OECONOMIA
COPERNICANA

VOLUME 9 ISSUE 4 DECEMBER 2018

p-ISSN 2083-1277, e-ISSN 2353-1827
www.oeconomia.pl

ORIGINAL PAPER

Citation: Kučerová, V., & Zeman, J. (2018). Methodology for planning a successful store flyer campaign based on a case study from a Czech retail market. *Oeconomia Copernicana*, *9*(4), 755–779. doi: 10.24136/oc.2018.037

Contact to corresponding author: kucerova@fbm.vutbr.cz, Brno University of Technology, Faculty of Business and Management, Kolejní 2906/4, 612 00 Brno, Czech Republic
Received: 11 September 2017; Revised: 4 August 2018; Accepted: 15 August 2018

Vladimíra Kučerová
Brno University of Technology, Czech Republic

Jaroslav Zeman
Brno University of Technology, Czech Republic

Methodology for planning a successful store flyer campaign based on a case study from a Czech retail market

JEL Classification: *D12; D49; L11; M37*

Keywords: *store flyer; price elasticity of demand; grocery; retail; flyer campaign goals*

Abstract

Research background: An essential part of marketing practice in contemporary food retail is the store flyer campaign, in which goods are offered at discounted prices. Even if it is not a new innovation in the field of sales promotion, its popularity does not decrease, and what's more, in many countries it is still one of the most successful forms of promotion and communication with customers.

Purpose of the article: This article brings an answer to the question of how to plan a successful store flyer campaign. The goal is to design the process of planning such campaign based on the knowledge of price elasticity of demand. The rate of success is represented by the level of fulfillment of goals set by the merchant.

Methods: The area of the research is the Czech retail food market . The knowledge of the price elasticity of demand is based on the analysis of real terms of prices, sales volumes and margins, and the typology of goals we want to achieve. The proposed method of planning determines the evaluation rules for products in terms of their suitability for inclusion in a store flyer. The calculated values of price elasticity of demand and their changes during the time phases of the campaign are used as a knowledge base for a planning of consumers' responses to the store flyer. The principle of planning is demonstrated in a case study.

Findings & Value added: The practical output of the proposed process is the answer to the question of which goods should be included in the store flayer to achieve the goals set for the campaign. This study gives the method of identifying the groups of products which are suitable for inclusion in the store flyer and recommends the rules for the planning of the campaign.

Introduction

Various terms have been used in literature when referring to 'flyers': store flyer, circulars, leaflets, feature, weekly grocery advertisement, and sales flyer (Jensenetal, 2014, pp. 1–8). Store flyers, a specific form of feature advertising, are printed advertisements used by retailers to present their assortment of goods, to promote new products and stores and to notify of price specials and which can also cover recipes and other information (Miranda & Konya, 2007, pp. 175–181; Pieters, 2007; Jensenetal, 2014, pp. 1–8). R. Pieters *et al*. (2007, pp. 1815–1828) also states that store flyers are a form of cooperative advertising between retailers and manufacturers, for which manufacturers pay retailers to get their products featured, and retailers combine manufacturers' ads with those for their own private labels.

Store flyers have become an integral part of the business process. L.M. Powell *et al.* (2016, pp. 106–107) summarized the findings of the price promotions, i.e. temporary price reductions or discounts. Advertising in store flyers can build brand awareness, maintain or enhance brand familiarity, increase perceived value, and reinforce consumers' positive self-image as "bargain shoppers". Price promotions may influence consumer' purchasing patterns, especially among low-income consumers using sales to economize.

The response of customers to the store flyer is often expressed by a share of goods purchased at the promotional prices in total volume sales. In Europe, the leaders in this share are the Czech and Slovak Republics with the share of 50%. For example, Germany has the share of 21%, Austria 36% and Poland 29% (Novák, 2016). Although the flyers are used for almost all consumer goods, the most important area is the grocery retail (Drtina, 2010; GfK, 2015). The grocery is just the sector on which this article is focused. Its goal is to propose the process of planning the store flyer campaign, based on the knowledge of price elasticity of demand, so that the campaign will be as successful as possible, meaning to meet the requirements of sellers in the best way.

The primary data, which originated from a Czech retail chain, was the basis for calculation of arc price elasticity of demand in the defined time period that characterises a store flyer campaign. This knowledge was used

as a knowledge base for a planning of consumers' responses to the store flyer. The proposed process of the campaign planning consists of six follow-up steps. Its principle is demonstrated on a case study.

Theoretical background of the study summarizes the knowledge of price elasticity of demand, mainly focused on grocery products, and the knowledge of customers' behaviour in relation to flyers campaigns. The part Planning of a Store Flyer describes the Authors' proposal of the flyer campaign planning. For better introduction and application of the method, a case study was used. The findings are summarized in Planning of a Store Flyer section. Discussion and Limitation part includes comparison of the finding with conclusions of other authors and defines the limits of the study and proposed methodology.

Research methodology

The proposed method of "how to plan a successful store flyer campaign" determines the evaluation rules for products in terms of their suitability for inclusion in a store flyer. These rules were established based on analysis of primary and secondary data. The process of planning was divided into six follow-up steps (see section 3 Planning of a Store Flyer Campaign) and in several of them the theory was extended with new findings, such as phases of price elasticity of demand related to the store flyer campaign and to its goals. The calculated values of price elasticity of demand and their changes during the time phases of the campaign are used as a knowledge base for a planning of consumers' responses to the store flyer.

The secondary data analysis was primarily oriented on knowledge and experience of other authors from scientific literature and scientific articles, with a focus on store flyer campaigns and price elasticity of demand. The findings of the study were compared with conclusions of other studies and were incorporated into the proposed methodology and the rules for store flyer campaign planning.

The primary data were gathered from a Czech retail chain with food, which includes more than 200 small and medium-sized shops. The database consists the data of all purchases made by customers in the main store of the chain. The analysed data represents the volumes of sales, the gross margins, the purchasing and selling prices, in the period from 2008 to 2012. The evaluated sample of products was chosen with regard to representativeness, frequency and diversity of the products included in individual flyers.

