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# EXAMINING A MENU ON THE BASIS OF THE KASAVANA - SMITH MODEL IN A HUNGARIAN RESTAURANT

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#### Abstract

Gastronomy is currently undergoing a renaissance, different gastronomic trends influence the way menus are set up. The purpose of this study is to investigate the menu of a restaurant in a Transdanubian city in terms of sold portions and margins. After an unstructured interview with the manager, the breadth and depth of the offer were investigated. Then the data were examined, based on the restaurant's menu selection, traffic and cost data with the help of time series analysis. During the processing of time series data, the analysis takes into account seasonality and compares the same terminology of the years studied. With the turnover and cost data, the Kasavana and Smith portfolio analysis method was used and based on the margin and the number of portions sold, the Menu engineering worksheet was used to create the data series for the presentation. The research provides a detailed picture of sales decisions for the period 2016-2019. The results of the examination show that reducing the selection and offering special dishes are in line with the gastronomical trends, but not necessarily with the location of the restaurant and the needs of its target audience. Using the model, seasonality was examined for the first time, which did not prove that restaurant guests were looking for seasonal food. With a well-selected menu - which is one of the most important marketing communication tools - the restaurant is able to influence guests' food choices. Proper use of colours, shapes and prices all affect the guest's subconscious mind, which is responsible for a large percentage of decisions. The character of the restaurant and its guests are usually determined by the dishes on the menu. In the case of the investigated restaurant the solution could be to tailor the prices to the target group and to strengthen the marketing communication. The restaurant — taking advantage of the large space — can be used to serve different target groups by sharing the room.

Keywords: menu, Kasavana-Smith, matrix, restaurant

## INTRODUCTION

Menu analysis is a less studied area in the palette of Hungarian scientific life, but internationally there is relatively only a few publications were written on the subject as well. In his research, Sándor (2007) examined the traditional regional dishes of the tourist region of Southern Transdanubia according to main food groups. Kőmíves (2018) examined the roots of gastronomy in Győr and its surroundings in his empirical research. Ivancsó-Kőmíves (2018) also analysed the menus of Rábaköz and Szigetköz, focusing on regional dishes. However, the

authors did not find any examples in the Hungarian literature to examine the relationship between supply and turnover.

The menu is an integral part of the restaurant. Guests form an opinion about the restaurant based on the menu. The menu affects the senses: the quality of the graphics and paper are very important factors in judging, but it also includes where and how each food is placed on a given menu. While the external style of the menu is a marketing tool, putting together and placing food on the menu helps restaurateurs make a profit. Of course, it is worth noting at the beginning of the study that a large number of guests does not equate to profit maximisation, as the choice of guests does not always fall on the most profitable food. It is therefore of great importance that the menu includes foods that generate adequate returns while providing value and satisfaction to the guests, i.e. the importance of the menu is high both in terms of restaurant profitability and guest satisfaction. In an expanding competitive position, a menu with the right pricing and graphics is an essential accessory for a restaurant. Choosing the right foods is not an easy task. By using different menu analysis matrices, the menu can be compiled more efficiently, as they are used to map out which foods produce profit and loss.

In this study, the individual analysis options are presented in the literature review. In the primary research, the menu of a restaurant in Western Transdanubia will be examined based on the Kasayana-Smith model.

## THEORETICAL BACKGROUND

The CLV. Section 14 § (3.4.5) of the 1997 Consumer Protection Act stipulates that "The selling price, the unit price and the service fee must be indicated clearly, easily identifiable and clearly legible. With the exception of the cross-border provision of services, the selling price and the unit price, as well as the service fee, must be expressed in the legal currency of Hungary, indicated by it's name (forint) or its abbreviation (HUF). The actual price to be paid by the consumer, including value added tax and other mandatory charges, must be indicated as the selling price and unit price of the product, as well as the service fee" (https://net.jogtar.hu/jogszabaly?docid=99700155.tv). The menu includes the goods offered for sale in the restaurant, item by item<sup>8</sup>, per unit of quantity (portion), with the gross consumer price indicated in the legal currency of Hungary (HUF), including value added tax. There are several definitions in the literature for the conceptual definition of a menu. According to Borda

