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**Model of the facilities of work places which influence
the selection of the mode of institutional catering**

In this paper we present selected results of a 1000-member national survey. Our objective was to establish a model that includes the factors which influence the selection of the mode of institutional catering, including characteristics of consumers and workplace facilities as well.

During the validation we emphasized workplace facilities to prove that the characteristics of employment can affect consumer decisions (in eating out) on weekdays. It was proved that the direct and indirect support provided by the workplace plays an important role in the specific form of institutional catering the employees choose.

Keywords: consumers' decision-making, institutional catering, correlation analysis, workplace facilities, establishment of a model

Introduction

The primary objective of our study was to synthesise the factors that influence consumers of institutional catering and to prove that workplace facilities can affect individual decisions.

As far as we know, in Hungary complex consumer studies concentrating on this market have not been carried out so far.

For the establishment of our model we used national and international professional literature. Table 1 shows the correlation between the model factors and the professional literature.

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Table 1: Factors and sources of the model

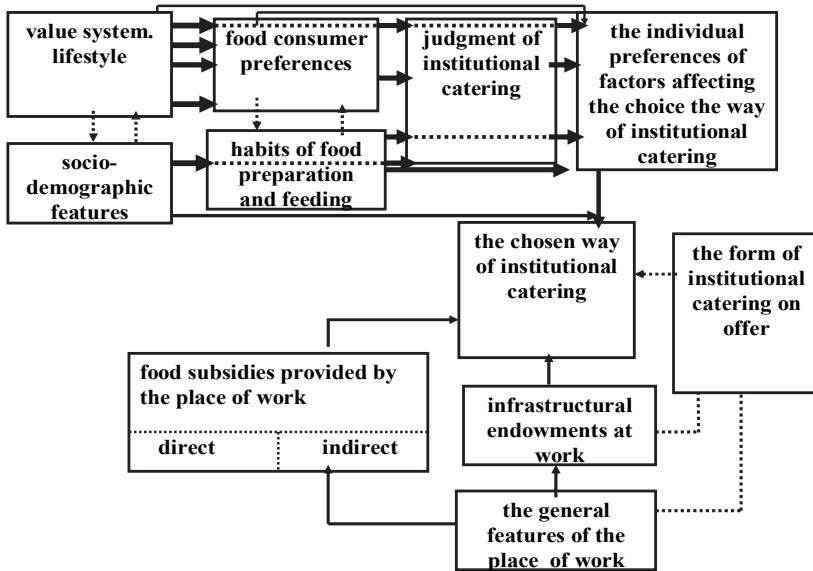
Model factors	Short explanation, justification, description and source
Value system and lifestyle	The value system based on (food) consumer preferences proved the relationship between the consumers' choices of specific food and the attitude to general human values. (Grunert, Baadsgaard, Larsen and Madsen, 1996)
Socio-demographic attributes	The characteristic attributes of customers based on their socio-demographic status. (Hayden, 2007) (Nayga & Capps 1994)
Food consumer preferences	Food consumer preference as a factor influencing eating outside the household. (Blisard & Cromartie, 2001) (Naylor, Droms and Haws, 2009)
Habits of nutrition	The impact of the attitude towards cooking at home or eating out. (Becker, 1965)
Subsidies	Subsidies like meal vouchers provided by the employer.
Circumstances of eating at work and general features of the workplace.	Eating facilities provided by the employer. The number of employees, the ownership structure of the workplace. (Mikesné, 2004)

Source: own compilation

We also used our preliminary surveys on institutional catering for the establishment of our model. There were four phases of the research in 2003, 2005, 2007 and 2008. The first three surveys were quantitative based on pre-tested standardised questionnaires. The fourth one was a qualitative research that included seven focus group interviews.

As a result of the study we established our model (*Figure 1*) that concentrates on two sets of variables, containing factors that influence consumers and employment characteristics respectively.

Figure 1: The research model of the factors affecting the chosen way of institutional catering



Source: own compilation

Materials and methods

To prove that this model is valid we carried out a 1000-member national survey in 2009. In the case of the national sample planned for 1000 persons a quota-based sampling strategy was used. Domestic employees were regarded as the population sampled, so the components of the sample were special in that the older generation above 60 constituted a smaller proportion in it than in the total population of the country. The quotas were formed by regions based on the 2007 employment data of the Central Statistical Office (hereinafter referred to as CSO). The proportion of the most important age group (between 18 and 59) of our research sample is the same as their share in the population sampled (Table 2, 3).

