajvar in value share (21%).



Graph 1 Value and quantitative share of segments in Croatia
Source: authors according to AC Nielsen (2006) data for Croatia, February/March 2015

For the purpose of this paper, emphasis will be on quantitative share of segments, given the limited data on value shares from the retail chains.

2.1. Space management analysis of sub-category of Pickled and canned vegetables

In order to better analyse subcategory of Pickled and canned vegetables, the space management analysis of store shelves of several largest retail chains in Croatia has been made. For the purposes of this study, the following retail chains will be discussed in more detail: Konzum d.d., Spar Hrvatska d.o.o., Kaufland Hrvatska k.d. and Lidl Hrvatska d.o.o.k.d. Their overall market share in Croatian retailing is higher than 50% (AZTN, 2013).

2.1.1. Space management analysis of store shelves in Konzum d.d.

Konzum d.d. is the largest retail chain in Croatia, with more than 700 stores (Konzum, 2015) and market share between 25 and 30% (AZTN, 2013). Konzum has three store formats, Konzum, Maxi Konzum and Super Konzum. In this paper format Super Konzum (hypermarket) will be analyzed. In Pickled and canned vegetables subcategory it has 444 facings on the retail shelves.

Figure 3 shows that the same SKUs are arranged in vertical blocks. How each segment is arranged will be explained using the segment of Pickles. The largest number of facings is taken up the segment Pickles, 222 of 444, which makes its share of shelf 50%. Almost equal share of shelf is taken up Paprika (16%) and Ajvar (15%), then Beetroot has 10%, Pepperoni 7% and Mixed Salad has only 1% share of shelf.

First block are private label Konzum's products K-plus and Standard. On the top-shelves are the smallest packages of 370ml; on the middle shelves, at the level of eyes, are 720 ml packages; and on the bottom shelves are large packages of 1700 and 2500 ml. The block of private label is followed by national branded products arranged in the same way – Zvijezda, Podravka and DoOra. Other segments are also arranged in the same way, first private label and after national branded products. Prices are increasing in the direction of consumers' movement, i.e. from left to the right side. Considering that the shelf is arranged according to the principle of vertical blocks, all brands, private and national, have the same shelf position. They are all positioned at the level of eyes, within reach, above the eyes, etc.

Figure 3 Shelves of Pickled and canned vegetables in Super Konzum
Source: Internal data of Marinada d.o.o. (2015) company

What differentiates them is the number of facings, where private label K Plus has the most. Private labels are predominant in almost all segments taking up around 50% of the shelves. This is not surprising considering that in the first half of 2013 the share of private labels in the retail market was 22%, while in 2004 was only 5% (Sedlar, 2014). As a leader on the Croatian retail market, Konzum significantly impacts this growth due to the strong development of its own private labels, to which it gives considerable space on the shelf in most product categories, including this one. The other four national brands take up the rest of the shelves. One can also see that on the shelves there is small number of brands and almost all are domestic brands, except Vitaminka which tends to disappear from the shelves. One of the main reasons for this is that recipes for this product group are specific (specific for the region of former Yugoslavia). Manufacturers from e.g. Germany, have a different, sweeter recipe that is not in accordance with the wishes and needs of Croatian consumers, who are not used to their tastes so there is no significant competition from other countries (Marinada d.o.o., 2015).

At the moment of analysing this sub-category, all products on the shelf are without shelf ready packaging (SRP), i.e. retail ready packaging (RRP)[5]. In the beginning of the next season (September 2015), RRP will be applied for private label K-plus (Marinada d.o.o., 2015) and it is expected that very soon other products will apply this kind of secondary packaging as well.

2.1.2. Space management analysis of store shelves in Spar Hrvatska d.o.o.

Spar Hrvatska d.o.o. has opened 52 stores (Spar, 2015) and has less than 5% share of total retail

[5] Retail ready packaging (RRP) is a form of transit packaging designed not only for transportation purposes, but also to ease and facilitate the process of in-store replenishment (Dujak, Ferenčić, & Franjković, 2014)

sales in Croatia (AZTN, 2013). On the shelves in Spar there are 475 facings in the analyzed sub-category.