<sup>&</sup>lt;sup>8</sup> According to strict professional groupings (in order of consumption: cold appetiser, soup, hot appetiser, fish dishes, poultry, pork, veal, beef, game, finishing dishes (cheeses, sweets, fruits).

et al. (1993), "the menu is a reflection of the restaurant", the presentation of the food selection with indication of prices. It gives an account of the quality and selection of the business, the professional knowledge of the people who work there...." (Borda et al. 1993, 31). Dunszt et al. (2005) amended the definition of the former authors with the following: "It attracts the attention of the guest and encourages consumption,... our eating culture, business policy, distributor of the reputation of our expertise, the professional signature of the business" (Dunszt et al. 2005:475). According to Voleszák (2006), "the menu is a price list presenting the selection of food together with prices in catering businesses" (Voleszák 2006:68).

The menu is extremely important for restaurants from a marketing point of view, as it has been described in the work of many researchers (Frei, 1995; Main, 1995; Scanlon, 1995, Goldstein, 1997; Sandeep - Vinti, 2009).

A suitable method for analysing the composition of menus is vertical and horizontal examination and the quality of the selection. The first model was created by Miller in 1980. This is the so-called MAM (Menu Analysis Model), with the help of which it is possible to define the foods that are popular and also have a low in food cost. Miller developed a four-quadrant matrix where the two factors are the quantity and the percentage distribution of average cost of cooking. The names of the four quadrants are: Winners: high popularity and low in food cost, Marginals II: high popularity and high in food cost, Marginals III: low popularity and in food cost, Losers: low popularity and high in food cost. According to Miller, if 60% of the food is in the Winners and Marginals III categories, that is already appropriate for the restaurant.

Kasavana and Smith modified the Miller model in 1982 and used contribution margin instead of production costs. The Kasavana-Smith (1982) model was based on the BCG matrix<sup>9</sup>. The only disadvantage of the model is that it clearly records the margin as profit, even though the margin provides a cost and benefit coverage. One of the biggest limitations of the MEM (Menu Engineering Model), is that it favours higher priced foods, which in turn reduces demand and profitability. In the matrix, the foods in the Stars quadrant are the ones with the highest margins and the highest sales numbers. Plowhorses include foods with high sales numbers and low margins. Question marks include foods with high margins and low sales. Dogs include low-margin and low-selling foods.

In 1983, Pavesic further developed the above models and created the CMAM (Cost Margin Analysis Model) model, which focuses on cost analysis. It is based on the margin and the cost

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<sup>&</sup>lt;sup>9</sup> Henderson B., founder of Boston Consulting Group, created the market growth share model in 1968

of producing the food. In this model, the four quadrants are Primes, the foods with low production cost and high profitability, Standards, with high production cost and high profitability, Sleepers with low production cost and low profitability, and Problems with high production cost and low profitability (Taylor-Brown 2007).

The biggest flaw of the three models, according to Taylor and Brown (2007), is that they do not take into account other costs, most notably labor costs.

Hayes and Huffman's model focuses on the income statement for each food by calculating fixed and variable costs. In their view, only those foods can remain on the menu, whose income statement meets the intended financial targets.

The model by LeBruto, Quain, and Ashley (1995) is a further variation of the menu engineering model, in which the 4 quadrants were divided into 4 additional parts based on variable labor cost, each of which includes foods with high and low labor demand.

Cohen, Meshika, and Schwartz (1998) provided a multidimensional approach as a solution to the limitations of two-dimensional models. Thus, food procurement costs, prices, labor costs, popularity, and margins were also included in the analysis. They rated foods on a scale of 0-10, where foods between 8-10 are ideal, foods between 4-8 are acceptable, and foods below 4 are unacceptable. According to Taylor and Brown (2007), the biggest flaw in the model is that, on the one hand, they did not specify how variable costs, including labor costs, were calculated, and on the other hand, they did not take into account other factors of production.

According to Bayou and Bennett (1992), the following rounds of analysis are missing from the analyses: analyses by food groups, time of the meal (breakfast, lunch, or dinner), as well as short- and long-term profitability of a given food. In their model (PAM) - profitability analysis model - they defined overhead costs, which include e.g. advertising costs as well, and in their opinion, proper cost allocation is very important.