Table 2: Rate of female age groups according to regions (%)

Female age groups / regions	18-25	26-39	40-55	55-59	over 60	Together female correspondents of actual region (%)
North-Hungary	7,0	43,0	37,0	12,0	1,0	100
North- Flat	7,0	44,0	39,0	9,0	1,0	100
South-Flat	7,0	44,0	39,0	9,0	1,0	100
Middle-Hungary	6,0	46,5	33,0	13,0	1,5	100
Middle-Transdanubium	8,0	41,0	39,0	11,0	1,0	100
West-Transdanubium	7,0	44,0	38,0	10,0	1,0	100
South-Transdanubium	5,0	42,0	40,0	12,0	1,0	100

*Source: own survey**Table 3: Rate of male age groups according to regions (%)*

Male age groups / regions	18-25	26-39	40-55	55-59	over 60	Together female correspondents of actual region (%)
North-Hungary	7,0	41,0	37,5	13,0	1,5	100
North- Flat	7,0	42,0	37,0	12,5	1,5	100
South-Flat	8,0	37,5	39,0	14,0	1,5	100
Middle-Hungary	6,0	41,5	35,0	16,0	1,5	100
Middle-Transdanubium	6,0	39,5	38,0	15,0	1,5	100
West-Transdanubium	8,0	38,0	37,5	15,0	1,5	100
South-Transdanubium	8,0	39,5	37,0	14,0	1,5	100

Source: own survey

Data analysis

During the data processing besides the descriptive statistics, bi-and multi-variable correlation analyses were made with the help of Chi-square trial, factor-, cluster-and variance analysis. Segmentation was carried out by K-means clusterising process at all times. In the case of all processes, several trials were made but only the results of the professionally best explicable and statistically suitable segmentations are detailed when outlining the certain research results. Significance-and F-values were taken into consideration in the case of the correlations examined by variance analysis. In the case of the Chi-square trials the examination of the intrinsic

correlations of the certain relationships were made on the basis of the adjusted standardised residual values (AdjR) in the following way of interpretation: positive deviation from the expected value with a reliability of $\text{Adj.R} \geq 2$: 95%, deviation from the expected value with a reliability of $\text{Adj.R} \geq 3$: 99%. In the case of negative numbers, a negative deviation from the expected value can be expected with the same value-intervals (Sajtos-Mitev 2007).

Special attention was paid when compiling the questionnaires for the national survey and even in the preliminary research that they should logically fit into the overall framework of the whole research.

The questionnaire inquired about food consumption, eating habits, value system and demographics.

The relationship between the research model and the standardised questionnaire used for the national survey can be summarised as follows (*Table 4*):

In our paper we concentrated on selected results of the national survey mentioned above, first of all we would like to prove that the facilities of workplaces can affect the selection of the mode of institutional catering.

Table 4: The relationship between the research model and the standardised questionnaire used for the national survey

Model factor	Short description	Question of the questionnaire	
value system and lifestyle	Individual ranking of value factors, free time structure	Questionnaire IV / Question 22 Questionnaire IV / Question 21 a/b	Criteria attached to the consumer
socio-demographic attributes	gender, age, marital status, income, qualification, residence, type of residence, qualification, marital status, the size of household	Questionnaire IV / Question 23-27 Questionnaire IV / Question 30-32	
food consumer preferences	judgment of the utility factors of food consumption	Questionnaire IV / Question 1	
habits of nutrition	eating habits, attitude to cooking, the method of getting information on nutrition	Questionnaire IV / Question 2. 3-4/b, 5-9.	
judgment of institutional catering	judgment of institutional catering based on time, comfort and price	Questionnaire IV / Question 19	
individual preferences of factors affecting the way of institutional catering	judgment of factors affecting the choice of the way of institutional catering	Questionnaire IV / Question 20	
catering subsidies ensured by the place of work	direct subsidies subsidy built in the price of lunch	Questionnaire VI/ Question 17 a/b	Features perceived by the employer consumer
indirect subsidies	subsidy in the form of hot dishes	Questionnaire IV / Question 18 a/b	
Infrastructural endowments at work	possibility of consuming hot meals, premises reserved for consumption	Questionnaire VI/ Question 12-13.	
general features of the place of work	number of employees, ownership background of the place of work	Questionnaire IV / Question 33-34.	

