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# CUSTOMER SATISFACTION OF FOOD QUALITY AND SAFETY BASED ON THE EXAMPLE OF BISTRO BARS IN POLAND

**Abstract:** *With the growing importance of food safety, there can be noticed an increasing interest of food safety management in food production, trade and services companies. For several years, in Poland, there has been noticed a growing trend for eating outside the home. A good example are gas stations, where there are bistro bars are situated. Catering companies, including bistros at petrol stations, in order to succeed in the market, in the company's strategy must take into account customer requirements and needs as well as implement a quality assurance system. This article presents a study of the level of customer satisfaction of bistros bars of one of the selected fuel company in Poland.*
**Keywords:** *customer satisfaction, quality, bistro bars, food safety, HACCP system.*

## 1. INTRODUCTION

With the growing importance of food safety, there can be noticed an increasing interest of food safety management in food production, trade and services companies [2, 3, 5]. For several years, in Poland, there has been noticed a growing trend for eating outside the home. Currently, consumers have a catering service not only to meet their basic nutritional needs, but offered services include a wider scope, as well as a growing group of customers [1]. A good example are gas stations, where there are bistro bars are situated. Catering companies, including bistros at petrol stations, in order to succeed in the market, in the company's strategy must take into account customer requirements and needs as well as implement a quality assurance system. Proper quality is a guarantee of regular customers and the ability to grow and profit [6].

This article presents a study of the level of customer satisfaction of bistros bars of one of the selected fuel concern in Poland.

## 2. RESEARCH MATERIAL

The study was conducted in 2008 in nine provinces, using the survey method with a questionnaire developed for this testing. The selection of regions was not random but there had been selected all provinces in which there were located the most of the stations of selected company. In other provinces the number of stations was very small, so that is why they had not been tested. The study covered bistros of selected network of petrol stations in the number of 210 stations. The study subjects were clients of petrol stations.

There was implemented and maintained HACCP system in the tested bistro bars of the selected fuel company.

The menu included: sandwiches, hot dogs, casseroles, and drinks such as coffee and tea. In addition to offering products there were also offered as ready-made supplied products and only served to the customers (cakes, tortillas, sandwiches).

Bistros' customers of fuel stations network were surveyed with an anonymous questionnaire designed to determine their level of satisfaction and awareness of safety and food hygiene. Respondents were selected randomly from among those who currently ate at bistros. Customers' satisfaction survey was conducted in 25 randomly selected stations in Poland where in each of these stations at least 10 randomly selected clients of the bistro were surveyed. The total number of respondents was 282 people and it obtained a representative sample of the whole population. The study was conducted at the stations during the two consecutive months in order to ensure homogeneity of the respondents, due to the level of knowledge of employees and organizational standards in the bistros. The questionnaire survey intended for customers included nine closed questions and one open-ended question, which allowed to obtain a precise answer. In addition, respondents answered questions categorized due to socio-economic characteristics.

Obtained results in the study were analyzed statistically using multiple methods of analysis of variables, both qualitative and quantitative, including descriptive statistics, statistical inference, and multivariate analysis methods [4].

## 3.  THE RESULTS

The characteristics of the social structure of the respondents are presented in Table. 1. Among 282 persons who have properly filled out the survey, the biggest group were men (70%). Taking under consideration the educational level of

respondents, the biggest group were people with higher - master education (50%). In terms of age of the largest group of customers of bistros of selected network of petrol stations were people below the age of 35 (78%), suggesting that this type of bar services are targeted primarily at young people who have no time for self-catering, which are often in the course of travel or business trips.

| Gender | Percentage [%] |
|--------|----------------|
| Woman | 30 |
| Man | 70 |
|  |  |
| Age | Percentage [%] |
| Below 25 | 23 |
| 26 - 35 years old | 55 |
| 36 - 45 years old | 15 |
| 46 - 55 years old | 4 |
| 56 - 65 years old | 2 |
| over 65 lat | 1 |
|  |  |
| Education | Percentage [%] |
| primary | 1 |
| vocational | 5 |
| high school | 25 |
| High - bachelor | 19 |
| High - master | 50 |