In addition to company reports and information sources used in this study, the second most important source was self-done research based on observations, structured interviews, questionnaire survey and mystery shopping in more than ninety individual shops of the chain. The primary data were the basis for calculation of the arc price elasticity of demand. For the identification of an analysed sample of products, the cluster analysis was used. Each of the group represents a selection of products with similar characteristics (very close substitutes) that are the ones most often included in store flayers of the retail chain. The evaluation of price elasticity of demand of each product's group was proposed as a calculation of the elasticity in three equally long monitored periods (before, during and after the campaign). The principle of the proposed process of planning is demonstrated in a form of a case study. Hendl (2016, p. 437) indicated that case study is one of the research methods. Case study may be defined as an intensive analysis of an individual unit (e.g., a person, event), stressing the developmental factors in relation to the context. The study was designed based on the principles by R.K. Yin (2003, pp. 4–49), who states that the case study design is the logical sequence that connects the empirical data to a study's initial research questions and to its conclusions.

In addition to the calculation of price elasticity, the method includes an analysis of the marketability of goods depending on the objectives of flyer discount, and calculations of changes in the sold products' contribution to the payment of operating costs and profit (hereinafter gross margin). The final selection of commodities highly suitable for inclusion into the flyer is based on the principle of deduction, which counts not only with results of the price elasticity analysis, but also with the knowledge and findings of other authors and their comparison with our ones, in order to draw logical conclusions and procedures.

Theoretical background of the study

Price elasticity of demand

The responsiveness of a quantity demanded by customers to a change in price is measured by the price elasticity of demand. The benefit of elasticities is that they are unitless and therefore comparable. Therefore, this arc price elasticity was chosen as the basic parameter for evaluation of a flyer campaign. Each flyer campaign in its principle shows a double price jump in a short time period.

Price elasticity of demand is influenced by many factors. The most important factors that affect the magnitude of a product's own price elasticity are the significance of the goods to the customer, available substitutes, time and expenditure share (Frank, 2008, p. 607; Baye, 2008, pp. 75–83).

According to P. Kotler (2013, p. 814), the list is supplemented by impact of unique values, the difficulty of comparing similar products, product quality and possibility of its stockpiling. Factors such as uniqueness, quality and lack of information about other products decrease the price elasticity of demand.

The main methods of determining the price elasticity of demand are a laboratory method (conjoint analysis) and the method of price tests (test markets) (Kozel, 2006, p. 277). The laboratory method is based on interviews with respondents on how many products they would buy at certain price, in a certain period. This method very often works with simulation programs, through which the respondents make their fictitious purchases. Unfortunately, the great disadvantage of the method is that the respondents in real conditions usually behave much differently than in hypothetical purchases with a limited assortment of goods. Therefore, the method gives only considerably distorted results.

The second method, of price tests, is a way in which the price elasticity of demand is detected directly in selected shops. The testing products are located in the shops' assortment, and according to the plan the prices of the goods are systematically changed. The reactions of customers, in the form of demanded quantity of product, are monitored and evaluated as a price elasticity of demand for each product. The character of the method is very similar to conditions of the store flyer campaign.

Surveys of the price elasticity, by these mentioned methods, are very costly and time-demanding, and the objectivity of the results is quite debatable. Therefore, the price elasticity of demand in a market practice is often based on the experience of sellers and its value is only estimated.

Store flyers

According to Gázquez-Abad, economic and shopping-related factors are the aspects that most strongly influence consumers' store flyer interest. In particular, findings regarding price sensitivity are of special interest for designing and targeting store flyers. Consumers highly prone to store flyers exhibit a lower level of price consciousness, a lower level of market scepticism and a higher level of deal involvement. Those consumers are older than 35 years, the older the consumer, the higher his/her proneness to store flyers. Looking for cheaper prices does not seem to be the main reason for

explaining consumers' use of store flyers. Those consumers trust flyers as a "reliable" source of information (Gázquez-Abad, 2014, p. 973).

T. Drtina (2010) states that customers' purchase along with their postponing, are not initiated by the need of satisfaction of needs or by usual preferences, but by the content of a store flyer, showing which items are currently discounted and promoted. A flyer tries to persuade a fickle customer to buy something in a particular shop. This system has made customers disloyal and highly sensitive to price changes. According to D. Szwajca (Szwajca, 2016, p. 94), customer loyalty is a relatively permanent attitude based on strong conviction about the company's and its offer exceptionality, manifested in a particular behaviour. In case of the customer it is the regularity of purchase and recommending the enterprise to other subject.

Knowledge of the price elasticity of demand for food

Despite the fact that the theory of the price elasticity of demand and its evaluation has been processed in many publications, the real data and the knowledge of price elasticity of demand for individual products is still very limited. Price elasticity is very often studied on a very limited group of products with a particular specialization or on an aggregate level. This is the reason why it is difficult to find the relevant values of price elasticity of demand for various grocery products that would be usable in practice.

R. N. Bolton (1989, pp. 153–167) studied marketing mix elasticity, which varies with market conditions, and distinguished regular and promotional price elasticity. He states that the price elasticity can differ even between individual products of one category. The particular product can be much more price elastic then the group as a whole. According to M. Baye (2008), the demand for broadly defined commodities tends to be more inelastic than the demand for specific commodities. The demand for food is more inelastic than the demand for some particular food product, because there are not any close substitutes for food. The results of the aggregate level are not transferable to the level of individual products in each shop. He states that the value of the price elasticity for food is -0.7.

The realized studies of the price elasticity are mostly focused on its determination on an aggregate level. J.L. Seal *et al.* (2003) compared the price elasticity of demand for the eight products' groups (e.g. meat, cereals, fish, etc.) among 114 countries. The study was based on World Bank's data related to the year 1996. Other authors focused on aggregated groups of products in terms of the United States of America are C.M. Aguirre (2011), M. Baye (2008, pp. 73–116) and J. D. Gwartney (2005, pp. 433–606). Be-

cause of the aggregate study character, the results can't help in practice with store flyer campaigns.