Horton (2001) rethought the MEM model by analysing the same restaurant menu set in practice, once with labor costs and then without labor costs. As a result of the research, it can be said that the labor cost is significant and worth calculating with it in order to get adequate results.

Alternatively, multivariate analyses can be used to examine profitability (Taylor-Brown, 2007). In 2016, Linassi et al. used the Kasavana-Smith model for menu planning, supplemented with activity-based costing. The traditional ME approach uses only food costs to determine the contribution margin (CM) of each individual menu item. This combined approach uses both food and traceable operational costs to estimate CMs more accurately.

## **DATA AND METHODS**

In Hungary, it is not common for restaurants to analyse menus in such detail, even though in many cases restaurant management could be improved and supply could be better aligned with demand by it. We conducted in-depth interviews with the managers of 10 prominent restaurants to find out how menu planning and pricing is done at their establishments. The responses we received confirmed that managers make both menu planning and pricing decisions intuitively, taking into account only the use of ingredients. We then decided to analyse the menu of a restaurant run by a contributing manager.

In our work, we analysed the menu and offer of a restaurant in Western Transdanubia from several points of view. Prior to the study, we conducted an unstructured interview with the manager in charge, which provided a good basis for learning about the restaurant and planning the analyses. We examined the breadth and depth of the offer, and then performed a time series analysis of the data based on the restaurant's menu selection, as well as traffic and costs. We examined the change of the menu according to seasonality, i.e. the change of ingredients, and by time, taking into account special occasions and holidays.

Finally, using the turnover and cost data obtained for the period January 2016 to December 2019, we first decided to use the Kasavana and Smith portfolio analysis method, since it is the most commonly used method of analysis. Although — as it is visible from the literature review — there are more recent models, the data provided by the manager in charge did not allow to examine the types of costs in detail with the exception of (material costs) COGS, which would have been necessary for the use of other models. We preferred to classify labour costs – like Kasavana – as fixed costs, because if the restaurant has no guests on a given day, it still has to pay the labour in the same way. Based on the margin and the number of portions sold, we created the data sets required for the representation using the menu engineering worksheet.

The total number of portions sold from each dish was used to calculate the total number of portions sold in the period under study, then the % distribution of sales of each dish. We then calculated the popularity rate of the Menu Mix (100/number of dishes tested)\*70%. This value determines whether a dish has a low or high sales volume. If the distribution ratio of sales for a dish is greater than the popularity rate, it is in the high zone, if it is less, it is in the low zone. Next, we calculated the net purchase price of the ingredients needed to prepare a portion of a dish, then calculated the margin per portion for each dish. After this, we calculated the total margin for each dish, by multiplying the number of portions sold with the margin per portion.

The total margin divided by the total number of portions sold gave the average margin per portion. This value determined whether a dish was low or high margin. Margins above average placed the food in the high zone and margins below average placed the food in the low zone.

In the course of the study, we wanted to answer the following research questions:

- To what extent does the compilation of the menu meet consumer needs?
- Is there a correlation between food choice and seasonality?
- Is there a correlation between food choices and prices?
- How well does the menu correspond to the quality of the restaurant?

In light of the results, we made suggestions for the future design of the restaurant's menu. It is important to note that our research was practice-oriented, aiming to provide the restaurant with a practical solution to a problem.

Within the limits of our research, it is important to mention that the method itself only examines the purchase value of the goods sold and the margin. And the margin includes costs and profit in different proportions, so we do not have a complete data set. The model does not address wage costs, which are of great importance in hospitality, but, according to the model makers, the division of wages between each meal would be very complicated, because the restaurant manager would have to determine the operating times and costs for each dish. Most managers do not use this method because it is time-consuming, as each operation must be accurately observed, measurements must be taken, and it is not enough to simply allocate costs to each dish.

It should also be mentioned that the peculiarity of the model is that due to the calculation methods, there is an interdependence between the foods on the menu, which is why foods will always be included in all fields.

## **RESULTS**

The examined restaurant is located in Western Transdanubia, close to the city center, but not in a frequented place. The restaurant has 100 seats, its main profile is event organisation, but there is also a strong emphasis on serving a'la carte guests. The menu is formally clean, it reflects the atmosphere and style of the restaurant, the colours are in line with the aesthetics of the restaurant.