**Table 1. Social structure of respondents.**
**Source: own research**

Customers of the selected company's gas stations were tested in 9 regions of Poland. Quantitative distribution of surveyed workers in the various provinces are presented in Figure 1. Customers have the largest representation of Mazowieckie, Malopolskie and Slaskie region, because in those provinces is the biggest number of fuel stations of the selected group. In other provinces the number of surveyed respondents was lower, due to smaller number of petrol stations in these areas.
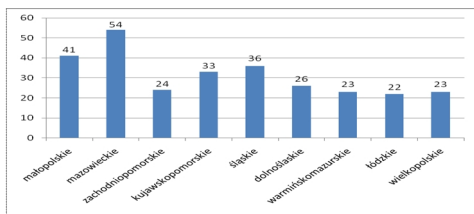
*P. Nowicki, T. Sikora*

***Fig. 1. The number of surveyed customers in each regions of Poland.***
***Source: own research***

Analyzing customers' responses to specific questions in addition, there has been constructed a synthetic variable describing the level of customers' satisfaction. There has been used 6 survey questions, which were directly related to assess the level of satisfaction. The constructed variable assessing the level of customer satisfaction has been transformed to correspond to the scope of assessment "school" range that values from 1 to 5. Distribution of total customer satisfaction level is asymmetrical and predominant in the evaluation of high and very high value varying from 4 to 5.
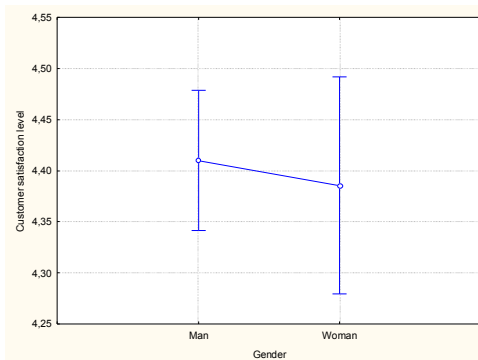


***Fig. 2. Distribution of the level of customer satisfaction by gender.***
***Source: own research***

The distribution of level of customer satisfaction due to the gender of the respondents shows that among men the level of satisfaction with the visit to the bistro is slightly higher than for women, with greater range of responses limits occurred among women, which means that they are more demanding and harder to meet their expectations (Fig. 2). Table 2 shows the average levels of customer satisfaction by the gender of the respondent.

| Gender | Table sections of descriptive statistics N=281 | | |
|---|---|---|---|
| | Satisfaction level - mean | Satisfaction level - valid | Satisfaction level - Std. dev. |
| Man | 4,410101 | 198 | 0,509303 |
| Woman | 4,385542 | 83 | 0,448067 |
| Total | 4,402847 | 281 | 0,491346 |

***Table 2. Mean levels of customer satisfaction by the gender of the respondent.***
***Source: own research***

In the case of the distribution of satisfaction levels among customers due to the studied region, we found that the level of customer satisfaction province Zachodniopomorskie is the highest and lowest is Mazowieckie (Fig. 3). This is probably due the fact that the infrastructure of Premium petrol stations in this region is characterized by a low concentration, hence the customers using the bistros of the selected group do not have such a large comparison, like the customers of the Mazowieckie province, where expectations are highest. The thesis about the concentration of the area of premium petrol stations seem to be true, because, as in Mazowieckie, in the Małopolskie, Śląskie, Kujawsko-Pomorskie and Wielkopolskie concentration of the Premium petrol stations is very high, and customers using the bistro in these areas are the most demanding and evaluate these regions equally low - although they are still highly rated about 4.4. On the other ones studied areas of customer satisfaction is as much the same, assuming an average level for all surveyed provinces.
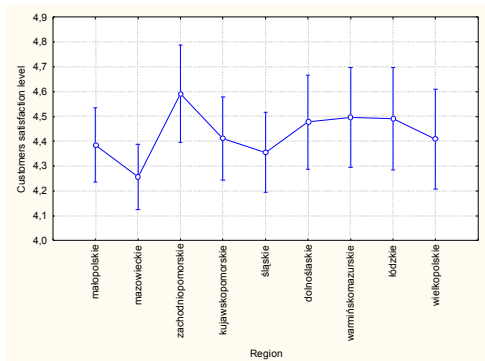
**Fig. 3. Distribution of the level of customer satisfaction in the particular provinces.**
*Source: own research*