From the studies focused on particular grocery products, we can mention the price elasticity of milk products by N. Sano *et al.* (2014, pp. 1482 – 1487), who states the value of 0.59 for milk. M. Sosland (2008) in his article "Is price elasticity of demand for bread truly inelastic? " says that wheat and bread are products whose demand is hardly moved by even large price changes. He determines the price elasticity of 0.04 for cereals and bread in the USA. M.A. Colchero *et al.* (2015, pp. 129–137) estimated price elasticity of the demand for sugar sweetened beverages and high-energy food in Mexico. According to his study, the values of the price elasticity are 1.06 for soft drinks, 1.32 natural and mineral water, 1.65 milk, 1.13 candies, 0.97 snacks, 1.49 sugar, 1.13 traditional snacks. T. Andreyeva *et al*. (2010, pp. 216–222) summarized the research of the price elasticity of demand for food. On the basis of 160 studies, she states mean price elasticity of demand for foods and non-alcoholic beverages in the range from 0.27 to 0.81, with the highest price elasticity for "food away from home", and the most inelastic demand for eggs. L.M. Powell *et al.* (2016, pp. 106–111) focused in their study on price promotions for food and beverages in food stores in the USA. The highest prevalence of supermarket price promotions was observed for sugar-sweetened beverages, and the lowest for fresh fruits and vegetables. The price promotions are particularly common for some less-healthy grocery products such as candies, sweetened foods and salty snacks. The closest to our study, because of the evaluated sample, is the study by J. Luňáček (2011, pp. 225–236). The study presents the price elasticity of demand for a group of selected items in the Czech Republic gained from research based on a laboratory method with a limited range of products, and with a questionnaire survey.

Planning of a store flyer campaign

Store flyers campaigns should be based on the overall marketing strategy of the company, with clearly defined roles and particular goals, or just on subjective perception of individuals or groups. The intention of merchant cannot be to subsidize consumers' purchases and therefore behind each flyer campaign we have to search for deeper meaning. Before the product appears in the flyer, the seller has to make a difficult decision. First, he has to determine the main goal, or more goals he is following by this campaign. Next, are the choice of particular items, determination of the amount of discounts or more precisely reduced selling prices, the period of the cam-

paign and the assessment of a creative concept. Each flyer campaign should have its own budget that is derived from the affordability of the goals.

When planning the flyer campaign, we recommend following these steps:

1. *Determination of the goal or goals of the flyer campaign.* An integral part of this step is also to plan the distribution of flyers, because the possibility to meet the planned goals depends on an effective communication, in which the distribution of the flyers to customers plays an irreplaceable role.
2. *Selection of individual items.* It represents the identification of commodities suitable for flyer campaign based on the price elasticity of demand, under the conditions of various goals, and the draft of the flyer structure with a combination of several goals.
3. *Determination of a promotional price*. On the knowledge of price elasticity of demand, it is possible to model the planning of margins, volume of sales and the determination of the selling price.
4. *Determination of the store flyers' validity.*
5. *Graphical design and a distribution plan.* Very important steps are the selection of flyers' design, form, printing quality, quantity, timing and the way of flyers distribution. Given the focus of the study, those no less important parts are not the objects of our study.
6. *Evaluation of the store flyer campaign and creation of knowledge base for the next campaigns planning.* The key element in the effective management of flyer campaigns is an evaluation. We have to evaluate how successful the campaign was, if we met the goals, or why we have not succeeded. The acquired knowledge is necessary to process for the purpose of update and extension of the knowledge base, which is very useful for the next campaigns planning.

Step one – the goal of the flyer campaign

It is not so difficult to propose a flyer campaign which is able to increase the volume of sales, but it is more difficult to plan one that will increase not only the sales, but also the profit. H. van Heerde (2004, pp. 317–320) states that sales promotion often results in large sales effects for a promoted item. However, this does not mean the sales increase is truly beneficial. Lowering the price is very often possible only due to the decrease of selling margins, so even the increased number of sold goods may not be profitable for the seller. The sales increase of a promoted brand may come from other brands losing sales, from selling less in other time periods (e.g. due to stockpiling), and from category expansion (e.g. due to in-

creased consumption). Therefore, it is necessary to plan a flyer campaign so that it leads to fulfilment of the stated goals.

The original idea of flyers is to lure customers into stores through favourable prices of some commodities, with the idea that the customer buys not only discounted products, but also the goods offered at regular price and thereby it will increase the total volume of sales. Unfortunately, this principle, as many statistics of retail chains prove, does not work too much. Customers often want to buy only discounted goods.

Based on the comparison and our own research, we set the following list of goals:

- an increase in the sales volume and, therefore, an achievement of a certain turnover of goods, in order to receive bulk purchasing or various bonuses and rebates from suppliers,
- to attract more customers to the store, usually via promotional prices of suppliers,
- an increase in the contribution to cover costs and profit (gross margin),
- the price war, with the intention of a liquidation of competition,
- a clearance sale of goods, in groceries it is typical for expiring goods,
- to teach customers to buy the product (to accustom people buying it after the discount, for a regular price),
- introduction of a the new product to customers and getting used to its consumption at the standard price.

Step two – selection of suitable products

Selection of the specific items for flyer campaign should always be based on stated goal or goals, and considers strictly pragmatic factors such as the value of price elasticity of demand of each item, the amount of gross margin, existence of goods as substitutes and complements. The answer to the question whether the product brings positive economic effect, we will search in the price elasticity of demand. The demand function in Figure 1 shows the phases of the price elasticity of demand in relation to the goals of store flyer campaigns.

If the demand for the item is located in the first zone, then the product behaves inelastically. Customers respond to price changes just a little or hardly at all. Such products cannot be recommended for the goal to increase sales volume. They are not even suitable for the goal that seeks the wholesale supply, a price war, and in case of attracting more customers. Moreover, higher volumes of products with such behaviour are difficult to sell even in clearance sales. Inelastic demand of a product with large sales volumes, and after the flyer campaign, when the price returned to its original

level, monitored over a longer time (more than two weeks), indicates that customers have learned and become accustomed to buying the goods. Decrease of the selling price through a reduction in margin is reflected in the reduction of profit from the sold goods, on the other hand the price increase does not discourage customers from buying.

The second zone shows the unitarily elastic behaviour. The products can be recommended for the goal to receive bonuses and rebates of the wholesale supplies. Moreover, with the higher consumers' reaction to the price changes than in the zone 1, there is a better possibility of selling the products in clearance sales and special discounts. However, the reduced margin during the flyer campaign also reduces the gross margins. The best situation for this group would be to reduce the selling price without the change in margin. This type of price elasticity after the campaign shows the fact that customers have not learned to buy the product.