Numerically, the range of available menu items is narrow in line with current trends, but is adequate in terms of positioning. The editing of the menu does not follow the current trends,

according to which, contrary to the usual practice in previous years, the indication of the style of the dishes (for example, sirloin Budapest style) should be avoided on the menu. Instead, reference should be made to the kitchen technology of cooking (steamed, grilled, sous-vide, grilled), the type of meat (pike perch, veal, wild duck) and the ingredients that characterise the food (roasted base, goose liver, green pea stew, rice base). The consumer needs to find something to his liking from relatively few menu items. The menu includes a total of three appetisers, three soups, ten main courses, one pickles and four desserts.

The specialty is also suggested in the dishes on the menu, although the soups include "Chanterelle cream soup with smoked beef tongue", "Goulash soup made with shin of veal" and "Újházy chicken soup".

In terms of pricing, main dishes cost between HUF 2,990 and HUF 5,990. The restaurant uses psychological pricing, with all prices ending at ninety. Prices are subject to a 10% service charge as well.

## Time series analysis of sales

Using data received from the manager in charge, we analysed sales between January 1, 2016 and December 31, 2019. First, we identified the main indicators of sales. Net sales revenue has been virtually stagnant since 2016, and has even declined somewhat in the last two years. The number of dishes on the menu ranged from 49 to 64 between 2016 and 2018. Then, the restaurant started the year 2019 with a new concept and only offered third of the menu items than previously. Examination of the number of servings sold showed that the restaurant sold the most menu items in 2017, when nearly 50 main dishes were on the menu, similarly to 2016. Supply was deeper in 2018, but sales fell drastically, similarly to 2019, when a much narrower menu selection was chosen by the management. Examining the margin and COGS, we can see that the ratio has shifted more and more towards a higher margin, this change is also shown by the gross profit margin (GPM%). Based on the interview, the restaurant identified the previously very low margin content as the problem, which they definitely wanted to change. (Tab. 1) A consumer survey would also be necessary to get an accurate answer to the problems from the consumer side as well.

Table 1 Key sales figures

Year	Number of menu items	Total number of servings sold	Margin%	COGS%	GPM %
2016	56	6833	55,8	44,2	122
2017	49	6995	56	44	126
2018	63	4970	63	37	175,7
2019	21	4978	65	35	182

After defining the main sales indicators, the financial and sales data related to the sales of the main dishes were sorted and evaluated using "Menu engineering worksheets". First, we determined the average margin value for each year from the margin data and classified each main dish into a low or high margin category, and then after calculating the menu popularity index, we also classified the sales volume for each main dish into a low and high category. The values obtained were placed in a modified BCG matrix used by Smith and Kasavana (Tab.2).

**Table 2** Individual fields in the Kasavana and Smith matrix

	Sales volume		Margin	
	low	high	low	high
Stars		X		X
Question marks	X			X
Cash cows		X	X	
Dogs	X		X	

Source: Own editing

The figures obtained reveal a lot about the sales decisions of each year. In 2016, the majority of the 56 main dishes sold during the year belong to the stars and cash cows categories. The figure shows well that the most popular menu items were the main dishes belonging to the classic, not very high price category, for which the content of the margin exceeded the average level. Chicken nuggets, beef stew and the grill selection had the largest sales volume, and these menu items, together with 17 other main dishes, were among the "stars" due to their high margin content. Pan-fried chicken, turkey cordon bleu, creamy spaghetti, giant pork tenderloin to highlight just a few of the 16 classic, popular but low-margin dishes were among the "cash cows". The majority of foods sold at high prices - and with a high margin content - a total of 15 foods were included in the "question marks" because the popularity of these foods was not

high and the portions sold did not reach the high category either. Dishes like these include oven-baked goose liver, plaice, and sirloin steak. 8 dishes were included among the "dogs", and had a low margin content and were not very liked or chosen by the guests either (Fig. 1).