The shelves are arranged in a pattern that on the middle shelf (the level of the eyes) are national brands, while at the secondary positions (above the eyes, the height of the hand) is Spar's private label named S Budget (Figure 4). That suggest that private label is not in the main focus of the shelf, the focus is on national brands.

Products are individually placed in a large number of facings, e.g. in Beetroot segment, the whole level of shelf is one brand (DoOra, Podravka), and shelf is arranged in horizontal blocks. Smaller packages are on the highest shelf, while the largest packagings are at floor level.

When it comes to share of shelf by segments, once again, segment Pickles have the largest share of 32%. and Ajvar is the second largest segment with 21%. Segment Paprika has 17%, Beetroot 14% and Mixed salad has significant 10%. The smallest segment in Spar is Pepperoni with 7% share of shelf.

Figure 4 Shelves of Pickled and canned vegetables in Spar
Source: Internal data of Marinada d.o.o. (2015) company

There are small number of national brands on the shelves, only four of them and private label. Private label is the leading brand in the shelf share, although very close in percentage are national brands Podravka and DoOra. The focus of this retail chain in this sub-category is on national brands or more expensive products. In accordance with Spar's strategy, there is no retail ready packaging on the shelves and for now there is no requirement for the coming season for RRP (Marinada d.o.o., 2015).

2.1.3. Space management analysis of store shelves in Kaufland Hrvatska k.d.

Kaufland Hrvatska k.d. is the retail chain owned by Schwarz Group, with 34 stores in Croatia (JaTrgovac, 2015a). In 2012 it was on the 4th place with a market share in Croatia between 5 and 10% (AZTN, 2013). It is interesting that in the category of retail format hypermarkets, Kaufland is stronger even than the market leader Konzum (Sedlar, 2014). Considering analysed retailers from this paper, Kaufland has a significantly higher number of facings in this subcategory - 1,821 facings.

The specific feature of shelves in Kaufland is that there are a large number of facings in all segments. Considering the shares of shelf for each segment, the situation is similar as in previous two retail chains. Going from the smallest to the segment with the largest number of facings, the order is following: Mixed salad (4%), Pepperoni (7%), Beetroot (12%), Ajvar (22%), Paprika (23%) and Pickles (32%).

Figure 4 Shelves of Pickled and canned vegetables in Kaufland
Source: Internal data of Marinada d.o.o. (2015) company

In addition to standard position, products from the analysed subcategory were set in places that are not common – e.g., private label pickles were positioned with dried fruit (Figure 4). Almost the whole sub-category is arranged in a way that national brands are on the shelves at the level of hand, eyes and above the eyes, while private label products are placed on the floor, but in a significant number of facings. The shelf is mostly arranged in horizontal blocks.

It should be noted that the smallest share of private label is at segment of Ajvar where the predominant is national brand Podravka. The latter is interesting because Kaufland offers its consumers products at lower prices, and in this segment the largest share on the shelf is taken up by a national brand that is more expensive, but most likely due to its high turnover.

Majority of facings in Kaufland are private label, followed by Podravka and DoOra. One can notice slightly higher number of brands in relation to Spar and Konzum. Significant share of 12% is taken up by a manufacturer from Macedonia Dentina, which is not the case with the previous two retail chains. The price of Macedonian products is lower than the domestic products and Croatian consumers are less familiar with them. However, due to the strategy of Kaufland, these less familiar and less expensive products certainly have multiple roles on the shelf – to increase consumer's choice of cheaper products, while at the same time influence price reduction of national brands that are more expensive. This price reduction especially refers to higher prices in other retail chains of the same national brand products.

Unlike the previous two described retail chains, on these shelves in Kaufland, partial use of retail ready packaging is present.