The third zone behaves elastically and in terms of discounts we consider it as the best one. Promotional prices lead to a higher percentage change in sales than the percentage by which the price was decreased. For this reason, such products are suitable for obtaining the wholesale supplies, clearance sales and increase of revenues.

Even in this case, one definitely cannot assess the suitability of the product for the purpose of increasing the gross margins, because if the coefficient of price elasticity is quite low, usually about two, then the gross margins can decrease due to lower margins. Therefore, it is really necessary to properly calculate the profitability of the proposed discount. A simple rule is, the higher the value of price elasticity, the more the discount pays off.

If our goal is to familiarize customers with a new product or teach them to buy a product, the zone 3 is the best for expansion of the products among the greatest number of customers. However, the same or higher value of the price elasticity after the campaign indicates that we did not succeed in teaching the customers to purchase this product regularly. If the products from the zone 3 or 2 shifted after the campaign into the first zone, we should be satisfied.

Generally, the price elasticity of demand is considered as symmetrically behaving indicator. However, in reality it may not be universally applicable, especially in terms of time-determined store flyer campaign, when consumers change their behaviour twice, in response to promotional prices and their return to the regular level.

This behaviour in the short term is usually influenced by various factors. One of the dominant is frontloading (stockpiling) of goods per discount price during the campaign, which one has to consider in the evaluation of

the impacts of flyer campaigns, but also when planning the next one. H. van Heerde (2004) states that the immediate primary demand is elastic due to increased purchase incidence or to increased purchase quantity, but those results do not indicate whether such increases represent pure stockpiling (without increased consumption) or consumption increases.

For the evaluation of price elasticity of demand depending on the store flyer campaign, we have defined two basic price changes. The first one is the change from the current price at a promotional (average E_{D1}), the second is a re-increase of price after the campaign (average E_{D2}).

Based on the analysis of the researched chain's store flyers, we found three phenomena:

- After the end of discount the customers reacted less flexibly to re-increase of price than to a reduction in price when the discount had started. This can be explained e.g. by temporary addiction to goods or in the short term ignoring of higher price.
- The value of price elasticity of demand before and after the discount was almost the same. This situation shows symmetric price elasticity, which can be expected when there are several products with similar customer utility and the choice is more or less directed by the price. Consumer's loyalty to the particular product is very low.
- The last phenomenon is characterized by a more flexible consumers' response on re-increase of price after the discount than was the reaction on its decrease. This phenomenon can be an expression of stockpiling of goods purchased at a bargain price.

The data of more than two thousand products, which have been promoted through flyers of the retail chain, are the base for calculation of the price elasticity according the formula 1. To make the store flyers interesting for customers, each of them must be different from the previous. Therefore, the individual products in each campaign vary and just a small number of the chain flyers released during the years included an identical product of its kind. Given that, with cluster analysis we have identified sixteen groups of related products, such as bread, sausages etc. The whole list of product groups, including the coefficients of price elasticity of demand, is presented in Table 1.

$$Q_2 = \frac{\left(1-\frac{P_1-P_2}{P_1+P_2}.E_{Dx}\right).Q_1}{1+\frac{P_1-P_2}{P_1+P_2}.E_{Dx}} \tag{1}$$

Step three – pricing or more precisely the determination of discount

The determination of promotional price must be based on the goal, which we want the campaign to reach. In commercial practice, the discount of each product can be set in a purely subjective way or based on internal pricing strategy. Our approach is to plan with the knowledge of price elasticity of demand the margins, volume of sales and then to deduce a selling price. This approach allows the sellers to maximize the benefits of the flyer campaign according to the defined goal. For the purposes of the study, we distinguish margins from gross margins as contribution to cover costs and profit. The margin is a percentage of charge to the purchase price set by seller. Its expression in money units is the difference between the selling price (minuend) and purchase price (subtrahend), and this is a gross margin.

Although the majority of goods that sellers intend to include in the store flyer have been purchased at a reduced price from the vendor, the sellers usually have to cut a part of their regular margins. Compensation of the margin loss by increased sales volume is dependent on the reaction of consumers to the promotional price, thus on the price elasticity of demand of the product, for whose assessment we use indicator ΔGM, which means incrementing of contribution to cover the costs and profit (gross margins).

The process of determination of the discount is illustrated in a case study. The products proposed in the second step, added by assessment of the economic suitability through the calculation of gross margin from step three are the ground for the proposal of store flyer's products portfolio. However, we still have to follow the goal for product's inclusion. For example, if our objective is a clearance sale because of the forthcoming expiration, the gross margins cannot be the primary factor.

Case Study

The case study demonstrates the principle of planning of promotional prices with the knowledge of price elasticity. The goal of our proposed campaign is to increase sales and gross margins. We are taking into consideration all commodities listed in Table 1.

Preconditions:

- the discount, assuming stable purchase prices, will be achieved by the decrease of margin from 40 % of the purchase price to 20 %,
- the quantity of each product (Q_1) sold per original price (P_1) is 100.

Initial questions of the study:

1. Does the proposed discount increase the sales volume?
2. Does the proposed discount increase the gross margins?

3. Will the proposed discount be beneficial for seller?
4. Which commodities according to positive effect in gross margins are appropriate for inclusion in the store flyer?

The following list is the set of initial presumptions of the case study.

a) If the selling price is decreasing, the demanded quantity is increasing.
b) Efficient discount means that it caused not only the increase in sales volume but also the increase in gross margins.
c) Higher price elasticity of demand means higher efficiency of discount.
d) Inclusion of as many discounted products in the flyer does not mean higher economic efficiency of the campaign.
e) The buying behaviour represents the changes in buying quantity of goods in dependence on the price changes, in terms of ceteris paribus.