8.00 Pan-fried chicken High 6.00 Volumen of sales Beef stew Grill selection 4,00 Turkey breast with feta Seven-seed pork tenderloin 3,00 Basil pasta oast pork clod stuffed with goose lives mato chicken breast Cream and ham spaghetti Texas style spar ribs Grilled pork m Pike perch fillet with Sasperagund pike perchabiters baked go 800 WO. Trout (small size) Veal paprikash with egg dumpling vith bryndza Spicy beef tenderloin strips Boiled beef head meat Tenderloin with vegetable Pan-fried chicken with mozzarella Margin High Low

**Figure 1** Representation of sales volume and margins of main courses in the Kasavana - Smith matrix (2016)

Source: Own editing<sup>10</sup>

In 2017, we found a significant rearrangement in the matrix (Fig. 2). The reason for this change was the greater variance in the numbers of portions sold. In terms of margins, no significant change is observed for each dish. The location of each food in the fields changed to the extent that the number of foods among "dogs" more than doubled (18 foods) compared to the previous year, despite the fact that several items were removed from the menu from the previous year. From the analysis of the second year, the target group - who visits the restaurant - is already visible, as well as the consumer needs. Although the restaurant positions itself highly, it is believed that due to its location and judgment, it does not attract the guests they actually want to. The "stars" of the 2017 main dishes are once again the chicken nuggets, and XXL veal Wiener Schnitzel. In addition, bacon-mustard pork, seven-seed breaded pork medallions, beef stew and the grill selection are leading the 12 dishes in the category. According

<sup>&</sup>lt;sup>10</sup> Source of the symbols used in the matrix: http://mediapedia.hu/bcg-matrix

to sales, the most popular food among the "cash cows" (11 dishes) is the turkey "cordon bleu" along with the sirloin and pan-fried chicken. Fish dishes are still not among the leading dishes. It is only salmon that, although not very popular, has been ranked among the "stars". Based on Figure 2, it can be seen that the more special foods are located between either the "question marks" (8 foods) or the "dogs".

10,00 9.00 8,00 High 7,00 Top loin Chicken nuggets 6.00 Volumen of sales XXL veal Wiener schnitzel Pan-fried chicker 4,00 Pork clod 3,00 Broccoli salmo Spicy top loin Turkey breast sliced Duck gnocchi Wild boar ribs 2,00 Truffle tagliatelle with crabs stelling under price perch steispy duck trio Salmon and pike perch bite WO. 400 800 1600 2000 House burger Wild boar Goose leg with 'and the composition of the control Pike perch fillet with gnocchi- Lamb ribs Plaice Ham panini Goose breast with purokoo Stuffed cabbage Margin High Low

**Figure 2** Representation of sales volume and margins of main courses in the Kasavana - Smith matrix (2017)

Source: Own editing

Analysing the sales of 2018, we obtained data that are very similar to the ones from 2017. On the one hand, a significant change in the general level of margins brought about a substantial change, as a result of which the most significant growth-producing foods, which were already highly popular, moved to the "stars" category (20 dishes). Most of these dishes were once again different variations of chicken breast as well as beef stew. Of the fish dishes, salmon fillet performed well again. Foods that were a little more special in either their name or technology were mostly included in the analysis as "question marks" (10 foods) or "dogs" (21 foods). Among the "cash cows" (12 dishes), the glazed duck breast and the pike-perch fillet should be highlighted. The highest number of portions were sold of these two from the cash cows category and their margins are also very close to the average margin level (Fig. 3).

11.0 Cast-iron roasted yeal Wiener schnitzel Glazed duck breas 9,0 Chicken gorgonzola 7,0 Volumen of sales Chicken cordor 5,0 Beef tenderloin steak with goose Pike-perch fillet icken with pea liver ef chéek 3.0 Beef leg stew 'Szigetköz' style / Pork clod with kohlrabief tenderloin steak with pork tenderloin Onion top loin morchella Mush with parn Bacon-mustard perkderloin Pork fillet Bike fillet nderloin gnocchi Chicken tortilla liver\_'Kisalföldi Lamb ribs 00 cappage Mozzarella panini Stuffed cabbage Top loin with p ŏ. Ham panini Pork clod with cabbage Pork knuckle Veal paprikash Beef flank steak Pike.. -1,0 Margin High Low

**Figure 3** Representation of sales volume and margins of main courses in the Kasavana - Smith matrix (2018)

The year 2019 brought a radical change in the restaurant's offers. The wide and deep menu structure of previous years has been replaced by a narrow and shallow menu in line with the trend typical of fine dining restaurants. The selection of main courses has dropped drastically. Instead of the previous 49-63 main courses, only 23 main courses remained on the menu. The average margin level continued to increase by 2019. The concept is interesting because previous years have proven that guests tended to choose traditional, relatively cheap food in the first place. The sales of really special and more expensive food were on a low level. In 2019, of the 23 menu items, 6 were among the "stars", 4 among the "question marks", 8 among the "cash cows" and 7 among the "dogs".