2.1.4. Space management analysis of store shelves in Lidl Hrvatska d.o.o.k.d.o.

With previously analysed retail chain Kaufland, Lidl Hrvatska d.o.o.k.d. is the second retail chain within the Schwarz Group and the only grocery discounter on the Croatian retail market. There are currently 86 stores in Croatia (JaTrgovac, 2015b), and its market share in the first half of 2013 was 8% (Sedlar, 2014). The essential characteristics of this type of retailer are a relatively small number of products in the range, varying from 600 to 1200, and private label is predominant on the shelves. Also, there is the presence of retail ready packaging on the shelves, and Lidl was the leader of the introduction of this type of secondary packaging on Croatian retail shelves. In this subcategory Lidl has 188 facings on the shelf, which is half the facings Konzum and Spar have.

Figure 5 Shelves of Pickled and canned vegetables in Lidl
Source: Internal data of Marinada d.o.o. (2015) company

As already mentioned, Lidl has significantly lower number of products, and thus number of facings compared to other retail chains, what can be seen on the shelves (Figure 5). What also is not the common case with other retail chains are different (sub)categories of products on the same shelf, e.g. tomato concentrate and ketchup on the same shelf as ajvar.

The leading segment in share of shelf in previous retail chains, Pickles, has the largest share in Lidl as well, but quite lower – 25%. Beetroot is the second largest with 22%, Ajvar has 21%, Paprika 19% and Pepperoni 13%. Segment Mixed salad is not present on the shelf.

The products are arranged in vertical blocks by brands, i.e. private labels. Lidl uses a specific type of presentation – all segments are in retail ready packaging and there are only three shelf levels (floor, middle shelf and the top shelf), but each level fits several commercial transport packages on each other, which resembles a warehouse.

Private label is almost entirely dominant in this sub-category of products. The only exception is segment of Ajvar where is present national brand Podravka, as the most famous in Croatia. Also, specifically for this subcategory is that when Lidl entered on the Croatian market, most private label products were from manufacturers from Germany and Hungary (contracting at central level), which has caused poor performance in sales (specific recipe in the Croatian market) and in recent years Lidl has turned to domestic manufacturers (Marinada d.o.o., 2015).

Like in all discount store retail formats, share of private label on the shelves is very high, 94%. The reason for this is the focus on the cheaper products, and generally such a strategy of discount retailers.

3. Discussion comparison of analysed retail chains

In all analysed retail chains one can see that subcategory of Pickled and canned vegetables is managed according to the wishes and needs of their consumers and according to the company's strategy. Further will be summarized characteristics of space management of shelf in analysed sub-category in each retail chain.

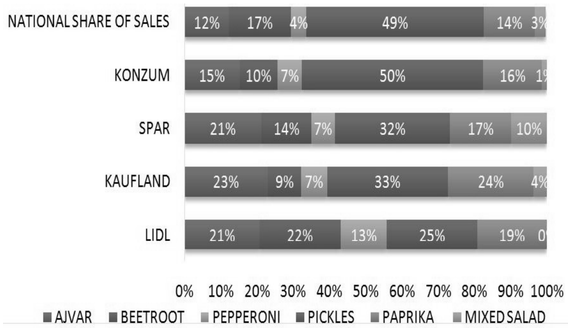
In **Konzum** shelf is arranged in a way that the share of shelf is very similar to the share of sales in Croatia. When it comes to prices, it offers consumers A (Podravka, Zvijezda), B (Vitaminka, Door) and C products (PL), and the shelf is arranged in a way of Opening Price Point [6] (OPP), starting with the lowest price in the left lower corner.

In **Spar,** unlike Konzum, products are not arranged vertically, but horizontally, and private label is placed on one shelf below eye level, while national brands are at the eye level. Private label is not in such a focus as it is in Konzum. Also, Spar offers consumers A (Podravka, Zvijezda), B (Droga, DoOra) and C products (PL), and in each segment starts with the lowest price, OPP.