The study type, data and analysis — this individual case study deals with the values of price elasticity listed in the Tab.1 and hypothetical precondition. The analysis for solving the initial questions are based on calculation of the quantity Q_2 of each product sold at a discount price (see formula 1, where E_D is price elasticity during the store flyer campaign E_{D1}), the calculations of revenues RP and gross margins GM (see Tab. 2). This knowledge allows planning the impacts of the discount to the volume of goods sold during the flyer campaign. This calculation together with the knowledge of price elasticity opens up new possibilities for effective planning of company processes and especially an effective inventory management.

This proposal reacts to the importance of appropriate supply of goods in the shops' stock. *A.* Grubor *et al*. (2015, pp. 67–74) summarized that among the problems customers have to face in the shops, the problems related to the stock-out, such as the promotion product stock-outs are the most frequent. Stock-outs in retail stores tend to make a negative impact on the business performance of retailers and their suppliers. Therefore, the effective inventory management is one of the significant factors of the store flyer success.

Case study conclusion and interpretation of the findings — answer to the question no 1. Does the proposed discount increase the sales volume? The answer is yes, it does. One can see that the sold quantity Q_2 and the revenue RP_2 have risen. Δ R [CZK] shows the impact of discount on the increase in revenues. It can be seen in Tab. 2 that the revenues increased in all commodities. If the aim of discount is to increase the sales of the product, then it is advisable to monitor the effect after campaign, when the price has increased. The average daily revenue will be higher if the difference of the price elasticity of demand due to beginning and the end of flyer campaign is positive, $ED_1 - ED_2 > 0$, see values of $avED_1$ a $avED_2$ in the Tab 1.

Our goal was not only to increase the revenue but also the gross margins. Therefore, the answer to the second and third question is more important. No 2. Does the proposed discount increase the gross margins? No 3. Will the proposed discount be beneficial for seller? We expressed gross margins with formula $GM = PP \cdot R \cdot Q$, where PP is purchase price per unit, R is a revenue at a selling price and Q is a quantity of goods sold. The positive answer to the question is expressed by a positive value of ΔGM in the Tab. 2. The negative value indicates a reduction in the gross margin, which means that the company has got a loss. At the original price fewer goods would have been sold and the sales would have been lower, but with a higher profit. In our case, the campaign caused a total loss of 1100.74 CZK, despite the fact that overall shop sales were increased by 32305.56 CZK and we sold 3118 items, which is 1518 units more. Moreover, this situation could increase the selling costs due to the need for labour force, storage areas, transport, handling time etc., as a result of an almost 50% increase in the quantity of sold goods. One of the effects of flyer campaigns should be attracting customers to the store to buy not only discounted goods, but also the other ones. This effect could compensate for the loss in gross margin, but its influence is not guaranteed, marketing experts doubt it, and we are not able to express its efficiency in the study. Therefore, the answers to the second and third questions are the same: no, it does not.

The answer to the question no 4. Which commodities according to positive effect in gross margins are appropriate for inclusion in the store flyer? Assuming that we would include into flyer only the items with positive value of ΔGM, the number of offered product groups shrinks to 6 commodities (coffee, chocolate, vegetable fats, cream cheese, yoghurt, hard cheese), which brings an increase in the gross margin of 1102.9 CZK, in revenue by 17642.56 CZK and the number of sold products will be 1518, which is an increase by 918 units. In percentage it is 29.4% of the whole offer, which makes up 54.61% sales growth.

The described method allows for the planning of selling price. Its basis is a purchase price of a commodity and a percentage of margins, which we can change to achieve the most effective results according to the goal of the campaign. To determine the expected quantity (Q2) of goods sold at the promotional price, we are using the knowledge of price elasticity of demand. The result is as accurate as accurately the coefficient of price elasticity was determined.

Step Four – determination of the store flyer validity

Success of the campaign is also dependent on its timing. This includes not only the length of the campaign, but also its frequency, the flyers' distribution to potential customers and the starting and ending days in relation to the validity of competitors' flyers. Czech retail chains most often use regular seven-day campaign on fixed days with weekly frequency.

Generally speaking, with extended length the efficiency of the store flyer decreases. In a short fixed time period consumers are psychologically encouraged to a quick decision and purchase, sooner than the campaign will finish. If the period is too long, then the customers lose their motivation to buy. They get used to the price and consider it as a normal. This situation can also cause saturation and loss of attractiveness of goods, which can even be subsequently deemed as inferior due to the persistently low price, or frontloading of goods at a bargain price. Stockpiling is the aspect that contributes to the increase of price elasticity of demand after the campaign.

Step Six – evaluation of the store flyer campaign

The actual effect of the campaign is influenced by many factors, such as inapprehensive consumer behaviour, weather changes and unpredictable impacts of competitors' campaigns. Therefore, a very important source of information is our own experience with the stores flyers, on which it is possible to estimate and plan the reactions of customers. To acquire and effectively utilize such information it is necessary to create a methodology for the data collecting and their evaluation. The company must monitor its development and changes after each campaign.

In the overall evaluation of the campaign we consider the calculations of sales volumes, price elasticity of demand and gross margins, with respect to the achievement of the major goal of the campaign. The process corresponds to the description in the step three and in the case study. The average daily gross margins caused by the discount, are split into two effects, the direct and the indirect.

The direct effect shows the direct result of the discounts and it is represented by difference between the values of average daily gross margins during the discount period and before it, see ΔGM in Tab. 2. Indirect effect occurs after the price returns to its original value. It is the difference between the average daily gross margin after and before the discount. This indicator, which shows the affection of the sales after the discount, allows

the detection of possibility of short term stockpiling or addiction to the product, etc.

The sum of the direct and indirect effect gives the total effect of discount. Interpretation of these results is dependent on the stated goal of the campaign. For the majority of the defined goals, the product that succeed in the store flyer is the one whose value of total effect is positive. A higher value means greater benefit. However, we have to evaluate the overall success of the campaign as a result of the whole products' portfolio.

The evaluation of these indirect and total effects for our case study is given in Tab. 3. The quantity of goods sold after the campaign is calculated according to the formula 1, with the price elasticity of demand after the campaign avE_{D2} (see Tab. 1), where an initial quantity Q_1 represents the number of sold goods per promotional price (with 20% of margin) and price P_2 includes 40% margin, see Tab. 2.

The least successful group was salami and sausages. These products, with a relatively low price elasticity of demand, significantly reduced the efficiency of the campaign. The group contributes 77.34% to the negative total effect. The total effect after removal of salami and sausages would be 1224.9 CZK.