Source: own compilation

Results

The role of subsidies in institutional catering

We would also like to present how the attributes that can be linked to the employer can affect the way an individual chooses on weekdays.

In the first step of the study of this nature we analysed whether there was a correlation between the extent of the costs of institutional catering covered by the place of work and the chosen way of institutional catering. (*Table 5*)

Table 5: The correlation of the extent of the direct support provided by the employer and the frequency of making use of institutional catering

the frequency of making use of a canteen	percentage of the costs of institutional catering covered by the employer
	sig=0.000 F= 27.584
weekly	45.64
monthly	31.65
never	20.66
total pattern	34.44
the frequency of making use of a restaurant	percentage of the costs of institutional catering covered by the employer
	sig= 0.001 F= 7.08
weekly	27.65
monthly	28.77
never	40.69
total pattern	34.44
the frequency of making use of an inn	percentage of the costs of institutional catering covered by the employer
	sig=.0.000 F= 20.94
weekly	22.34
monthly	17.93
never	41.58
total pattern	34.44
the frequency of making use of a fast food restaurant	percentage of the costs of institutional catering covered by the employer
	sig=0.047 F= 3.07
weekly	26.57
monthly	26.71
never	37.56
total pattern	34.44

Source: own research, 2008. N=997 levels of measure: proportional scale and nominal, One-Way Anova

A special attention was paid to this question as according to the specialists, subsidies can be an important drive in spreading institutional catering domestically. The results of our own research also proved the significance of subsidies, as during the factor analysis the statements „could be paid by lunch voucher” and „the employer should cover part of the costs” created a separate factor group, from the elements of subsidies covered and did not merge with any of the service elements. The highest correlation with the extent of the direct subsidy could be detected in the case of the canteen where a great part of the expenses are covered by the employer in some form and thus employees are pleased to go to the canteen. The majority of the people make use of the opportunity at places where hot meals at a discounted price are available for the employees.

However, the regular guests of inns, restaurants and fast food restaurants are employees of such workplaces where the direct form of catering subsidies is not the common practice. Those who have meals at inns, restaurants and fast food restaurants weekly get direct subsidy of a much smaller extent than the average value of the sample. Of course, it does not imply that they only make use of the examined catering facilities because they are not given lunch at a discounted price at their place of work, but the subsidies certainly do affect the frequency of making use of the certain catering facilities.

If the employer decides on indirect subsidies, i.e. provides its employees with lunch vouchers, it is favourable for the companies dealing with home delivery, buffets and fast food restaurants (*Table 6*). These are the places where the majority can use the vouchers. In the case of canteens the correlation can also be shown but the difference is not of such a great extent as experienced in the case of indirect subsidies.

Table 6: The correlation of the extent of the direct support provided by the employer and the frequency of making use of institutional catering

the frequency of making use of a canteen	percentage of costs covered by the employer in the form of lunch vouchers
	sig=0.001 F= 7.33
weekly	39.00
monthly	35.27
never	26.40
total pattern	31.97
the frequency of making use of a buffet	percentage of costs covered by the employer in the form of lunch vouchers
	sig=0.029 F= 3.58
weekly	37.62
monthly	32.69
never	27.64
total pattern	31.97
the frequency of making use of home delivery	percentage of costs covered by the employer in the form of lunch vouchers
	sig=0.003 F= 5.92
weekly	46.75
monthly	34.60
never	28.98
total pattern	32.05
the frequency of making use of a fast food restaurant	percentage of costs covered by the employer in the form of lunch vouchers
	sig=0.000 F= 8.00
weekly	40.63
monthly	30.24
never	27.26
total pattern	32.05

Source: own research, 2008. N=997 levels of measure: proportional scale and nominal, One-Way Anova

Other infrastructural endowments that can be linked to the place of work

The use of certain alternatives is differentiated according to the possibility of consuming hot lunch provided by the workplace as well as separate premises available for consuming food.

It holds true in the case of canteens that most of their regular guests work at such places that provide their employees with the opportunity of consuming hot lunch on the spot.