Taking under consideration the analysis of customer satisfaction in the terms of education (Figure 4) it has been found that the most demanding clients are people with higher education in opposite to a minimum of primary and vocational education. The reason for this is to ensure sensitivity and expectations of different groups of society, where consumers with higher education will require more than others. A major role in this case can also play the economic status of people who earn more, the more they will require. Table 3 shows the average levels of customer satisfaction in the division due to the education of respondents.
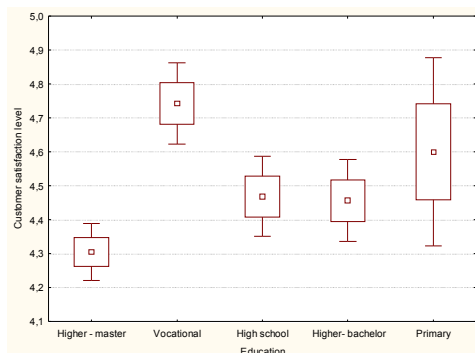


**Fig 4. Categorized box-whiskers plot describing the level of customer satisfaction by their education.**
*Source: own research*

| Education | Table sections of descriptive statistics N=279 | | |
|---|---|---|---|
| | Satisfaction level - mean | Satisfaction level - valid | Satisfaction level - Std. dev. |
| Higher-master | 4,304965 | 141 | 0,508545 |
| vocational | 4,742857 | 14 | 0,227746 |
| High school | 4,468657 | 67 | 0,491814 |
| Higher-bachelor | 4,456604 | 53 | 0,447862 |
| Primary | 4,600000 | 4 | 0,282843 |
| Total | 4,399283 | 279 | 0,491217 |

**Table 3. Mean levels of customer satisfaction in the division due to the education of the respondent.**
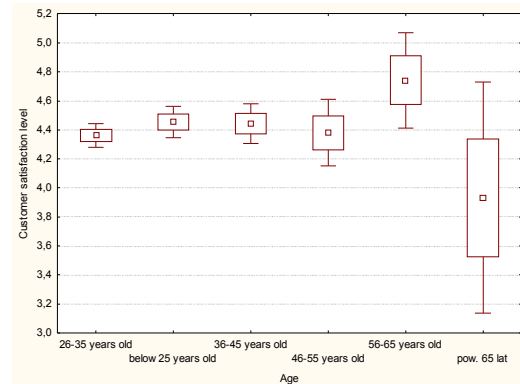*Source: own research*



**Fig. 5. Categorized box-whiskers plot describing the level of customer satisfaction bistros depending on their age.**
*Source: own research*

The distribution of this analysis with respect to the customers' age (Figure 5) shows that the most demanding clients are the oldest ones, of whom the level of satisfaction is the lowest, which is caused by the highest expectations of this group, resulting from their age. It is also interesting that the least demanding customer group is the model of a person between 56 - 65. In Table 4 showed the average levels of customer satisfaction in

the division because of the age of the respondents. In other age groups the level of customer satisfaction is very similar and revealed no significant differences.

| Age | Table sections of descriptive statistics N=280 | | |
|---|---|---|---|
| | Satisfaction level - mean | Satisfaction level - valid | Satisfaction level - Std. dev. |
| 26-35 years old | 4,362581 | 155 | 0,520133 |
| below 25 years old | 4,453125 | 64 | 0,442564 |
| 36-45 years old | 4,443902 | 41 | 0,443874 |
| 46-55 years old | 4,380000 | 10 | 0,370585 |
| 56-65 years old | 4,742857 | 7 | 0,442934 |
| above 65 years old | 3,933333 | 3 | 0,702377 |
| Total | 4,400714 | 280 | 0,490921 |

**Table 4. Mean levels of customer satisfaction in the division based on age of respondent.**
*Source: own research*

This may prove that the fact that those customers are regular guests of bistros of selected fuel group who accept the offered products and its environment without major reservations, and remain loyal to the brand, product and place.

## 4. CONCLUSIONS

1. The level of satisfaction is slightly higher among men than woman which indicates that women are more demanding.
2. The level of satisfaction of bistro bars customers is highest in the regions where the concentration of the premium petrol stations is lower.
3. The most demanding customers are those with high educational level, the least demanding are those with primary and vocational ones.
4. The most demanding customers are those over 65 years old, the least demanding are those in between 56-65 years old.

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