However, the restaurant could not steer the guests 'choices in the desired direction with this menu either, as chicken cordon bleu is still the most popular main dish, followed by glazed duck breast, cast iron roasted veal schnitzel and beef stew. This is a clear indication that the restaurant's clientele prefers classic dishes despite the new trends. The menu offer is also controversial, because although more expensive, special dishes appear on the menu, there is also chicken cordon and beef stew next to them. Salads, which have just appeared on the menu as main dishes, were among the low-selling dishes without exception.

20,0 Chicken cordon bleu 16.0 12.0 Volumen of sales Glazed duck breast 8,0 Cast iron roasted veal schnitzel
 Beef stew
 B. Angus tenderloin with onion Pesto chicken breast Beef tenderloin steak with morchella Grilled pike perch with salad Pork knuckle 'Szigetköz' style Chicken breast with pear Beef tenderloin steak with goose Pike perch with sweet peoper Lemon salmon fillet Salmon with sesame seeds Pork tenderloin with artichok Beef lasagne Duck leg Low 500 1000 1500 3000 35000 4000 2000 Red wine pork tenderloin Beef rib Duck breast salad Ewe-cheese salad Pike perch salad Duck liver 'Kisalföld' style Beef tenderloin salad Mangalica ham Margin High

**Figure 4** Representation of sales volume and margins of main courses in the Kasavana - Smith matrix (2019)

After analysing and comparing the individual years, we also examined whether seasonality can be spotted in terms of supply and demand.

In terms of supply, we examined the spring and summer menus of 2019. The difference was only due to the summer appearance of the salads, but as the general analysis has already shown, there was little interest in these dishes. Since no consumer survey was conducted, no reliable statements can be made about the reasons, however, an examination of prices makes it likely that value for money may have greatly influenced decisions, as salad prices were very close to similar meat-based dishes served with garnish (Tab. 3). The limitations of the model results in the fact that there is no menu offer that only includes "stars" and no "dogs," but in our opinion, it is a management decision that foods constantly falling in the "dogs" category should be replaced with other dishes. In the case of the foods included in the "question marks", it is necessary to intervene and help the guests to get to know these dishes by reducing prices or with stronger marketing activities (recommendation, discount). There are very popular foods that distract from other items on offer. The question is whether in this case the other foods should be adjusted to the popular ones or vice versa.

**Table 3** Prices of foods in 2019

Name of the menu items	Price (HUF)
Ewe-cheese salad	1590
Pink roasted duck breast on colourful salad	2490
Pesto chicken breast roasted with sun-dried tomatoes, pasta	2590
Beef lasagne with mozzarella	2590
Glazed duck breast with tonka bean apple puree and potato fritters	2590
Pork tenderloin medallions with artichokes, red wine-garlic prunes and jasmine rice	2590
Chicken cordon bleu with red cheddar and crispy diced potatoes	2690
Beef shank stew with home made dumplings	2690
Mustard pork knuckle "Szigetközi" style with roasted potatoes	2790
Pike-perch fillet with green salad and balsamic vinegar	2890
Roasted pike-perch fillet with marinated sweet pepper, chilli-lime yoghurt and wild rice	2990
Cast-iron roasted veal Wiener schnitzel with baked potatoes	3490
Dry-aged Black Angus sirloin with dijon mustard, fried onions and skin-on roast potatoes	3690
Cold tenderloin medallions with garden salad	3690
Salmon fillet with toasted sesame, lentils and spinach tagliatelle	3790
Beef tenderloin steak with morchella and hash browns	4690
Beef tenderloin steak with goose liver in madeira sauce and roasted vegetables	4790
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Source: Own editing based on data received from the restaurant

In our research, we examined seasonality separately, but as Fig. 5 (prepared from 2019 data) shows, no correlation could be found between food choice and seasonality. In the case of the examined restaurant, the fact that the menu was not replaced by dishes made from ingredients that are classically closely related to certain seasons may also have played a role.