According to the results of the research a significant number of employees would have the possibility to consume hot lunch on the premises but they prefer going to restaurants or fast food restaurants at lunchtime and do not make use of this service. (*Table 7*)

Table 7: The relationship between the infrastructural endowments of the workplace and the frequency of making use of institutional catering

Criteria linked to workplace	canteen	buffet	restaurant	home delivery	inn	fast food restaurant
Possibility for consuming hot lunch at the place of work	sig=0.000 Adj.R= 16.9 91.3% of the regs have one and use it	sig=0.000 Adj.R= 6,5 68,4%- of the regs have one but do not use it	sig=0,000 Adj.R= 10.7 87.7%- of the regs have one but do not use it	sig=0.000 Adj.R= 4.6 23.2%-of the regs do not have it but would use it	sig=0.000 Adj.R= 5.3 75.2%- of the regs do not have it and would not use it	sig=0.000 Adj.R= 4.5 73,4 of the regs have one but do not use it
Type of workplace	sig=0.003 state, local government 34.2% Adj.R= 2.9	sig=0,034 foreign 33,7%- Adj.R= 3,16	sig=0.000 foreign 32.2% Adj.R= 4.5	sig=0.012 mixed 58.2%- Adj.R= 2.4	sig=0.019 national 32.8%- Adj.R= 2.8	sig=0.000 Adj.R= 4.7 32.5%-of the visitors who never go there are employed by the state or local governments
Number of employees (at those who make use of the given type of catering facility minimum once a week)	sig=0.000 above 250 persons 38.4% Adj.R= 4.1	sig=0,008 above 250 persons 33,2% Adj.R= 2,3				
	Adj.R >= 2: of 95% reliability a positive deviation from the expected level					
	Adj.R >= 3 : of 99% reliability a positive deviation from the expected level					

%=the ratio of the number of employees at a given place of work who make use of the given catering type at least once a week

Source: own research, 2008. N=997 Levels of measure: Chi square trial, values:

AdjR=adjusted standardised residuum

This phenomenon proves our experience gained during our focus group studies, i.e. there are employees who search for solutions outside the place of work despite the possibilities and endowments of the workplace.

The same holds true for the regular guests of buffets. In spite of the fact that they could choose hot meals for lunch at their places of work, they rather look for cold ones that appease their hunger. Both correlations suggest that the individual eating habits and expectations to food are also decisive in the way they consume at work not only the possibilities offered by the place of work.

The results show that the great bulk of employees who decide on inns would prefer hot meals at work if they had the chance. The same holds true for almost 30% of those requiring home delivery services. These correlations are also significant from a practical point of view as they suggest that most of the users of these alternatives would be open to canteen if this chance were offered for them at work.

The analysis showed that facilities at work have a role in deciding what way of eating is chosen by the employee but its weight and extent are not the same in the case of the single alternatives. There are ways of eating whose frequency of usage can be linked to the subsidies and facilities (e.g. canteen) provided by the workplace stronger and there are ways where the linkage is weaker (fast food restaurant, buffet, restaurant).

The frequency of using the single alternatives can only be defined by the basic amenities of the place of work. Among the regular guests of buffets and restaurants the employees of foreign companies (multinationals) with a lot of staff represent a proportion higher than expected.

Among those who require home delivery on a weekly basis, again, employees of companies of mixed ownership showed a positive deviation from the expected value, while in the case of inns, employees of the national companies are dominant. Among the employees of state-or local government-owned entities the number of those who could not be characterised by having lunch in fast food restaurants at all was higher than expected. They are rather regulars to canteens. This result justifies the experts' opinion, i.e. state-and local government-owned companies lead in subsidising directly the catering of their employees by running a canteen successfully and providing hot meals at a favourable price.

Conclusions

During our empirical research we have concluded that making use of institutional catering does not only depend on the criteria linked to the consumer but also on the amenities of the specific place of work.

An important part of our study was to be able to prove that the direct and indirect support provided by the workplace plays a decisive role in the specific form of institutional catering the employees choose. On the basis of our research results we have pointed out that the canteen was primarily preferred by the employees where the menu is at their disposal at a reduced price (or subsidised by the company). In contrast, support given in the form of meal vouchers mainly boosts the turnover of home delivery, fast food restaurants and buffets. These conclusions indicate that the

frequency of visiting the different eating establishments is in close connection with what eating facilities the workplace can or want to provide for the employees.

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