Although the discount of some products does not have a positive effect, their exclusion from the products' portfolio may not be desirable. Firstly, the products can complete the products portfolio, which creates a comprehensive offer of a bargain and increases the overall attractiveness of the campaign. Secondly, the product can be seen by customers as a lure, which does not have a direct positive effect, however, increases the sales volume due to higher turnout at a shop. In that case it is highly desirable to achieve better purchasing price. Attracting customers to enter the shop is the first prerequisite of success. Furthermore, it all depends on the skill of the seller whether he can take advantage of the increased number of customers for selling other goods, even those that have not been discounted.

Planning of a store flyer campaign

Composition of a store flyer depends primarily on the will of the retail chain management. However, this study gives the method of identifying the groups of products, which are more or less suitable for inclusion in the store flyer. We can recommend following-up the rules below when planning the store flyer:

– The planning of the store flyer must be always guided by the goals that we want to achieve.

- The flyer should mainly include products with a higher value of price elasticity of demand (better more than 2) and with a higher positive value of gross margins.
- Product portfolio should be differentiated. This means including varied products that customers do not consider as close substitutes. Many similar products together reduce the attractiveness of the flyer and also the customers' response.
- The next reason why it is appropriate to include only one product from the same group is a mutual substitution that lowers the effect of the discounts. This recommendation for close substitutes should be strictly applied to products' groups with low price elasticity of demand and low or negative gross margin.
- Very frequent appearance of the same product in the store flyers reduces the efficiency of its discount. Therefore, it is preferable to change the particular product for others of the same group in each campaign.
- The price of the product should be stable before and after the flyer discount, the minimal length should be equal to the validity of the store flyer.
- It is required to include in each flyer campaign several new products for which the price elasticity of demand will be subsequently analysed.
- The constant collection of the data about store flyers campaigns is highly necessary for the purpose of expanding the knowledge base over the whole product range as the ground for the next decision making about the campaigns.
- The calculation of the quantity of each product sold at a discount price (Q_2), by the formula 1, is necessary for each one because it helps to avoid the promotion product to stock-out, and it also improves the efficiency of inventory management.
- It is recommended to adjust the way of preparing the promotional campaign to specific regions and not to manage the whole country, because there can be differences that may influence the possibility of success of the campaign (e.g. density of competitors in area, customs and habits of customers in particular areas etc.).

Discussion and limitations

Although the article is focused on food assortment and the values of price elasticity are not applicable to any other range, the study presents findings about planning and evaluation of flyer campaigns that can be used also for other retail branches. The limits of proposed process can be divided into

two categories, the limits caused by the researched range, including generalization of results for similar products, and limits resulting from inaccuracies caused by mathematical processing of the values, see arc price elasticity. Moreover, it is necessary to keep in mind that the price elasticity of demand was calculated at a certain price level. As it was stated in the Step two, the price elasticity of the product is not necessarily constant throughout the whole demand function. Its value can change according to the changes in categories of price level. Therefore, for the purpose of planning the demands, it is reasonable to follow up the same or similar price level.

It is quite difficult to compare the results and values of the elasticity presented in this study with the findings of other authors. There are not many studies focused on price elasticity of a particular product in condition of individual shop or retail chain, and even those that deal with the influence of store flyers. Nevertheless, we can confirm that the food considered as a staple food, which is generally ranked as the least elastic, had the lowest values of price elasticity during and after the flyers campaigns from the evaluated sample.

All the studies with a limited products portfolio give lower values of demand price elasticity. The reason for that is that they do not reflect the effect of an individual products' substitution. In real shops' conditions, there are many versions of each product that can substitute each other in customers' consumption.

According to R.N. Bolton (1989, pp. 160–167), the promotional price elasticity is generally more elastic than long-run elasticities due to the role of consumers' expectations, stockpiling behaviour, and competitive reactions. Large share brands are less responsive to own price changes, therefore such goods are more price inelastic. Another factor that influences the price elasticity is a display frequency or display activity that means how often the goods are promoted by any of possible ways of shops' communication which customers. The higher level of display frequency or display activity reduces average price elasticity level, which corresponds with our findings and the recommendation to change the particular product for others from the same group in each campaign.

Some authors had tested various price promotion and advertising interventions, including store flyers, in food stores, as a strategy to increase purchases and consumption of healthful foods. They proved significant positive effects (Powell, 2016). However, the evidence base was just limited, the findings showed the possibility of using a store flyer as a tool for teaching customers to buy some particular products. This also corresponded with the role of the store flyer as an informational tool for customers. If the advertising message is non-price oriented and brand-building, then it low-

ers consumers' price sensitivity, whereas a price-oriented message could increase consumers' price sensitivity. Consumers have become more price and promotion-sensitive over time, but advertising in any form, including the flyers, reduces consumers' price sensitivity (Mela, 1997, pp. 257–259). Gázquez-Abad *et al.* (2016, pp. 263–273) detected the positive effect of flyers on consumers'choice behaviour. It was indicated that consumers perceived store flyers to be a sign of potential savings, even if there was no actual price reduction.

To summarize, the promotional price elasticity is influenced by many factors, such as customers' value pattern, price-consciousness, buying behaviour and preferences, and many others. All these are the reasons why customers' response to price changes, and therefore the value of the price elasticity may vary in different conditions and environments.

Conclusions

The knowledge of the price elasticity of demand is very important for sellers just as for producers. This paper presents how to utilize this knowledge in the processes of planning a successful store flyer campaigns'. Store flyer campaigns whether in its classic "paper form" or Internet version, despite their pros and cons, are still a very powerful marketing tool, especially in the food retail. When one prepares such campaigns, especially in conditions when customers are flooded with competing flyers, it is highly necessary to select the group of goods which would be attractive to customers as well as beneficial to the seller. Although the store flyer campaign can be planned by many different and variously effective ways, we consider the method based on the knowledge of price elasticity of demand as the most effective.