Kaufland is specific because of the large number of facings in this sub-category, and the products are exposed in places that are not common, e.g., as in Figure 3 private labels pickles are on the shelf with dried fruit. A visible trend is exposure in retail ready packaging. The number of facings is created on the basis of data on total sales of sub-category. ABC principle is also used, although unlike the other retailers, there is slightly larger number of suppliers, especially suppliers of C products. Private label is mostly positioned below the eye level, but in a large number, and the shelf is arranged by the OPP principle.

Lidl is specific because of the small number of facings, and the products in this sub-category are mixed with other categories on the shelf. The prevailing share of shelf is taken up by private label, i.e. C products. On one hand, one can conclude that there is the largest mismatch with the needs of consumers, shares of shelf do not follow the shares of sales in Croatia. On the other hand, consumers who prefer Lidl are ready to have less choice, but lower prices.

To answer first research question, share of shelf space for each main segment in category Pickled and canned vegetables of selected retailers was analyzed, and then compared with sales shares on national level, Croatian market Graph 2. Analysed segments in chosen four retail chains mostly get the share of shelf which is in accordance to their share in sales in Croatia. Segment Pickles is the largest segment in all retail chains, although it gets lower share on shelf, even lower than its value share in sales (42 %, see Graph 1). Segment Mixed salad is the smallest segment everywhere, although it gets substantial shelf space in Spar and segment Pepperoni gets larger shelf space in Lidl, while other retail chains follow its national share of sales. Other segments, Beetroot, Ajvar and Paprika, exchange their shares, depending on the retail chain and somewhere they are above or below the share of sales in Croatia.



Graph 2 Comparison of the share of shelf for segments by retail chain to the share of sales in Croatia
Source: Internal data of Marinada d.o.o. (2015) company and AC Nielsen (2006) data for Croatia, February/March 2015

It can be concluded that market share expressed in retail sales or retail turnover, is main criteria (although not only) for shelf space allocation on the segment level. And to implement this principle on the shelf, retailers usually use market share data for each segment – both from internal (POS data) and external sources (market research agency, manufacturers, etc.).

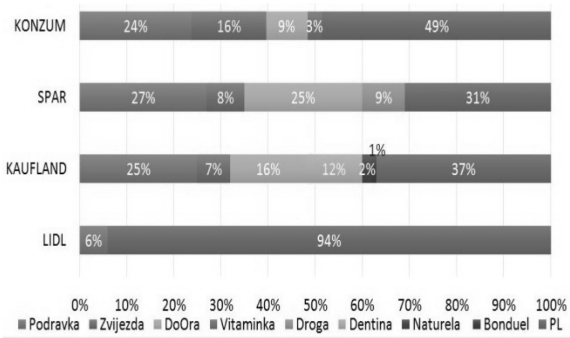
For the purpose of the second research question, shelf space allocation on brand level was examined to check if there are different criteria than in case of shelf space allocation on segment level.

From Graph 3 it can be seen that different retailers have different share of space for brands. Certainly, on brand level market share is also one of the most important criteria (as they usually have largest space on shelf for brands with highest market share – Podravka, Zvijezda and DoOra). But very high share is also given to their own private labels (from 31% to almost 94% of shelf space). As private labels are products with usually higher margin and other benefits for retailers, we can say that they have special treatment and constitute additional criteria on brand level.

Likewise, private labels for many consumers represent a better choice, i.e. a better price-quality ratio and bring greater value and a greater possibility of savings. Therefore, retail chains adapt consumers' wishes and needs, among other benefits for themselves. That private labels are becoming increasingly known among consumers, and even real competition to national brands, confirms the fact that almost half of the consumers buy private labels, 43% (Ban, 2013). It is estimated that in this category the percentage is even higher,

[6] The least costly line of a particular item (KamCity, 2015)

because it is impossible to make a significant differentiation in quality between private label and national brands (Marinada d.o.o., 2015).