Chicken cordon bleu

Chicken cordon bleu

Chicken cordon bleu

Chicken cordon bleu

Chicken br.-pear

Grilled pike perch salad

Chicken br.-peato

Grilled pike perch-salad

Chicken br.-peato

Grilled pike perch-salad

Chicken br.-peato

Grilled pike perch-salad

Chicken br.-peato

Beef stew

Iron roasted veal

Beef stew
Iron roasted veal

From perch knuckle

Lemon salmon filled

Pork knuckle

Lemon salmon filled

Beef stew
Iron roasted veal

From perch knuckle

Spring

Spri

Figure 5 Examination of foods including the seasonality factor

Finally, we examined the relationship between price and sales volume by regression analysis. In the study, we obtained 0.359 as the R<sup>2</sup> value (p=0,018), which means that the price explained the food choice by 36%, so it is worth paying even more attention to pricing.

## **DISCUSSION**

It can be stated that a well-designed, appropriate range of menu items is invaluable to restaurant operators because it can determine a restaurant's success in a competitive situation.

Although the model used in the current study has limitations, it presented well the characteristics of the range of the examined restaurant and the effect of the changes on the traffic data.

In the general analysis of the restaurant, we found that the restaurant is trying to keep up with new trends in hospitality, however, the analysis also confirmed the importance of finding the right target groups and pursuing targeted marketing activities for them. In our opinion, the current composition, width and depth of the selection is not in line with the location and design of the restaurant, neither with its primary function (event organisation). The profit margin increased from 120% to 180% in 4 years, while turnover slowed down in terms of rations sold. In addition, while gross revenue stagnated, VAT fell from 27% to 5%. According to our study, there is a significant relationship between the price and the sale of food, and 36% of the portions sold is explained by the price.

We were the first to use the Kasavana-Smith matrix for the seasonality study. As a result of the research, it can be concluded that on the one hand, seasonality only slightly appears in the selection on the menu, however, sales do not even support this. Consumers were not looking for seasonal foods in the first place, but for what seemed to be the most favourable value for money. Overall, it can be stated that for the restaurant it would be worth repositioning itself as well as redefining the target groups based on the above analysis.

In general, it can be stated that it would be useful for restaurants to carry out menu analysis, for which there are already appropriate softwares on the market. However, it is not enough to only categorise the menu items, they must also be adapted to the target group, because as it is visible from the research, a poorly chosen menu repositions the restaurant and changes the clientele.

It is also important to consider the impact of seasonality, and which seasonal foods should be included in the menu.

#### CONCLUSION

It would be necessary to better tailor the menu offer to the target group. In addition to the more popular restaurant reserved for events, it would be possible to create a smaller fine dining restaurant by dividing the current restaurant. If management decides to keep the current target group, prices should be adjusted to the target group, which can increase traffic. It is necessary to strengthen marketing communication and address the real target group.

If only the classic measures assigned to the model are envisaged, the restaurant should strive for high-quality production of the dishes in the "Stars" field — because of their outstanding popularity and high margins — and these dishes should also be properly recommended by the service staff.

In the case of "question marks", as they have a high margin content but are less popular, more emphasis should be placed on their presentation and recommendation. It should also be examined whether there is a change in sales volume after a smaller price-cut.

In the case of "cash cows", the food is very popular but has a low margin, so the restaurant should try to increase the profit with a small price increase, or by serving more favourably, i.e. reducing the portion somewhat, while keeping the original price, a higher margin can be provided.

As for the "dogs category", the restaurant should try to replace the menu items with other food. In some cases, it is possible for a restaurant to succeed with a more popular dish made

from the same ingredients, but in some cases e.g. in the case of fish, it was clear that only certain fish species were liked or chosen by the guests. In the case of salads, it was interesting that most had a low margin content in addition to the relatively high price, which was not accepted by consumers based on the results of the study.

It would be useful to supplement the present research in the future with a questionnaire that better explores consumer behaviour as well.