In summary, this study contributes to the literature in four ways and has practical significance for marketing practice in retail. First, we summarized the goals of the store flyer campaign and extended the theory of price elasticity of demand with knowledge of phases of price elasticity of demand related to the store flyer campaign and to its goals. Second, we proposed the process of the campaign planning. In this process the key parameters, including formulas and method of their calculation were defined, which are necessary for evaluation of products' suitability for inclusion in the store flyer portfolio and for the final assessment of the campaigns' effectiveness. Third, we extend previous knowledge with the value of price elasticity of demand of 16 groups of products from assortment of food, including their changes during the time phases of the campaign. This knowledge is particu-

larly important because the real data and the public knowledge of price elasticity of demand for individual grocery products are still very limited. Finally, according to the empirical analysis the results allow us to provide recommendations in a form of rules for the planning of the store flyer.

The flyer often serves to achieve more than only one particular goal. Some of them are not strictly economic, but their fulfilment is reflected in the economic evaluation of the campaign success. They complete the overall image of the shop and improve the communication with customers. Therefore, the success of the campaign is not only a result of cheap products, but also the harmony of psychological and economic factors, which influence customers' feelings.

References

Aguirre, C. M. (2011). Elasticity of demand and supply. Retrieved form http://faculty.mdc.edu/caguirrl/Outline6.htm.

Andreyeva, T., Long, M. W., & Brownell, K. D. (2010). The impact of food prices on consumption: a systematic review of research on the price elasticity of demand for food. *American Journal of Public Health, 100*(2). doi: 10.2105/AJPH.2008.151415.

Baye, M. (2008). *Managerial economics and business strategy*. New York: McGraw – Hill.

Bolton, R. N. (1989). Relationship between market characteristics and promotional price elasticities. *Marketing Science, 8*(2*).* doi: 10.1287/mksc.8.2.153.

Colchero, M. A., & Salgado, J. C. (2015). Price elasticity of the demand for sugar sweetened beverages and soft drinks in Mexico. *Economics and Human Biology, 19*. doi: 10.1016/j.ehb.2015.08.007.

Drtina, T. (2010). The crisis affects the purchasing behavior of the population and the flyer communication of the retail chains - where does the discount spiral stop? Retrieved form http://www.incoma.cz/cz/ols/reader.aspx?msg= 1083& lng=CZ&ctr=203.

Frank, R. H. (2008). *Microeconomics and behaviour*. Boston, USA: McGraw-Hill Irwin.

Gázquez-Abad, J. C., Martínez-López, F. J., & Barrales-Molina, V. (2014). Profiling the flyer-proneconsumer. *Journal of Retailing and Consumer Services. 21*. doi: 10.1016/j.jretconser.2014.08.019.

Gázquez-Abad, J. C., & Martínez-López, F. J. (2016). Understanding the impact of store flyers on purchase behaviour: an empirical analysis in the context of Spanish households. *Journal of Retailing and Consumer Services, 28*. doi: 10.1016/j.jretconser.2015.08.006.

GfK (2015). The consumers' popularity of the store chains increased by 3 percent year-on-year. Retrieved form http://www.mistoprodeje.cz/clanky/pos-novinky/ gfkdomacnosti-daji-vice-na-nizke-ceny-nez-na-ceske-znacky/.

Grubor, A., & Milicevic, N. (2015). The analysis of FMCG product availability in retail stores. *Inzinerine Ekonomika-Engineering Economics, 26*(1). doi: 10.5755/j01.ee.26.1.7070.

Gwartney, J. D. (2005). Economics: private and public choice. South−Western: Cengage Learning.

Hendl, J. (2016). *Qualitative research*. Praha: Portál.

Jensenetal, B. B., Orquin J., & Bech-Larsen, T. (2014). What distinguishes passive recipients from active decliners of sales flyers? *Journal of Retailing and Consumer Services, 21*(1). doi: 10.1016/j.jretconser.2013.07.008.

Kotler, P. (2013). *Marketing management*. Praha: Grada Publishing.

Kozel, R. (2006). *Modern marketing research*. Praha: Grada Publishing.

Luňáček, J., & Feldbabel, V. (2011). Elasticity of demand of the Czech consumer. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis, 61*.

Mela, C. F., Gupta, S., & Lehmann D. (1997). The long-term impact of promotion and advertising on consumer brand choice. *Journal of Marketing Research, 34*(2). doi: 10.2307/3151862.

Miranda, M. J., & Konya, L. (2007). Directing store flyers to the appropriate audience. *Journal of Retailing and Consumer Services, 14*(3). doi. 10.1016/j. jretconser.2006.05.002.

Novák, D. (2016). The spiral of action discounts in stores is accelerating. *E15*. Retrieved form http://zpravy.e15.cz/byznys/obchod-a-sluzby/spirala-akcnich-slev-v-obchodech-zrychluje-prestrelene-ceny-to-dovoluji-1300658.

Pieters, R., Wedel, M., & Zhang, J. (2007). Optimal feature advertising design under competitive clutter. *Management Science, 53*(11). doi: 10.1287/mnsc. 1070.0732.

Powell, L. M., Kumanyika, S. K., & Igor, Z. (2016). Price promotions for food and beverage products in a nationwide sample of food stress. *Preventive Medicine, 86*. doi: 10.1016/j.ypmed.2016.01.011.

Sano, N., Tamura, S., & Yada, K. (2014). Evaluation of price elasticity and brand loyalty in milk products. *Procedia Computer Science, 35*. doi: 10.1016/j.procs. 2014.08.213.

Seal, J. L., Regmi, A., & Bernstein, J. (2003). International evidence on food consumption patterns. *US Department of Agriculture, Economic Research Service*.

Sosland, M. (2008). Is price elasticity of demand for bread truly inelastic? *Food Business News*. Retrieved form http://www.foodbusinessnews.net/news/news%20home/purchasing%20news/2010/12/is%20price%20elasticity%20of%20demand%20for%20bread%20truly%20inelastic.aspx?cck=1.

Szwajca, D. (2016). Corporate reputation and customer loyalty as the measures of competitive enterprise position – Empirical analyses on the example of Polish banking sector. *Oeconomia Copernicana, 7*(1). doi: 10.12775/OeC.2016.007.

Van Heerde, H., Leeflang, P. S., & Wittink, D. R. (2004). Decomposing the sales promotion bump with store data. *Marketing Science, 23*(3). doi: 10.1287/mksc.1040.0061.