Graph 3 Comparison of the share of shelf by retail chain and brand
Source: author s research

Different share of space for brands in selected retailers is also caused by different relations between retailer and manufacturer. Examples of improved relations that affects retailer's shelf space management are:

- manufacturer is provider of manufacturing services for retailer's private label, and therefore it also has privileged status for its own brand on retailers shelf (more space than it is its realistic market share),
- manufacturer and retailer are vertically connected (either based on ownership – same corporation, or based different contract relations – like franchising contracts),
- manufacturer offers additional promotional activities for its brands (both in-store and out-store activities) with aim of increase of sell out turnover (advantages for both retailers and manufacturer),
- favourable agreements affecting retailers margin also benefits positive shelf space management.

Overall larger space for category (more shelf space) could also be a reason for introducing additional brands and different structure of category regarding brands. With more brands retailer meets the needs and expectations of broader groups of consumers (example of Kaufland). But still, prevailing trend is a reduction in the number of suppliers, brands and products, and increased turnover. Turnover is increasing because only those who meet the criteria of the role categories are involved, while others would occupy the shelf space and lower efficiency, i.e. sales (Pavlek, 2011). This confirms the example of the retail chain Konzum which in 2012 had 16 different brands on its shelf in the analysed sub-category, while in 2015, there are 5 different brands. The number of suppliers has been reduced, but the turnover remains the same, or has a slight increase (Marinada d.o.o., 2015). Retailers have recognized that too many products create unnecessary additional costs, create unnecessary supply on products with poor sales, while also interfere the psychological process of buying at the point of sale. To keep assortment up to date with new consumer's needs and trend of decreasing supply chain costs, modern retailers use much more dynamic assortment – high rotation of SKU in assortment without changing the overall number of it.

Conclusion

Based on the space management analysis of Croatian retailing, contemporary trends in the retail are evident, as well the impact of category management, which has led to the optimization of the required categories and products within it – especially in terms of shelf space management. This indicative study has shown that retailers in Croatia in sub-category of Pickled and canned vegetables use contemporary category management principles in extensive way, especially in shelf space management part. Although, they have their own specificities that arise from their own strategy of attracting consumers, retail format or their traditional approach (connected to their country or origin), contemporary retailers allocate shelf space to product segments and brands primarily according to their share of sales (or market share).

In the same time, they are aware of their horizontal position (their market share) and their vertical domination (highest power in food supply chain) and they adapt space management activities to their own interest especially in case of allocation of shelf space to brands, where their private label has privileged position, regardless of its much lower market share.

Additionally, relations between retailer and manufacturer could also significantly influence retailer's decisions regarding shelf space allocation – both in positive (increasing of shelf space) and negative way (decreasing of shelf space).

Some specific implications could be derived from research results:

- Retailers should primarily decide on shelf space allocation on segment level based on

market shares of certain segment that are recognized by consumers (through consumer decision tree method) to maximize sales and minimize consumer confusion in category;
- Manufacturers should recognize that in shelf space allocation on brand level, market share is not only criteria, and recognize development of relationships with retailers as opportunity for increasing its space on retailer's shelf;
- Manufacturers should be aware of dynamic aspects of retail assortment – decreasing of overall number of SKU, and high change rate in assortment. Therefore, they should base their growth strategies not only on adding new products in their assortment, but also on assortment reduction with the goal of optimization according to market and retail trends.

Understanding of principles and operations carried out by retailers will enable to the manufacturers and its brands to capture better position in the category, and possibly influence the category itself through better satisfaction of both retailers' and their own interests. At the same time, considerable benefits could be withdrawn for small and family owned retailers who could use some of basic category and space management principles – both for their merchandise presentation and for improving their bargaining power with their suppliers.

The main limitations of this research arise from limited number of observed retail chains. The second limitation is a lack of data about retailers' margins that could help us recognized some other factors influencing retailers' shelf space decisions.

Further research should be carried out in combination of in-depth interviews with retailers' category managers and data analysis through above mentioned retail shelf space management models and their calculations, with additional emphasis on individual SKU level of category SM

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⊠ **Correspondence**

Davor Dujak

Faculty of Economics in Osijek
Trg Ljudevita Gaja 7, 31000, Osijek, Croatia

E-mail: ddujak@efos.hr