## REFERENCES

- Bayou, M. E., Bennett, L. B. (1992). Profitability analysis for table-service restaurants. *The Cornell Hotel and Restaurant Administration Quarterly*, 33(2), pp. 49–55. doi: 10.1016/0010-8804(92)90082-G
- BCG matrix: Retrieved from http://mediapedia.hu/bcg-matrix
- Borda, J., Sándor L., Szabó E., Szigeti A. (1993). *Gasztronómiai Lexikon*, Budapest: Mezőgazda Kiadó., p.131.
- Cohen, E., Mesika, R., Schwartz, Z. (1998). A multidimensional approach to menu sales. *Praxis*, 2(1), 130–144.
- Dunszt K., Ónodi F., Oriskó F., Török I. J. (2005). *Vendéglátó technológia*, Budapest: Képzőművészeti Kiadó
- Frei, B.T. (1995), The menu as a moneymaker, *Restaurant and Institutions*, Vol. 105 No. 6, pp. 144-6.
- Goldstein, J. (1997), Changing menu formats, *Restaurant and Institutions*, Vol. 81 No. 4, pp. 28.
- Hayes, D.K., Huffman, L. (1985). Menu Analysis: A better way. Cornell Hotel and Restaurant Administration Quarterly, 26(3), pp.64-70. doi: 10.1177%2F001088048502500412
- Horton, B. W. (2001). Labor and menu category: Effects on analysis. *FIU Hospitality and Tourism Review*, 19(2), 35-46.
- Ivancsóné Horváth Zs., Kőmíves, Cs. (2018). A Rábaköz és a Szigetköz gasztronómiai gyökerei. In: Kupi, M.;Printz-Markó, E.; Ivancsóné, Horváth Zs. (szerk.) "Út" a XXI. században. IX. Nemzetközi Konferencia. Széchenyi István Egyetem Kautz Gyula Gazdaságtudományi Kar, (pp. 239-250). Győr.
- Kasavana, M. L., Smith, D. I. (1982). *Menu engineering: A practical guide to menu analysis* (1st ed.). Okemos, MI: Hospitality Publications
- Kőmíves, Cs. (2018). Culinary heritage in Győr and its surrounding area. In: Anne-Marie, Lebrun (szerk.) Proceedings 4th International Conference EATSA: Challenges of tourism development in Asia & Europe Dijon, Franciaország: EATSA, (2018) pp. 56-64., doi: 10.20319/pijss.2017.32.234245
- Linassi, R., Alberton, A., Marinho, S. V. (2016): Menu engineering and activity-based costing, International Journal of Contemporary Hospitality Management
- Main, B. (1995), Mastering menu psychology, *ID: The voice of Foodservice distribution*, Vol. 31 No. 7, pp. 28-30.
- Miller, J. (1980). Menu pricing and strategy. Boston, MA: CBI Books.
- Pavesic, D. (1983). Cost-Margin analysis: A third approach to menu pricing and design, *International Journal of Hospitality Management*, 2(3), 127-134. doi: 10.1016/0278-4319(83)90033-6
- Sandeep, M., Vinti, D. (2009). Application of Kasavana & Smith Menu Engineering Model to menu of a resort restaurant A case study approach. *JOHAR*, 4(1), 41.

- Sándor, D. (2007). Tájjellegű ételek megjelenésének elemzése a dél-dunántúli turisztikai régió ételválasztékában. Budapesti Gazdasági Főiskola-Magyar Tudomány Napja, (pp. 194-208). Budapest.
- Scanlon, N.L. (1995), Marketing by menu, John Wiley & Sons, New York, NY.
- Taylor J.J., Brown, D.M. (2007). Menu Analysis: A Review of Techniques and Approaches. *Hospitality Rewiew*. Volume 25. Issue 2/6
- Voleszák, Z. (2006). Pincér ismeretek. Sopron: POKJO61.
- 4/2009. (I. 30.) NFGM-SZMM együttes rendelet a termékek eladási ára és egységára, továbbá a szolgáltatások díja feltüntetésének részletes szabályairól. Retrieved from https://net.jogtar.hu/jogszabaly?docid=a0900004.nfg (accessed on 30.11.2019.)
- 1997. évi CLV. törvény a fogyasztóvédelemről. Retrieved from https://net.jogtar.hu/jogszabaly?docid=99700155.tv. (accessed on 30.11.2019.)