Yin, R. K. (2003). *Case study research: design and methods*. Thousand Oaks: Sage Publications.

Annex

Table 1. The values of the price elasticity of demand for selected product groups

Group of goods	Bread	Rolls	Coffee	Chocolate bars	Chocolate	Vegetable fats	Melted cheese	Yogurts	Hard cheese	Salami	Sausages	Mineral water	Sweetened beverages	Beer	Hard drinks	Tissues
avE_{D1}	**1.95**	**1.26**	**4.61**	**4.22**	**4.54**	**4.82**	**6.78**	**4.48**	**7.35**	**1.95**	**2.21**	**2.44**	**3.77**	**3.42**	**3.92**	**3.88**
sE_{D1}	0.93	0.51	1.40	1.20	1.33	1.83	2.20	1.07	1.58	0.40	0.67	0.88	0.77	0.75	1.41	0.83
avE_{D2}	**1.32**	**0.98**	**3.69**	**3.02**	**4.20**	**4.52**	**6.78**	**4.18**	**7.32**	**1.80**	**1.99**	**2.88**	**3.10**	**3.58**	**3.33**	**3.59**
sE_{D2}	0.67	0.35	1.34	0.67	1.51	1.94	1.86	1.06	2.32	0.54	0.75	0.93	0.80	0.41	1.09	1.05

Note:
avE_{D1} – average E_D during flyer discount; sE_{D1} – the standard deviation of E_{D1}
avE_{D2} – average E_D after flyer discount; sE_{D2} – the standard deviation of E_{D2}

Table 2. Calculation of gross margins and sales

Group of goods	Bread	Rolls	Coffee	Chocolate bars	Chocolate	Vegetable fats	Cream cheese	Yogurts	Hard cheese	Salami	Sausages	Mineral water	Sweetened beverages	Beer	Hard drinks	Tissues
avE_{D1}	-1.95	-1.26	-4.61	-4.22	-4.54	-4.82	-6.78	-4.48	-7.35	-1.95	-2.21	-2.44	-3.77	-3.42	-3.92	-3.88
PP	19.5	2.5	28.5	6.8	15.6	26.9	18.8	5.6	14.9	46	71	8.1	20.5	7.2	83.4	13.8
P_1	27.3	3.5	39.9	9.52	21.84	37.66	26.32	7.84	20.86	64.4	99.4	11.34	28.7	10.08	116.76	19.32
P_2	23.4	3	34.2	8.16	18.72	32.28	22.56	6.72	17.88	55.2	85.2	9.72	24.6	8.64	100.08	16.56
Q_2	135	121	210	196	207	218	318	205	360	135	141	146	182	171	186	185
RP_1	2730	350	3990	952	2184	3766	2632	784	2086	6440	9940	1134	2870	1008	11676	1932
RP_2	3166	364.4	7178.3	1600.4	3881.2	7032.2	7174.2	1378.7	6440	7468.2	12010	1421.2	4469.6	1480.9	18649	3065
ΔR	**435.9**	**14.4**	**3188.3**	**648.4**	**1697.2**	**3266.2**	**4542.2**	**594.7**	**4354**	**1028.2**	**2070.1**	**287.2**	**1599.6**	**472.9**	**6973.3**	**1133.1**
GM_1	780	100	1140	272	624	1076	752	224	596	1840	2840	324	820	288	3336	552
GM_2	527.6	60.7	1196.4	266.7	646.9	1172	1195.7	229.8	1073.3	1244.7	2001.7	236.9	744.9	246.8	3108.2	510.8
ΔGM	**-252**	**-39.3**	**56.4**	**-5.3**	**22.9**	**96**	**443.7**	**5.8**	**477.3**	**-595.3**	**-838.3**	**-87.1**	**-75.1**	**-41.2**	**-227.8**	**-41.2**

Note:
PP – purchase price in CZK per unit
P_1 – selling price including the 40% trade margin [CZK]
P_2 – promotional price including the 20% trade margin [CZK]
Q_1 – the quantity of goods sold at the P_1 price; $Q_1 = 100$
Q_2 – the quantity of goods sold at the promotional price P_2; calculation is based on the price elasticity avE_{D1} of each product
RP_1 – revenues at the price P_1 and Q_1 [CZK]
RP_2 – revenues at the price P_2 and Q_2 [CZK]
ΔR – increase in revenues due to discount, calculated as $RP_2 – RP_1$ [CZK]
GM_1 – contribution towards the cost and profit at the price P_1 and Q_1 [CZK]
GM_2 – contribution towards the cost and profit at the price P_2 and Q_2 [CZK]
ΔGM – increase in contribution towards the cost and profit due to discount, calculated as GM P_2 – GM P_1 [CZK]

Table 3. Total effect of the flyers campaign

Group of goods	Bread	Rolls	Coffee	Chocolate bars	Chocolate	Vegetable fat	Cream cheese	Yogurts	Hard cheese	Salami	Sausages	Mineral water	Sweetened beverages	Beer	Hard drinks	Tissues	∑
avE_{D1}	1.95	1.26	4.61	4.22	4.54	4.82	6.78	4.48	7.35	1.95	2.21	2.44	3.77	3.42	3.92	3.88	-
avE_{D2}	1.32	0.98	3.69	3.02	4.20	4.52	6.78	4.18	7.32	1.80	1.99	2.88	3.10	3.58	3.33	3.59	-
Direct effect ΔGM	-252	-39.3	56.4	-5.3	22.9	96	443.7	5.8	477.3	-595.3	-838.3	-87.1	-75.1	-41.2	-227.8	-41.2	-1100.5
Indirect effect	80.7	4.4	194.7	60.3	37.9	58.6	0.0	11.9	4.0	43.9	100.4	-22.1	96.1	-7.5	345.1	27.5	1036.1
Total effect	**-171.3**	**-34.9**	**251.1**	**55.0**	**60.8**	**154.6**	**443.7**	**17.7**	**481.3**	**-551.4**	**-737.9**	**-109.2**	**21.0**	**-48.7**	**117.3**	**-13.7**	**-64.4**

Figure 1. Phase of price elasticity of demand in relation to the goals of store flyer campaigns